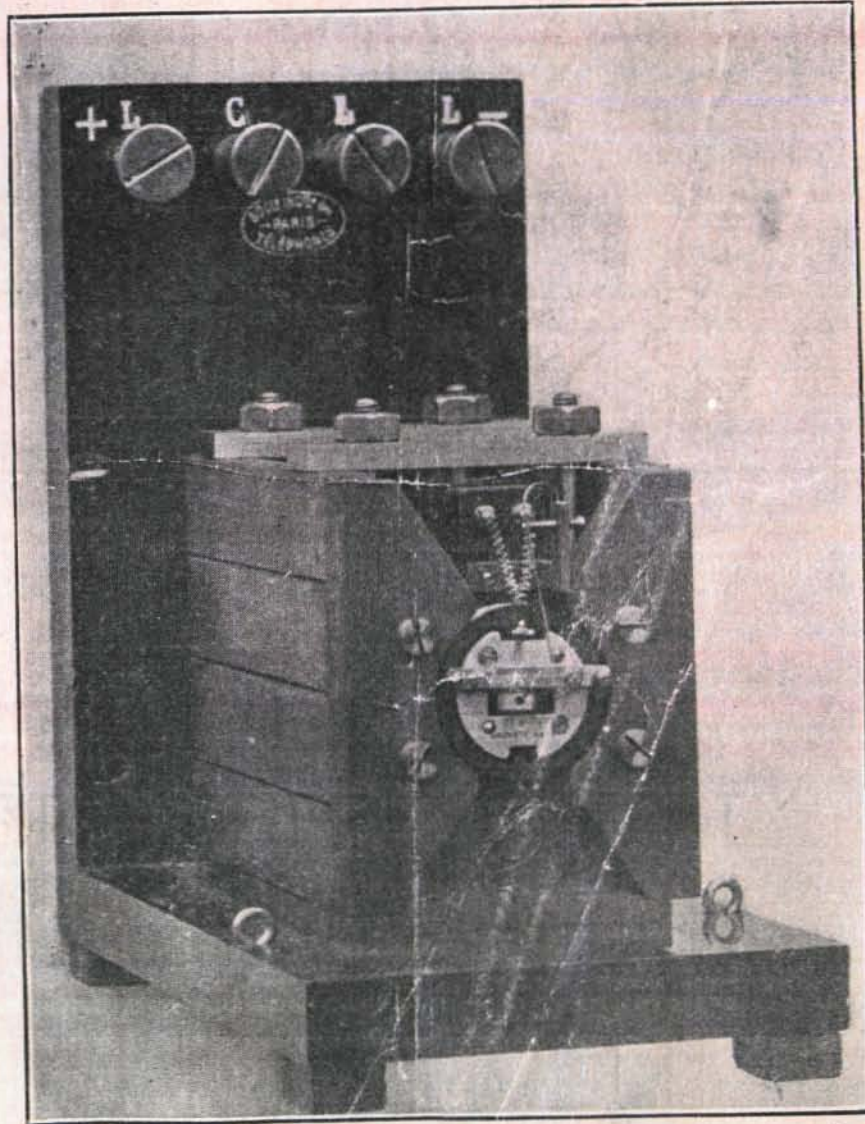


JANU. Y. 1904

THE
ELECTRICAL WORKER
OFFICIAL JOURNAL
INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS.




RELAY WITH STATIONARY DIAL.

JAN 1904

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JAN 1904

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WIRELESS TELEGRAPHY IN FRENCH NAVY

By EMILE GUARINI.

[Courtesy of "Electricity."]

THE French Navy was one of the first in Europe to adopt wireless telegraphy on a large scale, using Ducretet, and above all, Tissot-Rochefort stations along the coast as well as on its vessels.

Mr. Tissot, a marine executive officer and professor at Borda, has on several occasions directed the installation of stations, constructed by Mr. Rochefort; which have not only served for communicating between vessels and the shore, but they have also been used as a means of making comparative studies of the various systems and to bring to notice different devices which have often been very interesting.

During the course of their experiments Messrs Tissot and Rochefort tried various systems of wireless telegraphy. They have not confined their experiments wholly to the old form of transmission. If it be true that recent devices for transmitting and receiving enables messages to be sent over greater distances, this is at the expense of great energy and considerable cost, requiring the delicate apparatus, occupying much space, and without solving, except in a very problematical manner, the question of secrecy of transmission by syntonization of the apparatus. This is problematical without doubt, since the French Navy, supplied with Tissot-Rochefort apparatus, was able to read the signals exchanged between the vessels of the German squadron during its passage, and was frequently able to intercept the signals sent out from the English coast

from the Lizard, Penzance and the Marconi stations. Rochefort has, above all, paid special attention to the solidity and quality of the apparatus which has been furnished the French Navy, which appears to be indispensable when we consider that such apparatus is liable to be injured when placed in the hands of soldiers, and even in the care of specialists.

The transmitter used by Messrs. Tissot and Rochefort is constructed in accordance with the plan set forth by the lieutenant of engineers, Della Riccia, in the Rivista di Artiglieria et Genio of September, 1897. It consists, or rather it is called, a two-ball oscillator, one terminal connected to ground and the other to antenna. The Rochefort transmitter is likewise characteristic by the use of a rotating interrupter and a Rochefort unipolar transformer. In this transformer all tension at that pole which is connected to the antenna, while it can be grounded at the side where the tension is at zero without the length of spark being lost and its power destroyed.

The Popoff receiver is most commonly used. It consists of a coherer grounded on one side and connected to an antenna on the other. Through the co-operation of Mr. Tissot, the French Navy is making use of a receiving device, which relatively guards the receiver against electric atmospheric efforts. It consists in an antenna—connected to ground through a self-induction coil on one side and through a condenser

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on the other—and a coherer placed in the circuit in the ordinary way. The French Navy was not only able to read the signals of the German Navy during its passage (of which mention was previously made), but it was likewise able to communicate to these vessels. The Rochefort receiver comprises

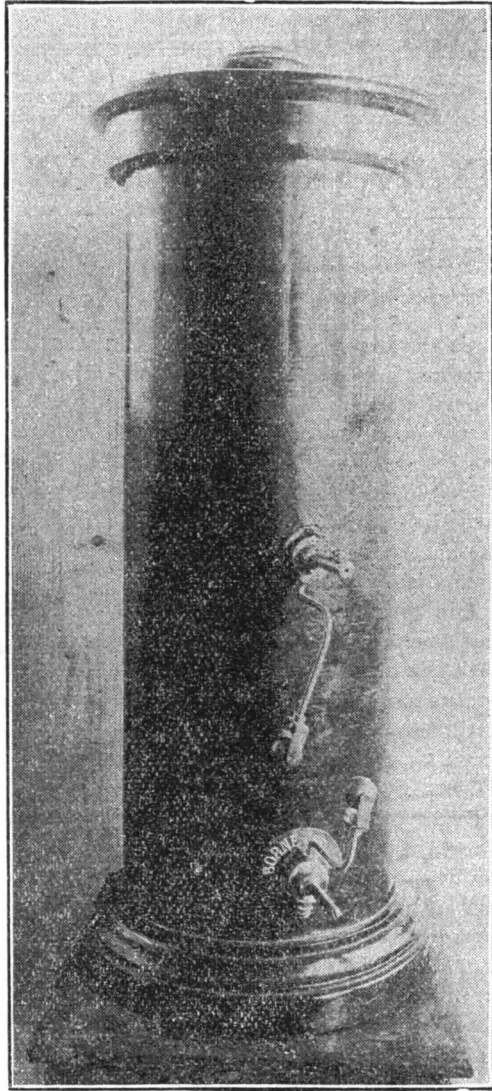
Mr. Rochefort has successfully used, especially in those stations of which I am now speaking.

During the course of Mr. Rochefort's experiments, he had occasion to make numerous observations, the most interesting of which are, perhaps, those which he sent to the Academy of Science of Paris but a short time ago, in which he stated that every filing coherer can be converted into a coherer, auto-decohering, provided it be traversed by a current of several milliamperes. I have repeated this experiment, notably by inserting a Rochefort coherer placed in a battery circuit along with a milliamperemeter, and as soon as it was effected the coherer allowed a certain number of milliamperes to pass. This number depended on the resistance interposed in the circuit, to a certain extent upon the influence of the waves, and upon the difference of potential use at the binding posts of the coherer.

Considered in relation to the use of telephonic receivers especially this article to the Academy of Science is of great value, for, whatever may be said of it, the filing coherer always appears to me to be more sensitive than the carbon coherer, or even a carbon with other metal.

The Rochefort automatic regulated coherer does not differ from his other coherer, except that it makes sure of a much longer duration on account of the automatic renewing of the filings. In the ordinary coherer there are two electrodes, whilst here one of the electrodes is suppressed, and it is replaced by a metallic thread of the same material as the filings, which passes through a stem, and has the form of a wheel. Attached to this stem there is a block of insulating material, forming a cork or stopper, which prevents the filings from being scattered in the tube. The portion of the filings, which have not been traversed by the current, are mixed at each blow of the hammer with those that have been traversed by the current. The quantity of filings held in reserve may be as great as desired; the renewing of the filings can take place automatically each instant.

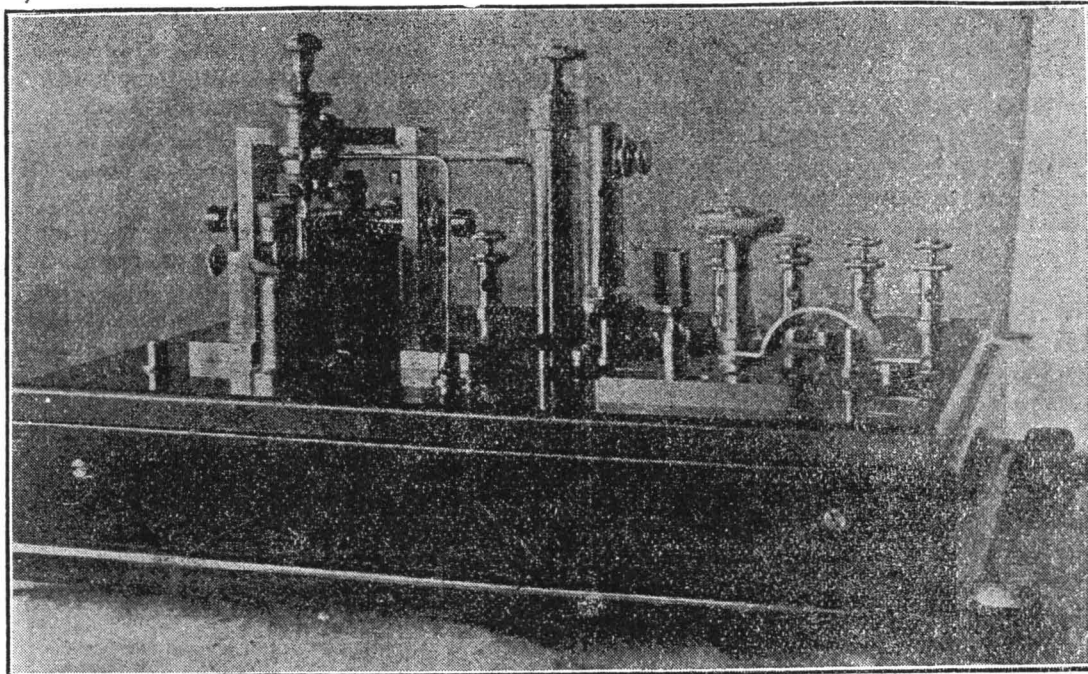
Among the Tissot-Rochefort stations furnished to the French Navy I will recite those placed on the Bouvet, the Latouche-Treville, the Pothuau, the Du Chayla, the Charles-Martel, the Saint-Louis, the Cas-



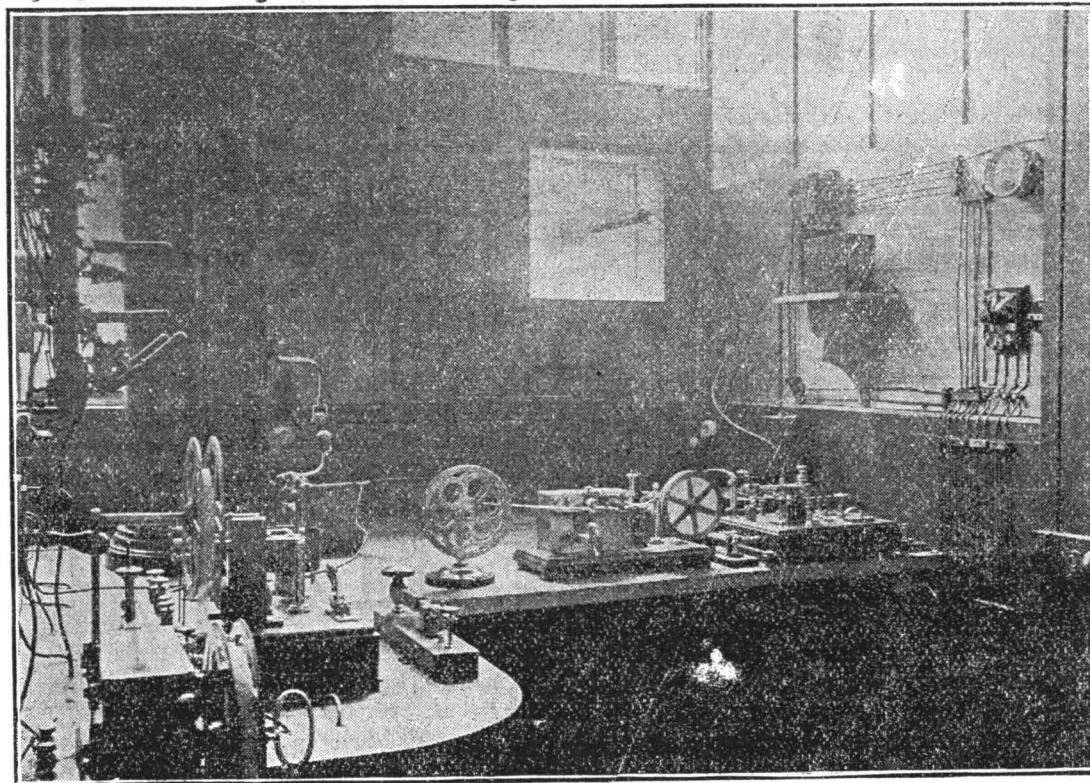
SINGLE POLE TRANSFORMER.

a coherer (by the same inventor) having ordinary magnet filings; its sensitiveness is governed or regulated by a magnet, and a French Government automatic Morse is used. A resistance in the coherer circuit was placed so as to govern the sensitiveness of the Claude compass needle relay, which

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THE ROCHEFORT RECEIVER.



A ROCHEFORT RECEIVING STATION.

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sard, the Entrecasteaux, the Formidable, the Assas, and the Massena. The last installation is under the direction of Navy Lieutenant M. de Jehanne, and it has done the longest distance work, more than 350 kilometers. I will also mention a submarine defense station in addition to the signal stations at Ouessaut, Saint-Mathieu and Pac-au-Duc.

As will be seen the results obtained in the French Navy are remarkable from every standpoint, and more especially in respect to the reliability of its service.

COMMON WONDERS.

We read with astonishment the account of the latest marvels of science—radium and polonium. These things, being new and unusual, rouse our wonder. Yet the commonest everyday things which are constantly about us have wonders equally great to unfold.

Ordinary table salt consists of two things. One is a metal called sodium. This metal is light in weight and silvery white in color. When thrown upon hot water it takes fire.

The other is a gas called chlorine. This gas is heavy, greenish-yellow in color, and has a strong suffocating odor. It is a deadly poison.

Just think of it! When this metal and this gas are made to combine they form common salt—a necessity of life!

That same gas chlorine unites with quicksilver. What do you suppose is formed? Calomel—calomel, which can be given to babies!

These same substances, quicksilver and chlorine, if joined in another proportion, form corrosive sublimate—a deadly poison!

Can there be any thing more astounding than the fact that calomel and corrosive sublimate consist of exactly the same things, only in different proportions?

There is a gas called hydrogen. It is the lightest substance known. It burns with a blue flame and a slightly explosive effect.

There is another gas called oxygen. It is sixteen times as heavy as hydrogen. It is the substances which makes everything burn.

These united give—what do you suppose? Water!

Think of that! Two gases, both of which burn, form a liquid which destroys all fire.

When you burn coal, you burn diamonds.

When you are writing with a graphite pencil (commonly misnamed a lead pencil) you are writing with a diamond.

When a black-faced comedian makes up with burnt cork, he is smearing diamond dust on his face.

Can there be anything more wonderful than this? The diamond, the hardest substance known, and the soft, black soot in your chimney are exactly the same thing! And these two have precisely the same chemical composition that coal, charcoal, graphite and boneblack have.

Think of the same substance being used for jewelry, to cut glass, to burn, to write with, to purify water, and to decolorize molasses!

Truly the commonest of things present marvels easily equal to those furnished by radium or polonium. The wonders are there, if we will be open our eyes to see them.

Have you ever asked yourself such questions as these:

Why does a match burn when I strike it?

Why does gas keep on burning after I have taken the match away?

Why does iron rust?

Why does my body always have the same temperature?

These things all have the same cause.

What is it?—Frederick E. Breithut in N. Y. Journal.

SOME VAGUE IDEAS.

Some people seem to have a very vague idea of what organized labor is to-day striving for, or what it has done to improve the conditions of the workingmen. The goal toward which organized labor is to-day fighting its way is to obtain for the workingman the greatest amount of prosperity that would be consistent with the industrial and commercial prosperity of the country.

WILL BUILD A HOME.

The membership of the Brotherhood of Carpenters and Joiners of America are advocating the purchase of ground for a building for the organizations to be located in Indianapolis. The organization has about 150,000 members and the generally accepted plan is to levy an assessment of \$1.00 a member to create a building fund.

JAN 13 04

SPIRIT OF UNIONISM.

BY HARRY S. COYLE, LOCAL 38.

DEFINITIONS.

The word "union" is derived from the Latin word "unio," which signifies oneness, or unity, harmony, concord, etc. In order to understand what is meant by unionism we must understand that its definition applies more to the spiritual than to the animal nature of man, since it is through the spiritual nature of man that all thought of welfare and happiness arise and are put into force by the united and harmonious action of those agreeing thereon.

DEVELOPMENT OF SYMPATHY

is really the development of society itself, since the joys and the sorrows, the trials and the tribulations of mankind are the principal factors in developing his mind to overcome the obstacles of environment—they taught him to transfer the struggle from his hands to his mind (inventions and discoveries). Looking into the past ages we find that man has passed through numerous stages of social and technical evolution. It did not take the sons of Adam long to learn to use the resources of nature, and instead of carrying his burdens across the sun-parched desert or up the steep mountains he puts it upon the backs of the beasts of burden, or perchance he would hitch his canoe to the wings of the wind. Later on he combines ingeniously the forces of nature and flees across the earth on the great steel roadways, or he draws the mysterious lightning from its lofty throne and finds a thousand and one uses for it. During all of these periods of change men were preparing themselves for the conception of those principles which are essential to the full control and happiness to be derived from the possession of these wondrous inventions.

The burden of my theme is that the social and technical development of mankind must march abreast, else we will become overbalanced and find happiness in neither.

Poor, naked, houseless savage man, living in the gardens of nature, found many ways to lessen the burdens of life. When the winds blew cold he would warm himself by the campfire, and when the night was dark he illuminated his camp with firelight,

and about the fire he gathered the old and the young. Perchance, he would pitch his tent in the deep forest, on the shore of some silvery lake, where the fishes sported, and where the wild bird mirrored his flight, and in these beautiful and picturesque parks of nature would pass the long weary evening of winter in dancing and singing, or perhaps in telling the never-tiring stories of their creation. All things are known to the savage mind; he deifies the beasts of the field and fowls of the air, and the inhabitants of the waters—all are wonderful to him, possessing powers that seem to be supernatural, so he gives divine powers to them and worships them.

The folk-lore of the savage is rich in drama. In this form of worship he learns to associate with his fellows, and they gather round the campfire and dance and sing, and here they learn to voice themselves in harmony and melody, for to music is consigned the highest joys; for in their blended voices and harmonious movements of the dance shall co-ordinate the forces of the soul and body until the powers of brotherly love are developed to its highest point. And this love was further developed by the suffering of his companions, for storms would come from the dark waters of the great beyond and destroy his humble home, and the Great Spirit would send his sword of lightning from the heavens and shiver trees and destroy life until they would believe that they were persecuted, and would take refuge in some distant mountain until the Great Spirit would once more light up the green pastures and reflect his glory from the bosom of the golden lakes. These things gave man a subject to meditate upon; it taught him to build a better house, so that when the great storms came and the lightning flashed and the cold winds howled he could at least rest in safety.

HAPPINESS

was his quest and the more he pursued it the more distant it would seem. It is like one of those phantoms of a lake that reveals itself to the traveler on the sun-parched desert, and, as he feels the clutches of death gnawing at his throat, he makes one supreme effort to reach the shores of the lake only to fall exhausted on the burning sands, a victim of his own folly and ambition.

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RANDOM

efforts produce random results. It is a law of mathematics that if you multiply an infinite by an infinite the product will be an infinite. So it is in practical life. Men forgetting this will go through life applying negative principles to positive factors—making the burdens almost intolerable by their selfishness and petty jealousies. Did you ever see the scientist dissect the sunlight into the seven colors of the rainbow by means of the crystal prism? Let us pass the word "unionism" through our intellectual prism and we will find that it has been dissolved into its elements. Casting all of the other words which are used as auxiliaries aside for a moment we will pick out the word "love" as the base upon which these words rest. Every endeavor that tends to uplift mankind, and every thought, deed or action that tends to lessen the burden of life are included in this word. We have

DEFINITE FORMULÆ

for securing definite results in electricity. The operations of the laws governing chemical and physical action are apparent on every side. Realize it thoroughly: this is a methodical not an accidental world. While we recognize this fact in our workshops, very few, if any, of us govern our social life by this law; we apply random efforts in dealing with men and expect to obtain from this deal something that we did not put into it. Is it not a law of energy that you can not take more from a machine than you put into it?

None of us would think of putting any other elements into our batteries than those prescribed by the rules for filling the jar, and if we did we would secure something entirely different from that which we desired—something that would, perchance, work great injury to us bodily. So it is in our dealings with our fellow-beings. We can never expect our organization to reach its acme of usefulness unless we put into it our best efforts when dealing with our brothers. Look at the word "brother;" find its definition in the dictionary, plant it in your mind, and try to cultivate it, so that it will grow there and crowd out that miserable selfishness and jealousies that prompt you to stand in saloons or on the street corners and slander and lie about your brothers.

Is it not a fact that these same men who are always so eager to create a disturbance and throw the community into a whirlwind of slander and gossip are usually the first to take to the "tall timbers" when the battle commences. And these same men expect great results to be accomplished by the local when they have put into it the elements that are bound to corrupt it. This is the reverse of unionism. We should relegate all petty differences and jealousies from our locals and work united, like true men, for the welfare of our brothers.

Some time ago I read an article on the "Future of Trade Unions," which was written by a well-known labor leader, in which he said that the goal of organized labor was to "get more and then some." If this is the object of his organization we do not want him to class our Brotherhood in this category, and I think that the entire Brotherhood will agree with me when I say that the endeavors of the I. B. E. W. are to create a state of peace and harmony between employer and employee, and to develop the inner nature of its members to their full functions, and to teach men what we are organized for—not only to maintain our scale of wages, but to develop the sense of

BROTHERLY LOVE AND SYMPATHY

for mankind, especially when they are in need or sorrow. This should be the paramount principle of our Brotherhood, and it is along these lines that the labor movement of the future will extend its energies and be developed to its highest state of perfection and usefulness. For brotherly love is the true spirit—the guiding star of unionism.

Knowing that happiness is governed by law, and that welfare is obedient to a known formula, I could formulate a set of principles that would attain the desired end of unionism, but why should I when our constitution and by-laws cover this subject so thoroughly? Its principles can not be misinterpreted; abide by them and the desired results are bound to follow. They have been tested and are known to yield the same results at all times—like any other formula or law.

With the dawn of the new year let us resolve to omit nothing that would be of benefit to our organization and do all in our

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power to increase the happiness and welfare of each and every member of our Brotherhood. Then we can rest assured that our organization will rise higher and higher in the zenith of efficiency and perfection, and with all of its forces clustered around the orb of brotherly love its triumphal march is certain and irresistible.

SUPREMACY OF AMERICAN LABOR.

The two great causes of American prosperity are the enterprising, legitimate capitalists and the intelligent, inventive workmen, says H. N. Casson in the New York Journal. There should be no quarrel between these two, no matter what the red-flag revolutionists say.

The high-priced worker requires less superintendence, a shorter apprenticeship, is less wasteful, more inventive and can be trusted with more intricate machinery.

If American workers had not developed into high-class specialists swift and accurate, the enormous plants which make our manufactures known throughout the world would never have been invented and could not be operated.

Where outside of America will you find a paper mill like that at Runford Falls, Me., which turns out every day a strip of paper 144 feet wide and 150 miles long—a total weight 35 tons? It is now only twenty hours from the tree out of which the paper is made to the newspaper in the hands of the news-boy.

Where else will you find steel works like the plant of Bethlehem, Pa., where a 14,000-ton hydraulic press forge handles a 125-ton mass of iron as if it were a pound of putty?

And where else are there wheat fields 144 miles square, like the one in the San Joaquin Valley, California, reaped by a steam harvester and thresher, which automatically cuts, threshes, cleans and bags the grain at the rate of three bags a minute?

Is it any wonder that we produce more wheat than Russia, Germany, Austria, Egypt, Great Britain and Canada combined when we cultivate our fields with 50 horsepower steam ploughs that plough, harrow and sow sixteen furrows at once?

Is it any wonder that European publishers come to New York as apprentices when our Hoe octuple press can print, cut, paste, fold

and count 96,000 eight page papers an hour, consuming a strip of paper fifty miles in length. This wonderful machine contains 16,000 parts, yet is as delicately adjusted as a lady's watch.

Last year we exported \$2,000,000 worth of typewriters, \$1,000,000 worth of bicycles and \$4,000,000 worth of sewing machines. Two out of every three sewing machines manufactured are made in this country. Our kodaks and stem-winding watches are everywhere. England and Germany combined can not equal our output of steel.

The new Trans-Siberian Railway is being built with American material; and the Crown Prince of Japan has hired American engineers to build him an earthquake-proof steel palace, to cost \$3,000,000. Before long our builders will be taking orders for sky-scrapers all over the globe.

In a conversation with the Italian and Japanese Consuls in New York, both informed me that trade in their countries was changed from England and Germany to this country. Even our old enemy, Spain, was obliged recently to place an order in this country for 600 railway carriages.

All the above figures and instances show why America has become the department store of the world. Our foreign trade has increased in spite of the tariff walls erected by politicians.

To describe all the various reforms that have been inaugurated by organized labor bodies would require an entire book. To give an idea of the labor legislation which has been first thought out in trade unions and then forced through stupid or corrupt legislatures, the following instances may be mentioned:

- Fire-escapes on factories.
- Inspectors of factories.
- Protection from dangerous machinery.
- Abolition of child labor.
- Shorter workday.
- Ventilation in all workshops.
- Seats for women where possible.
- Weekly payment of wages.
- Two outlets to mines.
- Protect wages of wives from attachment.
- Industrial and evening schools.
- Special railroad rates for wage-workers
- Boards of arbitration.
- Abolished truck stores.

Guaranteed worker's wages by lien.

Australian ballot.

Saturday half-holiday.

Many of the above reforms are not in force in all the States, but the unions are steadily working to make them universal.

THE ELECTRICAL DISTURBANCE.

The recent electric storm which visited nearly all of the Northern Hemisphere developed some very interesting phenomena. In the Northwest, from St. Paul to Dickinson, N. D., an experiment was tried during the aurora of disconnecting the telegraph battery from the line, and the operators succeeded for several hours in sending messages over 650 miles by the earth currents without the aid of any source of electricity. At many other points the earth currents were so strong as to occasionally interfere with the operation of telegraph lines by neutralizing the battery currents, or else, if the earth currents were in the same direction as those from the battery, there was so much electrical power as to cause the instruments to become unmanageable, and even caused frequent injury. Magnetic storms of this description are more frequent than is often supposed. They almost invariably occur during any period of solar disturbances, and just about the time of the recent aurora disturbance, a group of unusually large sun spots made their appearance and slowly drifted across the disc of the sun. It has been so far substantiated that there is an intimate connection between solar phenomena of the magnetic condition of the earth that there is little doubt of the possibility of sending signals across into solar space, and so Mr. Tesla's famous idea of signaling Mars is not theoretically impossible. The only difficulty seems to be to get an electric generator big enough to cause a disturbance great enough to be felt at so remote a distance.

HOW GRANT GAVE ORDERS.

Although General Grant shows in his "Memoirs" that he could say what he had to say well and simply, he was not a man of words. Rather was he at all times a man of action, who could direct the actions of others, and even when his orders called for

the performance of the most difficult task, he gave them as if the duty were the simplest thing in the world. A man who was Grant's neighbor during his Missouri farming days is quoted as telling the story of Grant's quick and practical decision:

Mr. Dent, his father-in-law, owned a fine Durham bull. The big animal broke through every fence that was put about him, and the farmers for miles around suffered from ruined orchards and devastated garden patches.

One day, after a night in which the old fellow had been especially annoying, he sent over to the Dent place for aid. The bull was racing about the fields, terrorizing the neighborhood. Grant asked two or three questions as to losses, then he told some one to get a wagon-spoke.

"Now," he said, as if we were directing a simple task, "catch the bull and tie this in his mouth, bit fashion."

If any one else had made the suggestion he would have been laughed at, but Grant's advice was taken as a command. He took no part in the proceedings, but turned his horse about and rode away. The men went out, caught the animal, gagged him, and turned him loose again. After a few days without food he was completely broken of his bad habit.

MODERN LOGIC.

When Edith's papa came in from his office late one spring afternoon he happened to see the little girl playing in apparent innocence by the flower-border behind the house. So, in order to join her at her play, he entered the yard through the back gate instead of going around to the front, as was his custom.

When he walked up to the flower borders, which were the pride of his young wife's heart, he was dismayed to find that his small daughter had carefully pulled up all the bulbs which her mother had planted, and was busily engaged in putting them back in their places upside down. She knew she was doing wrong, for her face flushed guiltily when she looked up and met her father's stern, accusing eyes.

Without a word he took her in his arms and carried her to the nursery, where he

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punished her as severely as he thought the transgression warranted.

That evening, as she sat in her little chair reflecting on her sins, she looked at him reproachfully.

"Daddy," she said, with the shine of tears in her violet eyes, "if you'd a' come in the front way, as gentlemens oughter do, you never would 'a' knewed I done it!"—Woman's Home Companion.

BLOWING OF THE FUSE.

One often sees a bright flash and a sudden stop of an electric car, with all the lights out. This is frequently described as a more or less serious accident, and it often causes a panic among the passengers, especially on elevated trains. The greatest danger to passengers, however is a possible panic, which might be avoided if it was generally known how little chance there is to fire or other danger. The Electrical Review, to help people to understand what happens, makes the following explanation, which should be plain to lay minds: "If a steam engine is overloaded it will stop and refuse to work although the full pressure of steam may remain upon the piston, and not cause any damage. On the other hand, a motor when overloaded tries its best to do the work, thrown upon it. If it cannot run at full speed it will run at whatever speed it can. As the speed decreases the current through the motor increases, and the motor adjusts itself to that speed at which the turning effort is sufficient to cause rotation and do the work. If the effort demanded of the motor is so great that the current which passes through it when standing still, is not sufficient to cause rotation, the motor will of course, not turn, but the current will continue to flow unless interrupted by a suitable mechanism.

"The current which will flow through a motor when it is standing still is in almost all cases far in excess of that which the motor is designed to carry, and, indeed, in a well designed motor a current dangerous for the motor will be reached before the motor has been stalled. The effect of this heavy current on the motor, if allowed to continue is to heat the windings to a dangerous degree and destroy the insulation, possibly setting it on fire; and it is to pre-

vent this occurrence, whether due to careless handling of the car or to unexpected cause, that the fuses are used. A fuse is simply a short piece of wire of such size that it will be melted by a current which, if allowed to flow through the motor for any time will damage it. When a fuse blows, then, it simply means that one of the safety devices on the car has operated to prevent damage to the motor. The melting of the fuse opens the circuit and cuts off the current from the motor. To protect the car the fuse is inclosed in a fireproof box.

"There is another device for accomplishing this purpose, which is known as the circuit breaker. This is a switch controlled by an electromagnet, which opens whenever the current reaches a certain dangerous value. This mechanism is now generally installed upon electric cars in addition to the fuse. It is often placed on the roof of the platform over the motorman's head, where it is easily reached and is set to operate at a higher current value than the fuse, because the circuit breakers act almost instantaneously, while it takes a little time for the fuse to be melted. Now, a motor can stand for a second or two a current which would destroy it if applied for a longer period. The circuit breaker, then, takes care of heavy overloads and the fuse protects the motor against those smaller currents which are dangerous if applied for a considerable time.

"When a fuse blows there is generally a volatilization of the metal of the fuse and a slight explosion. These explosions usually cause a report and some smoke. When the circuit-breaker is opened it draws an electric arc in breaking the circuit, and as in this arc a considerable amount of energy is dissipated in heating the air, there may be here also something of an explosion, but in in neither case is there any danger to the passenger when the apparatus is properly installed. The fuse and the circuit-breaker are safety devices, the operation of which indicates, not that there is danger to those on the car, but that danger to the motor has been averted."

An electric fan has been invented which heats the air current which it produces. It is called the hot air fan.

JAN 1304



Sweden prohibits the importation of wall paper, carpets, dry goods, textiles and all articles containing arsenic.

Ferry boats large enough to carry sixteen cars are being built for the English Channel. They will ply between Dover and Calais.

Germany publishes more books and pamphlets than any other country. Japan, Russia, France, and Italy follow in the order named, while the United States is sixth on the list.

The latest improved cotton presses so compress a bale that it contains forty-five pounds to the square foot, so that a ship can easily store the product of 40,000 acres of average cotton land.

A new line of steamers running from Italy to China receive a government subsidy of \$913,000. The Russians have recently established a route from Odessa to New York, via Naples and Marseilles.

Manila rope is supplanting belting in new machinery, the long fiber of Manila hemp making it valuable for this purpose. A rope of this hemp was recently made 2,500 feet long and two inches in diameter.

Many micro organisms remain alive though frozen in liquid hydrogen. The temperature of liquid hydrogen is about one-quarter that of liquid air, just as that of liquid air is about a quarter that of the average mean temperature.

Great Britain is about to follow the example of the United States in establishing a department of commerce. At present the jurisdiction of trade and commerce is divided between the board of trade, the foreign office, and the home office.

One of the most remarkable developments of the automatic machines is a "Doctor Cureall," in Holland. It is a wooden figure of a man, with compartments all over it, labeled with the names of various ailments. If you have a pain find its corresponding location on the figure, drop a coin into the slot, and the proper pill or powder will come out.

The largest cave in the world is at Hot Springs, South Dakota. Wind Cave, as it is called, contains 2,500 chambers and extends ninety miles in different directions.

The first dredge operated by electrical power was invented by M. Bunau-Varilla, the present minister from Panama. He first put it into practical use when, as an engineer, he improved the navigable waters of Roumania.

According to the statement of the Scientist Moreaux, the curve of the spots on the sun and that of terrestrial magnetism offer a perfect parallel. This would seem to establish the claim that our electrical disturbances are attributed to this solar phenomenon.

In revising a dictionary of the English language which was printed only ten years ago it was found necessary to add seventeen thousand new words, including the giving of new meanings to old words. The selection was made from half a million words which have come into use during the last ten years.

Farmers own but 21 per cent of the wealth of this country, with the remaining 79 per cent divided between manufacturing and railroad building. Forty years ago the farmers owned more than half the wealth, but the advance in manufacturing and railroad building has been so great as to cause this apparent decline in agricultural values.

Recent discoveries would lead to the belief that the sun may contain large quantities of radium. In a lecture given recently in London by Sir William Ramsey he set forth that this new substance gives off helium gas, and as this substance is known to be one of the constituents of the sun the suggestion arises that it may be generated by the radium which the sun contains.

So much attention is being given to compressed air for driving machinery of all sorts that an invention of a Chicago man in this line should prove of interest. This device is intended for use where the motor or engine which drives the compressor also runs other machinery independent of the compressor, automatically controlling the pressure in the pipes and storage tanks. One of these devices, already in use, shifts

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the compressor belt from the tight to the loose pulley when sixty pounds pressure is reached, returning to the tight pulley when the pressure falls below twenty-five pounds. The range between the high and low pressure limits can be adjusted to suit requirements, and thus the compressor takes care of itself automatically.

The opening of the Simplon tunnel will be celebrated by an exposition at Milan, in which the United State is invited to participate in the following sections: Transportation on earth and in the air, marine transportation, insurance, decorative art, and workshop of industrial art.

Assuming, quite correctly, that the sterilizing effect of steam is due to the heat, it has been supposed that the greater heat carried by superheated steam would render it more effective for this purpose than saturated steam, such as is supplied by an ordinary steam boiler. Experience, however, has shown that the best results are attained when the steam is slightly moist.

The muzzle velocity per second of the rifles of the large countries are as follows: United States, Springfield, 2,300; French, Lebel, 2,073; English, Le Metford, 2,000; Spanish, Mauser, 2,388; Italian, Mannlicher Carcano, 2,100; German, Mauser, 2,034 feet. Sights on these are now graduated thus: United States, 2,000; France, 2,187; England, 2,800; Spain, 2,187; Italy, 2,100; Germany, 2,187 yards.

Before the Academy of Science at Vienna recently a paper was read concerning phosphorescent bacteria, giving not only an interesting description of some experiments, but also indicating several practical uses to which they may be placed. The investigator, M. Molesch, of Prague, obtained a light from a collection of these bacteria strong enough to take a photograph, and also introduced a "bacteric lamp," consisting of a flask about two liters capacity, which gives a light strong enough to read a thermometer by, or to see the dial of a watch at a distance of one or two yards. The experimenter thinks that such a bacteric lamp, as it gives no perceptible light, will be of service in powder magazines and in scientific work. When placed in suitable conditions the bacteria possesses the phosphorescent properties for several weeks.

The spiral cloud railway at the St. Louis Exposition will be constructed by Lieut. Wier Graydon, the American engineer. Lieut. Graydon served in the Seventh Indiana Cavalry during the rebellion. He was graduated from the United States Naval Academy in 1869 and has a number of relatives in Indianapolis. He now resides in London and proposes to build a number of towers in England. The tower to be built at St. Louis will be 1,200 feet high and trains will ascend it on a kind of corkscrew railway.

The Grand Palais in Paris possesses a wonderful clock, which was shown in the Paris Exposition of 1855. It was the work of Collin, and has just been overhauled. It is claimed for this chef d'oeuvre, says the Debats, that it does not vary more than the hundredth part of a second in a year. It is four and a half meters in height and indicates the time in the twelve chief cities of the world, each having its own dial. The clock not only marks the year, month and day of the week, but its pendulum forms a barometer of singular precision.

A Leipzig trade paper, in reporting on the recent fair held in that city, speaks favorably of a new line of doll heads made of tin and covered with celluloid. The opinion is expressed in the paper quoted that this novelty is a desirable improvement, as many lines of doll heads now in the market are composed entirely of celluloid and are of great danger to children, on account of the liability to catching fire, and practically exploding, to which celluloid is subject. The use of celluloid in the manufacture of toys is making steady progress, in spite of this dangerous quality.

Rather an ingenious idea is that of an Iowa man, who would do away with the necessity of passing the collection basket in church in order to obtain revenue for its support. This man has invented an apparatus by which the cushions are made hard or soft, according to whether the occupant of the pew puts in much or little in the slot machine which forms a part of his apparatus. In the basement there is to be located an air compressor, with connections for each cushion, and the insertion of a coin in the slot will permit air from the compressor to inflate the pneumatic cushion to a

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limited extent. It is evident that the more coins inserted the more inflation of the cushion, and, consequently, more comfort for the occupant of the pew, and also the greater the revenue of the church will be.

The use of acetylene gas in the blowpipe, according to an article by M. Andre Binet, in *Le Genie Civil*, has many advantageous features. Of these not the least is the very high temperature which it is possible to obtain. The temperature of this flame is not exactly known, but it is probably in the neighborhood of 4,000 degrees, and, in any event, it is much higher than can be obtained from an oxyhydrogen blowpipe. Oxygen is used in connection with the acetylene gas in obtaining this temperature.

The ornamentation to be used in the Chinese building at the St. Louis Exposition is to be of papier mache, and will be made by a Milwaukee concern. The models from which the ornamentation is to be constructed are the work of expert Chinese wood carvers. The paper used will be soaked in paraffine wax until thoroughly saturated, and will then be coated several times with linseed oil paint. Rain, it is stated, will have little effect on the ornamentation, provided it has an opportunity to run off freely.

With the growing scarcity of good material for the making of paper on which to print the enormous editions of the daily newspapers of the world and for all the various other uses to which paper is applied, it is encouraging to learn that a process has been discovered by which old newspapers, magazines, etc., can be rejuvenated and converted into paper suitable for printing purposes once more. The old paper is put through a heating process and then treated with a preparation costing about \$1.25 to \$1.50 a ton, which lifts the ink from the paper, leaving it as white as when it was delivered from the mills the first time. Enough paper has already been run off to be used in several newspaper offices, so the enterprise seems destined to succeed.

RAPID TELEGRAPH IN GERMANY.

A new invention relating to rapid telegraph is undergoing a practical test, the results of which should receive due considera-

tion in the United States. The system is known as the Pollak-Virga Rapid Telegraph, and after a careful examination at the Polytechnic Institute at Charlottenburg it was shown to the Emperor and Empress of Germany about the middle of last February. It was decided at this visit by the chief of the German postal system and other influential persons that the new system would be given a practical test on the line between Berlin and Konigsberg, which is some 450 miles long.

The results obtained with the new system are considered most satisfactory, as it has been demonstrated that 40,000 words per hour can be transmitted under the most varying conditions. The imperial telegraph service has decided to introduce the system on the busy line between Berlin and Frankfort. —American Inventor.

THE HOPE OF THE HOME.

"Paw," said the hope of the home to his parent who had come home from the factory earlier than usual, "Billy Jones says his father said to him as how the union men were going to refuse to work with you because you were a non-unionist. Is that true?"

"Yes," meekly assented Paw.

"Billy Jones says, his Paw says that the union men won't work with you after to-night."

Paw nodded.

"Say, Paw," pleaded the hope, "why don't you go into the union?"

"My boy," answered Paw, "this is a free and independent nation, and all of its citizens are free and independent men and women. I don't wish to join the union, and, being a free born man, I will not be forced into it against my will."

"Can a man do what he likes in this free country?" questioned the hope.

"Yes, indeed."

"They can't force you to join the church, Paw, can they?"

"Certainly not, my son," assented Paw.

"They can't force you to vote if you don't want to?"

"Not at all," replied the father.

"Nor pay your rent if you don't want to; nor your grocery bills, nor your tailor, nor your——?"

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"No, no, no," hurriedly exclaimed the father. "These are obligations voluntarily assumed and agreed to, hence have to be met and liquidated."

"Paw," solemnly asked the hope, "there is nothing compulsory about assuming these obligations, is there?"

"I have just said the obligations are voluntary," answered Paw.

"But, Paw," queried the persistent innocent, if you can assume voluntary obligations to you grocer, your tailor, your landlord and others, why can't you assume voluntary obligations to the union?"

"Because, my boy, I refuse to be forced," doggedly retorted Paw.

"But are you not forced to pay your rent, Paw," insisted the hope.

"Well, in a sense, yes," admitted the father.

"You are not mad at the landlord for demanding it, are you, Paw?"

"Oh, no."

"Paw," said the hope, starting out on a new track, "the union has raised wages in the trade, has it not?"

"Well, I suppose it has," admitted the father.

"And made the working conditions of the men better?"

"Of some of them, but I am a good mechanic and get as good wages as any union man," answered Paw proudly.

"When the union gets good mechanics an increase in wages, you get the increase, too. Is that right, Paw?"

"Exactly."

"Then you owe the union a debt, and you ought to pay it."

"Sir," cried the indignant father.

"If the union did not raise the wages of the others, yours would not be increased," asserted the hope.

"This question is too deep for you, my boy," advised Paw. "You had better go to bed."

"But, Paw," pleaded the boy, "listen; Billie Jones and Willie Green and Johnny Robertson say that their Paws pay dues to the union, and if it were not for the dues they and others paid, the union would be helpless to do any good."

"Well, what about it?" grunted the sire.

"You say that all obligations are volun-

tary, and you of your own free will assume them to others. Then, why not to the union which has done so much more for you than the landlord, the tailor or the grocer?"

"See here, my lad," threatened Paw, "I will assume of my own free will an attitude toward you that may prevent you from using a chair for some time to come if you are not careful in your choice of language."

"But, Paw," persisted the unabashed hopeful, "if the men refuse to work with you in any of the shops because you are a non-union man, will your freedom and independence feed you and Maw and me, and clothe us? Will not the landlord be free to turn us out in the cold? Would not Willie Green, Billy Jones and Johnny Robertson's Paws be free to look upon you with contempt? Are they not already doing so? Isn't it true that you came home early tonight because they fired you rather than have you cause trouble in the factory by refusing to join the union? Isn't it——?"

At this stage of the hope of the home's oratory, Maw appeared upon the scene, and seeing the veins on Paw's excited face standing out like whip cords, and fearing that he might do bodily injury to the hopeful, she ordered him to his bedroom and his prayers with the injunction that he ask the Lord to clear his mind of the wicked thoughts and make him obedient, meek and submissive, so that his days might be long upon the land.

THE AFRICAN MEMORY.

At a little dinner the other night the statement was made that the colored race had longer memories than the white folks. Mark Twain, who was present, agreed with the remark, and to prove it, told the following:

"Some years ago, when South, I met an old colored man who claimed to have known George Washington. I asked him if he was in the boat when General Washington crossed the Delaware, and he instantly replied, 'Lor,' massa, I steered the boat.'

"Well," said I, 'do you remember when George took the hack at the cherry tree?'

"He looked worried for a moment, and then, with a beaming smile, said:

"Why, shuah, I dun drove dat hack myself.'"

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THE PRIMARY CELL AND ITS CONNECTIONS.

BY CHAS. H. COAR.

While it is not the intention of this article to enter into a description of each of the numerous cells in this class, a description as a whole will not be amiss.

A primary cell consists of two pieces of conducting material in a liquid or mixture which chemically attacks one more than the other. In most primary cells zinc, on account of its cheapness and also because it is acted upon comparatively easy by the solutions of common salts, is used, either in the form of a rod or plate, for one conductor. The other conductor is usually carbon, copper or iron. The solution is generally sal-ammoniac, or sulphate of copper—blue stone, as it is commonly known—and caustic of potash, and in some cases acid is used.

The conductor that becomes eaten most is negatively charged and the other positively charged. The positive pole of a battery is written X | and the negative —. A convenient method for determining the poles of a battery consists in placing the two terminals in water, when bubbles will form about the wire leading to the positive pole.

The commercial dry cell of to-day is considered as a primary cell, although some of these cells are capable of being recharged by a flow of current.

In describing the battery connections we will assume that one cell has a C. M. F. of 1.5 and a current output of 1 ampere.

After knowing the output of a cell in voltage and amperage, the internal resistance of a cell can be found by Ohm's law

(R = E / C) when E = the voltage or 1.5;

C = the amperage or 1, and R = the resistance, thus we have 1.5 / 1 = R 1.5 ohms or R, the internal resistance of a cell.

Let us now assume that we have ten such cells connected in series; that is, the positive pole of one cell to the negative of the next, as in Fig. I.

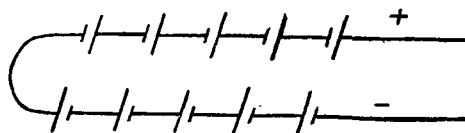


Fig. I

We will consider the voltage remains constant, then we find that in Fig. I the voltage and amperage would be added together, which equals 10 x 1.5 = 15 volts. But as we have shown each cell has an internal resistance of 1.5 ohms, we could not find the amperage by multiplying 10 cells by 1 ampere, but instead we would find it in the following way:

C = E / R when E = 15 volts, R = 15 ohms or

the combined resistance of 10 cells at 1.5 ohms apiece, and C is the current in amperes, thus 15 / 15 = 1 C which is the flow in amperes, the total output of Fig. I on a short circuit would be 1 ampere at 15 volts pressure.

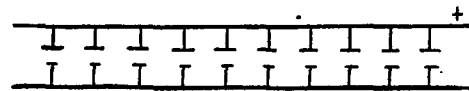


Fig. II

In Fig. II the conditions are just reversed, as all the cells connected in this manner can not raise the C. M. F. of the line more than one cell, so the pressure of all the cells combined is only 1.5 volts.

With the current output in amperes it is different, as each cell adds 1 ampere to the line, so we would have 10 x 1 = 10 amperes. The output of Fig. II would be 10 amperes at 1.5 volts pressure.

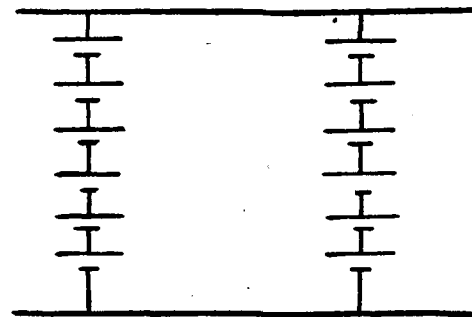


Fig. III

In Fig. III we have a combination of Figs. I and II, as we have five cells in series, giving a pressure of 5 x 1.5 = 7.5 volts, in each series. As the two sets are connected in multiple the pressure of the two sets combined can not rise above that of 7.5 volts. Each series of five cells adds 1 ampere to the

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line, so we have a flow of two amperes. Thus Fig. III will deliver 2 amperes at 7.5 volts pressure.

Combinations of this description may be made to suit different requirements by keeping in mind that with each battery in series the volt pressures are all added together, and in multiple the current output is combined.

ABSOLUTELY UNTRUE.

To the Membership :

Greeting—While I had intended ignoring the article in the November number of McClure's Magazine under the head of "The Trust's New Tool—The Labor Boss," by Ray Stannard Baker, a syndicate writer in the employ of that part of the press of the country opposed to organized labor, the action of a few members of our Brotherhood in sending out postal cards calling attention to the article referred to has caused me to change my mind.

In calling your attention to the charges contained in the article against myself, I do so feeling that the entire membership will agree with me in locating the animus of the attack at the door of the Amalgamated Painters of New York City, who were so brilliantly outgeneraled by your present Executive Board and General Secretary-Treasurer. The article, so far as it refers to myself and this organization, is wholly false and totally unworthy of belief. To begin with, the claim that "President Bahlhorn, of the Brotherhood of Painters, came on from Indiana and offered \$2,500.00 in cash to be used in the proper manner," is so ridiculous that every member of our organization will smile when he reads this assertion. The above incident is supposed to have happened in October, 1902. Where did this \$2,500.00 come from? Your president belongs in the rank and file of practical painters in your organization, and has not been so fortunate as to be able to carry around such an amount of pocket money. The \$2,500.00 could not have come from the treasury of our Brotherhood, because the Executive Board have checked up the accounts of the General Secretary twice since that time and no trace of such a deal was discovered. The charge is so serious that had there been any ground whatever on which it could have been substantiated doesn't every

member know that in these political times it would be impossible to conceal a transaction of such magnitude? And don't you know, further, that our enemies in New York would have used it for "all it was worth" in retarding the progress of the Brotherhood in that city? For it is a fact that our membership there have better wages and better conditions now than ever before. I desire to positively brand the charge that our men scabbed in New York as absolutely false and untrue, and too ridiculous to be worthy of any consideration.

I assure the membership that I have hesitated to publicly recognize these insinuations against my character, but feeling that the Brotherhood, which has honored me by their confidence, might expect a refutation of the statements referred to, I make this announcement in defense of my character. In the fifty years of my existence this is the first time I have been called upon to defend my honor and integrity, and especially must I protect it so long as I hold the responsible position that you have given me.

In closing let me say to the Brotherhood that I do not fear such assaults, because our membership is composed of that class of citizenship that does not believe in assassination of character and are loyal enough to the General Officers to repudiate such schemes, it matters not whether they are hatched within or without the Brotherhood. And whether it will be decision of the majority to continue me in the exalted position I hold or not I assure every member of our grand organization, sixty-eight thousand in number, that the support and encouragement given by them the past two years will be rich food for pleasant recollections in the evening of life.

Wishing to you all a Merry Christmas and a Happy New Year, I am,

Fraternally,

J. C. BAHNHORN,
General President, Brotherhood of Painters.

RECENT STRIKES.

The Rev. Pearse Pinch, in his prelude on the strike, at Forrestville Congregational Church, said that, while the employees of the company had been reasonably well paid, and that no strike ever ought to be attempted

when it required lawlessness to make it successful, yet there had come to light a grievous wrong on the part of the company.

When a man is required to be on duty eighteen hours or more for an opportunity to earn ten hours' pay that is inhuman. Men complained with good reason that they had not time to sleep, nor a place to eat, nor opportunity for attending to their personal affairs.

It should require no strike to call attention to a wrong like that. Directors should pay some attention to the claims of humanity, and not think of dividends alone.

Well paid underlings who increase dividends by grinding the life out of men deserve not promotion, but discharge.

Holders of corporate interests should learn that the men in any business are more important than the gains to be gathered from it.—Chicago American.

CHILD-LABOR AND TRAMPS.

We have often heard of the criminality of child-labor, how it stunts the growth of the children mentally and physically, and brings on premature old age; but the fact that it also brings about pauperism is brought out by Jane Addams, of Hull House, in Chicago. Writing in *Charities*, a New York weekly review of general philanthropy, she says that it has been discovered that child-labor has a debilitating effect upon the mental and physical systems that drives men to tramp-life. To quote:

"We have a municipal lodging-house in Chicago largely filled with tramps. In addition to housing them, an intelligent effort is made to get them into regular industry. A physician in attendance makes a careful examination of each man who comes to the lodging-house, and last winter we tried to see what connection could be genuinely established between premature labor and worn-out men. It is surprising to find how many of them are tired to death of monotonous labor and begin to tramp in order to get away from it, as a business man goes to the woods because he is worn out with the stress of business life. This inordinate desire to get away from work seems to be connected with the fact that the men have started to work very early, before they had the physique to stand up to it, or the

mental vigor with which to overcome its difficulties, or the moral stamina which makes a man stick to his work whether he likes it or not. But we can not demand any of these things from a growing boy. They are all traits of the adult. A boy is naturally restless, his determination easily breaks down, and he runs away. At least this seems to be true of many who come to the lodging-house. I recall a man who had begun to work in a textile mill quite below the present legal age in New England, and who had worked hard for sixteen years. He told me his tale with all simplicity, and as he made a motion with his hand he said, 'I done that for sixteen years.' I give the words as he gave them. 'At last I was sick in bed for two or three days with a fever, and when I crawled out, I made up my mind that I would rather go to hell than go back to that mill.' Whether he considered Chicago an equivalent for that I do not know, but he certainly tramped to Chicago, and has been tramping for four years. He does not steal. He works in the summer and wanders about the rest of the year getting something to do when he can; but the suggestion of a factory throws him into a panic and quickly causes him to disappear from the lodging-house. The physician has only made a diagnosis of general debility. The man is not fit for steady work. He has been whipped in the battle of life, and is spent prematurely because he began prematurely.

"What does this mean? That the young can not stand up to the grind of factory life; that they break down under it, and that we have no right to increase the list of paupers—of those who must be cared for by the municipal and by State agencies because when they are still immature and undeveloped they are subjected to a tremendous pressure."

Child-labor also tends to pauperize the parents, says Miss Addams, tho' this phase of the subject is generally found only among the European immigrants. The parents, getting tired of work, become more less dependent on the earnings of the child. For instance, Italian men who work on railroads in summer find it a great temptation to settle down in winter upon the earnings of their children. An instance is cited of

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an Italian who was mourning the death of his twelve year-old daughter, and who is quoted as saying: "She was my eldest kid. In two years she could have supported me, and now I shall have to work five or six years longer until the next one can do it."—Literary Digest.

ELECTRICITY.

Oh, subtle force, we know not what thou art,

Yet thou doest what we will.

Years ago we found thee in the lightning's spark,

To-day thou servest us unseen, and still How swift thou goest, when once thy course is set,

O'er land and under sea,

To bring the events of all nations which we now collect,

And plan to shape our destiny.

When darkness comes thou canst the world with light array

By a star-like arc or incandescent glow,

As though the stars did lower that their light could better play

Upon us in this world below.

And as we toil many wheels of industry thou doest turn,

As though possessed with the brain of man,

Doing greater deeds each successive year as we better learn,

To master thee throughout the land.

Thou art, too, a soother of our many daily pains,

With thy piercing rays and quivering thrills.

Would it were possible for thee to bring life again

To those whom death hath laid in chill.

Would we cease to wonder, as though all this was thy simplicity,

If we could foresee thy end?

Master of all these feats, thou art yet in thy infancy,

Oh, Electricity, we proclaim thee king.

THE KNOCKER'S OBLIGATION.

I,, hereby solemnly and sincerely swear that I will report the business and proceedings of all meetings of this union to my employer as soon as possible after ad-

journalment, and publicly discuss the business of the organization with any person who will pay for the drinks; that I will violate the constitution whenever I think it will not be found out; that I will accept less than the union scale of wages and work overtime without pay if it will make me solid with the foreman (I will also keep him supplied with cigars); that I will never speak in meeting, but will always kick about everything that is done as soon as I get outside; that I will never keep my dues paid up; that I will vote against every assessment, and never contribute to other unions when they are in trouble; that I will start insinuating rumors about the prominent workers, question the honesty of the officers, cast my ballot against all union candidates for public positions, and will discriminate against all who are not of my nationality or creed; that I will never subscribe for a labor paper, nor will I advise any one to join the union; that I will stand on the sidewalk on Labor Day and make fun of those in the parade; that I will never buy goods bearing the union label if I can save a cent by purchasing products of child labor, sweat shops or state prisons; that I will do any and everything else that lies in my power to bring discredit upon the labor movement. To all of which I pledge my most sacred honor—such as it is.

THE KICKER.

WHAT HE LEARNED OF UNIONS.

A member of the Texas legislature, in a speech before the house, had this to say of labor unions: "Let me tell you something of what constitutes the basis and fundamental principles of unionism, and see if we deserve any thing but the highest commendation. I will begin by telling you what my union teaches me. My union teaches me when a fellow member comes to town to first see that he has something to eat and a place to sleep; it teaches me to secure him work, so that he can earn an honest living; it teaches me that should he be ill to see that he has a physician, medicine and a nurse, or anything else that he needs; that if he should die to give him a Christian burial, and should he leave a family it teaches me to see that they are cared for until they become able to care for them-

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selves, and I submit to you, gentlemen, that the Christian religion teaches nothing grander or greater than this."

AN ELECTRICALLY OPERATED LAUNDRY.

There has recently been erected in Washington, D. C., a laundry plant representing in round numbers an expenditure of \$100,000, and it is without doubt one of the finest, if not the finest, plant of the kind in the world. It is known as the Yale Laundry, the proprietors being F. H. Walker & Co. Increasing business rendered it necessary for the company to have larger quarters and Mr. Walker decided to erect a plant which would represent the latest phases of mechanical operations as applied to laundry work. He visited many different laundries throughout the country, as well as machine shops and electrical plants, for the purpose of deciding upon the latest and most improved means of machinery and appliances. All this investigation and probing and observation is now seen in the completed plant on New York avenue.

The building is a very commodious and imposing structure, the frontage being 60 feet and the depth 135 feet. It is three stories high, with an attic, and is of iron and hard brick laid in cement. The equipment in the engine room consists of a 115 horse-power American ball engine direct connected with a 75 kw. generator. The switchboard is of marble, has three panels, and is mounted with the latest improved Weston instruments. Adjoining the engine room is the boiler room, which contains two horizontal tubular Keeler boilers developing 300 horse power, with a Green fuel economizer for heating water. The water used in the plant is filtered in two tanks on the roof, with a capacity of 6,000 gallons each. One is used to supply hot water, which is passed from the tank through the Green fuel economizer to a feed water heater, the exhaust from the engine passing through the heater. This insures an unlimited supply of water at practically no cost. The entire plant is heated with steam by means of the exhaust of the engine passing through radiators, and the cost is nothing.

The first thing that strikes one upon entering this plant is that there is almost an utter absence of the old mechanical appli-

ances in the working departments, and of all those devices by which machines are operated, for there is practically no shafting, no belting and no pulleys to be seen, most of the machines being operated by electric motors. The electric plant of the building controls the operating machines through individual motors. Only such machines as are in actual use, are the ones that consume force. This is, therefore, the greatest conservation of force and energy that has been seen up to date in any laundry, because such force only is applied to the machine in operation as is necessary for its work, as an individual motor operates each machine, and when that machine is not required for operating purposes, that individual motor ceases. This concentrates at once all the force upon those machine that are in use, and there is no dissipation of force or energy possible. No one can understand what this means who has not worked in laundries where shafts, belts and pulleys are used, and where this enormous power is disintegrated or lost constantly through the lack of ability to control it. By means of the electric system and the individualizing of concentrated power nothing in the way of force is lost, and its application is so modified and amplified that it comes under absolute scientific control over the whole plant.

In addition to the electricity as developed in its motors and applied to the machines, there is an elaborate electric light plant which places over each division, section and individual worker such light as may be required after dark, but in the daytime, except in the winter months, the four sides of the plant being well-lighted, and it being impossible for any part of the building to be infringed upon, there is such a quantity of natural light distributed that the very centers of the floors can be used for operating purposes.

While electricity has been applied in plants in various ways and directions and means, it is believed that it has never yet been scientifically put into use as in the Yale laundry, because, as a matter of course, old plants can not install these electrical improvements profitably or in a manner which would do justice to the claims of their makers, or to the system that is necessary to bring forth the best results. Therefore,

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in the Yale Laundry we see for the first time the application for the control of machinery on a scientific basis. It is a magnificent scheme, which will add precision and finish to the work, and efficiency to the workmanship, the fundamental requisites to high grade laundering.

A brief description of some of the machinery may not be without interest. The four shirt starchers and two neck and wristband starchers are operated by a 20-foot shaft on floor hangers and are run by a Crocker-Wheeler one horse-power motor with sprocket pulley and Morse chain. There are also two bosom press machines and two wristband presses, which are run with a shaft on floor hangers, and are back to back, the electric motor operating them being one horse power. It might be stated here that all the motors are of the Crocker-Wheeler make.

The shirt ironing outfit is one of the most interesting parts of the whole equipment of the plant. The outfit is composed of four lines of machines of four machines each. They are hitched tandem, and are operated by a Morse chain covered with steel rail guards, connected with a one horse-power motor between body ironer and wristband ironer. One of the largest laundry machinery houses in this country especially designed the covering for the cogs necessary in the tandem machines. This is something that has never been done before in this particular field, but it is entirely feasible, and in the present case works admirably. There are a number of other machines operated by electric motors, ranging from one-half to one horse, and their arrangement and method of operation leaves nothing to be desired.

There are two elevators in the plant, one being a direct connected passenger elevator, running from the office to the upper floors, and the other a large electric freight elevator, equipped with safety doors above the first floor. An elaborate telephone system forms also a part of the equipment of this model and up-to-date plant.—H. G. Ward in Electricity.

NEEDED A CHANGE.

When the tired man entered the office, says the Philadelphia Ledger, he told the doctor he did not know what ailed him, but

he needed treatment; he was pretty well worn out.

The physician put on his eye-glasses, looked at the man's tongue, felt his pulse, sounded his chest and listened to the beating of his heart. "Same old story!" exclaimed the doctor, who was one of the new school of fresh air. "Man can't live hived up in an office or house. No use trying. Now, I could make myself a corpse, as you are doing by degrees, if I sat down here and did not stir."

"I ——" began the patient.

"You must have fresh air," broke in the doctor. "You must take long walks, and brace up by staying out of doors. Now, I could make a drug store out of you and you would think I was a smart man, but my advice to you is to walk, walk, walk."

"But, doctor ——," interrupted the man.

"Now, my dear man, don't argue the question. Just take my advice. Take long walks every day—several times a day—and get your blood into circulation."

"But my business——" said the patient.

"Of course, your business prevents it; everybody says that. Just change your business so you will have to walk more. By the way, what is your business?"

"I'm a letter-carrier," meekly replied the patient.

ONLY.

Only a word, in a kindly tone,
But how it thrilled and cheered;
Only a sneer, like a feather blown,
But a trusting heart was seared!

Only a plank on a deep, wide sea,
But a soul safe haven found;
Only a rag from a beggar's knee,
But a gaping hurt was bound.

Only a bit of your broken bread
May succor the starving one,
And win a blessing to crown your head
When all life's toils are done!

Only a mocking laugh rang clear,
But it crushed the hopes of years;
Only a sigh was wafted near,
But it dried the mourner's tears.

Only a leaf, but it told of spring;
Only a star, quite lone,
But it lighted the way as on upward wing
One sped to the Father's throne!

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WIRELESS FIRE ALARM SIGNALLING.

[Courtesy of the Electrical World and Engineer.]

WIRELESS signalling apparatus lends itself admirably to a multiplicity of uses other than that of telegraphic communication, and just now it is being tested in Continental Europe relative to its value in the fire alarm service. M. Emile Guarini;

burning building and its position, and this is also shown in the diagram.

Referring to Fig. 2, 1 represents the tube of a thermometer; 2, mercury in the thermometer; 3 and 4, terminals of an internal circuit made of platinum and leading inside the thermometer tube; 5, a single dry cell; 6, an electromagnet operating an armature, 7; 8, a retractile spring; 9, a button forming a stop for the armature; 10, a disc having notches cut in its periphery at given distances apart, so that the exposed surfaces may represent the number and locality of the building; 11 is a spring contact making and breaking the primary circuit, which includes a battery, 12, and the induction coil, 13; 14 is the aerial wire radiating the waves; 15, the secondary of the induction coil; 16, the earthed terminal of the oscillator system; 17, an arrangement for auto-

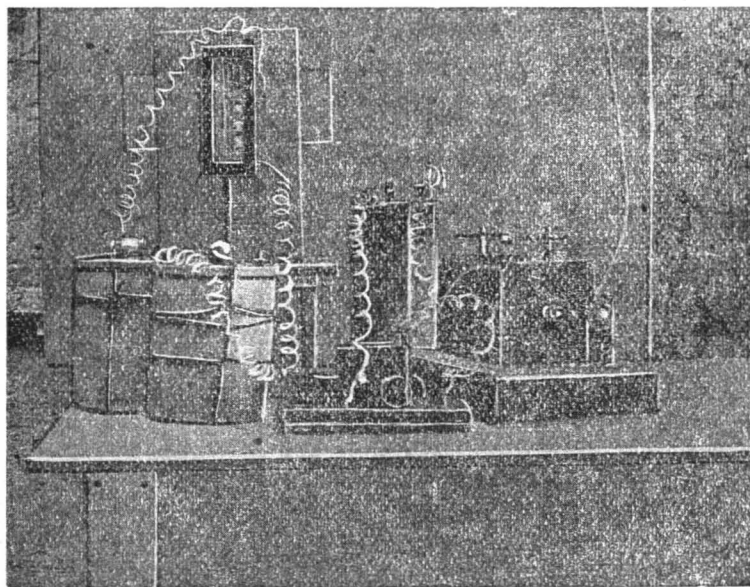


FIG. 1.—WIRELESS FIRE ALARM TRANSMITTER.

prolific writer and inventor of divers devices appertaining to the emission, propagation and reception of electric waves, has conducted some interesting experiments in the transmission of wireless fire alarm signals; and he now proposes to equip the fire houses and numerous buildings of Brussels, Belgium, with this new type of apparatus.

The experimental instruments devised for this purpose are shown in the illustrations. Fig. 1 represents the transmitter photographically and the schematic arrangement upon which it is based in Fig. 2. As in an ordinary wireless telegraph system, an induction coil is employed to transform a low-potential direct current into a high-tension alternating current for charging the oscillator system. Additional apparatus is also provided for indicating the number of the

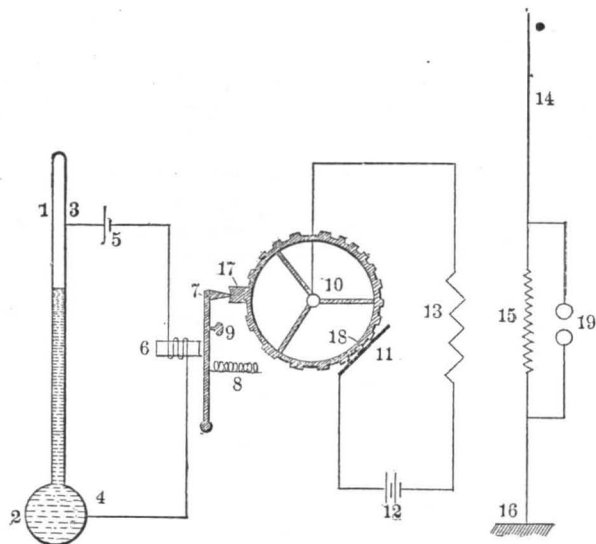


FIG. 2.—DIAGRAM OF SIGNALLING APPARATUS.

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matically checking; the disc after it has completed its revolution; 18, an insulated arc inserted in the disc to indicate that the number has been completed, and 19, the oscillator or spark gap.

The receiver, Fig. 3, consists of an antenna, connected with a coherer, the opposite conductor plug leading to earth, and a suitable receiving device operated by a battery. This usually includes a relay, a tapper and a Morse register, as in a system of wireless telegraphy, although a single stroke bell may be used instead of the register.

This experimental equipment was placed in one end of the inventor's laboratory, where a miniature building had been erected, and at the opposite end of the room the receiver was placed in position as it would be in a fire engine house. After all these preliminary arrangements, the little building was fired.

When the heat emitted by the flames became sufficiently intense, the column of mercury began to rise in the capillary tubing of the thermometer and finally when it reached 42° Reaumur the liquid metal was forced into contact with terminal, 3, and the internal circuit was closed after the manner produced by a thermostat.

The current now flowed through the circuit and energized the electromagnet, 6, and this action attracted the armature, 7, releasing the disc, 10, which revolved in virtue of its connection with a spring motor. The disc with its peripheral projections impinging upon the contact brush, 11, caused the current flowing in the primary circuit to be made and broken in accordance with the length of the actuated surfaces of metal representing numerals or letters as prearranged for indicating the number of the house and its locality.

Since every disc may have any desired number of projections which may be of varying lengths, indicating dots and dashes, it is obvious that the combinations formed may be varied indefinitely. This automatic device for making and breaking the primary circuit precludes the necessity of a manual key or an operator, although an arbitrary make-and-break may be interposed in the circuit and the regular Morse or Continental code transmitted.

When the current is interrupted by the disc, the impulses, which have a high time-constant compared with the automatic

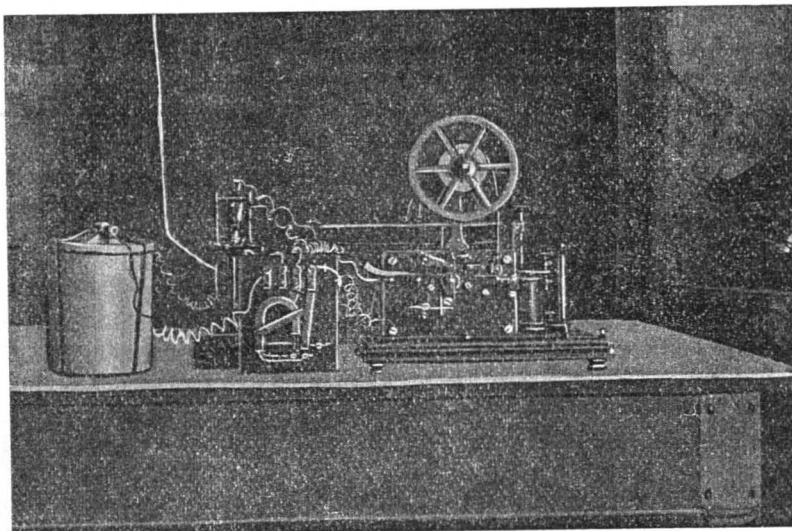


FIG. 3.—WIRELESS FIRE ALARM RECEIVER.

spring vibrator of the coil, set up alternating currents in the secondary coil, and this serves to energize the oscillator system, which in turn flashes out through space the important message notifying the firemen of the call to duty. The electric waves thus sent out impinge upon the aerial wire at the fire engine house, and these are converted into oscillations in the resonator circuit when the coherer is affected and actuates, in turn, the relay; the tapper and register respond to the fresh impulses and the latter prints on a tape the number and letter in less time than the horses can be hitched up and the engine manned.

At the first stroke a visible signal is indicated by a miniature incandescent light and the alarm is sounded by an electric gong. Guarini has worked out a scheme so that

the first revolution of the disc gives a signal throughout the building on fire; and if the efforts of the occupants are able to extinguish the flames in their incipiency no alarm is sent to the engine house.

In this system no central station is required, but the messages are transmitted directly to the engine houses. M. Guarini gives the credit of this idea to Signor Mollo, chief of the fire department of Naples, Italy, but has worked it out and put it into commercial shape, and a practical installation is now being set up in Brussels.

THE "RIGHT TO DENY."

A preacher in Kansas City "maintains that it is un-Christian and uncivilized to try to deny men the privilege of working for their bread and butter because they do not belong to a particular organization." Those union men who thoroughly understand the principles of unionism think otherwise. They contend, with experience and precedent to support their contention, that it is right and just to deny these men such privilege when it is possible for them to join a union and they will not. The denial is based on the fact that it has been through the organization of unions that the conditions of all who labor have been bettered, and that, if the non-union worker is allowed, when he can be prevented by lawful means, to work for less than what the unions demand, he is tearing down the structure which the unions have built up as a protection to all labor, both union and non-union. No man is denied the right to become a member of a union if he is worthy; neither is he compelled to become a member. But the unions insist that no man has the right to reduce them to impoverishment, which it would come to if they did not deny men who have not helped to better the conditions of the toiler the right to take their situations at less than the demand. A man also has the right to earn his daily bread, and is granted this right by the most radical of unionists, but no man has the right to take bread from another man's mouth though he should thereby fill his own, when an unfair advantage is taken.

Mr. Preacher, you do not deny any man the right to pursue his choice of religious faith, but would you countenance a sermon

from your pulpit for some creed directly, and say bitterly, opposed to your own? In that illustration you have the relation of the union man with the specie commonly called "scab."

This same minister of the Gospel, in the same "sermon," stated that the miners in the southern Colorado field struck "for the purpose of gaining recognition of unions by operators." Perhaps he is excusable for his departure from the tenets of all religions, for the reason that his informant may have falsified. All the strikers affected demand only abolition of the script system; semi-monthly pay days; the eight-hour day; various advances in wages, according to the difficulties in mining; checkman to watch the weighmasters, who, the miners say, cheat them on tonnage. Who has the right to deny these men the right to deny any man the right to work under less humane conditions? Certainly not any man who spins not nor toils.—Labor Herald.

ODD INVENTION BY CHICAGO MAN.

A remarkable invention—an automaton that reproduces with life-like fidelity nearly every movement of the human body—is being exhibited by its inventor, Frederick J. Ireland, to a party of friends at his offices, 404 Schiller Building.

The automaton, which Mr. Ireland jocularly calls the Enigmarelle, is so nearly perfect in its movements that it is difficult to realize that it is not a human being.

The figure does almost everything but talk; it walks in a straight line, in a square, goes through gymnastic exercises, smokes a pipe, writes its name on a blackboard, and, to crown all, rides a bicycle around in a circle.

The figure is five feet eight inches high, is dressed in a neat sailor suit, and resembles a boy of eighteen years. The motive power controlling the machine is electricity, aided by powerful springs. By an ingenious arrangement of switches Mr. Ireland has the automaton under control at all times, and directs its movements.

The upper part of the chest of the figure is entirely filled with delicate yet powerful machinery, which controls the movements of the head and arms.

Lower down is a powerful motor that op-

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erates the legs, and this motor is controlled by a powerful mercurial governor, which, by a shifting of weights operated by the motor, maintains the equilibrium of the figure, enabling it to walk almost as naturally as a human being.

This system of weights, controlled by the mercurial governor, is the whole secret of this remarkable invention, and Mr. Ireland studied and experimented many years before he succeeded in perfecting it.

The walk of the automaton is extremely lifelike. It will walk in a straight line for an hour, and should an obstruction be reached a touch upon a lever by the operator causes it to raise its feet, so it steps up and down almost as gracefully as a person would.

Were it not for a series of clicks and the whirl of the machinery, it would be difficult for an ordinary observer to discover that it was not an ordinary man walking along the street.

Mr. Ireland will not, he says, apply for a patent on his invention, having constructed it in odd moments during the past twelve years. The machine has no commercial value, he says, but simply demonstrates the marvels that electricity can accomplish.

Mr. Ireland's attention was first attracted to the idea of an automaton by reading of a mechanical figure exhibited at Crystal Palace, London, nearly a score of years ago.

This figure was very crude, walking with the aid of two canes, which in reality gave it four feet. Although this automaton was not much of a success, being unable to perform any movements except walking in a straight line, bent over and leaning on the two canes, it attracted considerable comment in the scientific world.

Mr. Ireland, who is of a mechanical turn of mind, conceived the idea of producing a figure that would carry out many of the simpler movements of the human body.

CHUNKS OF HUMAN PIG-IRON.

Any American wage worker who is not in a union is nothing but a chunk of human pig-iron. He is not a complete man, but only the raw material out of which a man may possibly be made.

This is not a mere assertion. It is a fact

that can be easily proved. A hundred years ago, when one boss and two helpers worked side by side in what was called a factory, a wage-worker counted for something. He called his employer by his first name and had the right to give advice about the business. There was little difference between master and man, even in the matter of wealth.

But to-day, in the great factories that employ hundreds or thousands of men, an individual worker is only a fraction. He is not a complete craftsman any more than one driving-wheel is. We have to take things as they are until we get strong enough to make them different. You cannot expect workers to act like stained-glass angels as long as they are compelled to battle for the mere necessities of life.

Once you get the working people organized, there is no limit to their advancement. As long as a chunk of pig-iron remains the way it is, it is good for nothing. But a chunk that is worth only 75 cents, can be worked up into bar iron \$5, horse-shoes worth \$10, table knives and forks worth \$180, needles worth \$6,800, or watch springs worth \$400,000. In the same way a body of wage-workers who are unorganized and useless to themselves and to everybody except the corporations, may unite and educate themselves up to a point where they will be of the greatest possible value to the whole nation.

When a thousand men organize, every man has the strength of 999 men behind him. An unorganized body of men, on the other hand, are like a lot of tramps working for their dinners. It does not make a man less than he was to join a union, but more, though there are some pin-headed fellows who think that a union would interfere with their personal liberty. For my part, I think I would sooner be a part of a strong, swift, smooth-running locomotive, than the whole of a pick-axe.

Unions are no longer experiments. They rank among the greatest successes of the century. Nothing else, since human history began, ever brought as large a share of prosperity to the home of the workingman. Nothing else ever succeeded so well in compelling the ruling few to consider the interests of the masses.

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Therefore, the man who is out of a union to-day is fit for the scrap-heap. No matter what his personal virtues may be, he is, socially speaking, only a piece of human junk. He is not only loafing when there is a great work to be done, but obstructing that work by his stupidity.

The union man, on the contrary, is not helping himself, but all his fellow workers. He is helping to make America a real democracy, and not merely a paper one. He is as much of a patriot as any soldier in George Washington's army. He is battling to save the union as truly as though he had worn the blue in 1862. In spite of injunctions and blacklists and lockouts, in spite of the treachery of politicians and the stupidity of scabs, in spite of the slanders of the press and the conspiracies of the courts, Unionism has pushed forward until to-day it has over 2,000,000 men in line, and has become the only force in the country which cannot be bribed nor intimidated by the Trusts.—Herbert N. Casson.

STRANGE TRADES IN PARIS.

It is astonishing with what zeal every means of earning an honest penny is plied in Paris. No city in the world has so many queer little trades by which those practicing them scrape together enough sous to make a living. The king of this class is, of course, the rag picker. He starts out before the dawn armed with a lantern and a long hooked piece of iron, and explores the rubbish boxes placed outside every door in the capital before the municipal carts come to carry off their contents. Then there is the man who goes around with the spiked stick picking up the cigar and cigarette stumps which lie around the Paris cafes. There are men, too, who search the streets for fallen money, and who finally find enough to keep them from starvation.

One of the most characteristic of these strange tradesmen is the dog barber. The favorite dog of the Parisian is the French poodle, or "mouton," as he is popularly called. It is chiefly for his benefit that the dog barber exists. His headquarters are the banks of the Seine. Here the main body can be found at all times, though in the summer some go about the city, carrying on their occupation from house to house.

In the hot days one continually hears the long-drawn-out cry, "To-o-o-deur de cheins!" and meets the familiar figure of the dog barber, with his box of instruments slung over his shoulder. Many of them have their regular customers, whose houses they visit at stated intervals to make the toilet of these privileged poodles—for the Paris mouton is the "spoilt child" among dogs. He is clipped, brushed, combed, perfumed and generally has his "top-knot" fastened with a pink or blue ribbon. Some even wear gold or silver bracelets round one paw.

The result has been the development of the dog barber as an artist. He clips and shaves his customers' dogs in the most elaborate fashion. Some are left with shaggy manes, with a tuft at the end of the tail, to imitate a lion. Others, again, are clipped in stripes, making them look like black zebras, and others have their faces clipped, and nothing but a pair of fierce mustaches left, with fluffy bracelets of hair round each foot. At any time of the day, as long as daylight lasts, the dog barber may be found at work on the Seine embankment. Seated on a camp-stool, and generally surrounded by an admiring crowd, he clips and shaves according to the directions given him by the owner. The banks of the Seine have been selected for his operations because the river is handy to bathe the animal in after he has been clipped and combed.

TYRANNY OF TRADE UNIONS.

Every day there is a dissertation upon the "tyranny of trade unions." Heart-breaking episodes are used to show how trade unions have curtailed the natural rights of individuals. Now the fact is trade unions have made freemen out of millions of men who were dangerously close to a state of peonage before the trade union was formed. How many workingmen were compelled by threats of discharge to vote against their convictions prior to joining their union? How many were free to spend their wages where they pleased? How many enjoyed the protection of law to life and limb? The unimpeachable fact is that the trade unions have stood men on their feet, taught them their rights under the law,

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made them free in every sense of the word. Of course, they have surrendered some worse than useless individual "rights," but they have gained immeasurably in tangible freedom. No one knows this better than those who have tried individualism and collectivism. It is useless to tell a man that he is better off when "free" to become the prey of organized capital, when he can be actually free by joining an organization of his fellows. He will laugh at the idea that the union which obtains for him a living wage, safe and sanitary conditions under which to work, and cultivates friendly relations with his employer, has made a slave of him. He knows the manifold blessings his union has conferred upon him and would not exchange any fictitious "freedom" for the great boon of liberty his union gives him.—*Mine Workers' Journal*.

COULDN'T FOOL THIS BOY.

On Grand street there is a little shop where they deal in surgical instruments and things like that, says the *New York Press*. In a closet they keep a long-jointed skeleton. The skeleton is nicely mounted and connected with an electric battery in such a way that by touching a button it dances and gesticulates in a furious manner.

One of the salesmen in the place is so thin that dogs follow him on the street. This salesman sold a nice bill of goods to a doctor up town. The doctor was in a hurry and sent his boy after the instruments. The boy entered the store and asked for the salesman. He was busy, and the office boy asked the doctor's boy to sit down. The two lads got to talking, and pretty soon fell to bragging.

"Guess you never seen 'em cut a feller's leg off," said the doctor's boy.

"Dat's nothin'; I seed er chap killed plumb dead on der trolley on der Bowery onct," retorted the store boy.

"I bet yer never walked through a graveyard at night," remarked the doctor's boy.

Then a horrible thought came to the store boy.

"Dat's nothin'," said he. "We've got somethin' worse dan dat here. Did yer ever see der devil?"

"Naw," said the doctor's boy. "W'at's he look like?"

"Looks like der devil," said the store boy. "Come here," and he led the way to the closet with the skeleton. "He looks jes' like dis," and he threw open the door and touched the button, setting the arms and legs of the skeleton going in all directions.

With a howl of terror the doctor's boy darted out into the street. He ran half a block away and there he stood looking back, his eyes popping out of his head. Just then the slim salesman entered the store and learned that his customer's boy had been there for the goods. After considerable questioning the boy in the store confessed what had happened. The salesman went to the door and saw the doctor's boy standing on the other side of the street.

"Come over here boy," cried the salesman. "It's all right."

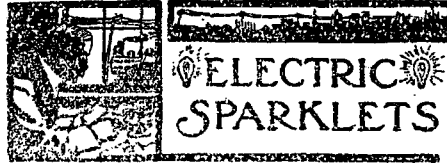
The boy took one look at him, saw how cadaverous he was, and yelled back:

"No, yer don"! I know yer, even if yer has got yer clothes on!"

THE PULPIT ON ORGANIZED LABOR.

Dr. McKim, pastor of the Church of Epiphany, of Washington, D. C., says: "Consider what organized labor has done to improve the condition of the working men. Seventy or eighty years ago the condition of the laborers in the factories was far worse than the condition of the slaves of the South. I have lived in the South, and know that the material condition of the slaves was better. In 1832-33, in many of the mills in this country, the women and children had to go to work at 4.30 o'clock in the morning, and continue at work fourteen or fifteen hours a day. Labor organizations have done a splendid work and I honor them. They have been lifting up the masses of the people who are not contented any more. Their ambition is aroused to be men and women and their song is: "Eight hours for work, eight hours for sleep, and eight hours to do what we will." I do not say whether in the present condition of labor the eight-hour days is always attainable; but all these things are to be judged by the effect they have on manhood and womanhood. They want some time to look away from their work out on the great world and to breathe the pure air of heaven; they want some time with their families; and, therefore, their discontent is healthy."

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Nearly every city in the interior of Egypt is now lighted by electricity. The telephone systems of the larger cities are being extended, and electrically propelled boats are soon to ply the Nile. The system of electric railway lines is also being greatly extended, until now a visit to the land of the Pharaohs no longer necessitates journeys on camels across stretches of barren waste dangerous for man and beast.

A young Philadelphia engineer is reported to have invented a method of propulsion of cars by electrical power which does away with the dangerous third rail, with a long bar under each car which at intervals depresses a metal cap in the earth to contact with a feed wire under ground. At all other times the caps are harmless. Now, can we have an invention of harmless motormen and conductors?

Threshing by electric light is a novelty introduced by a farmer of Zumbrota, Minn., who attached to his steam thresher a twenty-five light electric dynamo. He had sixteen lights arranged about the thresher and engine. Some were placed at the feeder, where the bundles of grain are cut open and pushed into the machine; others were located where the grain is weighed and dumped, and, in fact, every point where light is necessary about the machinery is provided with electric bulbs.

The Daily Mail of London, England, publishes a report of the invention and successful tests of a telephone which keeps a permanent record of all messages transmitted. The inventor is an English civil engineer, Ernest George Craven, who for a time was an assistant of Thomas A. Edison at Menlo Park. The idea was suggested to him, Mr. Craven says, by the thought that the diaphragms which gave out the sound in a telephone and a phonograph were essentially similar, and that it ought, therefore, be possible to get them to work in electrical unison, both as a phonograph and a telephone. The essential feature of his invention is a

diaphragm set in motion by sound waves in the air. In a phonograph its motion is mechanically impressed on a wax cylinder, which stores it up and can again restore it to the air as sound when the process is reversed. In the telephone the motion of the diaphragm is converted into electrical impulses, sent over a wire and reconverted into similar movements of the diaphragm at the other end, which reproduces the sound.

Interest will attach to the recent experiments made in towing canal barges by electricity in New York State. The "mule" which did the towing is about ten feet long, two feet wide and three feet high, and runs on rails laid on the tow path. It is capable of towing four loaded boats at the rate of four miles an hour, and can run in either direction, power being obtained by trolley from an overhead wire. The motor is about eighty-horse power, and hauls with ease boats which require three or four horses to draw them.

An electric novelty has been recently brought out which will prove a great convenience, especially to travelers, as it will enable them to procure hot water without the necessity of waiting until the bell boy sees fit to bring it. Instead of ordering the hot water by ringing his bell in the hotel office or calling to the porter, he simply takes from his grip a little heating device, which he connects with any incandescent electric light socket, dropping the heater in a glass or pitcher of cold water, and quickly raising its temperature to any required degree.

A new system of running electric cars by means of underground wires is the work of Andrew H. Angle. He calls it the "automatically closed conduit system." It is composed of a series of conduits, four inches wide, as deep as the track rail, and half the length of the car, which are laid between the rails and fastened to the cross ties. In the top of the conduits is a contact rail, three-quarters of an inch wide, which is depressed by the wheels of the trolley, and thus makes connection with a main conducting wire running through the conduit. When the car is passing over a contact rail the rail is then made "alive," but at other times is "dead," so that it may be stepped upon or driven over with entire safety. It

is estimated by the inventor that one-third of the electric force necessary to propel a car under present systems will be saved by his invention, while the cost of maintenance will be about 40 per cent less than that of any other underground system. The conduits are so constructed that they may be lifted out entire, thus obviating the expense of digging up the street or the road-bed to effect repairs. Greater speed is one of the advantages which Mr. Angle claims for his system. It is also asserted that the motorman will have complete control of his car at all times, and that rear-end collisions and runaway cars are impossible. Dirt, snow or water will not interfere with the operation of the conduit.

A variation in the now common project of transporting by electricity power generated from a water supply is offered at Fond du Lac, where a plan is now on foot to establish peat works at Lamartine. Besides mining the peat for fuel in the market, a plant for the generation of electricity is to be established, using the same product for generating the steam to run the generators which produce the current. From this power station, it is claimed that power can be transmitted the six miles to Fond du Lac, and delivered to the manufacturing plants cheaper than it can be produced there. The tract of ground owned by the projectors of this scheme comprises several hundred acres, and the peat beds are fully nine feet deep and of an excellent quality.

After ten years experimenting Patrick B. Delany, an electrical inventor, claims to have perfected a telegraph system which will send messages at the rate of 3,000 words a minute. Delany made his announcement after experiments on the Pennsylvania railroad near Altoona, Pa. The hardest problem to overcome has been to counteract the effects of "static," as the charge is called, which accumulates in a wire during the sending of a message. Delany has made that "static" do the work for him, and cuts it off by a wave of opposite polarity when he finishes. The working machine of the system consists of a transmitting instrument, which sends the messages punched out on tape to a distant station, where it is received on a machine which prints it on chemically prepared tape in regularly Morse

characters, which can be readily translated. An electric current decomposes the chemical solution, and the tracer bearing on the tape leaves an indelible blue mark, which forms a letter. Ultimately, it is Delany's idea to make his system take the place of mails for business correspondence. He says soon it will not pay a business man to mail a letter in Chicago for two cents and wait two or three days and no answer, when, for a slight additional cost, a man can send a letter as long and receive an answer in a few minutes.

The substitution of a pneumatic device for the spring which holds the trolley pole in contact with the feed wire has just been tried, with the result that the wheel is held in closer contact with the wire, securing greater efficiency and maintaining higher speed. With the spring arrangement the pole is sometimes in imperfect contact with the wire, and much of the energy of the electric current which is intended to be utilized in the form of power is lost in light and heat through the formation of frequent arcs between the pole and the wire as the car speeds along. Another feature of this pneumatic support is that when the pole slips from the wire the pressure is released, and the pole at once falls downward, instead of hammering the overhead wire.

Mr. Edison is not a man given to making startling promises which do not result in performance, so that his claim of having at last solved the problem of generating electricity at a trifling cost for common use may be accepted as the announcement of an accomplished fact. And such a fact is little less than a miracle, for it means the production, at will, of an almost limitless and widely adaptable power. The electrical generator which Mr. Edison has perfected after years of toil, derives its power from a so-called fuel of marvelous potency. It will make it possible for the day laborer, as well as the millionaire, to light his home with electricity and have some sort of a motor vehicle. For a few cents a day light and power may be produced in sufficient quantities to supply the needs of any family, and the generator is so simple that any person of ordinary intelligence can act as an engineer. In the inventor's own words: "You can wire your house for electric bells, tele-

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phones from room to room, or do anything electricity will do, and the batteries in your automobile will operate them. The cost is so trifling after you are provided with your plant that it is not worth mentioning. * * *

* It has always been my ambition to bring the uses of electricity within the reach of men of moderate means." Mr. Edison warns the public that there is yet much work to be done before the harvest he has sown can be reaped. But the invention is perfected and the problem of cheap electrical generation is definitely solved.

There has recently been put in operation at Boston a system of signaling beneath the waves to vessels approaching dangerous shores during foggy weather. The apparatus consists of two receivers, located on either side of the ship below the water line, and connected by wires to the wheel house, where a telephone box is placed. The signals from shore are given by striking a submerged bell at regular intervals. When the observer wishes to ascertain his location he takes the ear piece, and by moving the switch either to the right or left, soon ascertains upon which side the bell will be found. The value of a system of this nature is at once apparent when it is borne in mind that fogs frequently obscure the most powerful lights, and that certain atmospheric conditions during stormy weather render fog horns almost, if not quite, valueless.

An interchangeable telegraph key is the invention of W. C. Dean, of Bainbridge, Ga. It consists of the lever of an ordinary telegraph key, fastened on a circular base of hard rubber, which has brass contact strips at intervals of stated measure, to which the incoming telegraph wires are connected, the circuit being completed through the key by its contact with two of these brass plates. The circuit is divided and the two ends of the same wire fastened, or connected separately, to each of the two strips. As many as ten wires can, it is said, be brought within the control of this one instrument by shifting the lever from one to another pair of the contact strips. The invention saves time and expense, the operator being enabled to work as many wires as are connected to one of these interchangeable keys without moving from one position.

DON'T NEED A LABOR PAPER.

"What labor paper do you take?"
 "None."
 "Why?"
 "Hain't time to read one. Take more papers now than I can read."
 "Do you belong to any union?"
 "You bet I do."
 "When and where will the next convention of the State Federation be held?"
 "Don't know."
 "What are the organizers of your international doing?"
 "Don't know."
 "Has your international any organizers in the field anyhow?"
 "Don't know."
 "Is your international doing anything?"
 "S'pose it is, don't really know."
 "Where is organization work most needed?"
 "Don't know."
 "What is the total membership of your union in the United States?"
 "Don't know."
 "What is it in this state?"
 "Don't know."
 "Who are are some of your most influential leaders?"
 "Don't know."
 "Is your cause making any progress at present?"
 "Don't know."
 "What good are you to the labor movement, anyhow?"
 "Don't kn—that is. I—well, you see——,"—The Unionist.

COST OF LIVING STATISTICS.

The National Bureau of Labor at Washington has issued a bulletin on the cost of living of workingmen's families, showing that of 2 567 families in 33 States, from whom data was obtained, the average income per family was \$827.19, average expenditure for all purposes \$768.54, average expenditure per family for food \$326.90, and the average size of the family 5.31 persons. This last figure is seven-tenths above the average of private families in the whole country, as shown by the census of 1900.

The food expense is more than 42½ per cent of the expenditure for all purposes. An extended investigation covering the

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years 1890-1902 shows that the cost of food reached its highest in 1902, the average then being 10.9 per cent above the average for the decade 1890-1899, and the increase 16.1 per cent, compared with 1896, the year of the lowest prices.

It is announced as a conservative conclusion that the increase in the cost of living, as a whole, in 1902, when compared with the year of lowest prices, was not over 16.1 per cent, the figure given as the increased cost of food as shown by this investigation.

It is needless to remark that these figures are contrary to the experience of the family of the average workingman whose wages were very much lower than \$827.19 a year. Fuller details are promised later, when figures relating to 25,440 families will be issued.—Chicago Saturday Blade.

SHE WENT AS EXPRESS.

The man had just sprung the joke of, "If you can't express your thoughts send them by freight," when the woman said she had once expressed herself.

"Really, I literally expressed myself," she said. "You see, I was to meet my husband in Boston, and we were to take a certain train out of the city, where we were going to give a musical entertainment that evening. He said he would probably be a little late and told me to get on a certain train and he would board it in a hurry with both tickets. Therefore, when I found myself in the Boston station without more than five cents in my pocketbook, I was not at all disturbed until I found that I was late for the train I was to take out of the city.

"I rushed wildly for it, only to see it sweep out of the station as my husband clambered up on the last car. Of course, he thought that I was on the train somewhere instead of in the station with only five cents in my purse. It was absolutely necessary for me to take the next train or be an hour late for the musical entertainment, which could not proceed without me.

"I appealed to the ticket agent to give me a ticket, telling him I would send back the money just as soon as I reached T—and my husband. I explained to him that my husband would be sure to meet me, and I could send the money back at once. He

said such a course was against the rules and he could do nothing for me. A big policeman heard my story and he suggested that, we visit the express company in the station, as the man in charge was a resourceful fellow, and he might think of something.

"With little courage I explained my predicament to the express company's man, and he scratched his head some time over it. Finally he said: 'I'll tell you what I'll do, madam. I s'pose your story is all right, but I have no way of knowing. Now, I'll express you to your husband C. O. D., and put you in charge of the conductor. If your husband meets you at the station and pays charges it will be all right. If he doesn't the conductor must bring you back to the city. Is it a go?'

I promptly assented, and he tied a very businesslike tag to the buttonhole of my coat, a tag clearly addressed to my husband, and with C. O. D. on it in large letters. The conductor thought it was a hugh joke, but he was ready to carry out his part of it. Of course my husband met me at the station and all charges were paid, but I felt mighty foolish during the journey."

NOT A NEW QUESTION.

Seventeen years ago an old time labor friend of mine wrote me the following, and as many of your correspondents have brought up the matter in your columns, I am thinking he had farseeing powers:

"The incorporation of trades unions by the state, giving them a practical monopoly and control over their various handicrafts similar to that granted to the medical profession, is a matter for deep consideration. When the capitalists shall be driven to the wall, they will undoubtedly propose such a remedy to the trades unions. But such a piece of class legislation, although acquiesced in with regard to Aesculapians, would be frowned down upon by the masses and could never be enforced unless the state took charge of all industries."

Thus the whole question of the incorporation of trades unions is not a new one, and in the first place it was not originated by the trades unionists themselves nor by their friends. It was originated by those who hoped to gain something themselves or by those who are ignorant of the workings of

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the system which they wish to force upon us, for its results would be that the unions would be involved in endless litigation. Oh, no, the trades unions will not be caught in any such net as this. They have been wide awake, and that question has been analyzed and discussed in the dim misty past for all it was worth.—William S. Wauby in New York Times.

DINKELSPIELERS.

Der meaning uf intelligence is to know how to laugh at a rich man's choke.

Der meaning uf health is to eat a large breakfast mitoud der aid uf a drug store.

Der meaning uf a trust is a machine used py a bunch of money grabbers to get de money in bunches.

Der meaning uf speculation is to pay a niggler for a seat in der street car und guess ven you will get id.

Der meaning uf consolation is a man dot has on silk undervear ven he falls down und rips his trousering.

Der meaning uf liberty is license to think according to der plans und specificationing uf der Boss uf our vard.

Der meaning uf glory is der praise a great man gets because der facts in der case prevent us from throwing der hammer ad him.

Der meaning uf patience is a voman dot believes her husband is a good fellow ven he is ouid proving id ad a saloon.—George V. Hobart in Hearst's Chicago American.

LEADERSHIP OF LABOR UNIONS.

Much of the unfortunate experience of trade unions has been due to poor leadership, and this is not surprising in view of the narrow conception among laborers of the intellectual and moral equipment for trade union leadership. It has always been an unfortunate characteristic of workingmen that, while they ask for high wages, they are unwilling to pay high wages to their own representatives. Some improvement in this respect has taken place during the last ten or fifteen years, but it is still the prevalent notion that those who work to advance labor interests are but scantily worthy of the hire.

In order to get first class leaders the union must pay first class salaries. That is the only way the corporations can enlist capable

men in their service, and trade unions can accomplish the same results only by doing likewise. It is not essential that the president of the national labor organization should be taken from the bench.

He should not be elected because he is the best shoemaker or the finest carpenter, but because of his knowledge of and ability to understand and present the principles and interests involved in trade union purposes and policies.—Gunton's Magazine.

SUCH A MISUNDERSTANDING.

"When I saw that she was almost beyond control," said the railway engineer, "I threw her over—"

"Brute," ejaculated a gentleman wearing eye glasses and grassy whiskers, who was unintentionally straining his ears to hear the conversation.

"It didn't do any good," continued the engineer, "so I shut her off; but still she was jumping pretty hard and sliding around—"

"Infamous!" said the grassy-whiskered man.

"Sliding around; so I gave her air—"

"Ah, then you have some little instinct of kindness," growled the incensed listener.

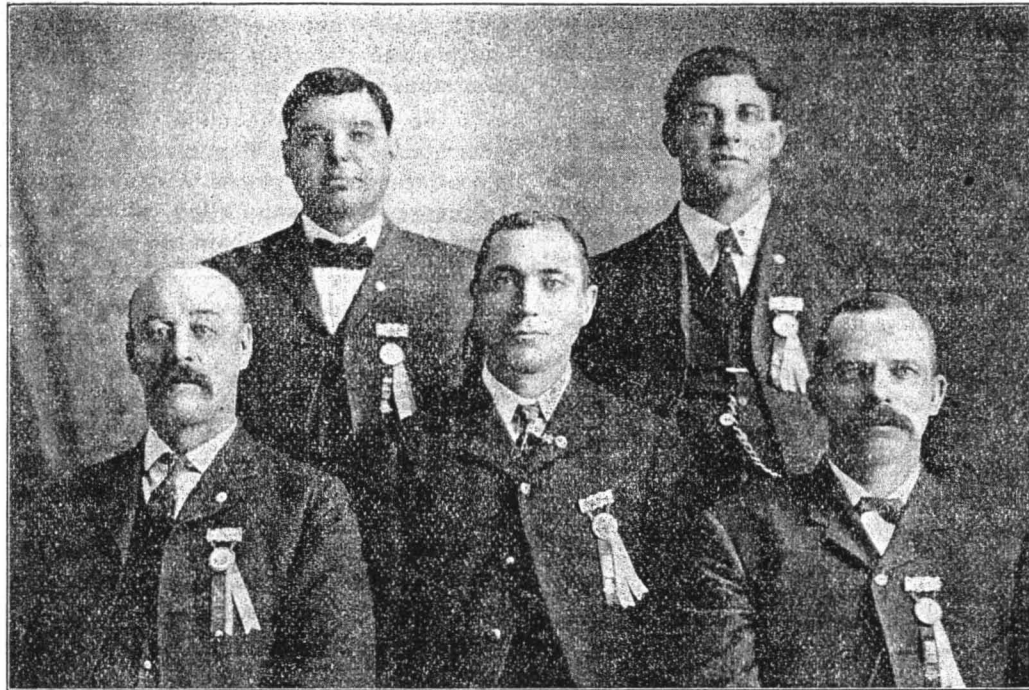
"But it wasn't any use, so I jumped and got away just when she began to smash things."

"And I don't blame her one bit!" asserted the man with the eye-glasses and the grassy beard. "It's a pity she didn't smash you, so you couldn't come here and boast of your cruelty. I am not surprised at the number of divorces nowadays."—Judge.

TRADES UNIONS IN CHICAGO.

The Trades Union movement has taken tremendous steps forward in Chicago within a year. The number of union men has more than doubled, being now 245,000 organized men and women against a total of 120,000 a year ago. The cost of the necessities of life for the 120,000 and all those who work for a living has materially advanced within a year. In making comparisons in the wages prevailing now and then, it is found that the yearly income of the workmen of Chicago has increased to about \$9,500,000.

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J. McCauley, St. Paul, Minn. J. T. Kelly, St. Louis, Mo.
F. Roth, Atchison, Kans. M. A. Walsh, St. Louis, Mo. F. J. Heizelman, Kansas City.

The five members whose photos appear above are old timers in the Brotherhood. They were all delegates to the convention held at Chicago in 1892, and were also delegates to our last convention held at Salt Lake City, Utah.

COMPETENCY A PREREQUISITE.

Much has been said recently for and against the trades-union movement. Our opponents have said pretty nearly everything that can be said against us and our methods of conducting our business. There are many things said against us that are untrue and unjust. We must admit that some of the criticisms offered are true. Among the latter may be mentioned the question of competency. Many of our unions, in their anxiety to organize, have not been as particular as they should have been. A union card should stand first for competency. Its holder should be able to execute the work of his particular craft in an intelligent and workmanlike manner. We regret to say that in some cases there are men with union cards in their pockets who are grossly incompetent. There is no use trying to disguise this fact, but steps must be taken providing for the rigid examination of applicants, to the end that a union card will be a guarantee of competency. In many cases

loose apprenticeship laws are responsible for present conditions. Employers will put to work apprentices at a very low scale and as soon as they become sufficiently acquainted with the business to know—or to think they know—that they are earning more than they receive, they strike the employer for higher wages. The employer refuses the increase and the partly educated boy is turned out and a new one takes his place. The boy on the outside, with a fair knowledge of the business, is considered a menace to the wage scale of the organization and the result is that he is taken into full membership and given a union card—which is not only a detriment to the organization, but to himself as well. He obtains employment on the strength of his union card, and not being sufficiently advanced to “stand up to the rack” he is forced from one place to another, and finally “scabs”—when he is surprised to find that his services are in great demand at “more than the union scale.” The employer is finally induced to

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unionize and he insists that the union accept his employe into membership—and the incompetent is again ready to go the route.

The Stationary Engineers require an examination which is as complete as the test required by the Government. Other organizations have adopted similar laws. Labor unions must amend their laws so that none will be admitted to membership who are not sufficiently experienced to hold their own in the competitive field.—Industrial Peorian.

LONGER THAN BROOKLYN BRIDGE.

Original "New East River Bridge Commission" named by special act of Legislature, .895.

Total width of bridge structure, 118 feet; height for 400 feet of the middle span, 135 feet.

Capacity of bridge structure, four surface railroad tracks, two tracks for elevated trains, two roadways for vehicles, two footways for pedestrians and two bicycle paths.

Work on borings for foundations commenced July 1, 1896.

First wire for construction of temporary footbridge strung April 11, 1901.

First wire for permanent cable drawn November 29, 1901.

Work of constructing steel towers and spans, involving manufacture and construction of 12,000 tons of steel at a cost of \$1,222,230.

Making of steel cables of 5,000 tons of steel wire and castings, cost \$1,398,000.

Cost of approaches to bridge, \$1 464,000 for Manhattan approach and \$947,000 for Brooklyn approach. Manhattan approach made up of 12,000 tons of steel, and Brooklyn approach of 6,000 tons.

Main span cost \$1,123,400.

Exceeds Brooklyn bridge in length by 1,284 feet; width, 33 feet; net width of two decks by 64 feet; in number of wires in each cable by 2,404; in miles of wire by 3,071; in strength of each cable by 12,300 tons, and in height of towers above roadbed by 51 feet.

Total cost of bridge to date, \$10,215,339.90.

"Father of Williamsburg Bridge" and chief engineer, Leffert L. Buck.

A New York dispatch says: An exclamation of awe went up from half a million onlookers when on Saturday evening 50,000

lights flashed out revealing the delicacy of outline, the sweeping proportions and the enormous mass of the new structure.

In the center of the middle span was an enormous American flag made in colors of 5,000 incandescent globes. Along the graceful curve of the supporting cables to the top towers, 350 feet above the water, were arc lights.

Shrieking steam sirens from craft along the river front gave a piercing welcome to the lighted structure. A boom of cannon far up the river announced the start of the marine parade of the Mercantile Marine Association from Newton Creek.

After the vessels had passed down the river and turned to come upstream a flight of aerial bombs rose from the center span of the new structure and burnt hundreds of feet above the lofty towers.

The bursting bombs turned the night into daylight and revealed the shores and houses facing the water front, black with myriads of onlookers.

After the bombs came flights of rockets, the transparencies representing Andrew H. Green, father of Greater New York, Mayor Low, President Swanstrom, of Brooklyn Borough, Congressman Timothy D. Sullivan, in whose district the Manhattan terminus is located, and Senator Patrick McCaren of Brooklyn, who introduced in the legislature the bill creating the bridge commission.

As a climax a representation of Niagara Falls, hundreds of feet in length, was set off in the center of the span, and sent showers of fire down to the water, 140 feet below.

DISQUALIFIED.

"So you wish a position as lineman?" asked the manager of the telegraph company. "Have you had any experience?"

"No, sir; not as a lineman."

"Well, you know this is a work requiring great endurance and considerable strength."

"I think I'd be all right, sir. I've been out with three polar expeditions, and can stand any kind of a strain."

"Oh, you won't do at all. Why you never could find the pole."

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NOTES ON INVENTIONS.

J. H. Margerison, of Philadelphia, Pa., is the patentee of a device for weaving names on the borders, instead of lengthwise, of Turkish towels, for the use of hotels, steamship companies and others that have in service large numbers of towels.

Discovery of a new process for the soldering of aluminum has been made by Nelson W. Miller, an attorney, who has been carrying on his experiments for three years. The solder discovered consists of seven ingredients and the flux of twenty-three different materials.

Mr. P. Steiger, a trunk manufacturer, has invented and patented a new device which does away with the lifting of trays in trunks. A trunk furnished with this device raises the tray automatically and gives ample room to pack or unpack the contents of the bottom of the trunk and of the tray as well.

John M. Scalt, of Racine, has patented a railroad bumping-post, which was tested most successfully in the Northwestern yards to-day. In fact, the test was so successful that a great deal of the track was torn up. The post is built of steel and timber and on the side which a train must strike is a large steel head behind which are six heavy steel coils. These posts are placed at the end of the switch tracks and a number have been ordered for the St. Louis fair, to be used in terminal yards.

While other metals, particularly some alloys, as nickel steel, have been found a coefficient of expansion equal to that of glass, none of them has the property of forming a tight joint when fused, which is a necessity in the manufacture of the incandescent electric lamp. As the platinum wire, which not only has the required co-efficient, but also adheres as though cemented to the glass, is costly, a French company has been making experiments to replace it with a cheaper substitute. This has been discovered, it is announced, in a new cement, which ensures a tight joint around the leading in wires of the lamp without the necessity of using platinum for the filament. This cement is said to be unaffected by air or ordinary temperature.

James C. Kimsey, of Philadelphia, Pa., has invented a milk bottle and stopper of paper, for which are claimed features that tend to insure freedom from germs or dirt of milk or any other fluid that may be placed within. The bottles and the stoppers are made of specially prepared paper, sterilized in making, and at such a low price that they may be discarded after once using, although housewives may profitably utilize them for holding coffee, tea or similar articles. The bottles are light-proof, and it is said that milk placed in them will keep longer than in glass bottle.

Instead of having to carry about with him his own pair of slippers if he is to have solid comfort at night, the traveler may in the near future find that hotels will supply him with a new pair, made from leather paper, manufactured in Dessau, Germany. These are not only serviceable and handsome, being made in a variety of colors, but are also to be recommended from the hygienic standpoint. Dr. F. Parke, of Offenbach, testifies to their value to the traveler. He objects to the intrusion of old, and, perhaps, dirty slippers in one's traveling outfit, and thinks hotels will soon regularly provide for visitors clean leather-paper slippers. There will be no danger of spoiling one's linen, and, moreover, infection will be guarded against.

William H. Reiff, of Philadelphia, Pa., is the originator of an animal trap which is destined to deal death to all sorts of walking, creeping or flying things, from bears, crows, hawks or rattlesnakes to rats, according to what size of trap is used. The trap consists of a variety of metal parts assembled on a board foundation. Bait is placed on the end of a rod. Close to the bait, in such a position that the head of the animal seeking to get at the bait must of necessity be in line with it, is a cartridge holder. When the bait is disturbed the rod that holds it releases a spring. This causes a hammer to explode the cartridge. The trap may be chained to a tree to kill hawks, loaded with shot cartridges for crows or with blank cartridges to scare away cats without injuring them. Safely appliances are provided to prevent the accidental discharge of the deadly cartridge while the trap is being loaded.

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A year ago Captain Donwig was shipwrecked on the Brazilian coast. He alone escaped, his wife and two children and his crew being drowned. Donwig vowed to devote his life to the invention of a life-saving buoy. He is now exhibiting a steel buoy, provided with storage compartments, capable of accommodating twenty persons. The device has been successfully subjected to the most exhaustive and convincing trials. Donwig has applied for the Pollack prize of 100,000 francs offered for the best life-saving invention and will probably obtain it.

Councilman Kohl, of Cleveland, Ohio, has invented a device to catch little fishes and lizards which, it is alleged, lodge in the city water meters. He wants Mayor Johnson to approve of his invention. The device is in the form of a globe valve, which has a wire screen to prevent particles of coarse material, small fish and other things found in the water, from passing into the meter. The construction of the meter, he claims, is such that it would be impossible to cleanse it. He claims his invention will prevent the necessity of cleansing the meter.

Carl Nyberg, of Sundbyberg, has just completed a novel flying machine intended for the St. Louis Exposition. It consists of an aeroplane of four wings, a condenser for steam to operate two four-bladed propellers developing a speed of eight-horse power, gasoline to be used for the condenser. The wings are constructed of hickory wood and waterproof cloth, two on each side, hollow in form and intended merely for support in descending. The principal novelty in the machine consists in the condenser, no water supply being carried. Experts declare that the machine is the lightest constructed, and experiments made have proved Nyberg's theory practical.

John H. Gault, of Philadelphia, Pa., has been granted a patent on an insulating handle connection for metal tea and coffee pots. The new device consists of a non-conductor formed of a core of horn or ivory or other non-conducting material, like a round or oval button, flat on one side and rounded on the other edge. To one side is riveted a flat metal plate, while to the body of the button is clamped a shell, which forms a socket on the side opposite to the plate. The edge of

the shell is spun all around over the rounded portion of the button, so as to confine it without touching the plate. By this means a non-conductor is made, which may be soldered fast to the metal parts of the handle.

A western railroad company has been looking into the matter of fuel briquettes, and some tests have been made with a combustible of this character invented by a St. Paul man. According to the inventor's formula, soft coal refuse enters largely into the composition of these brick, and it is stated that they can be made at the cost of \$1.25 per ton. The trial resulted in demonstrating the fact that the use of the briquettes showed an economy of forty per cent. It is said that one ton of this fuel will go further than a ton of soft coal by between twenty-five and fifty per cent.

Fred L. Ebelbare, of Philadelphia, Pa., has devised a speed indicator for automobiles and other vehicles. This is a centrifugal apparatus which operates a pointer on a dial, graduated with figures from zero to fifty, representing miles. This registers up to fifty miles an hour. A fixed weight is used to act as a resistant power to the centrifugal force developed. For speeds from 50 to 100 miles another weight can be placed in position on the apparatus, which is equal to fifty miles and when in operation brings the dial back to zero, each additional mile being registered from fifty as a starting point. Any number of dials may be controlled from one machine.

THE EDUCATION OF AN ELECTRICAL ENGINEER.

That the methods generally pursued in educating a young man for the electrical engineering profession leaves much to be desired, may be inferred from the fact that at almost every important meeting or convention of engineers in this country of late the subject has been brought up for discussion in one form or another. In England this important question is also being seriously considered, and even as late as December 3 Prof. F. G. Baily, at the Glasgow meeting of the Institution of Electrical Engineers, laid down a suggested outline scheme of education, taking sixteen to seventeen as the age of the student at the commencement of his career. The proposition was:

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First year—Six months' session at college, with courses on mathematics, physics, chemistry, mechanics, mechanical and hand drawing, laboratory practice, elementary mechanical engineering.

Four or five months' instruction in handicraft in wood and metal, carried out in college workshops specially arranged for instruction.

Second year—Six months' session at college, with courses on mathematics, physics, mechanics, general principles and important types of machines and methods in electrical and mechanical engineering, with machine drawing and laboratory practice in the electrical and mechanical engineering laboratories.

Five months' work in a factory with a complete mechanical engineering department, in the pattern shop and foundry, with liberty to inspect work in other departments at stated times.

Third year—Seven months' session at college, with courses in mathematics, advanced electricity, thermodynamics, etc., advanced electrical and mechanical engineering, machine drawing and design, laboratory work on electrical machines, prime movers and testing of materials.

Five months' work in the factory in the machine shop.

Fourth year—Spent in the fitting shop.

Fifth year—Spent mainly on outside erecting work.

Sixth year—Spent in the drawing office.

Thus at the completion of these stages the electrical engineer will be from twenty-two to twenty-three years of age.

Prof. Baily adds that if the factory does not give good opportunity for outside work and drawing office work in electrical engineering it will be preferable to change to an electrical engineering factory, or to a contracting business, or to a consulting engineer's office for the fifth and sixth years. The previous years will be as profitably spent in a mechanical engineer's shop as in that of an electrical engineering firm.

At the end of this time a great benefit, it is suggested, would be obtained by a prolonged tour of three months or more to various engineering establishments, power stations, and examples of work in progress, in England and other countries.

During the fourth, fifth and sixth years special branches of study may be taken up at evening classes, where circumstances will permit; but a "capable man should be competent to study by himself to a large extent."

GET THE BEST OF JOHN D. ROCKEFELLER.

Sitting around one of the highly-polished tables in the Waldorf-Astoria cafe a few nights ago were three Westerners, men who rest easily on the top rungs of the financial ladder, says the New York World. They were talking of things and persons past and present. The conversation was full of effervescent entertainment and some well-known characters were dissected. Of all the names mentioned that of John D. Rockefeller was the only one left unscathed—as far as enumeration of financial losses was concerned. Then a fourth man came in. He is a figure as well known in the stock market as on the fine cropped turf that fronts the clubhouses of Western or metropolitan race-tracks.

"You're all wrong," he said. "Rockefeller has been plucked. I know when he was caught by a trap of his own setting. He was done beautifully—caught without the aid of a net. It only happened once though, and the man who did it was Henry A. Lozier. Yes, good old Henry, the motor king, the maker of the Cleveland bicycle before the Wheel Trust did as all other trusts have done—destroyed identities and names."

"Why, Lozier and Rockefeller were old cronies," said one of the busiest talkers at the table.

"That they were, but Lozier got the oil king just the same," was the reply. "If you will order another bottle of wine I'll tell you what he told me about the transaction four weeks before his sudden death up-State."

The fizz came along in faster than due time, and the following story was retold to the original party:

Rockefeller liked Lozier better than any other man in Cleveland for several reasons, the principal one being that all during their friendship Lozier never asked Rockefeller for a financial favor of any kind. The Standard Oil man was constantly beset by an army of men, all on the lookout for tips

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of every sort. As soon as a new stock was born or listed and it was known that Rockefeller was interested, the first thing the crowd wanted to know from him was whether or not it was good and safe. Not so with Lozier.

Whenever Rockefeller hit Cleveland, either for a short or long stay, he would look up Lozier. Many a time the two would go out on the roads for a drive, usually behind one of Rockefeller's teams. The conversation may have been business, but Lozier never took advantage of it, nor did he ask leading questions.

One day the men got talking about a piece of property in the outlying district of Cleveland. Lozier had invested in a good big portion of it, with a view of building a suburban home. Rockefeller had some of the adjoining land and wanted more of it. In fact, he had his eye upon Lozier's land. He needed it for a regular town estate.

"What will you take for it, Lozier?" said Rockefeller, when the two had left their office and business for a drive through the park.

"It's not for sale," replied the bicycle man.

"Come now, what's it worth?"

"Oh, about \$75,000."

"Well, Henry, I'll just make it \$100,000 and close the deal now," replied the richest man in the world. "That's a fine offer. It will never be worth that to you."

"Don't want to sell it," said Lozier.

The conversation stopped there, and Rockefeller smiled to himself for another mile or two. Then he came back to the land again. He did some more smiling before the horses were turned into their stalls, but there was nothing doing in the sale line that day.

Rockefeller's interests in the East took him to New York a few days after this drive, and it was a matter of weeks before he returned to Cleveland. The very first day of his return to Cleveland, he telephoned Lozier that he would call for him later in the afternoon for a drive. Lozier said he was in the humor, and once again the two men sped along the roads.

"Lozier, I want that land, and you've got to sell it to me. Now, look here, I'll give you \$110,000 for it, and that is more than it will ever be worth."

This time Lozier smiled, but said nothing. Rockefeller could talk of nothing else. He even offered to give the bicycle man any old thing in oil stocks in exchange for the property, but Lozier was obdurate. Finally, on the way home, Lozier said he didn't want to appear unkind or stubborn, and if he, Rockefeller, really wanted the land so badly, why, he guessed he would sell it—but only as a matter of personal friendship.

Rockefeller looked his thanks and expressed them too. "Now Henry, before you go back on this let us seal the bargain and consider the sale closed. I'll get my lawyers to draw up the papers. Remember now, no matter what happens, that property is mine. I'll give you a check right now for the money."

"No hurry," said Lozier.

"Well, I insist," said Rockefeller. That very day a check was written and a certification of the sale recorded."

The narrator stopped. He did not have long to wait, for three eager listeners were at him with the same exhortation.

"Wind it up!" they shouted.

"That's the end of the story. The following day the town council granted the privilege of operating a glue factory on land adjoining both properties. Lozier knew this was to be done, and in his mind he saw the smokestacks pouring out their soot, smelled the awful odors of a slaughter-house and knew that the land would depreciate in value as well as be impossible for a summer home. Rockefeller was for once in his life caught napping. The property changed hands and Lozier cashed his check."

"But Lozier and Rockefeller were friends after that?"

"Sure, only Rockefeller gave the bicycle man tips during the years that followed."

During the last quarter thirty fires have occurred which were due to electrical causes. In one case the static electricity from a belt ignited benzine vapor, causing a loss of \$189,000. No less than nine of the fires resulted from the use of flexible cord conductors, and several others from open-link fuses. Improperly installed and unprotected lamps in show windows were the cause of several fires.

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Reports From Grand Officers

GRAND PRESIDENT.

Editor Electrical Worker:

When I arrived at the General Office on November 17, from the coast, I found letters from all sections awaiting me, quite a number demanding me to come to their respective cities immediately, as there was serious trouble on.

I found in two cases several letters demanding to know the reason why I did not even show the writers the common courtesy of answering them.

It is impossible for me to answer communications promptly that come to the General Office for me when I am on the road and do not receive them until I return. Any local or brother that may have occasion to write to me and does not receive an answer within a reasonable length of time, can depend on it that I am not in the office, and that I will answer all communications as soon as possible.

I found letters from four locals in Schenectady, N. Y., requesting me to come to that city, as there was serious trouble on.

I went to that city, and notified D. V. P. Sweek to meet me there on November 24th, as I wanted him to be familiar with the situation, as it was impossible for me to stay there very long.

I arranged for a meeting with General Manager Emmons, of the General Electric Company, for a committee consisting of D. V. P. Sweek, President Cornish, of 254, President Sparks, 247, President Cawley, 267, President Heffernan, 252, and myself.

I am glad to state that the meeting resulted in a satisfactory settlement of all the grievances.

On November 25th I and D. V. P. Sweek went to Troy and held a conference with Superintendent Cahill of the Light Company of that city in the interest of Local No. 329.

This meeting was not satisfactory, as Mr. Cahill did not want to do business with any one other than his employees. We had no objection to that. All we wanted was a settlement of the grievance, and informed him we would have a local committee appointed to meet him.

D. V. P. left to attend to some business in York, while I attended a special meeting of the brothers affected that evening.

I stated the result of our conference with Mr. Cahill, and was informed that a local committee had met him several times without getting any satisfaction.

I requested the local to appoint another committee to meet him on November 27, which they did. D. V. P. Sweek returned there on November 27, and since then has reported that a satisfactory settlement was reached.

On November 27 I went to Philadelphia to meet Brother Allman in regard to the trouble between the Contractors Association of that city and Local No. 98.

The situation there is about the same, both sides as firm as ever. As Brother Allman's report will dwell upon this question, I will not trespass upon his grounds any more than to request each and every local to refrain from supplying men to any member of the Contractors Association of Philadelphia that may have work to do in their respective cities, (as per mandates of our convention, page 68 proceedings). I trust each local will take a firm stand in this matter, as it means a great deal not only to Local No. 98, but to our Brotherhood.

I attended a meeting of Local No. 21 on November 27th, which was not as well attended as I would like to have seen.

I arrived in Atlanta, Ga., on December 1st to attend a convention called for the purpose of forming a District Council in the South and devising some means of helping Local No. 429 of Columbus, Ga., in her trouble with the Southern Bell Telephone Company.

I made it a point to attend this convention personally, as I did not wish to see the whole South plunge into trouble if it could be honorably avoided, as I did not wish to have any other obstacles placed in the way of our organizers in that territory.

The convention was well attended and the delegates conservative, as their work shows.

The first question, after organizing, was to take up the trouble of Local No. 429. After a general discussion, the following

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committee was appointed to meet General Manager Gentry of the Southern Bell Telephone Company : Edward Sheets, Local 227; S. B. Kitchen, Local 100; J. W. Wilson, Local 429; J. W. Pendley, Local 84, and F. J. McNulty.

Two conferences were held, and the trouble settled on the following basis: Nine hours per day permanently throughout the territory covered by the Southern Bell Telephone Company, with the same wages as paid for ten hours; all men affected by the trouble to be reinstated without discrimination, except one man, who refused to return under any circumstances. The company also agreed to meet us in the future in case any grievance shall arise and adjust same if possible.

This settlement met with the approval of the convention. It may not look like a very good one to those that are working eight hours a day, with a higher wage scale, but if you consider that it means one hour less work per day permanently in the seven States covered by the Southern Bell Telephone Company for our brothers employed by the company, you will have to admit that it is a very fair one under the existing conditions in the South.

It has also been the means of bringing the Southern Bell Telephone Company and our Brotherhood closer together, which will keep trouble between us at a minimum in the future.

I found in General Manager Gentry a gentleman that was very fair and willing to deal fair with us.

The convention then formed the Southern District Council of Electrical Workers, and framed a constitution to govern same.

The constitution is to be placed before the locals in the district for a referendum vote.

One of its main objects is to thoroughly organize the electrical workers of the South, and I sincerely hope it will be successful, which it can't help but be if each brother will use his best endeavors to that end.

The convention adjourned sine die on December 3d. While in Atlanta I attended a meeting of Local No. 84, which was well attended. I hope the advice which I gave them will be remembered.

I called upon C. J. Simmons, manager of the Atlanta Telephone and Telegraph Com-

pany, in regard to some of his foremen that were discriminating against our brothers because they were union men.

Mr. Simmons assured me that if such was the case it was done without his knowledge, and would see that it was stopped at once.

I arrived in the office on the fifth, and left for Philadelphia on the evening of the seventh, and attended a meeting of the District Council of that city. From there I went to Hartford, Conn., and met D. V. P. Mallory, who is in that city on account of the trouble that Local No. 186 is having with the Contractors' Association. As D. V. P. Mallory will make a report of the trouble in detail, I will only touch on the conferences held to try and settle it while I was there. The first one was held on the fifteenth and adjourned without results, as I had to be in Schenectady in the evening to attend a mass meeting in that city.

I returned to Hartford on the sixteenth, and along with D. V. P. Mallory and the local committee, met the contractors and their legal adviser that evening.

We endeavored to have the trouble settled by agreeing to everything that we possibly could agree to and hold our organization, but they would listen to nothing but for us to withdraw from the Building Trades Council, and they to employ any one they saw fit, union or non-union. This we refused to do.

The meeting lasted for over four hours, with no results.

Local No. 186 is standing firm, not a break from their ranks, and no prospects of any. New work is at a low ebb in Hartford just at present, which will make the fight a longer one than it would be if work was in a condition where the other building trades could assist us. Our brothers, nevertheless, are determined to win, and win they will if they all remain loyal to the cause, and remember that organized labor has had to fight, directly or indirectly, for every concession it has ever got from capital.

The mass meeting in Schenectady was a grand success. One of the largest halls in the city was packed with the members of our locals in Schenectady, Troy and Albany.

Addresses were made by D. V. P. Sweek, Brother T. McGovern, of the Structural Iron Workers; President Frost, of the Trades

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Assembly of that city; Brothers Sparks, Cornick, Scott, Hayden and Thomas, and your humble servant.

The meeting will result in much good for our cause in that city.

I got to Philadelphia on the 18th and arrived in Washington on the evening of that day.

I returned to Philadelphia on the evening of the 22d to attend a meeting of Local No. 98.

On the 23d I attended a meeting of the executive board of Local No. 98, and went over the situation with them. After this meeting Brother Allman and I started for the meeting of Local No. 287. When we arrived the meeting had adjourned.

Local No. 436 of Greater New York, informed me that their employers were discriminating against them for being union men.

I attended their meeting on Sunday, December 27th, and went over the situation with them, after which they appointed a committee to confer with the officials of the company.

I returned to Philadelphia on the 28th, and took up some matters in the interest of Local No. 98.

There is a movement on foot to bring an executive officer from every international organization affiliated with the A. F. of L. to Philadelphia, for the purpose of bringing all local unions in that city together for their mutual protection.

I trust and hope the effort will be made, for if ever there was a city that needed the attention of international organizations that city is Philadelphia, especially among the building trades.

I wish to state for the benefit of numerous brothers that I am not now, nor ever have been, connected with any other organization (directly or indirectly), fraternal or otherwise, and do not intend to be while Grand President of our Brotherhood.

For the information of all locals, I will state that it is the intention of each D. V. P. to visit every local of his district.

So I trust the locals will use a little judgment, and not expect him to be in every place at once.

You must admit it would not be good policy on the part of a D. V. P. if he

were to attend a meeting in one end of his district to-night and jump to the other end to-morrow night and pass a half a dozen locals in doing so.

The railroad fare and extra expense must be considered also, as they must keep their expenses at a minimum.

Each local can help their G. V. P. by letting him know how conditions are within their jurisdiction, and where they think new locals can be placed.

This will help them in their work, and at the same time help our Brotherhood.

Every local must follow Article 16 of our constitution in case of any difficulties arising between any of its members and their employers, otherwise no attention will be paid to their grievances or appeals.

The constitution will guide me in all of my decisions, and if a local does not follow it, it will have no just ground to kick.

I wish to also impress upon the minds of each brother that it is impossible for me to come to their city at call, as I have laid out a system which is just to all, and that is to visit each local in turn, regardless of who they may be.

Remember, also, that your officers are in your employ, and are being well paid for the work they do. If we do not do our duty, it is your place to see that we are removed and others placed in office that will. The constitution gives you this just right and privilege, so I trust you will use it if necessary.

Yours fraternally,

F. J. McNULTY,
Grand President.

FIRST VICE-PRESIDENT.

Editor Electrical Worker:

I was in Troy, N. Y., when last month's report was sent in, but finished my work there. I find that at the second December meeting Local 392 held they received thirty-six applications for membership. Brother Scott, who was appointed to assist me while there, assured me that there were seven or eight more non-union men in this territory whom he had every reason to believe would make application to join at their next meeting, resulting in Local 392 now being a good strong union.

From Troy I went to Schenectady; called on Mr. Emens, superintendent General Elec-

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tric Company's works, in regard to some of the grievances that the Grand President and myself had seen him about the week previous. There were a few things he wished to investigate. The answers from him were satisfactory to the locals having grievances.

While in Schenectady I attended a meeting of Local 140. There was not a large number present. They had an important grievance to handle—the telephone company had given notice of a reduction of 25 cents per day, to take effect the following week—action as to the best methods to be adopted in regards to the cut being the main topic. It was wisely decided to appoint a committee of three to meet the representatives of the company. They held a conference, whereupon the company decided on paying the the same wages as before the notice of reduction.

I attended a meeting of Local 402, at Portchester. They are well organized for a young body, having about all the men in the craft inside the fold. The building trades council of Portchester has disbanded, owing to their last strike, but are endeavoring to place a central labor union there, with good prospects of success.

I called at the meeting rooms of Local 368, December 9. Local 368 are cable splicers. Unfortunately it was a rainy night, and as on rainy nights most all the men have to work, there were not enough present to hold a meeting. I hope to be in New York some time in the near future, as there is a union of splicers with about seventy or eighty members who do not belong to the I. B. E. W., but hope to be able to get them in line. Most of them work for the N. Y. Tel. Company. They have pretty good times with the company and will be hard to get at.

The locals in Schenectady held a mass meeting in one of the large halls. Brother McNulty, our Grand President; Thomas McGovern, of Troy; Fred W. Frost, president Schenectady Trade Assembly; Brothers Ed. Sparkes, J. Cormick, of Schenectady; Brothers Harden and Scott, of our Troy local, and myself, spoke. It was a grand success and can not help but do good.

I then went to Herkimer to find the cause for Local 257 disbanding. The reasons were that at the time 257 was organized there were

a lot men working there, but when the work was completed the workers left for other parts until only seven men were left. It was not long until two more left, leaving five, that not being enough to hold a charter. I met Brother Manion, who was president. He promised to find all the electrical workers he could and try to again have a local in Herkimer. While there I met L. D. Perry, president of the Herkimer Trades Assembly. He promised to assist all he could to get the boys together.

I then went to Rome, N. Y., to see what prospects there were of getting a local there. There is lots of work pending and I know of no reason why a good local cannot be placed in Rome.

I was at the meeting of Local 42, Utica. There are a few outside men in Utica who are not in the union, but that condition will not last long, as the local is taking very earnest steps to get them in, where they belong.

From Utica I went to Amsterdam, Johnstown, Fonda and Gloversville. I found quite a number of electrical workers in these places, who took kindly to getting together. I met a couple of card men while there, who are to assist me in getting them to meet me in a hall, when they can learn more about the Brotherhood and unionism in general. When it is first proposed to them they are usually a little afraid, but by giving them a little time they realize it is their only salvation and submit to the process of installing themselves into a local.

Local 139, of Elmira, and Local 325, of Binghamton, had some jurisdiction trouble, so I went to Elmira, as their meeting was held on Sunday, and looked into the matter. Also received a letter from Binghamton in regard to the same. I advised 139 as to the constitution on jurisdiction, and also wrote to 325 with other recommendations. I stayed a few days in Elmira to see what could be done with the small towns around Elmira. They appointed Brother Roger Hartigan, who was not working, to go with me to see the men in Corning, Waverly and other small places. I find the places we visited not large enough to support locals. In each place we were successful in having them to agree to join 139. I made recommendations, if concurred in by 139 and 325,

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will build them up double their present membership.

I attended a meeting of Local No. 3, and as usual their attendance was large and their conduct is business-like. No. 3 is having their own trouble in keeping their members employed; the prospects are that that condition will prevail all winter, owing to the trouble in the building trades during the summer.

I am receiving letters from different locals wishing me to come into their district, and as I find there is lots of organizing to do where our locals are, there being in many cases as many outside the union as there is in. Those are the places I will go to first, as I believe if the locals we have are made strong the rest is easy.

I hope by February to be in Canada, as there is a large amount of good work to do there, and from the letters I receive from our locals there they are making heroic efforts to build up and are deserving all the assistance they can get in regard to the attention of organizers.

Your fraternally,

FRANCIS J. SWEEK.

SECOND VICE-PRESIDENT.

Editor Electrical Worker:

I herewith submit the following brief report for the month of December, believing it unnecessary or inadvisable to report every matter in detail.

As Local No. 186, of Hartford, Conn., could not succeed in obtaining the demands requested from the contractors' association the members were obliged to lay down their tools on December 1, consequently my time had been taken up in that city, chiefly handling the difficulty, as that there was general routine of business to go through each day. The foreign locals mentioned are those in which I visited, seeking their moral support and explaining the cause of the trouble.

Tuesday, December 1 laid out plans to carry on the battle.

Wednesday, December 2, met the contractors, and was in session one hour and a half accomplishing no good result. In the p. m. went to the Central Labor Union.

Thursday, December 3, met the contractors again in session three hours and they

still refused to sign the agreement; attended a meeting of Building Trades Council and also Local No. 37, I. B. E. W.

Friday, December 4, got a letter from the State Board of Mediation and Arbitration, offering their services, but refused to have them intercede; also got a letter from the contractors, stating that they were willing to let that board settle the matter, but we refused; attended meeting of the steamfitters local.

December 6, on request of Local No. 103 I was obliged to return to Boston, as there were several matters there to straighten out in the business agent's office. After fixing up what business I could in a hurry I returned to Hartford again on Monday afternoon.

Monday, December 7, attended meetings of painters and carpenters.

Tuesday, December 8, attended regular meeting of Local 186.

Wednesday, December 9, Grand President McNulty arrived; we went over and discussed matters carefully pertaining to the situation of Local 186.

Thursday, December 10, attended meeting of Local 37; also meeting of provision clerks and meat cutters.

Friday, December 11, went to New Britain; attended meeting of Building Trades Council, also the cigarmakers' union.

Saturday, December 12, went through the routine of business.

Sunday, December 13, attended meeting of the District Council at Worcester; am sorry to say there were only eight locals represented, and heartily recommend that the locals of the New England District send delegates to these conferences for the purpose of laying out plans to better their conditions; also that a central point for a meeting place be established for the purpose of dividing the expense as near equally as possible to all the locals in the district.

Monday, December 14, returned to Hartford and took up the general work there.

Tuesday, December 15, in company with Grand President McNulty and a committee of Local 186 we had a conference with the members of the contractors' association, with no good results after lasting two hours; also attended regular meeting of Local 186.

Wednesday, December 16, in company

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with Grand President McNulty and committee from Local 186 we attended another conference with the contractors, lasting from 7.00 p. m. to 11.30 p. m., using every means in our power to bring about a satisfactory settlement, but failed in meeting with any success.

Thursday, Friday and Saturday, December 17, 18 and 19, went through the regular routine of business, looking after such matters as the pickets reported, etc.

Monday, December 21, the same as balance of the previous week.

Tuesday, December 22, went to Manchester, N. H. Local 229 held an open meeting; there were eleven non-union men in attendance and succeeded in getting every one of them to make out an application.

Wednesday, December 23, I returned to Hartford, arriving in the evening.

Thursday, December 24, looked after the interests of Local 186.

Friday, December 25, went home to spend Christmas.

Saturday, December 26, made application and obtained bond as per direction of the new constitution.

Monday, December 28, after arriving in Hartford I was obliged to go to Pittsfield, Mass.; attended a meeting of Local 264, and found the members there a little backward in the trade union movement. But they are a fine body of good conservative men, willing to advance the cause, and with the little advice I have given them I am in hopes to be able to return to that city before long and, with the assistance of both locals, get them on a better footing.

Tuesday, December 29, returned to Hartford and attended their regular meeting.

Wednesday, December 30, took up the regular routine of Local 186; attended a meeting of the Central Labor Union in the evening.

Thursday, December 31, regular routine; attended meeting Local 37 in the p. m.

In my report this month I have tried to be brief and have condensed it as much as possible. I have written several letters to the various locals in my district. I feel as though some good work could be done outside of this city, but find it is almost impossible for me to leave here for any lengthy period of time.

Local 168 is the first victim of the contractors' association. They have caught us in a very bad time.

In company with Grand President McNulty and a committee from Local 186 we held two conferences with the contractors' association and used every possible energy to bring about a settlement, but all to no avail. They are still determined to give us a finished fight. We were very successful in convincing some of the recruits they brought on here from New York and Pennsylvania to return. In some cases we have made it very interesting where scabs were doing work. The worst feature we have to contend with is the fact that business in the building lines is very dull and there is nothing but small repair work and jobbing to do.

The members of 186 have shown a loyal spirit. They have clearly demonstrated that they are thoroughly built of the proper fighting material in cases of this kind.

The employers have used every method and prevailed strongly upon the men to return to work as individuals, but the boys have never flinched, preferring to remain solidly together, and our ranks still remain unbroken. They will give a dance on January 25, to raise a little fund to help out the needy. I have mailed several tickets to the different locals, and sincerely trust they will respond quickly and cheerfully, and also lend any other financial aid they can possibly spare. Do not let Local 186 go down. Prospects in the building line are exceptionally good for the ensuing year, and if they hold firmly together they are bound to win.

As soon as I possibly can I desire to cover this district, taking in all locals in the immediate section as I go along.

I hope that all members will attend their meetings and lend whatever assistance they can to perfect their organizations.

Do not send letters or telegrams for me to come on short notice. Make good calculations beforehand, so that any plans you may have in vogue can be properly executed. Will be pleased to hear from any local and give any advice or instruction I can to the best of my ability.

In conclusion, I ask your hearty co-operation to build up this district. If you have

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any fault at any time to find make it known to me and I will try to remedy the same.

Wishing you all a Happy New Year, and a bright and prosperous year for our Brotherhood, I remain,

Fraternally yours,

EVERETT T. MALLORY.

Hartford, Conn., Dec. 31, 1903.

THIRD VICE-PRESIDENT.

Editor Electrical Worker:

Arrived at Philadelphia, Pa., by order of Grand-President McNulty to try and bring about a settlement of No. 98's trouble with the big seven. Met Brother Mead, business agent of No. 98, and had a talk with each one of the big seven, as we wanted to get before their body. Were told it would do no good, but after keeping at it for a week Brother Mead and myself were admitted to their meeting on December 8. Were told by the president of the contractors' association we were to have fifteen minutes to state our case and then retire. We were in their meeting just seventeen minutes, and would say it was the coldest set of men I ever met. No one spoke but Brother Mead and myself, and after waiting about five days received a reply from the contractors, saying that they would have nothing to do with us.

Was told by the Grand President to visit Nos. 210 and 211, of Atlantic City, which I did. On December 16 visited No. 210 and would say had a very nice meeting; not a large crowd, but a good, friendly meeting, with business attended to promptly.

On December 18 visited No. 211, and as there is hardly any work just now and most of their members are unemployed, would say are not in as good a condition as they will be in a month or so when work brightens up. There are in this local members who, when work brightens up, will see that every one working in their jurisdiction has a good paid-up card.

Went back to Philadelphia to meet Grand President McNulty and took up the fight of No. 98 against the big seven. Went over the case thoroughly, and think in a few weeks, if everything works all right, we will have the big seven doing business at the old stand.

While in Philadelphia I visited Nos. 21, 240, 287 and 98, and all are getting along

fine. Also a smoker given by, No. 98, which was a grand affair.

Then went to Pittsburg, visited No. 14; also attended open meeting of No. 14. On Sunday, December 27, visited No. 5, and also No. 14 again.

Have a couple of new locals in view, but on account of it being so near the holidays and every one wanting their money to buy presents with, I could not do very much until the boys get a pay in the New Year, when I hope to have better success in my work.

Wishing each and every brother a happy New Year, I remain,

Yours fraternally,

E. P. ALLMAN.

Pittsburg, Pa., Dec. 31, 1903.

FOURTH VICE-PRESIDENT.

Editor Electrical Worker:

On account of changing address my mail was delayed, and I did not get started on the road the first of the month, as Grand President McNulty instructed, and as there was a general mixup in mail I thought it better to go to Washington and get data on my district, and I could start out right. So from there I went to Norfolk, Va., and with Brother Brock and others of Local No. 80 we went to call on all men working at the business, and I found that they had all been members at one time, but had, for different reasons, all dropped behind. We found the same thing at Portsmouth and the navy yard, so we gave an open meeting on the 22d, with a large attendance. There were several nice talks made, after which we passed the cigars, with an application blank with each cigar, and am glad to say that we succeeded in getting about fifteen of them on the right road again.

While there I attended a reception given by the striking textile silk workers; then, on the 23d, I went to Richmond, Va., and, on account of Xmas times every one was out of town, and had no meeting, but there is lots of work there for an organizer, as the linemen are working for \$2 per ten hours, but the holidays is a poor time for organizing, for at those wages it takes all the money we make to get our best girl a Xmas present. From there I came to New Orleans, and found the strike was still on with No. 130, so, after looking over the situation and having sev-

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eral special meetings and committees appointed to wait on the Interstate Electric Company, we have practically settled the difficulty. We have a meeting to-night, which I think will settle the trouble satisfactorily to all concerned. The boys here have been out since the seventh day of November, and only had one deserter. I am

Fraternally, D. SMITH.
New Orleans, La., December 31, 1903.

FIFTH VICE-PRESIDENT.

Editor Electrical Worker:

Upon orders I came to Chicago, where I have been busy since.

I found several locals here in an unsettled condition. As labor matters in general in Chicago are in a turbulent state at the present time, this is not to be wondered at.

Shortly after my arrival here I was drawn into the strike with the Chicago City Railroad, and have been actively engaged with them ever since. After this company settled with the trainmen discrimination began against members of our Brotherhood, notwithstanding the fact that we had written agreements with the Amalgamated Association of Street Car Employees, and also the assurance of the company, that our men would be reinstated. At the present time we are endeavoring to push our contracts, with the assistance of the Steam Power Council, and look for an early settlement. I asked Mr. Mahow, Gr. President of Street Car Employees, to transfer to our Brotherhood all men now in their organization in Chicago who are doing electrical work. The request was granted, which means something to us, as there are about 150 men involved.

Reports from other parts of our district show a steady increase in membership.

District organizations are under headway, and I would advise the men in our district to cut out one or two, and lay by a few dimes for a rainy day that I can see coming.

Fraternally, F. L. WITTERS.
Chicago, Ill.

SIXTH VICE-PRESIDENT.

Editor Electrical Worker:

I see by the Worker that the referendum vote was largely in the majority for the adoption of the new constitution. I suppose, now, that all eyes of the Brotherhood

will be turned on the organizers, waiting and watching their progress under the new constitution. I hope that those who voted against the new constitution will decide to abide by the majority vote and fall in line and give the organizers a helping hand, for without your united efforts we can not hope to accomplish much. But if every brother will make it a point to assist the organizer whenever an opportunity presents itself then there is no doubt in my mind but what we can make the I. B. E. W. one of the greatest organizations in the ranks of organized labor within the next two years.

I will say in behalf of myself, and every one that has visited the Sunny South knows it to be a fact, that I have got a large field and plenty of good raw material to work on. There is a good work to be accomplished if I get the proper support of the brothers in my district, and I don't think I have anything to fear in that line.

Owing to the sickness and recent death of my father I have been unable to leave home, therefore I can not report much progress in the way of organizing, although I have been working on the Dallas Electric Company's men. Have secured a good many applications and think I will get more before long, as soon as the boys have recovered from Christmas.

I want to take a trip through Oklahoma and visit all the locals in that section of the country, and by next month I hope to report great success.

Yours fraternally, J. P. CONNER.
Dallas, Tex., Dec. 25, 1903.

SEVENTH VICE-PRESIDENT.

Editor Electrical Worker:

Grand President McNulty in his report in last month's Worker stated the conditions under which we settled our differences with the Pacific States Telephone and Telegraph Company, so it is not necessary for me to cover the same ground.

The company is keeping its agreement. In some cases the boys may have thought them slow, and sometimes may have doubted that they would keep the agreement, as the country manager, who sometimes is overloaded with confidence in himself, from the reports which I have received, has frequently stated that there was no agreement

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between the company and men, but I can state positively that my experience with "the powers that be" who are located here, is that they have at all times strained a point to rectify anything that even looked as though they were not carrying out their part of the agreement.

Unfortunately for both the company and the men in Tacoma, Washington, and in Fresno, California, it was impossible for the company to put the men back, as they (the company) had no material to do the work with. In San Francisco we have a great many men idle at present for the same reason. All the country gangs have been called in. But I wish to inform the brothers that I have the assurance of the company that the material is on the way; that it was ordered on the day on which the strike was declared off, and I am satisfied that the boys will soon be back to work, and that everybody concerned will be more than pleased and my daily visits to the Telephone Company will cease, and, boys, the company will have the same respect for us that we have for the gamest and most intelligent fighter it has been my pleasure to have met on the employers' end, Mr. John I. Sabin.

No. 76, of Tacoma, has been up against a pretty hard game on top of the troubles with the Telephone Company. The contractors have been giving the boys a battle. On the tenth of November they locked the boys out because they refused to withdraw from the Building Trades Council, and a month later, not being able to hold out any longer, because they did not receive any assistance, they were compelled to sign an agreement. So the Citizens' Alliance has gained the first round in Tacoma.

On the ninth of the month I received a communication from Local No. 213, of Vancouver, B. C., regarding electrical workers who were in the Street Railwaymen's Union. I immediately called on Brother Cornelius, who is the executive officer of the A. A. of St. Rwy. in this district, who immediately wrote to the secretary of the division in Vancouver to transfer all electrical workers in that division to Local No. 213.

The four locals in San Francisco are to be merged into two, and we will have two classes of trades, instead of three, as was decided in Salt Lake City, namely, inside and outside.

I have just received a communication from Local No. 113, of Colorado Springs. The Citizens' Alliance are going for the boys there pretty hard,

I have requested the Western Conference to call a meeting of the district about the first of February to reorganize on the lines laid down by the new constitution, and to give battle to the Citizens' Alliance wherever it shows its head.

The four locals in San Francisco are giving a benefit, under the auspices of the I. B. E. W. of this district, the proceeds to go to the Western Federation of Miners, on January 8th, 1904.

Yours fraternally,

M. J. SULLIVAN.

San Francisco, Cal., December 24, 1903.

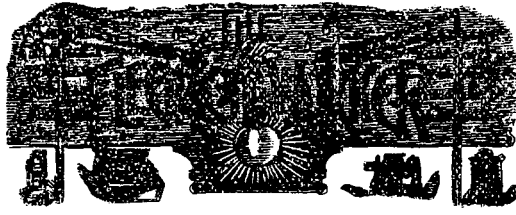
EDUCATIONAL MEETINGS.

Now, that the cold weather is at hand, we suggest that the unions take some steps looking to the holding of a series of open meetings to be addressed by speakers on subjects of importance to the workingman. The trades assembly might well take up this work, for we believe it is of sufficient importance to warrant considerable effort in making them a success. There are plenty of representatives of organized workmen in our ranks who have studied different phases of the reform movement who are in a position to speak entertainingly and instructively on the subjects of which they have made especial studies, and it would not be necessary to depend on outsiders. This question of open meetings for the winter season is one which is worthy of careful consideration.

WAGES IN JAPAN.

All mills in Japan run day and night, the changing of hands being made at noon and midnight. In one mill, at Osaka, 2,600 workmen are under fifteen years of age and operates 3,700 spindles. In this country 300 persons operate that number. In the Lowell mill of 4,000 looms and 122,000 spindles there are 700 male and 1,500 female operators. In Japan it would require 12,000 persons to do this work. The wages, however, in Japan are 15 cents a day for a man and 9½ cents for a woman.—Chicago Journal.

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OFFICIAL JOURNAL OF THE
International Brotherhood of Electrical Workers
 PUBLISHED MONTHLY

M. W. SHERMAN, - - Publisher and Editor
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 3931 North 20th street, St. Louis, Mo.

Subscription \$1 per year, in advance

AS THE ELECTRICAL WORKER reaches the men who do the work and recommend or order the material, its value as an advertising medium can be readily appreciated.

WASHINGTON, D. C., JANUARY, 1904.

W. N. Gates, Special Advertising Agent,
 29 Euclid avenue, Cleveland, O.

*This Journal will not be held responsible
 for views expressed by correspondents.*



THE HENRY E. WILKENS PRINTING COMPANY

THE ELECTRICAL WORKER.

Members of our Brotherhood are earnestly and respectfully requested to read this editorial carefully, and to govern themselves according to their own interests, which necessarily means the interest of the Brotherhood, and likewise our Journal. As may be seen by our monthly statement, our

Journal now figures materially in the expense column. Heretofore we have made little effort to secure the advertising patronage which by right of circulation, we are justly entitled to. The Worker reaches a class of readers who are not only direct purchasers of everything pertaining to the electrical business, but are also in a position to recommend articles of merit to those in the market. For this reason the Electrical Worker should prove a most valuable advertising medium for those who have something to sell.

In order to prove this it is "up to the Brotherhood." Your Secretary is putting forth his best efforts to secure legitimate advertisements. His success in this direction is dependent upon the members. Please bear in mind that whenever you are about to make a purchase it would be well to consult the Worker. Should you find an advertised article to suit, write for it; but be sure to mention in your letter that you saw the advertisement in the Electrical Worker.

If you recommend an article which is advertised in the Worker, sit down immediately and communicate this fact to the advertiser. Also keep your Secretary posted on this matter so that he can "follow up" this business and handle the advertising end more intelligently.

Successful advertisers are not placing business without a reasonable assurance of results. Every inquiry they receive is placed to the credit of the journal that is mentioned. If no journal is mentioned the inquiries are proportioned among the journals in which the advertisement appears. You will therefore understand how important it is that you mention the Electrical Worker on every occasion.

NOTICE.

It has come to our notice that the Tribune Printing Company of Salt Lake City are sending out circulars to our locals advertising for sale copies of the proceedings of our convention. We wish to state that no permission was given this company to sell the proceedings. Members can have copies free by sending name and address to the General Office. So don't pay any company for them.

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TO CORRESPONDENTS.

We are again forced to call the attention of our readers to the fact that the local letters have been cut out of our journal altogether, but we are ready to print good articles at any time. Do not send anything unless it is of genuine interest to all of our readers. From the many congratulatory letters received on the last two issues we know that our readers do not care for the local letters. It gives the editor more work selecting good articles, but so be it, as long as our members are satisfied.

READ SEC. 3, ART. XXI.

We take the liberty at this time of calling the attention of our members to a section of our new constitution. We do this simply to let them know we are doing our very best to follow the constitution, and a long experience has taught us that this is the only thing to do in order to run the affairs of our organization successfully. Sec. 3, Art. XXI, reads;

"Sec. 3. The G. S. shall publish the official journal. It shall be conducted as a technical, economic and trades union publication; communications shall be published at the discretion of the G. S., in accordance with policy defined."

We are following this section by cutting out all local matters. For instance, if we receive a letter telling us that the local has elected a set of good officers, this covers the ground; it is not necessary to take up space by giving their names, as the Directory is reserved for this purpose, and it is not necessary to take up double space. From letters received the past month, congratulating us on the November and December issues, we believe we are satisfying the majority of our readers, and that is what we aim to do. We realize the responsibility of suiting all, so do not feel offended if you fail to see your letter, as it has been thrown out, with many others. We have no desire to show any partiality, and those letters that do appear are, in our opinion, of interest to our readers.

Local secretaries will confer a favor if they will give us the chances of work in their cities, and we will set aside a page for that purpose. This will take the place of long letters.

BOND YOUR OFFICERS.

Once more we are forced to warn our locals to bond their officers. In spite of all that has been said hardly a week passes but what we are notified that some Johnny, the good fellow, has skipped by the light of the moon, taking with him the funds of the local. Why not profit by the experience of others? Start the New Year right, and bond your officers.

NOTICE.

Editor Electrical Worker:

I was instructed to request that the following notice be published in the Electrical Worker:

All members are requested to stay away from New York City, as we will not accept traveling cards while our local members are unemployed. Owing to the dullness in the building industry we have a large number walking the streets, so, brothers, if you come and are not accepted do not find fault with No. 3. Any member wishing to know the condition of this city as to work if they will communicate with me I will cheerfully give them all information.

Yours fraternally,

G. W. WHITFORD, Secretary.

New York, Dec. 9, 1903.

SOME moths ago we entered into an agreement with the Secretary of the International Brotherhood of Elevator Contractors, and had every reason to believe it was entered into in good faith by all parties concerned. But recent action on the part of the elevator constructors convinces us that they are not willing to keep the agreement. We have referred the matter to the A. F. of L. for adjustment.

WE have been requested by Local No. 233, Colorado Springs, Colo., to say that owing to the slow return of tickets for the raffle of a watch for the benefit of Brother Paul Varay, who fell from a pole and injured himself, the raffle has been postponed until January 28, 1904.

ATTENTION is called to the open letter of Brother J. C. Bahlhorn, president Brotherhood of Painters, on another page. We are sorry it came too late for the December issue.

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WHAT WE WANT.

One is often asked the question, "What do you fellows want—will you ever be satisfied?" To this we answer: Our wants, we are forced to admit, are many. We want the very best conditions possible to obtain, for there is nothing too good for the producers of wealth. We want that which the Declaration of Independence has declared for, and all the manufacturer knockers' clubs that have been or ever will be formed will not stop the agitation for better conditions. We want the cotton mills freed from the ten-year old children, and we want them sent to school, so that they may be educated. We want the large department stores to close their doors at an early hour, so the poor, underpaid clerks can have a chance to catch a whiff of God's pure air; we want all questions of dispute submitted to arbitration; and we want the manufacturers' association to be serious and come out like men and say that the only reason they are forming is that the dollar comes ahead of the man, and not that they want to protect the rights of American citizens—that they can work for whom they choose and when they choose. We want them to understand that we do not desire to go back to the long workday and the poor pay times, and we don't think they will make us do so. We don't want men blacklisted for trying to better their conditions, and this is just what some men do want.

CHARTERS GRANTED IN DECEMBER.

- 256, Charleston, W. Va.
- 322, Kokomo, Ind.
- 447, Port Huron, Mich.
- 448, Annapolis, Md.
- 449, Augusta, Ga.
- 450, Trinidad, Colo.
- 451, New Decatur, Ala.
- 452, Pensacola, Fla.

NOTICE.

Inside wiremen, keep away from Paterson, N. J. Trouble on.

Linemen are requested to stay away from San Francisco, Cal., as there are men enough to supply the demand.

A SOLID gold button for 75 cents. A small-sized solid gold button will be sent to any member for 75 cents.

INFORMATION WANTED.

Any one knowing the whereabouts of Ernest Legaire, a former member of Local No. 70, of Quebec, Canada, will kindly notify L. Heurent, president of Local No. 397, Quebec. Address 394, St. Valier street, Quebec, Canada.

Any information in regard to J. F. Crandall will be gladly received by his brother, H. B. Crandall, Wellington, Ohio. His mother is ill. Last heard of was in Terra Haute, Ind.

To any brother in good standing in the I. B. E. W. who first sends to me the present and correct address of Geo. B. Higgins, who worked at inside wiring in Easton, Pa., during the summer of 1900, I will forward one dollar for his kindness for the address. E. D. Weber, Easton, Pa., member of Local 91.

Any one knowing the whereabouts of George R. Williams (lineman), last heard from working in St. Louis, would confer a favor by addressing communication to his brother, Arthur Williams, 26 Simon street, Cleveland. There is an estate to be settled, and they are waiting his appearance to make a settlement of same.

Any information as to J. P. or commonly known as Phill Caughtry, will be greatly appreciated by his mother, Mrs. Caughtry, 178 Cable street, Dallas, Texas.

Would like to hear from Norman E. Davis, who worked on Long Island for the New York and New Jersey Tel. Company. Address John O'Rourke, 15 Chapel street, Hot Springs, Ark.

OPERATED BY WIND MILL.

An inexpensive electric light plant, operated by a wind mill, is situated at Fulda, Germany. The wind mill is of American make, is twelve feet in diameter, and drives directly a four-pole dynamo at 300 revolutions per minute. At forty volts, the output of the dynamo is eighteen amperes, and is used to charge a storage battery consisting of fifteen Polak cells, with a voltage system of thirty. There are twenty-five osmium lamps connected directly to the circuit, and although there is no automatic regularity

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controlling the dynamo, the only instrument on the switchboard being a voltmeter and an ammeter, the plant is said to work satisfactorily, and requires little attention. Neither is there any method of regulating by hand the voltage of the system, the osmium lamps very well supporting such differences of voltage as are produced by the fifteen batteries between charge and discharge. The energy consumed by the lamps is not large.

**Grand Secretary's Report for
December. 1903**

No.	P. C.	Int.	Sup.	But.	Totals.
64	5 80	4 00	2 50		12 80
65	15 20	6 00			21 20
66	11 40	8 00			19 40
67	3 60				3 60
68			2 75		2 75
69	8 80	4 00	2 50		15 30
70	7 40	2 00	1 50	2 00	12 90
71	8 40				8 40
72	8 00				8 00
73	20 60	10 00	1 50		32 10
74	3 20				3 20
75	9 40				9 40
76	15 80				15 80
77	29 00		1 00		30 00
80	5 60	10 00		1 00	16 60
81	28 40				28 40
82			1 50		1 50
83	12 00	2 00			14 00
84	15 60	6 00	7 00		28 60
85	15 40		1 00		16 40
86	19 20		4 25		23 45
87	14 40		50		14 90
88	7 60	6 00	4 70		18 30
90	15 20	4 00	60		19 80
91	22 50	4 00	6 25		32 75
92	5 50	2 00	5 85		13 35
93	6 00				6 00
94	10 00	2 00	3 25		15 65
95	5 00	2 00	2 00		9 00
96	10 00		3 25		13 25
97	5 60	2 00			7 60
98		6 00	5 00		11 00
99			50		50
101	2 00		5 10		7 10
102	44 00	2 00			46 00
103	44 00	4 00	12 50		60 50
104	29 60	10 00			39 60
105	10 00			50	10 50
106	6 60				6 60
107	6 00				6 00
108	12 80	10 00	2 50	3 00	28 30
109	4 60		1 50		6 10
110	3 40				3 40
111	5 40	2 00			7 40
112	8 40				8 40
115	1 60				1 60
117	20 40				20 40
118	14 00	2 00	5 00		21 00
119	41 20				41 20
120	2 40				2 40
121	46 00	12 00	13 50		71 50
122			2 50		2 50
123	5 20	2 00		2 00	9 20
125	52 80	4 00	25		57 05
127	3 60				3 60
130	6 80	8 00			14 80
131	10 00	6 00			16 00
132	25 00	2 30	1 50		28 80
133	16 40		50	50	17 40
134			42		42
135	5 60		3 25		8 85
137	14 00				14 00
138	3 60	6 00	50		10 10
139	18 30	2 00	5 00		25 30
140	15 80	4 00	7 00		26 80
142	9 00		2 50		11 50
2	40 00	24 00	21 25		85 25
3	246 15	26 00			272 15
4	7 20		1 00		8 20
5			2 20		3 20
6	49 60	10 00			59 60
7	9 00		50		9 50
9			4 00		4 00
10	42 60	6 00	13 00		61 60
11	13 00				13 00
12	12 20	2 00			14 20
13	8 60				8 60
14	45 80	8 00	10 85		64 65
15	6 60		1 50		8 10
16	11 40		6 25		17 65
17	42 60	30 00	4 50		77 10
18	17 80	6 00	9 00		32 80
20	21 80	10 00			31 80
21			5 00		5 00
22	6 00				6 00
23	31 00	2 00	1 50		34 50
24	40 00	4 00			44 00
25	7 00				7 00
26	26 20	8 00	4 00		38 20
27	36 00	2 00	4 00		42 00
28	15 00		8 75	50	24 25
29	20 20	2 00	3 50		25 70
30	7 20	2 00	3 25		14 45
31	7 80		2 50		10 30
32	18 30	6 00	6 00		30 30
33	10 00	2 00	4 75		16 75
34	5 00	2 00	50		7 50
35	4 00				4 00
36			1 00		1 00
37			6 00		6 00
38	44 20				44 20
39			50		50
40	7 20		3 50		10 70
41	22 00	4 00			26 00
42	7 20	2 00	50		9 70
45	28 20	6 00		1 00	35 20
49	31 90	2 00	2 00		35 90
53	9 40	2 00			11 40
54	6 40		2 50		8 90
55	22 60	6 00	10 00		38 60
57	35 40	6 00	8 00		49 40
61			10 00		10 00
62	12 60	10 00	1 00		23 60
63	3 20		1 75		4 95

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No.	P. C.	Int.	Sup.	But.	Totals	No.	P. C.	Int.	Sup.	But.	Totals
143	5 80	4 00			9 80	231	11 10				11 10
144	8 20	14 00	1 00		23 20	233	7 00				7 00
145	9 60				9 60	234	24 20		5 25		29 45
146	12 20		3 25		15 45	235	30 20	2 00			32 20
150	7 40		1 00		8 40	238	6 40	10 00			16 40
151	49 20	6 00	10 00		65 20	239	7 80	2 00	75		10 55
152	2 80				2 80	240	10 60	20 00			30 60
153	13 00	2 00	6 00		21 00	241	3 80				3 80
154	9 00				9 00	243	5 00	2 00			7 00
155	10 60	8 00	5 25		23 85	244	10 20		1 50		11 70
156	27 40	2 00	3 50		32 90	245	25 00		4 25		29 25
157	3 80				3 80	246	7 20	2 00			9 20
158	3 00				3 00	247	121 80		5 75		127 55
159	9 60		50		10 10	250	35 80	6 00	4 00		45 80
160	7 20	4 00			11 20	251	4 40	5 00	50		9 90
161	6 00		1 75		7 75	252	21 40		2 50		23 90
162	7 00				7 00	253	9 60		50		10 10
164	18 80	6 00	50		25 30	254	37 20	16 00			53 20
165	4 40		10		4 50	256		7 00			7 00
166	6 80				6 80	258	15 20				15 20
167	3 40				3 40	259	7 40		50		7 90
168	3 00				3 00	260	7 90		70		8 60
170	17 40				17 40	264	4 80	2 00	50		7 80
171	9 20				9 20	265	11 20	8 00	6 00		25 20
172	5 60				5 60	266	5 20	4 00	50		9 70
173	4 80	2 00	50		7 80	267	10 00				10 00
174	8 00	6 00			14 00	268	6 40				6 40
175	5 20	2 00	1 20		8 40	269	4 80	2 00			6 80
176			2 50		2 50	270	21 20	13 00			34 20
177	12 00	8 00	1 00		21 00	271	7 60	2 00			9 60
179	14 90	2 00	1 75		18 65	274	4 80				4 80
180	7 80				7 80	275	5 00				5 00
183	4 00		50		4 50	277	2 20				2 20
184	4 40		50		4 90	278	3 80	2 00	1 00		6 80
185	9 60	6 00	50		16 10	279	103 80	142 00			245 80
187	9 00	2 00	6 25		17 25	280	9 20				9 20
189	16 60	2 00			18 60	282			1 00		1 00
191	10 00	4 00			14 00	283	83 00	52 00			135 00
192	6 40	2 00			8 40	284	8 00				8 00
193	7 40				7 40	286	6 60				6 60
194	5 80		1 00		6 80	287	20 80		50		21 30
199	29 80	32 00	4 75		66 55	288	6 00		2 50		8 50
200	22 40	8 00	1 50		31 90	290	7 60		4 25		11 85
202	4 20		85		5 05	291	17 40	4 00			21 40
203	20	2 00			2 20	292	6 60				6 60
204	10 80		1 50		12 30	294	2 80		1 50		4 10
205	12 00	2 00	1 50		15 50	295	2 40		25		2 65
206	6 60				6 60	296	2 00	2 00	75		4 75
207	10 60	2 00			12 60	297	2 80		3 25		6 05
208	4 60		3 50		8 10	298	23 00	4 00	2 50		29 50
209	5 00	4 00	2 00		11 00	299	13 00	4 00			17 00
210	5 12		1 25		6 45	300	6 60	6 60	50		13 10
211	15 10				15 10	301	5 40	2 00			7 40
212	30 60	22 00	13 35		66 45	302	11 40				11 40
213			1 00		1 00	303	2 40				2 40
214	11 70				11 70	307	3 60		1 75		5 35
215	3 80				3 80	308	4 80		2 10		6 90
216	6 40	4 00	1 75		12 15	310	4 80				4 80
217	6 20	4 00	2 00		12 20	313	11 60				11 60
218	13 60	4 00	3 00		20 60	314	2 20				2 20
220	8 40	2 00			10 40	316	5 60	6 00	3 50	6 00	21 10
221	11 80	5 00	1 50		17 30	321	10 00				10 00
225	5 80				5 80	322		10 00	1 00		11 00
227	20 40	2 00	75		23 15	323	11 00		2 00		13 00
228	1 40				1 40	325	13 40	4 00	1 50		18 90
230	7 80				7 80	326	8 00				8 00

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No.	P. C.	Int.	Sup.	But.	Totals.	No.	P. C.	Int.	Sup.	But.	Total
327	3 90				3 90	446	6 40	28 00		50	32 90
330			6 00		6 00	447		10 00			10 00
331	5 80	2 00	75		8 55	448		10 00	9 00		19 00
332	5 80		50		6 30	449		9 00			9 00
335			2 00		2 00	450		10 00	4 00		14 00
336	4 40				4 40	451		16 00			16 00
339	2 00				2 00	452		7 00			7 00
341	4 20		50		4 70						
342	5 80	8 00			13 80		\$3,841 95	\$1,116 00	\$546 15	\$24 00	\$5,528 10
345	4 60	28 00	8 00		40 60						
346	5 60				5 60						
348	8 80	6 00		20	15 00						
351	2 60			75	3 35						
353	12 20	1 00			13 20						
354	15 40	12 00			27 40						
356	42 80	6 00	16 25		65 05						
358	5 00	4 00	8 50		12 50						
360	10 60		50		10 50						
362	3 20	6 00	3 25		12 45						
366	15 40		50		15 90						
368	7 00				7 00						
369	6 80		1 00		7 80						
370	5 00				5 00						
371	2 40	2 00			4 40						
372	5 00	4 00	2 25		11 25						
376		10 00	7 50		17 50						
378	2 60				2 60						
385	5 20	2 00			7 20						
389	1 00	2 00			3 00						
392	17 00	2 00			19 00						
393	11 40		1 75		13 15						
396	15 70				15 70						
397	3 80		1 85		5 65						
398	3 20	8 00	1 00		12 20						
399	5 00	2 00	1 75		8 75						
400	3 20				3 20						
403	2 80				2 80						
405	5 80	4 00			9 80						
406	3 50	2 00	85		6 25						
407	10 00	2 00			12 00						
409	2 80	4 00	1 25		8 05						
411	3 00	2 00			5 00						
412	3 20		7 50		10 70						
413	2 20				2 20						
415	4 60				4 60						
416	2 60				2 60						
417	5 60	6 00			11 60						
418	2 20				2 20						
420	7 40	2 00	1 48		10 88						
422	5 40				5 40						
424	17 00	4 00	7 00		28 00						
425	2 00	3 00	25		5 25						
426	7 90	4 00	1 50		13 40						
428	1 80	2 00	1 55		5 35						
430	4 20	2 00	50		6 70						
431		4 00			4 00						
432	4 00		2 30		6 30						
433	5 80		3 10	50	9 40						
434	7 00			6 00	13 00						
436	3 40	1 00			4 40						
437	6 80		25		7 05						
440	12 60	1 00	1 80		15 40						
441	7 20				7 20						
443	2 20	3 00	60		5 80						
444	3 00	3 00			6 00						
445	14 40	13 00	4 75		32 15						

Initiation and dues, members G. O. 6 65
 Supplies not sold through local unions.. 1 05
 Buttons not sold through local unions.. 18 75
 Watch Charms..... 11 00
 Robinson's Key Practical E. W..... 4 00
 Advertisements in E. W..... 68 60
 Total..... \$5,638 15
 Fraternally submitted,
 H. W. SHERMAN,
 Grand Secretary.

Grand Treasurer's Report for December.

EXPENSES.

J. Baumgarten & Sons, seals.....	14 75
W. B. Moses & Sons, furniture for General Office.....	75 95
E. Morrison Paper Co., office supplies..	7 95
Death claim, No. 342, Frank Lester.....	100 00
Death claim, No. 343, J. L. Vecklas	100 00
Death claim, No. 344, Wm. S. Johnson..	100 00
Death claim, No. 345, Stephen Reynolds	100 00
Death claim, No. 346, R. Ferguson	100 00
Death claim, No. 347, Martin Hart	100 00
Death claim, No. 348, Henry Coffey.....	100 00
Death claim, No. 349, F. P. McManus ...	100 00
Death claim, No. 350, Thos. Kelly	100 00
Death claim, No. 351, C. M. Bowie	100 00
Death claim, No. 352, D. E. Lottick.....	100 00
Death claim No. 353, J. A. Hamilton...	103 00
Death claim, No. 354, G. R. Buckley ...	100 00
H. E. Wilkens Printing Company, printing Electrical Worker and cuts.....	1,051 71
H. E. Wilkens Printing Company, printing constitutions.....	435 00
J. C. Reading, services at Salt Lake City.....	22 50
J. P. Connor, general expenses	100 00
E. P. Allman, general expenses	222 03
E. T. Mallory, general expenses	100 00
F. J. Sweek, general expenses.....	102 30
F. J. McNulty, general expenses.....	89 55
F. L. Witters, general expenses.....	75 00
Dale Smith, general expenses.....	184 90
F. J. Sheehan, general expenses.....	4 40
F. J. McNulty, salary, December.....	166 00
H. W. Sherman, salary, December.....	166 00
F. J. Sheehan, salary, Grand Treasurer, October, November and December....	50 00
M. K. Clinton, salary, four weeks.....	72 00
F. F. Brown, salary, four weeks... ..	52 00
B. B. Goebel, salary, four weeks.	44 00
B. H. Goldsmith, salary, four weeks	44 00
L. Jackson, salary, four weeks.....	40 00
A. E. Malone, salary, four weeks.....	40 00
F. J. Sweek, salary, December.....	125 00

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E. T. Mallory, salary, December.....	125 00
E. P. Allman, salary, December	125 00
F. L. Witters, salary, December	125 00
Dale Smith, salary, December	62 50
M. J. Sullivan, salary for December....	125 00
Mailing Worker.....	72 04
Wm. T. Harris, rent.....	30 00
Janitor	3 00
Sudwarth Printing Company, printing supplies	184 50
Wm. J. Spencer, lasst for ptg. S. T. A. Con	25 00
C. and P. Tel. Co., telephone service....	6 90
Office supplies	4 95
Postage.....	78 44
Telegrams.....	7 98
Express.....	51 13
G. P. Hewitson, photos.....	5 00
Whitehead & Hoag Co., two gross but- tons.....	136 80
P. C. to A. F. of L. for October, Novem- ber and December.....	315 00
W. O. Marrin, org. 447, Port Huron, Mich.....	10 00
W. C. Worley, org. 448, Annapolis, Md..	10 00
	<u>6,088 23</u>

RECAPITULATION.

Amount on hand December 1, 1903.....	16,551 88
Receipts for December.....	5,638 15
	<u>22,189 53</u>
Expenses for December.....	6,088 23
Amount on hand January 1, 1904.....	16,101 30

Fraternally submitted,

F. J. SHEEHAN,
Grand Treasurer.

NEW YEAR TALK BY BALDY OF NO. 1.

Editor Electrical Worker :

Work at present is rather slim, but, by reading the stars, there seems every prospect of a decided change for the better in the near future.

The health of the brothers who came to our city recently is very good, and they all seem good, honest, capable workers.

In a few weeks there will be work for all, and all are welcome to come, but must come right to be treated right.

Another year has gone by, and the condition of the wage earner has been improved on. He no longer has to do just as any employer chooses to order him, and at any old price that may be set by any person who happens to be fortunate enough to have gained some means, and thereby becomes a boss. The wage earner is now a strong element, and the reasons are plain to the unbiased. His pay has been placed at a standard that allows him to retain some money

and purchase some of the advantages so easily purchased by the rich; and kindred ties have become pure as the hours of labor have been shortened, and more hours at home with loved ones strengthens the love for each other. The father knows his children, who before only knew the mother, so both father and mother become equally as dear to the children, and they will double their efforts to please them, and thereby grow up good and pure.

The feelings of the workers are as sensitive as of those reared in the lap of luxury. Every tendency of organized labor is beneficial to the members and a terror to the uncharitable and selfish employer. Every craft should be as one family, looking to the interest of each other, and as the rich have their classifications so should the wage earners.

If any man ever saw a body of men all of the same opinion I would like to meet him; but one thing is manifest to all the old time workers in the cause, and that is that men now are far in advance of what they were only one short year ago.

Brothers, keep up the good work. Do not falter nor become discouraged if your desires are not accomplished just as rapidly as you would like, but look back and see what the first brother had to contend with. I can well remember when a union man was looked upon as a crank by his own craft, and employers would not have him among their men, and even now the staunch and energetic union man is held in abeyance even by weak-kneed brethren because he is outspoken and fearless. Some men are not fit to be treated as men, for they are too cowardly to assert the rights given them by the Divine Ruler.

May the new year bring new honors to the noble, self-sacrificing union man, and at the end of the twelve months have records in our favor that will make the whole world respect the noble cause of organized labor.

In passing back and forth it has been my great pleasure to meet some of the leaders, and all are cheerful, and anticipate a very happy ending for 1904.

The improvement in the electrical workers is marvelous. There is no better lot of earnest, honorable men gathered together than they, and the noble charity displayed by

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them is an evidence of the good work of unionism.

May the good work continue, and be it never said that in our enlightened times any member was made a martyr of.

With cordial greetings to all members of the I. B. E. W., I am

Yours truly,

BALDY.

St. Louis, December 31, 1903.

INVENTIONS THAT PAY.

It has been said that small inventions bring the most money—that is, a cheap, useful article sells most readily. However true this may be, the big invention—though it takes more thought to work it out—brings the largest returns when successful. The “lump money” is in larger figures. For instance, a street car electric power invention, not an oversuccessful one, was experimented with in Washington (the ground contact system) out of which a “promoter” made \$65,000 without one penny’s investment. It is in this line of inventive idea that there is a big field for future progress.

Washington has done more experimenting in street railways than any other city in America. First, there was the horse car, then the spiral screw steam and air, the cable the above-ground plate contact, compressed air, gas motors, overhead trolley, and finally the underground shoe contact, the present system. At present Washington’s railway system consists of 37 miles of underground electric double track, 9.93 miles of the same kind single track, 28.80 miles of overhead electric double track, and 2.96 single track of the same method.

Considering all things, the overhead electric street system is cheapest; but this manner of using power is not tolerated in most big cities. Wires must not be employed; therefore the underground electric road is preferred. This requires a greater outlay of money in the first instance and more to keep business moving.

Besides a more complicated mechanism than elsewhere used, the underground electric street railway requires four rails, two wheel rails, and two double-slot rails for the electric contact shoe. A large electric cable is also required, as well as the iron framework in the conduit.

Any inventive mind can at once see the necessity for improvement in this field of progress. What is the need? It is an independent surface motor, a storage battery system that will be cheaply operated, light and powerful. Of late Mr. Edison seems to have been claiming something in this line, but as yet, no one has seen a motor of his “light, cheap-system” note.

There is a big fortune for the person who invents a good new street-paving material or makes the necessary improvement upon the asphalt now in use. To do this the disposition of this material to get too soft in summer and run into ridges must be carefully studied. Its tendency to crack when old and hard and to rot where water settles in the cavities should be taken into consideration.

In the excellence of its pavements Washington is hardly surpassed by any city in this country. It has something over 321 miles of streets, of which 125 miles are paved with asphalt and coal tar, 20 miles of asphalt block, 27 miles of granite block, 9 of cobble, 48 macadam, 90 gravel and unimproved, and 16,846 square yards of vitrified block.

Then, again, improvement could be made in the present manner of taking out sewage. The Capital City’s sewage plan is now being improved by a pumping station, at which sewage from the various big sewers will be pumped up and sent through a pipe duct to a distance down the Potomac River, where it will be emptied. The city has a total length of sewers amounting to about 383 miles, of which about 84 miles are main (brick) sewers. It will take a number of years to complete Washington’s new sewer system, and the expense will amount to between \$4,000,000 and \$5,000,000.

To get an idea of the Capital’s underground world, one must refer to an engineer’s map; and here, of course, will be seen the usual network of sewers and conduits. There is a peculiarity about the sewer system of Washington perhaps not possessed by other places, and this consists in the fact that there are a number of water courses flowing beneath the city’s asphalt, streams which have long ago by the aid of brick and mortar been converted into conductors of filth and preservers of health. There are nine of these water courses, Tiber Creek,

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which runs from the city's farthest northern section to near the Capitol, being the longest. This system of streams has eight branches, making, with the other streamlets, seventeen miniature rivers that flow on in the darkness unknown to the thousands that walk the streets above.

If anyone wishes to take up the sewage disposal with a view to bringing mechanical inventive genius into productive action, perhaps a look at the German method in this matter may be of interest. Something over ten years ago Berlin was emptying its sewage into the Spree, polluting its waters, and, according to German ideas of economy, wasting matter which should be turned into gold. But a new system was arranged whereby the city was divided into twelve drainage districts, called "radial systems," the divisions being arranged on topographical lines. The sewers of each district convey to a common center, at which is a receiving basin and pumping plant. Some miles distant an immense sewage farm, or farms, comprising about 20,000 acres, is equipped with reservoirs and a pumping station, where the sewage brought through a tunnel connected with the city's district sewage center, is distributed as fertilizing material. Thus the filth is kept out of the river and made profitable. The cost of changing the Berlin sewerage system was nearly \$16,000,000. Potsdam and Charlottenberg also contribute to the sewage farms.—Washington Post.

EMPLOYEE AND EMPLOYER.

The great trouble of a man in middle life or in more advanced years is that when he tries to argue on any question--especially the labor question—he is apt to talk unconsciously from the standpoint of things as they used to be.

The average conservative man speaks of how harmoniously he used to get along with his employer without the aid of labor unions and he tells us that there were next to no strikes in those good old days.

This man seems to forget that there are millions of workmen to-day who have no employer, in the sense of a personal relation between servant and master. In the old days the employer, perhaps, lived on the same street with his workman, and sat in the next pew in church.

But it's a wise man who knows his own employer to-day. He may be made up of 10 or a score or 100,000 men scattered all over the country, who never see the men at work in their factories, and are utterly removed from all sympathetic and personal touch. Furthermore, the employer has probably pooled his entire investment with other investments like it, and a giant trust controls the whole.

Ask the ordinary mill hand in Lowell who his employer is, and he may point to the moon. The employer is the "corporation," a soulless, impersonal entity, without any of the attributes that made an employer in the days of our fathers.

It is the trust that is destroying the element of personality in the employer. Hence the labor union becomes necessary. Things have changed entirely since the old days, and the old-timer, however sincere he may be, usually is talking to himself.

PARKS.

Sam Parks is safely incarcerated in Sing Sing. The Journal attempts no defense of Sam Parks, for there is no defense, as no labor organization can live or ought to live which follows his methods. Sam Parks followed many occupations until he went into the structural steel business. He was an humble and honest worker in Chicago until in an evil hour he listened to the counsels of the Fuller Construction Company and went to New York to scab for it. He entered a union, worked and fought for it, yet could never get rid of the evil influences of the company which put a blight on him which will outlive his life. No bird can fly away from its tail, and the brand of a scab is on him and will always remain. This Fuller Construction Company is morally and legally responsible for Sam Parks' crime. They profited by his work. They used him as a tool to harm his brother workmen, then they used him as a club to wrong their business competitors. They taught him to practice deceit, extortion, how to inflict damage on their rivals. These smug scoundrels, of course, go unwhipped by the law. Their dupe and their tool and their confederate gets the ignominy, the jail and the lash. Sam Parks, the jail-bird, took his first step downward when he became a scab. There is a lesson in his life which all may study

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with profit. When you become a scab you blunt the moral edge of your nature. The descent to other crimes is easy.—
United Mine Worker.

THE NON-UNION MAN.

The average non-union man is the creature of his environment and his education. What he believes or does not believe, what he does or refrains from doing, are matters beyond his control, except in a very restricted field of operation, no matter how much he may think he is a free agent and is acting from well thought out principles. From youth to old age one's horizon bounds one's views, and it is not possible to see things other than as they appear within the limits of one's own vision. No one can learn from any other person's experiences except as that experience is brought home to him through his mentality and incorporated into his own being. What he sees, what he feels, what he knows through measuring the experience of others by his own, make the man what he is.

The youth born in the country, partaking of the freedom of the farm or the hamlet, naturally grows up with a strong dislike to what he thinks are trade union methods. He wants to be moulder of his own career, and free to accept or reject offers of work or wages. This dislike is natural. It is accentuated by the fact that he gets his ideas of trade unions from newspapers and books filled with, if not absolute falsehoods, then at least gross exaggerations of what labor organizations stand for and the power labor leaders possess. Of course, to such a man the unions are huge striking machines without sense or conscience, while the walking delegate and labor leader is one who delights in making trouble, and lives only to embarrass and ruin the employer who is trying to gain an honest livelihood by his ability to plan and execute work.

Are not such word pictures the ones that are usually presented to him? Are not the daily and weekly newspapers reaching him full of long accounts of riots and lawlessness on the part of trade unions? Do not the courts lend themselves to the trial and conviction of these law breakers, and do not governors and presidents order out

militia and regulars to protect life and property from these ruffians of civilization?

And it is true that trade unions and trade union leaders have been guilty of these very acts. The facts can not be gainsaid, and the honest union man can only give assent to the charges. But it is also true—and it is this fact that the non-union man is not aware of because of his faulty source of information—that for one so-called union man who is a law breaker and deserving of punishment, there are five score who are more tenacious in their desire for and observance of right action than even the non-union man himself were he placed in the same embarrassing position. The union men on strike are few; the union men at work are many. Only within the past few days the report of the United Mine Workers showed that out of 350,000 members less than 2,000 were in any way engaged in any labor difficulty. The other 248,000 are pursuing the daily avocation—the mining of coal—calling on the agriculturist to supply them with food and on the manufacturers to furnish them goods, paying their debts and living at peace with themselves and their employers. And what is true of the miner is true of 95 per cent of the other avocations calling for skilled or unskilled labor. Much space was recently given in the daily newspapers to the revolt of some 1,500 butcher workmen, but no mention was made of the fact that 60,000 other workers in that occupation were living up to their agreements and acceptably serving the public.

This average well-meaning non-union man is finally forced into the environments that have brought into existence labor organizations. There his eyes are opened. He finds there is a limit to the freedom of action of the unit, and he awakes to the fact that his rights can only be obtained by a union of those who are similarly situated. He is forced to recognize the fact that he is not the free agent in bargaining with his employer he had supposed himself to be. Indeed, in most instances he will find it impossible to come in contact with the man at the head of the corporation for whom he is compelled to toil. The ideal employer is one who gives full value for the services rendered; the employer in real life pays as little as he may, and exacts as much as he

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can. And in doing this he is within his rights; for should he pay more he would be underbid by his competitors and would quickly exhaust his capital.

When the non-union man at last reluctantly consents to give up his freedom of action in accepting or rejecting work he feels that he has had a distinct loss. He knows it is not as it should be. But it is a condition, not a theory, that confronts him, and he begins to see that the uniting of his fortunes with others is the only thing to do unless he is willing to be crushed under the wheels of competition for the sake of an ideal liberty that does not exist. Had he the option of self-employment, should the terms offered him be not acceptable—and this option would exist were natural opportunities for employment freed from the blight of monopoly—then indeed he would be justified in refusing to take any obligation that in any manner restricted his liberty, for in that case there would be work for all, and no one would need to hire out to another for less than he could earn working for himself. But a member of a union he becomes, and it does not take him very long to see that the heretofore despised walking delegate is really the leader of the conservative element of the union, and that where he is otherwise he is the exception, and is eventually doomed to recall, to be swallowed up in the rank and file.

Unions are swelled by a continual stream of members from the great mass of non-union labor surrounding them. They are oases toward which the weary traveler hastens, "the shadow of a great rock in a weary land." They protect those exposed to industrial storms that burn and freeze, according as the pendulum of trade and commerce sweeps inward or outward. Many a non-union man has, to be sure, been forced into the union, feeling aggrieved both at the actions of the employing class and at the demands of his fellow-workers, which force him to give up his freedom of individual initiative and agrees to abide by the will of the majority. But that feeling wears off in time, and as his horizon widens he sees that, after all, wherever he may be, his freedom of action is limited by the equal freedom of action of every other human being, and that in giving over his industrial

"liberty" to the keeping of his fellowmen he is only doing what he has always done with his political freedom. For is he not ruled by the majority in the political world? He may be a free trader, but in a tariff exacting country he pays the duty as well as do others. He may believe in municipal ownership of public utilities, but if his aldermen give away franchises he submits to the decree. He may even be a free thinker, yet when the State exempts church property from taxation he quietly submits to have his own taxes increased for the benefit of ideas and people he despises.

As the law of necessity created the union, so this same inexorable law will hold the members together as long as present conditions exist. The non-union men are becoming fewer and the union men—and women, too—are increasing in number and influence. And as in all organized bodies, age and numbers will make the acts of these societies more and more conservative, until at last they will actually be deterrents to the onward march of the human race toward the light. When that time comes, the trade union will disappear, as have all other obstacles to a better and more beneficent civilization. In that day, too, let it be hoped the man will once more become a free agent, and industrially he should be, because the earth will have been restored to the people and each and every one can, if he desires, enjoy the full fruits of his toil, and in peace and contentment sit under his own vine and fig tree.—Organized Labor.

THE sending up of self-registering instruments upon kites at the Blue Hill Observatory, near Boston, has shown that a passenger during an excursion into the upper air would need a variety of clothing. If it chanced to be a normal summer day on the ground, with the temperature at 72 degrees F., and the breeze blowing freshly at twenty miles an hour, he would need to take his furs and mittens, for by the time he had reached an elevation of 11,000 feet the thermometer would register nearly 40 degrees lower and the wind would be blowing a hurricane. Such is the tale brought down by the automatic registering instruments sent up from Blue Hill.

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RADIUM AND HELIUM.

Sir William Ramsay, the British scientist, whose recent announcement that the new element, radium, changed, through its gaseous emanation, into another element, helium, caused such a sensation in the scientific world and made many of the more speculative predict the possibility of the old alchemists' dream, the transmutation of base metal into gold, has since, 1887, been professor of chemistry at University College, London. Although but fifty-one, Mr. Ramsay is the author of two standard text books of chemistry, several papers, the most important of which are, perhaps, "The Molecular Surface Energy of Liquids," "Argon, a New Constituent of the Atmosphere," "Helium, a Constituent of Certain Minerals," and of a rather famous work, "The Discovery of the Constituents of the Air." On the recently discovered and mysterious element, radium, Mr. Ramsay has, together with Professors Rutherford and Soddy of Montreal, been making very careful researches at his laboratory at Arundel Gardens, his knowledge of the elements most closely allied to it fitting him exceptionally well for the work. The announcement of this remarkable relation therefore between two of the least known and elusive elements was not a surprise to those familiar with his capabilities and informed of the work he was carrying on.

DON'T STARVE THE MIND.

How many there are who have been very successful in saving money, but whose minds are as barren of anything beautiful as is the hot sand of the Sahara desert. These people are always ready to invest in lands, stocks or houses, but never able to buy books or to collect a library.

We know men who started out bright, cheerful boys, with broad, generous minds, who have become so wedded to money making, so absorbed in their business, that they can not find time for anything else. They never travel or visit their friends. They consider it foolish or extravagant to go to the opera or a good play; the daily paper limits the extent of their reading; recreation of any kind is relegated to a far-away future, and yet these men are surprised when they retire from business that they

have nothing to retire to, that they have destroyed the capacity for appreciating things they thought they would enjoy.—Success.

AN EXCELLENT DELIBERATIVE BODY.

There is one light in which the sessions of the American Federation of Labor deserves prominent mention. It is in their record as a deliberative body, governed by parliamentary law, that they may well call to order some other bodies of greater pretensions, but of grotesque, not to say disgraceful, performances.

Here has appeared a great body of workmen of various nationalities, temperaments and personal prejudices. It has entered enthusiasm and warmth into the discussion of the most vital topics that concern the homes and the welfare of families and working fellows.

But never has there appeared an indecorous word, and if perchance an unguarded utterance slipped by, it was quickly withdrawn at the request of the presiding officer.

The spectacle has been a most admirable one. If President Gompers is strongly inclined to keep practical politics out of the Federation of Labor, as shown by the turning down of the Socialists, he may well be excused in the light of some political gatherings.

As a matter of fact, it would not be out of place to compare the deliberation of the United States Senate as regards dignity and decorum, with this assembly of federated workmen, since squabbles have marred the abode of "Senatorial dignity" within a year.

The Federation deserves to be most emphatically complimented for the dignity of its proceedings in Boston, and of the high development of parliamentary practice shown by its leaders. President Gompers may be justly proud.—The Boston Globe.

The Germans have placed on the Island of Heligoland, in the North Sea, a unique light, the greatest in the world, which has for its base the parabolic mirror of Schuckert. Every five seconds it flashes a light of 30,000,000 candle power over the whole horizon to a distance of twenty-five miles during one-tenth of a second.

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IMMENSE INCREASE IN USE OF ELECTRICITY

The growth of the use of electricity in the business world, and the consequent expansion in central and private power plants, is the subject of a special bulletin just issued by Director North of the Census Bureau. This bulletin shows that the industry has doubled about every year for five years.

At the close of the year ending November 30 there were 3,620 central electric stations in operation. The cost of their construction and equipment amounted to \$504,740,352. The gross income for the year was reported at \$85,700,605. These stations furnished employment to 23,330 wage earners, who received \$14,983,112 as wages during the year.

The power plant equipment consisted of 5,930 steam engines with 1,379,941 indicated horsepower, and 1,390 water wheels with a stated horsepower of 438,472. The generating plants consisted of 12,484 dynamos of every description with a stated horsepower of 1,624,980.

A noteworthy feature of the development of this industry has been the installation of plants operated under the control of municipalities. There were 815 of these plants in operation. The cost of their construction and the equipment was reported at \$22,020,473. They gave employment to 2,467 wage earners, and paid \$1,422,341 in wages.

MAGIC GLASS OF WATER.

If you were asked to put a glass of water in such a position that it could not be lifted without spilling all the water, how would you go about it? Perhaps you think it can't be done.

Use a wine glass for the experiment. Fill it to the brim with water and lay on it a card that is perfectly flat. Any piece of thin cardboard will do that has never been slightly bent, for you must have it touch the rim of the glass all around.

Place your hand on the card and quickly turn the glass upside down. You may remove your hand from the card and the water will not run out, because the outer air keeps the card in its place, covering the glass.

Place the glass thus inverted on a perfectly

smooth wooden table and slowly and carefully pull out the card. The contact of the rim of the glass with the smooth surface of the table will keep the water from running out, even when you have removed the card.

And now you have the glass in the position called for, for it certainly can not be lifted without spilling all the water.

Rubbing a little butter or lard on the rim of the glass would insure the success of the experiment.

AN ELECTRIC BAKER'S OVEN.

An electrically heated oven for a bakery has been put in service at Montauban, France. This draws its power from the local distributing system, and the oven has not been changed in carrying out the installation. In case of an interruption to the electrical supply, it can be heated with wood. The oven is circular, 3.2 metres in diameter, with a spherical arched roof fifty centimeters maximum height. It is completely enclosed, with no other openings except the oven door.

The electrical installation consists of twenty heating elements using 700 watts each. They are connected in parallel across the 110-volt circuit and are distributed in four hearths—two taking 37.5 amperes at the center, and two twenty-five amperes at the sides, a total of 125 amperes. The heating elements are placed on a rack, and can be raised or lowered in the oven, as desired. It is raised when introducing the bread and lowered toward the end of the baking, with two hearths operating simultaneously at a rate of 125 amperes, 110 volts, a consumption of 13.75 kilowatts; the desired temperature is reached in ninety minutes, the energy consumed being 20.625 kilowatt-hours. After this point has been reached, the power required is reduced to 5.5 kilowatts and the bread is introduced. The baking is then continued without interruption.—Electrical Review.

THE "trains de luxe," which now cover the distance from Moscow to the Pacific in sixteen days, and which rival in luxury any in the United States, each carry a physician and an inspector who speaks half a dozen languages.

JAN 1904

NOTES.

Ten airship builders have announced their intention to compete for the \$100,000 prize offered for aerial cars. The last three machines differed widely in many features. A mining engineer of Monte Vista, Colo., is building a machine of aluminum, thirty feet in diameter, with a length of one hundred and fifty, which has no gas bag to lift it. Mr. Reiferscheid, of Denver, has a balloon, which is pointed at both ends and hooped with aluminus. At each end are the propellers, six in all, to be used in raising and lowering the machine and to assist in guiding it. A six-horse power gasoline motor will provide the motive power, and the balloon will be filled with hydrogen gas and hermetically sealed. Large fans will provide a safety device which will permit the ship to slowly descend in case the balloon collapses. E. A. Kindler, of Denver, has a dirigible balloon with curtains three feet wide extending around it, which will fill as parachutes in sudden descent. A storage

battery, furnishes the power. A model is said to have described a circle about fifty feet in diameter, raising, dipping, and finally descending to its mooring without a hitch in its mechanism.

Mr. Edison's experiments with X-rays and with radium have convinced him that radio-active substances are not sources of energy, but are rendered fluorescent by the action of some hitherto undetected ether vibration or ray. The ordinary electric arc, when raised to an extremely high temperature, gives off a ray which renders oxalate of lithium highly fluorescent. "My theory of radio-activity," says he, "is that the rays which the new elements emit are set up in the same way, the substances being rendered fluorescent by some form of ether vibration, which is undoubtedly all-pervading, but has not yet been isolated or measured, and which may have some extraplanetary origin. To accept any other theory is to declare one's belief in perpetual motion, in getting something for nothing."

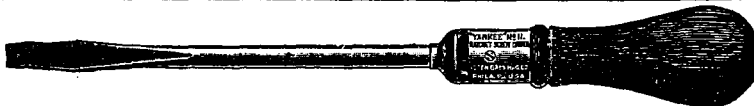
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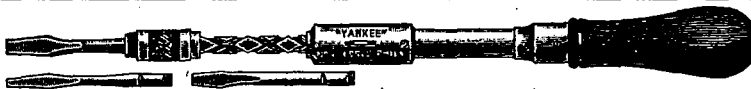
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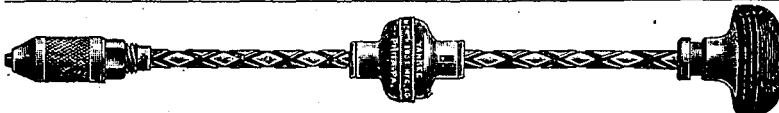
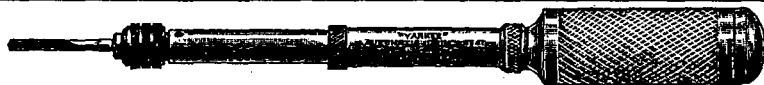
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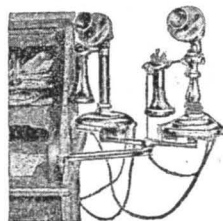
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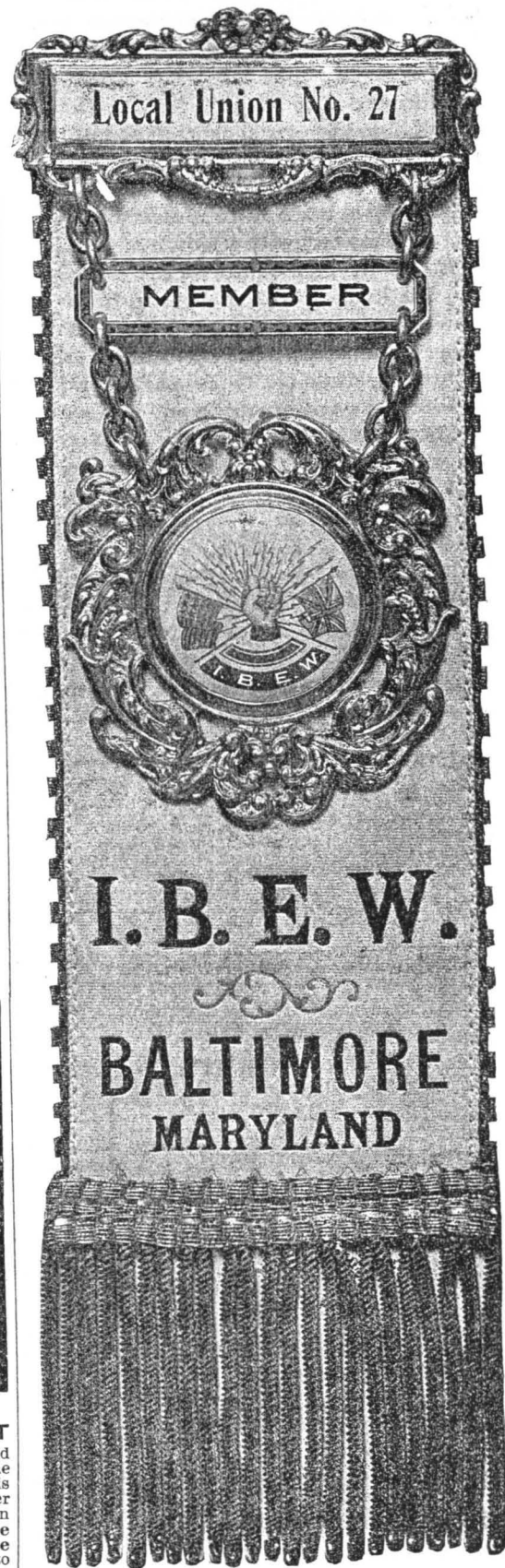
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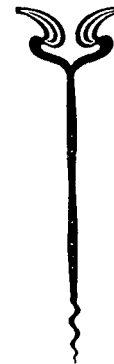
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This Directory is compiled from the quarterly reports furnished by local secretaries. If your local is not properly classified, it is because no report, or an imperfect one, has been furnished. Local secretaries should promptly report any changes.

Locals are composed of branches of the trade, as per the following signs:

* Mixed. † Linemen. ‡ Inside Men.
 § Trimmers. ¶ Cranemen. † Cable Splicers.
 ° Switch-board Men. ? Shopmen.

† No. 1, St. Louis, Mo.—Meets every Tuesday night at 8 o'clock at Lightstone's Hall, 1028 Franklin avenue. President, William Gilsdorf, 3921 West Twentieth street; recording secretary, H. J. Morrison, 5944 Theodora avenue; financial secretary, W. S. Peebles, 8119 Franklin avenue.

† No. 2, St. Louis, Mo.—Meets Saturday evenings at Electrical Worker's Hall, 1028 Franklin avenue. President, A. Zadwitz, 1905 Ferry street; recording secretary, Jas. Noonan, 3711 La Salle street; financial secretary, John Kline, 1028 Franklin avenue.

† No. 3, New York.—Meets Tuesday and Thursday nights at Brevort Hall, 154 East Fifty-fourth street. President, J. F. Bergen, 106 Concord street, Brooklyn; recording secretary, G. W. Whitford, 209 East One Hundred and Ninth street, New York City; financial secretary, W. A. Hogan, 504 East Fifty-fifth street, New York City.

† No. 4, New Orleans, La.—Meets first and third Wednesday evenings at Room No. 2 Odd Fellows Hall, Camp street, between La Fayette and Poydras. President, John H. McLin, 2523 First street; recording secretary, J. Criss, 2526 Melpome street; financial secretary, Robert L. Kelly, 2908 Annunciation street.

† No. 5, Pittsburg, Pa.—Meets every Friday at Electrical Workers' Hall, 302 Grant street. President, T. S. Connelly, 302 Grant street; recording secretary, J. S. Haskins, 302 Grant street; financial secretary, H. Oakland, 302 Grant street.

† No. 6, San Francisco, Cal.—Meets every Wednesday night in Myrtle Hall, Alcazar building, 120 O'Farrell street. President, Geo. F. Keetley, 813 Eddy street; recording secretary, W. H. McConnell, 27 Sixth street; financial secretary, A. M. Schuman, 924 Florida street.

* No. 7, Springfield Mass.—Meets every Monday at Room 219, Court Square Theater building. President, W. F. Kavanaugh, 221 Sumner street; recording secretary, George D. Beecher, 81 Tyler street; financial secretary, J. J. Collins, 110 Congress street.

† No. 8, Toledo, Ohio.—Meets Monday of each week at Friendship Hall, cor. Jefferson and Summit. President, T. R. Davis, 804 Dorr street; recording secretary, G. H. Snyder, 410 Sherman street; financial secretary, M. C. Luttenberger, 423 Floyd avenue.

† No. 9, Chicago, Ill.—Meets every Saturday night 8 p. m., at Sam Jack's Hall, No. 7, 33 East Madison street. President, H. Cullen, 80 Aberdeen street; recording secretary, J. L. Collins, 5907 La Salle street; financial secretary, C. M. Paulson, 390 Park avenue.

* No. 10, Indianapolis, Ind.—Meets every Monday at Morrison's Hall, Circle street. President, C. A. Sales, 1101 River avenue; recording secretary, J. C. Davis, 433 N. Capitol avenue; financial secretary, F. E. Swift, 729 S. Delaware street.

* No. 11, Waterbury, Conn.—Meets every Friday at Carpenters' Hall, Schlitz bldg., Main street. President, P. J. Horgan, New street; recording secretary, G. H. Jenkins, 177 Bank street; financial secretary, R. McKensie, 89 So. Main street.

* No. 12, Pueblo, Colo.—Meets every Friday evening at Trades' Assembly Hall, Main street, between Third and Fourth streets. President, C. C. Emery, P. O. Box 57; recording secretary,

H. G. Brown, P. O. Box 70; financial secretary, G. R. Johnson, P. O. Box 70.

* No. 13, El Paso, Tex.—Meets first four Mondays of each month at Masonic Temple, San Antonio street. President, C. A. Gilbert, Box 620; recording secretary, S. A. Milliron, Box 620; financial secretary, J. Blake, Box 620.

† No. 14, Pittsburg, Pa.—Meets every Thursday night at Electrical Workers Hall, 302 Grant street. President, J. V. Ferry, 302 Grant street; recording secretary, P. G. Young, 302 Grant street; financial secretary, George Schmatzinetz, 302 Grant street.

* No. 15, Jersey City, N. J.—Meets first and third Firdays of each month at Filer's Hall, 331 Pallsade avenue. President, Peter Sorensen, 361 Pallsade avenue, Jersey City; recording secretary, J. J. Byrne, 1314 Washington street, Hoboken financial secretary, A. H. Wilson, 1218 Park avenue, Hoboken.

* No. 16, Evansville, Ind.—Meets every Thursday night at Private Hall or rooms, 313½ Upper Third street. President, E. E. Hoskinson, 925 East Indiana street; recording secretary, S. T. Lockett, 216 Upper Second street; financial secretary, R. W. Dyer, 125 Upper Seventh street.

† No. 17, Detroit, Mich.—Meets every Monday evening at Johnson's Hall, 84 Monroe avenue. President, Chas. R. Lapworth, 955 Merrick avenue; recording secretary, E. G. Smith, 439 Elmwood avenue; financial secretary, F. W. Stubenvoll, 90 Noble street.

† No. 18, Kansas City, Mo.—Meets every Tuesday evening, at 1333 Grand avenue. President, J. T. Byars, 1819 Norton street; recording secretary, S. C. Harrington, 120 Penn street; financial secretary, Neil Callahan, 1224 Monroe avenue.

* No. 19, Atchison, Kans.—Meets second and fourth Fridays, Labor Union Hall, Seventh and Commercial streets. President, J. F. Costellow, Atchison Light Co.; recording secretary, O. B. Gilmore, 614 N. Sixth street; financial secretary, N. H. Coleman, 723 R street.

† No. 20, New York City.—Meets every Tuesday night at Military Hall, 193 Bowery. President, P. McLaughlin, New York avenue and Winthrop street, Brooklyn; recording secretary, F. Curtin, 193 Bowery; financial secretary, T. J. Convery, 193 Bowery.

† No. 21, Philadelphia, Pa.—Meets every Friday at Elks' Hall, 232 North Ninth street. President, Edw. E. Ferry, 841 Church Lane; recording secretary, H. C. McClannahan, 509 Race street; financial secretary, T. Wotocheck, care of Bell Telephone, Front and Berks streets.

† No. 22, Omaha, Nebr.—Meets first and third Wednesdays of each month at Labor Temple, Fifteenth and Dodge streets. President, Chas. Granden, 1502 N. Nineteenth street; recording secretary, H. P. Kerr, 2245 N. Nineteenth street; financial secretary, J. Corr, 4123 No. Twenty-fourth street.

* No. 23, St. Paul, Minn.—Meets first and third Mondays at Federation Hall, Third and Wabasha streets. President, Edward Rowan, 715 Lee avenue; recording secretary, C. W. Berryman, 650 Rice street; financial secretary, J. B. Hilton, P. O. Box 232, North St. Paul, Minn.

† No. 24, Minneapolis, Minn.—Meets second and fourth Tuesdays at Union Temple, 26 So. Washington avenue. President, A. H. Sellars, 127 E. 25th street; recording secretary, Frank Flanagan, 811 Fifth street, south; financial secretary, John J. Reynolds, 2316 Fourth ave., south.

* No. 25, Terre Haute, Ind.—Meets every Thursday at C. L. U. Hall, 626 Wabash avenue. President, W. C. Euliss, 1220 College street; recording secretary, Joseph Herbert, 403 S. Eighth street; financial secretary, Lee Dickerson, 509 S. Thirteenth street.

† No. 26, Washington, D. C.—Meets every Thursday corner Sixth and G streets, N. W. President, C. Yeabower; recording secretary, E. A. Nelson; financial secretary, A. Longprey, 1339 Eighth street, Northwest.

Jan 1904
 †No. 27, Baltimore, Md.—Meets every Monday evening at Border State Bank building, Park avenue and Fayette street. President, A. Rutledge, 718 St. German street; recording secretary, G. W. Spillman, 1219 Carroll street; financial secretary, J. Connelly, 1728 N. Bond street.

†No. 28, Baltimore, Md.—Meets every Thursday at 8 p. m. at 508 East Baltimore street. President, W. W. Davis, 505 N. Monroe street; recording secretary, W. S. Darden, 1120 N. Carey street; financial secretary, Geo. J. Schmidt, 241 Milton avenue.

*No. 29, Trenton, N. J.—Meets every Tuesday evening at Ribsam building, corner Front and Broad streets; fourth floor; take elevator. President, Geo. Proffat, 333 Academy street; recording secretary, J. Lloyd Trask, 165 E. Front street; financial secretary, F. L. Morris, 223 N. Broad street.

†No. 30, Cincinnati, Ohio.—Meets every second and fourth Wednesday at Cosmopolitan Hall, 1313 Vine street. President, Virgil Burbridge, 1787 Denham street; recording secretary, Fred Seidel, 2322 Harrison avenue; financial secretary, C. A. Palmer, 4222 Cherry street.

*No. 31, Duluth, Minn.—Meets first and third Thursdays at Bricklayers' Hall, Axa Building, 221 West Superior street. President, R. A. Biddle, Camp Chewaukee, Minnesota Point, Duluth; recording secretary, C. W. Higgins, 418 8th ave. west; financial secretary, W. L. Otis, 114 South 15th ave., east.

*No. 32, Lima, Ohio.—Meets first and third Tuesdays at Donze Hall, South Main street. President, Harry Davidson, S. Jackson st.; recording secretary, W. C. Holmes, 110 Harrison avenue, Lima, Ohio; financial secretary, E. Kraus, 343 W. McKibben street.

*No. 33, New Castle, Pa.—Meets every Wednesday night at G. A. R. Hall, corner of East and Washington streets. President, John G. Davis, 59 Walnut street; recording secretary, F. D. Kingsley, 63 Pearson street; financial secretary F. L. Runkle, 359 Cunningham avenue.

†No. 34, Peoria, Ill.—Meets first and third Mondays at Pettitt's Hall, 209 Liberty street. President, Geo. Akers, 1803 Lincoln avenue; recording secretary, R. W. Marlatt, 133 Irving street; financial secretary, E. Peek, 1001 Monroe street.

*No. 35, Massillon, Ohio.—Meets second and fourth Wednesdays at Trades' and Labor Assembly Hall, McAymonds Block. President F. F. Flickinger, 183 Richville avenue; recording secretary, R. S. Hardgrove, 22 E. Charles street; financial secretary, A. Shorb, 332 West Tremont street.

†No. 36, Sacramento, Cal.—Meets Friday night at 1019 J street. President, G. J. Wilson, 918 K street; recording secretary, A. McDonald, 2530 M street; financial secretary, J. Noonan, 1120 Twentieth street.

†No. 37, Hartford, Conn.—Meets every Thursday in Foster Block, Room 10, 234 Asylum street. President, William Delair, 98 Trumbull street; recording secretary, John Bartlett, 51 Adline street; financial secretary, Maurice Collins, 32 Allyn street.

†No. 38, Cleveland, Ohio.—Meets every Tuesday at Foresters' Hall, 223 Champlain street. President, R. W. McIntyre, 176 Lakewood avenue; recording secretary, Wm. J. Young, 390 Prospect street; financial secretary, Frank Estinghausen, 83 Prospect street.

*No. 39, Cleveland, Ohio.—Meets every Thursday at Arch Hall, 393 Ontario street. President, Dan Stevens, 78 Irvington street; recording secretary, Geo. H. Gleason, 83 Prospect street; financial secretary, Frank J. Sullivan, 83 Prospect street.

*No. 40, St. Joseph, Mo.—Meets Wednesday at A. O. U. W. Hall, 8th and Locust streets. President, Charles A. Waller, City Plant, Fifth and Olive streets; recording secretary, Wm. Dorsel, 1719 Cathoun street; financial secretary, Chas. B. Ellis, 1202 North Third street.

†No. 41, Buffalo, N. Y.—Meets every Thursday at Council Hall, cor. E. Huron and Ellicott streets. President, G. A. Hurst, 561 Oak street; recording secretary, H. Boheme, 370 Prospect avenue;

financial secretary, L. Wipperman, 164 Peach street.

†No. 42, Utica, N. Y.—Meets first and third Fridays, at Labor Temple, Hotel street. President, A. Durr, 8 Louise street; recording secretary, C. R. Stringer, 22 Cornelia street; financial secretary, Geo. Brimfield, 48 Cooper street.

†No. 43, Syracuse, N. Y.—Meets Fridays at Bartenders' Hall, Empire Block, West Genesee street. President, H. J. Leary, 203 McAllister avenue; recording secretary, Jas. Andrews, 513 N. Salina street; financial secretary, John Kerwin, 108 Belmont avenue.

*No. 44, Rochester, N. Y.—Meets every other Wednesday at Electrical Workers' Hall, 86 State street. President, J. L. Desmond, 288 Glenwood avenue; recording secretary, F. C. Gunsaul, 30 University avenue; financial secretary, W. C. Carroll, 120½ Monroe avenue.

†No. 45, Buffalo, N. Y.—Meets second and fourth Saturdays at Schwartz' Hall, corner Goodell and Washington streets. President, James Shane, 78 South Division street; recording secretary, C. W. Brown, 120 Demond Place; financial secretary, J. E. McCadden, 255 Seventh street.

†No. 46, Lowell, Mass.—Meets every Thursday evening at Engineers' Hall, Wyman's Ex. building, Central and Merrimac streets. President, Geo. W. Conant; recording secretary, Geo. Smith; financial secretary, G. C. Smith, 104 So. Whipple street.

*No. 47, Sioux City, Iowa.—Meets first and third Wednesday of each month at E. T. C. Hall, 424 Toy Block, corner Fourth and Jackson streets. President, Arthur G. Gaston, Reinhardt Hotel; recording secretary, N. J. Nelson, 1123 West Third street; financial secretary, Bert J. Boucher, Vendome Hotel.

*No. 48, Richmond, Va.—Meets every Wednesday night at Emett's Hall, Fifth and Marshall streets. President, D. M. Page; Box 61, Richmond, Va.; recording secretary, F. A. Fry, 608½ China street; financial secretary, J. C. Wheat, 1013 Taylor street.

†No. 49, Chicago, Ill.—Meets first and third Wednesdays, at Electrical Workers' Hall, 196-198 Washington street. President, Alex. McGregor, 1307 Tripp avenue; recording secretary, C. Cornell, 382 West Erie street; financial secretary pro tem, J. C. Jensen, 5841 Shields avenue.

*No. 50, Belleville, Ill.—Meets second and fourth Tuesdays at Antlers' Hall, A and Spring streets. President, Henry Christian, 103 East Main street; recording secretary, James Workman, 117 South Church street; financial secretary, F. W. Stark, 519 East C street.

†No. 51, Monclova, Coahuila Mex.—President, F. B. Wallace, Monclova, Coahuila; financial secretary, J. T. Morrison, Estacion, Monclova.

†No. 52, Newark, N. J.—Meets Monday nights at Electrical Workers' Hall, 236 Washington street. President, Wm. Hope, 112 Smith street, Vallesburg, N. J.; recording secretary, Wm. R. Banks, 83 Myrtle avenue, Vallesburg, N. J.; financial secretary, Edmund L. Beatty, 304 S. Ninth street.

*No. 53, Harrisburg, Pa.—Meets every Thursday at Holtsman's Cigar Store, 31 South Market street. President, George B. Ehler, 931 Myrtle avenue; recording secretary, Charles S. Ebersole, 133 South Fourteenth street; financial secretary, Carl A. E. Andersen, 46 Summit street.

*No. 54, Columbus, Ohio.—Meets second and fourth Wednesdays at Trades' and Labor Assembly Hall, 121½ East Town street. President, William Edington, 612 West Broad street; recording secretary, D. C. Hagerty, 1100 Summit street; financial secretary, J. A. Pilger, 2493 Maryland avenue.

*No. 55, Des Moines, Iowa.—Meets every Thursday night at Trades' and Labor Assembly Hall, between Seventh and Eighth on Locust street. President, Owin MacCurrler, 1311 East Walnut street; recording secretary, Harry Frazy, 950 Fifth street; financial secretary, Charles Ladin, Thirty-eighth and Woodland avenue.

*No. 56, Erie, Pa.—Meets first, third and fifth Mondays at C. M. B. A. Hall 721 State street. President, H. M. Kistner, Moore House; recording secretary, Jas. Higgins, East Fourth street; financial secretary, Jas. J. Reid, 1309 Sassafras street.

†No. 57, Salt Lake City, Utah.—Meets every Thursday evening at Electrical Workers' Hall, 11 West First street, South. President, Robert A. Guire, Box 402; recording secretary, James Gardner, 337 Constitution Block; financial secretary, Ed. Williams, Box 402.

*No. 58, Niagara Falls, N. Y.—Every Friday at Mayle Hall, 723 Third street. President, William watts, 1629 Whirlpool street; recording secretary, H. W. Davis, 2202 Main street; financial secretary, C. P. Mingay, 1202 Center avenue.

†No. 59, St. Louis, Mo.—Meets Mondays at 8 p. m. at Lightstone's Hall, 1028 Franklin avenue. President, M. A. P. Walsh, 3962 N. Market street; recording secretary, W. D. McSorley, 1446 North twenty-first street; financial secretary, Thos. Cahill, 1331 North Jefferson avenue.

*No. 60, San Antonio, Tex.—Meets first and third Saturdays at Red Men's Hall, St. Mary's street. President, J. P. Broderick, 722 South Pine street; recording secretary, W. B. Freeman, 303 Maverick street; financial secretary, John Thompson, 319 Lubock street.

†No. 61, Los Angeles, Cal.—Meets every Thursday at Council of Labor Hall, 483½ South Spring street. President, M. B. Davidson, University Station; recording secretary, G. Wardman, 342½ South Tremont street; financial secretary, S. D. Voorhees, 124 East Third street.

*No. 62, Youngstown, Ohio.—Meets first and third Tuesdays at Finn's Hall, northwest corner of Public Square. President, C. A. Onstott, 613 Covington street; recording secretary, M. McCabe, 245 East Rayen avenue; financial secretary, Bert Beaver, 212 Belmont avenue.

*No. 63, Warren, Pa.—Meets first and third Fridays at K. of H. Hall, Second streets. President, John Burns, New York and Pennsylvania Tel. Co., Warren, Pa.; recording secretary, C. W. Simpson, Warren, Pa.; financial secretary, N. H. Spencer, Box 1094, Warren, Pa.

†No. 64, Youngstown, Ohio.—Meets Wednesdays at Finn Hall, Public square. President, David Maloney, Woodland avenue; financial secretary, W. H. Griffith, 515 Griffith street.

*No. 65, Butte, Mont.—Meets first and third Saturdays at I. O. G. T. Hall, West Broadway. President, L. E. Woodworth, P. O. Box 846; recording and financial secretary, F. W. Cochrane, P. O. Box 846.

*No. 66, Houston, Tex.—Meets first and third Wednesdays at Labor Hall, corner Preston and Caroline streets. President, J. H. Shipps, 1010 Prairie avenue; recording secretary, J. A. Woolfrom, 1209 Edwards street; financial secretary, Thos. M. Flavin, 2702 Runnells avenue.

*No. 67, Quincy, Ill.—Meets second and fourth Thursday at Trade and Labor Hall, 619 Main street. President, L. S. Hull, 1315 Vermont street; recording secretary, F. G. Ernest, 328 Madison street; financial secretary, J. W. Redmond, 543 South Fourth street.

†No. 68, Denver, Colo.—Meets every Monday at 213 Charles Block, Fifteenth and Curtis streets. President, T. T. Miller, 444 South Tenth street; recording secretary, F. J. Schallert, P. O. Box 614; financial secretary, C. A. Nickerson, P. O. Box 614.

†No. 69, Dallas, Tex.—Meets every Thursday night at Labor Temple, 401 Main street. President, L. D. Short, 224 Columbia avenue; recording secretary, R. R. Richards, 555 Elm street; financial secretary, George W. Smith, 239 North Lancaster street.

*No. 70, Cripple Creek, Colo.—Meets every Wednesday at Electrical Workers' Hall, Fairley & Lampman block. President, T. N. Jones, Box 684; recording secretary, Chas. Sallstrom, Box 684; financial secretary, E. P. Steen, Box 684.

†No. 71, Lancaster, Pa.—Meets every Sunday morning at 9:30 in Central Labor Union Hall, South Queen and Mifflin streets. President, James W. Brann, 315 W. James street; recording secretary, Wm. R. Bair, 341 E. Walnut street; financial secretary, R. E. L. Tomlin, 472 Fremont street.

*No. 72, Waco, Tex.—Meets second and fourth Saturday nights at Labor Hall, Sixth and Franklin streets. President, J. P. Blystone, 513 Novetty street; recording secretary, F. B. Wor-

mack, 805 Franklin street; financial secretary, J. E. Caple, 411 Washington street.

*No. 73, Spokane, Wash.—Meets every Monday Central Labor Hall, First and Post streets. President, W. A. Davis, South Post, between Third and Fourth streets; recording secretary, M. McCain, 1503 Mallon avenue; financial secretary, D. W. Eberlin, 2514 E. Sixth street.

*No. 74, Winona, Minn.—Meets first and third Thursdays at Superintendent of Fire Alarms Building, Lafayette street, between Third and Fourth streets. President, George Morrison, 174 East Fifth street; recording secretary, John P. Fromm, 467 East Fourth street; financial secretary, H. B. Kline, 510 Olmstead street.

†No. 75, Grand Rapids, Mich.—Meets Second and fourth Tuesdays at C. L. U. Hall, No. 234 Canal street. President, A. E. Clark, 125 Gold street; recording secretary, F. J. Dickerson, 24 School street; financial secretary, J. Maskel, 93 James street.

*No. 76, Tacoma, Wash.—Meets first and third Saturdays in Mason Block, 19th and A streets. President, L. T. Runk, 1210 S. Yakima avenue; recording secretary, W. A. Treusdale, 3701 South M street; financial secretary, C. A. Young, 4110 S. Yakima avenue.

†No. 77, Seattle, Wash.—Meets every Wednesday at Masonic Building, Second avenue and Pike streets. President, J. S. Wilson; recording secretary, C. Eihl; financial secretary, George W. Walters.

†No. 78, Chicago, Ill.—Meets first and third Fridays at I. B. E. W. Hall, 196 East Washington street. President, H. J. Bayard, 722 East Forty-second street; recording secretary, Pat McDonnell, 119 West Van Buren street; financial secretary, G. H. Foltz, 975 Clifton Park avenue.

†No. 79, Syracuse, N. Y.—Meets first and third Mondays at Myers' Hall, corner of East Genesee and Montgomery streets. President, Edward Gyatt, 305 McBride street; recording secretary, Cornelius O'Connor, 608 Hawley avenue; financial secretary, V. S. Whitney, 236 West Onondaga street.

*No. 80, Norfolk, Va.—Meets every Tuesday at I. B. E. W. Hall, 268 Main street. President, H. A. Brock, P. O. Box 232; recording secretary, J. H. T. Smith, P. O. Box 232; financial secretary, E. E. Mathews, P. O. Box 232.

*No. 81, Scranton, Pa.—Meets second and fourth Monday at 230 Lackawana avenue. President, D. Laverty, 313 Mulberry street; recording secretary, Wm. W. Luce, 208 S. Hyde Park; financial secretary, T. B. Sturdevant, 905 Cedar avenue.

*No. 82, Henderson, Ky.—Meets first and third Tuesdays in each month in Powers' Hall, First street. President, A. F. Braum, 327 Second street; recording secretary, H. B. Jones, 219 Green street; financial secretary, A. J. Quinn, 313 N. Elm street.

*No. 83, Milwaukee, Wis.—Meets every Friday at Lipp's Hall, corner Third and Prairie streets. President, Wm. Brazell, 384 Cass street; recording secretary, George S. Baird, 704 Broadway; financial secretary, Nick Daleiden, 846 Thirty-third street.

*No. 84, Atlanta, Ga.—Meets every Tuesday in Webb Pressmen's Hall, 23½ South Broad street. President, C. J. Stroud, 25 Buena Vista street; recording secretary, J. H. Carlile, 171 Haynes street; financial secretary, A. R. Rogers, 421 Central avenue.

*No. 85, Sault Ste. Marie, Ontario, Can.—Meets every second and fourth Thursday at Turner Block, Queen and Brock streets, Northwest. President, R. C. Duffin, Sault Ste. Marie, Ont.; recording secretary, H. Lamberton, Sault Ste. Marie, West P. O.; financial secretary, R. B. Johnston, P. O. Box 470, Sault Ste. Marie Ont.

†No. 86, Rochester, N. Y.—Meets every Monday at Electrical Workers' Hall, 86 State street. President, W. V. Johnson, 49 Hudson street; recording secretary, H. E. Erhardt; 15 Lamber-ton Block; financial secretary, C. Warder, 233 Tremont street.

†No. 87, Newark, N. J.—Meets every Friday at Electrical Workers' Hall, 236 Washington street. President, Thos. Dunn, 81 Ferry street; recording secretary, Jas. Curran, 76 W. Jersey street, Eliz-

abeth, N. J.; financial secretary, W. McDonald, 332 Bank street.

*No. 86, Savannah, Ga.—Meets every Monday at Odd Fellows Hall, corner Whitaker and President streets. President, M. L. Walton, Box 316; recording secretary, J. Farbstein, Box 316; financial secretary, A. C. Brickmann, Box 316.

*No. 89, Akron, Ohio.—Meets every other Friday at 89 Viaduct. President, G. M. Swartz; recording secretary, F. F. Loomis; F. F. Loomis, 111 Viaduct.

†No. 90, New Haven, Conn.—Meets every Saturday evening at Forester's Hall, 781 Chapel street. President, Sam'l Johnson, care Postal Tel. Cable Co.; recording secretary, John White, 83 First ave., West Haven; financial secretary, Frank Tanner, 156 Congress avenue.

*No. 91, Easton, Pa.—Meets second and fourth Friday nights at Easton Journal Building, Church street between Sitgreaves and North Third streets. President, George Strouse, Summit avenue, Phillipsburg N. J.; recording secretary, T. A. Martin, 508 Wilkesbarre street; financial secretary, W. C. Pearce, 40 Wilkesbarre street.

*No. 92, Hornellsville, N. Y.—Meets second and fourth Saturdays at 8 P. M., B. of P. T. Hall, Arcade Building, Broad street. President, C. M. Kelly, 33 Broad street; recording secretary, Max Lundregan, 33 Broad street; financial secretary, H. S. Brown, Krille Tel. Co.

*No. 93, East Liverpool, O.—Meets every Wednesday night, in Smith-Fowler Building, on Diamond and Walnut streets; recording secretary, S. G. Cowles, P. O. Box 382; financial secretary, E. C. Baxter, 178 Monroe streets.

*No. 94, Kewanee, Ill.—Meets second and fourth Saturday nights each month at Federation Hall, 218 N. Tremont street. President, James Tye, Kewanee, Ill.; recording secretary, William H. Finley, 404 Rice street; financial secretary, Frank A. Hyde, 429 S. Tremont street.

*No. 95, Joplin, Mo.—Meets every Thursday night at Labor Hall, Sixth and Wall streets. President, L. L. Haggard, 508 Amanda avenue; financial secretary, Chas. Nelson, Box 461.

*No. 96, Worcester, Mass.—Meets every Monday at Piper Block, Room 19, 419 Main street. President, L. D. Bull, Room 19, 419 Main street; recording secretary, W. D. Kendall, 21 Benefit street; financial secretary, S. A. Strout, 419 Main street.

*No. 97, Mt. Vernon, O.—Meets every first and third Saturday night, at Quindaro, I. O. O. F., Hall, South Main street. President, F. D. Marston, Mt. Vernon, Ohio; recording secretary, J. C. Jacobs, 203 Cohocton avenue; financial secretary, O. O. Layman, South Adams street.

†No. 98, Philadelphia, Pa.—Meets every Tuesday night at Elks' Hall, 232 N. Ninth street. President, G. Coleman; recording secretary, F. Peterson; financial secretary, Jas. S. Meade, 1321 Arch street.

*No. 99, Providence, R. I.—Meets every Monday night at Hanley Hall, 63 Washington street. President, A. W. Seavey, No. 1 Falcon street; recording secretary, R. A. Ripley, 1 North Court street; financial secretary, Chas. F. Smith, 33 East street.

No. 100, Jacksonville, Fla.—Meets Tuesdays at Tob's Hall, Bay street, corner Ocean. President, C. H. Bradford, 702 W. Adams; recording secretary, W. B. Morehead, 422 W. Church street; financial secretary, S. B. Kitchen, 722 W. Monroe street.

†No. 101, Middletown, N. Y.—Meets first and third Thursday night at 8 p. m. at Middletown, N. Y., King and Center street. President, Frank J. Schaefer, 30 Cottage street; recording secretary, J. V. Callaghan, 37 Beattie avenue; financial secretary, C. J. Cunningham, 6 Knapp avenue.

†No. 102, Paterson, N. J.—Meets every Thursday evening at Helvetia Hall, 56 Van Houten street. President, Frank H. Hopper, 50 Haledon avenue; recording secretary, E. J. Clancy, Helvetia Hall; financial secretary, C. A. Hill, 20 Manchester avenue.

†No. 103, Boston, Mass.—Meets every Wednesday at Dexter Hall, 987 Washington street.

President, John F. Costello, 108 I street, South Boston; recording secretary, W. H. Sullivan, 23 Hudson street.

†No. 104, Boston, Mass.—Meets every Tuesday at Appleton Hall, 9 Appleton street. President, Michael Birmingham, 37 Brockett street, Brighton, Mass.; recording secretary, John A. McInnis, 23 Oak Grove Terrace, Roxbury, Mass.; financial secretary, Leod MacLeod, 107 Main street, Winchester, Mass.

*No. 105, Hamilton, Ont.—Meets second and fourth Thursday at Trades and Labor Hall, 17 Main street, East. President, C. Fry, 114 North Ferguson avenue; recording secretary, Wm. Wilson, 211 Wentworth street; financial secretary, Jas. Donaldson, 109 Maria street.

*No. 106, Jamestown, N. Y.—Meets Monday evening at Warner Block, Room 9, second floor. President, W. J. Bell, Hotel Elliot; recording secretary, George H. Leburg, 802 East Second street; financial secretary, Wm. J. Torrey, 44 Park street, Jamestown, N. Y.

*No. 107, Pittsburg, Kans.—Meets every Tuesday at Schrifelbine Hall, Sixth and Broadway. President, Scott McCollum; financial secretary, George E. Dickerson, Home Telephone Co.

*No. 108, Tampa, Fla.—Meets every Monday night at Kraus Hall, 619½ Franklin street. President, George A. Bartholomew, 108 Cass street; recording secretary, Jas. T. Maxon, 105 Lafayette street; financial secretary, John F. Vaughan, W. Twelfth ave. and E street.

†No. 109, Davenport, Iowa.—Meets first and third Tuesdays at Lahrman's hall, Second and Ripley streets. President, Clifton Peny, 523 Brady street; recording secretary, H. F. Mickey, 116 West Fourth street; financial secretary, Jas. Dallner, 202 East Fifth street.

*No. 110, Sandusky, Ohio.—Meets first and third Friday nights at Fusch's Hall, corner of Monroe and Fulton streets. President, C. McNeal, Jefferson street; recording secretary, Wm. Windisch, 506 Pearl street; financial secretary, Chas. Littleton, 321 Scott street.

*No. 111, Honolulu, Hawaii.—Meets first and third Thursdays at 7.30 p. m., Brooklyn Hall, Alaken between Queen and Merchant streets. President, Carl M. Taylor, Box 681; recording secretary, John Trueman, Hawaiian Electric Co.; financial secretary, A. R. G. McCormick, 1124 Adams Lane.

*No. 112, Louisville, Ky.—Meets every Tuesday night at Germania Hall, 107 W. Jefferson street. President, Joe E. Bryant, 1624 Wilson; recording secretary, H. W. Rowlett, R. F. D. 2; financial secretary, F. H. Weaver, 738 Washington street.

†No. 113, Colorado Springs, Colo.—Meets every Friday at A. O. H. Hall, over Voorhees' store, 22 South Tejon street. President, Frank Graham, 103 Summit street; recording and financial secretary, Wm. E. Waldron, Box 746, Colorado City, Col.

†No. 114, Toronto, Can.—Meets first and third Wednesdays at Temple Building, corner Bay and Richmond streets. President, W. J. Middleton, 7 Shaftsbury avenue; recording secretary, W. 18 Partello, 24 Louisa street; financial secretary, G. C. Beckett, 61 Duke street.

*No. 115, Austin, Tex.—Meets second and fourth Wednesdays at Trades Council Hall, over 1000 Cong. avenue. President, P. G. Johnson, 202 W. 8th street; recording secretary, G. T. Dunaway, 202 W. 8th street; financial secretary, Bailey B. Beard, 202 W. 8th street.

†No. 116, Los Angeles, Cal.—Meets every Tuesday at Brents Hall, 547 South Spring street. President, E. Sterns, 1124 West Twenty-first street; recording secretary, W. H. Williams, 524 B Terme street; financial secretary, H. M. Scott, 547 Fickett street.

*No. 117, Elgin, Ill.—Meets first and third Thursday, at Trades Council Hall, 102 Douglas avenue. President, I. C. Burney, 316 North Crystal street; recording secretary, T. H. Bryson, 228 Wellington avenue; financial secretary, T. C. Wetmore, 411 Du Page street.

*No. 118, Dayton, O.—Meets Thursday nights at Deister Post Hall, 25 North Main street. President, C. M. Rike, 128 East Fourth street; recording secretary, Geo. Settell, 20½ W. Fifth street.

financial secretary, J. W. Holt, 2 E. Stanley street.

†No. 119, Far Rockaway, L. I.—Financial secretary, A. E. Funnell, 21 Shepherd avenue, Brooklyn, N. Y.

*No. 120, London, Ont.—Meets third Tuesday in each month at Oriental Hall, Clarence street. President, G. Upshall, 569 William street; recording secretary, L. R. Folley, 189 Wellington street; financial secretary, James G. Rushton, 12 Napier street.

†No. 121, Denver, Col.—Meets every Wednesday at Charles Bldg., room 202, Fifteenth and Curtis streets. President, B. P. Kernahan, 1300 West Colfax; recording secretary, E. V. Wilson, 707 Fourteenth street; financial secretary, R. C. Easton, 2303 Washington avenue.

*No. 122, Great Falls, Mont.—Meets every Thursday, at Laundry Workers Hall, Sixteenth and Second streets north. President, Wm. P. Benson, Box 385; recording secretary, Silas Smith, Box 385; financial secretary, E. W. Frost, Box 385.

*No. 123, Wilmington, N. C.—Meets every Wednesday night at First National Bank Building, cor. Front and Princess streets. President, James Sutton, general delivery, Wilmington; recording secretary, E. C. Yarbrough, care So. Bell Tel. Co., Wilmington; financial secretary, E. C. Yarbrough.

*No. 124, Galveston, Tex.—Meets second and fourth Fridays at Cooks' and Waiters' Hall, 307½ Tremont street. President, Jos. Cohen, 18 Post Office street; recording secretary, Ed. F. Parks, Atlanta Hotel; financial secretary, Louis Tschumy, 1305 Post Office street.

*No. 125, Portland, Ore.—Meets every Wednesday at No. 234½ Morrison street. President, W. B. Morris, 68 Seventh street; recording secretary, C. F. Canfield, 76 W. Park street; financial secretary, Thos. Synnott, 168 Fourth street.

*No. 126, Little Rock, Ark.—Meets first and third Tuesday, at Labor Temple, Markham and Main streets. President, A. D. McConnell, 117 West Fourth street; recording secretary, E. T. Reynolds, 1422 Battery street; financial secretary, T. M. Kelly, 2003 Scott street.

†No. 127, New Rochelle, N. Y.—Meets second and last Friday in each month at 18 Lawton street. President, R. K. Johnson, 18 Lawton street, New Rochelle, N. Y.; recording secretary, E. P. Byrnes, Larchmont, N. Y.; financial secretary, H. B. Miller, 47 Gulon Place, New Rochelle, N. Y.

*No. 128, Alton, Ill.—Meets every first and third Wednesday at Squire Nathan's office, Second and Market streets. President, A. Foster, 511 Market street; recording secretary, Joe Z. White, 613 Belle street; financial secretary, Chas. B. Davis, 517 State street.

*No. 129, Nashville, Tenn.—Meets every Saturday night at Labor Advocate Hall. President, C. Snider, 301 Church street; recording secretary, D. R. Johnson, 301 Church street.

†No. 130, New Orleans, La.—Meets every Thursday at Carpenter's Union hall, 423 St. Charles street. President, Wm. Fisher, 615 Third street; recording secretary, E. G. Cunningham, 17½ La. avenue; financial secretary, A. Warner, 1025 Gen. Taylor street.

†No. 131, Traverse City, Mich.—Meets second and fourth Tuesdays in month in Central Labor Hall, corner Union and State streets. President, I. L. Cook, Traverse City, Mich.; recording secretary, H. E. Mallat, City Tel. Co., Traverse City, Mich. financial secretary, Frank Alvord, 314 S. Division street, Traverse City, Mich.

†No. 132, South Bend, Ind.—Meets every two weeks on Monday evenings at Central Labor Hall, South Michigan street. President, J. E. Perry, 818 South Michigan street; recording secretary, C. C. Miller, Home Tel. Co.; financial secretary, N. J. Shoemaker, P. O. Box 803.

†No. 133, Detroit, Mich.—Meets every Wednesday night at Johnston's Hall, 34 Munroe avenue. President, L. A. Berg, 164 Locust street; recording secretary, S. C. Wilson, 122 W. Milwaukee avenue; financial secretary, W. F. Tewsbury, 274 Porter street.

†No. 134, Chicago, Ill.—Meets every Thursday night at 196 East Washington street. President, Chas. L. White, 934 Monticello avenue; recording secretary, George O. Johnson, 196 Wash-

ington street; financial secretary, J. B. Wilson, 186 Washington street.

*No. 135, La Crosse, Wis.—Meets every second and fourth Fridays of each month at Main Hall, South Fourth street. President, M. Pendergast, 706 State street; recording secretary, Charles A. Dittman, 315 North Tenth street; financial secretary, Charles H. Yates, 532 North Eighth street.

*No. 136, Birmingham, Ala.—Meets first and third Fridays at Labor Temple, Twenty-first street. President, F. C. Powell, 3615 avenue C; recording secretary, R. Pyle, 618 South Thirty-fourth street; financial secretary, F. S. Williams, 600 John street.

†No. 137, Albany, N. Y.—Meets second and last Tuesdays of month at Hudson avenue and Broadway. President, Benj. B. Smith, 810 Clinton avenue; recording secretary, Jas. H. Crook, 178 Livingston avenue; financial secretary, J. A. Ryan, 25 Catherine street.

*No. 138, Fort Wayne, Ind.—Meets second and fourth Thursdays, at K. of L. Hall, Court street. President, P. B. Merz, 511 Holman street; recording secretary, E. J. Fisher, 127 E. Washington street; financial secretary, D. Mullen, 200 N. Barr street.

*No. 139, Elmira, N. Y.—Meets second and fourth Sundays at Federation of Labor Hall, 372 Carroll street. President, H. D. Pitcher, 417 East Market street; recording secretary, J. C. Marvin, 609 East Church street; financial secretary, J. K. Packard, 372 West Fifth street.

*No. 140, Schenectady, N. Y.—Meets first and third Wednesdays at Carpenter's Hall, State street. President, G. W. Colony, No. 8 Washington avenue; recording secretary, Guy S. Neudamaker, No. 8 Front street; financial secretary, Bert S. Reid, 512 Smith street.

†No. 141, Wheeling, W. Va.—Meets every Wednesday at Peabody Building, Room 207, Market street, between Eleventh and Twelfth streets. President, William Bumgarner, 55 Twelfth street; recording secretary, Eugene Hagan, 730 Market street; financial secretary, Earle C. Beall, 167 Fourteenth street.

†No. 142, Wheeling, W. Va.—Meets every Wednesday at I. B. E. W. Hall, Room 207 Peabody Building, Market street. President, J. W. Bradfield, Martins Ferry, Ohio; recording secretary, Geo. Wey, 139 Fifteenth street; financial secretary, W. A. Kent, 1412 Market street.

*No. 143, Ashtabula, O.—Meets second and fourth Mondays, at C. L. U. Hall, Newbury Block, corner Main and Center streets. President, S. D. Eckler, 15 Tyler avenue; recording secretary, C. A. Amy, 17 Sycamore street; financial secretary, O. Meyers, 5 Taylor avenue.

*No. 144, Wichita, Kan.—Meets every Thursday night at Red Men's Hall, 400 East Douglas. President, S. C. Pratt, 710 S. Market street; recording secretary, Louis McVay, Ind. Tel. Co.; financial secretary, B. L. Cushman, 600 S. Emporia street.

*No. 145, Saginaw, Mich.—Meets Wednesday night at Engineer's Hall, 218 Genesee avenue. President, J. Crandall, 1103 S. Warren avenue; recording secretary, F. Smith, 923 Jackson street; financial secretary, B. Gaberia, 1 309 S. Fourth street.

*No. 146, Bridgeport, Conn.—Meets Wednesday night at 1106 Main street. President, J. T. Rooney, 16 Housatonic avenue; recording secretary, J. W. Peck, 445 Poplar street; financial secretary, F. J. Quinlan, P. O. Box 635.

*No. 147, Anderson, Ind.—Meets every Friday night at Bricklayer's Hall, 909 Main street. President, Jos. T. Griffin, 1022 Main street; recording secretary, Edgar Lindsay, Harter House; financial secretary, C. H. Farrell, 1022 Main street.

†No. 148, Washington, D. C.—Meets Saturday night at Royal Hall, corner Seventh and N streets northwest. President, O. E. Lewis, 807 Eighth street northwest; recording secretary, I. H. Ware, 1345 Pennsylvania avenue northwest; financial secretary, M. V. Murphy, 303 Fifth street northeast.

*No. 149, Aurora, Ill.—Meets second and fourth Tuesdays at Trade's Assembly Hall, on Island. President, C. W. McCray, 15 S. West street; recording secretary, E. A. Wood, 218 Benton

street; financial secretary, Ed. Millhouse, 23 North Broadway.

*No. 150, Bay City, Mich.—Meets second and fourth Tuesdays at A. O. U. W. Hall, corner Center and Adams streets. President, Geo. Affleck, 239 North Sherman street; recording secretary, W. D. Parker, Essexville, Bay County, Mich.; financial secretary, Charles Crampton, City Hall, Bay City, Mich.

†No. 151, San Francisco, Cal.—Meets every Tuesday at Machinist's Hall, 1059 Mission near Eighth street. Headquarters, 921 Market street. President, H. L. Worthington, 15 Walter street; recording secretary, J. F. Leonard, 1227 Filbert street; financial secretary, James C. Kelly, 50 Webster street.

*No. 152, Ft. Scott, Kan.—Meets first and third Thursdays at Painters' Hall, 201 Market street. President, J. D. Runkle, 520 N. National avenue; recording secretary, J. E. White, 529 N. National avenue; financial secretary, S. P. Armstrong, 110 N. Judson street.

*No. 153, Marion, Ind.—Meets every Tuesday night at Riley Hall, northwest corner Third and Washington streets. President, E. M. Robb, Sixth and Adams street; recording secretary, W. B. Gleason, care of Homestead Hotel; financial secretary, H. C. La Follette, 1416 West Fourth street.

*No. 154, Rock Island, Ill.—Meets every Thursday night at Electrical Workers' Hall, S. E. corner 17th street and 3d ave. President, H. J. Jeys, 2815½ 9th avenue; recording secretary, C. S. Wangein, 1923 9th avenue; financial secretary, H. W. Dean, 1018 14½ street.

*No. 155, Oklahoma City, O. T.—Meets every Wednesday night at Flood Building, Reno and Broadway. President, John Swirzinski, 107 East Reno; recording secretary, C. F. Blocher, 115 South Harvey; financial secretary, J. C. Clark, 1020 West First street.

*No. 156, Ft. Worth, Tex.—Meets every Wednesday night at B. T. C. Hall, 210 Main street, third floor, Powell Building. President, H. H. Lawry, care Citizens Light and Power Co.; recording secretary, Lee Stephens, 602 West First street; financial secretary, W. P. Anderson, 201 East Third street.

*No. 157, Elkhart, Ind.—Meets third Thursday of every month, Central Labor Hall, corner Main and Franklin streets. President, L. D. Whittig, Prairie street, Elkhart, Ind.; recording secretary, H. A. Row, 506 Beardsley avenue; financial secretary, Asa Kintzler, R. F. D. No. 1.

*No. 158, Temple, Tex.—Meets second and fourth Wednesdays at Odd Fellows' Hall, Post Office Building. President, T. J. Hewitt, Box 335; recording secretary, W. W. Clay, 215 North Fifth; financial secretary, H. S. Newland, 506 South Eleventh street.

*No. 159, Madison, Wis.—Meets second Thursday at Union Hall, State street. President, Wm. Neff, 1316 Dayton street; recording secretary, H. W. Schroeder, 738 Williams street; financial secretary, H. Nelson, 348 W. Doty street.

*No. 160, Zanesville, O.—Meets first and third Tuesday at 7.30 p. m., at Building Trades Hall, over 208 Main street. President, F. J. Poyner, 5 Bell Flats; recording secretary, John Mangin, Kirk House; financial secretary, A. E. DeLong, Route 8, Zanesville.

*No. 161, Uniontown, Pa.—Meets first and third Fridays at Trades and Labor Council Hall, Main street. President, J. O. Clark; recording secretary, J. F. Morrow; financial secretary, W. C. Tracy, Wilson ave.

†No. 162, Omaha, Neb.—Meets every Thursday evening, at Labor Temple, Fifteenth and Dodge streets. President, F. L. Witters, 2517 Spencer street; recording secretary, B. O. Linenberger, Labor Temple; financial secretary, J. B. Placie, Labor Temple.

*No. 163, Wilkesbarre, Pa.—Meets second and fourth Mondays at Building Trades Council Hall, 81 West Market street. President, J. J. McGlynn, 390 E. South street; recording secretary, Thomas Moore, 86 North Sherman street; financial secretary, D. H. Ebert, 400 Scott street.

†No. 164, Jersey City, N. J.—Meets Monday, Fehren's Hall, 168 Beacon avenue. President, J. J.

A. Brennan; recording secretary, Otto Bauer, 187 Griffith street; financial secretary, Edward F. Kenna, 1119 Washington street, Hoboken N. J.

*No. 165, Newport News, Va.—Meets every other Tuesday evening at C. L. U. Hall, corner Thirty-second street and Washington avenue. President, J. W. Driver, 1015 Twenty-sixth street; recording secretary, E. C. Kelly, R. F. D. No. 1, Hampton, Va.; financial secretary, R. A. Gentis, 1030 Twenty-eighth st.

*No. 166, Winnipeg, Manitoba, Can.—Meets second and fourth Thursdays at England's Block, corner Market and Main. President, C. H. Wilks, 703 McDermott avenue; recording secretary, J. S. Milen, 647 Elgin avenue; financial secretary, C. W. Francis, 493 Alexandria avenue, Second Floor

*No. 167, Pittsfield, Mass.—Meets first and third Wednesdays at England's Block, North street. President, Hugh J. Breslin 242 Linden street; recording secretary, Wm. DeForrest, 8 Cherry street; financial secretary, Frank H. Smith, 27 Wellington avenue.

*No. 168, Parkersburg, W. Va.—Meets Wednesdays at Bricklayers' Hall, Court Square. President, W. F. Ramsey, 42 Twelfth street; recording secretary, J. Roy Mayhew, 178 Avery street; financial secretary, W. C. Vaughan, 1017 Lynn street.

*No. 169, Fresno, Cal.—Meets second and fourth Mondays at Edgerly's Hall, corner I and Tulare streets. President, Henry Stewart, 129 Diana street, Fresno; recording secretary, B. M. Collins, 1835 F street, Fresno; financial secretary, Clarke Steger, Box 64, Fresno.

*No. 170, Mason City, Iowa.—Meets first and third Thursday evenings at Howe's Hall cor. Fourth and Main streets. President, A. H. Ramsey, 216 South Washington street; recording secretary, F. W. Roberts, 214 East Tenth street; financial secretary, J. D. Templin, 771 East State street.

*No. 171, Ann Arbor, Mich.—Meets first and third Saturdays at Trades Council Hall, South Main street. President, George Haggirt, 13 River st., Ypsilanti; recording secretary, Mervin Green, Ypsilanti; financial secretary, T. C. Phelps, 114 Felch street.

*No. 172, Newark, Ohio.—Meets every Friday night at I. B. E. W. Hall, 11½ E. Church street. President, Scott Varnie, 286 Beech street; recording secretary, Sam. C. Alledorf, 81 Ninth street; financial secretary, V. H. Effinger, 56 N. Morris street.

*No. 173, Ottumwa, Iowa.—Meets second and fourth Wednesdays at Labor Hall, East Second street. President, H. E. McKown, 204 North McLean street; recording secretary, S. W. Speer, Hospital building; financial secretary, E. Trent, 226 North Davis street.

*No. 174, St. Johns, N. B.—Meets first and third Wednesdays at Berryman's Hall, corner Princess and Charlotte streets. President, D. H. Melvin, 37 High street; recording secretary, J. J. Lalsay, 10 Ashmond Place. financial secretary, Oitrs H. Tracy, 83 Cliff street.

*No. 175, Benton Harbor, Mich.—Meets every Wednesday, Robinson Block, 110 Pipestone street. President, C. C. Maddux, Benton Harbor; recording secretary, R. G. Moats, Benton Harbor; financial secretary, R. G. Moats, 126 Summit street.

*No. 176, Joliet, Ill.—Meets every Wednesday at Labor Hall, Jefferson and Ottawa street. President, J. W. Gates, 206 South Ottawa street; recording secretary, J. W. Weich, 304 Western avenue; financial secretary, W. D. Mullinax, 213 Beach street.

*No. 177, Paducah, Ky.—Meets Second and fourth Mondays at Central Labor Hall, corner of Seventh and Court streets. President, J. Hanback, 427 Clark street; recording secretary, J. T. Johnson, 427 Clark street; financial secretary, H. C. Rawling, 437 Clark street.

*No. 178, Canton, Ohio.—Meets first and third Wednesday at Brown's Hall, West Tusco street. President, J. H. Arnold, 1025 Obey avenue; recording secretary, D. A. Merritt, 1025 Obey avenue; financial secretary, H. T. Seymour, 1181 West Third street.

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- *No. 179, Charleston S. C.—Meets every Friday night at Knights of Pythias Hall, King street opposite Marion Square. President, I. R. Ward; recording secretary, Jas. Laresey, 10 Ashmead Place; financial secretary, Samuel Webb.
- *No. 180 Vallejo, Cal.—Meets first and third Friday at Labor Council Hall, Sacramento street. President, C. A. Pracht, 317 Kentucky street; financial and recording secretary, P. L. Schoof, corner of Main and Santa Clara streets.
- †No. 181, Utica, N. Y.—Meets third Tuesday at Labor Temple, Hotel street, Utica, New York. President, John Greenwood, 32 Roberts street; recording secretary, Herman Wameling, 247 Seymour avenue; financial secretary, Edward T. Fox, 199 Court street.
- *No. 182, Montreal, Can.—Meets every first and third Wednesday at St. Joseph's Hall, St. Elizabeth street. President, Thomas Soucy, 468 Wolfe street; recording secretary, J. D. Lauthier, 517 Mount Royal street; financial secretary, John Chevalier, 3 Neville Place.
- *No. 183, Lexington, Ky.—Meets second and fourth Tuesdays at Van Deven Hall, Main street, east of Broadway. President, M. M. Welch, 182 Walnut street; recording secretary, Leslie Kitchen, corner Cross and Pine streets; financial secretary, J. R. Whitmer P. O. Box 577, Lexington, Ky.
- *No. 184, Galesburg, Ill.—Meets first and third Wednesdays of every month at Trades Assembly Hall, corner Main and Boone avenue. President, J. H. Shull, 266 Duffield avenue; recording secretary, Roy Squires; financial secretary, John Norwood, 149 E. Brooks street.
- *No. 185, Helena, Mont.—Meets first and third Saturdays at Rooms 26, 27, 28 Atlas Block, No. 7 Main street. President, Frank Avery, P. O. Box 1227; recording secretary, Alex. Jones, P. O. Box 1227; financial secretary, C. H. Coar, P. O. Box, 1227.
- †No. 186, Hartford, Conn.—Meets every Tuesday at Stationary Engineers' Hall, Times Bldg. President, J. Owens, 85 Hawthorne street; recording secretary, E. O. Sperry, 55 Grand street, New Britain; financial secretary, E. O. Sperry, 66 Kensington street, New Britain, Conn.
- *No. 187, Oshkosh, Wis.—Meets every Tuesday night at Stationary Engineers' Hall, cor. State and Otter streets. President, Emil Prong, 16 Carr street; recording secretary, J. R. Mentzell, Ceape street; financial secretary, P. S. Rixby, 140 Pearl street.
- †No. 188, Dallas, Tex.—Meets every Wednesday at Labor Hall, Elmand Scotland Court. President, E. A. White, 132 N. Akard; recording secretary, B. E. Loper, 269 Cochran street; financial secretary, L. A. Burrens, 116 Martin street.
- ‡No. 189, St. Louis, Mo.—Meets every Friday night at Lightstone's Hall, Eleventh and Franklin avenue. President, Chas. R. Reitz, 4524 St. Ferdinand street; recording secretary, Robert Glannon, 1023 Franklin avenue; financial secretary, John G. Rolwes, 4347 College avenue.
- ? No. 190, Newark, N. J.—Meets second and fourth Thursdays at Electrical Workers Hall, 336 Washington street. President, Morris R. Welch, 113 Dickerson street; recording secretary, Wm. Varley, 250 Clifton avenue; financial secretary, Joseph R. Hoch, 364 New street.
- *No. 191, Everett, Wash.—Meets every Thursday night at Labor Temple, 2320 Lombard street. President, M. Blair, 3115 Wetmore avenue; recording secretary, Edward F. Burkhart, 2727 Wetmore avenue; financial secretary, L. V. Harper, P. O. Box 228.
- *No. 192, Memphis, Tenn.—Meets every Tuesday at Union Labor Temple, 355 Second street. President, Geo. A. Hulbert, 143 Adams street; recording secretary, Frank Underwood, 148 Adams street; financial secretary, W. M. Hay, 207 Ross avenue.
- †No. 193, Springfield, Ill.—Meets every Tuesday at I. B. E. W. Hall, 210½ S. Fifth street. President, L. B. Johnson, 528 N. Fifth street; recording secretary, A. Reynick, Clark House; financial secretary, W. E. Oliver, 222 N. Fifth street.
- *No. 194, Shreveport, La.—Meets every Tuesday night at Labor Hall, corner of Texas and Common streets. President, F. M. Stevens, 640 Texas street; recording secretary, R. L. Curtis, 323 Walnut street; financial secretary, S. E. Blodget, Arcade Hotel.
- *No. 195, Marietta, O.—Meets every Thursday at Trades Labor Hall, corner Second and Tyner-way streets. President, A. T. Willey, Marietta Tel. Company; recording secretary, Wm. H. Reed, 214½ Fifth street; financial secretary, E. Davis, Box No. 584.
- *No. 196, Rockford, Ill.—Meets first and third Fridays at Electrical Workers Hall, 309½ West State street. President, S. M. Griffith, 569 Grove street; recording secretary, L. Harbaugh, 526 East street; financial secretary, L. C. Williamson, 528 W. State street.
- *No. 197, Bloomington Ill.—Meets every Friday at Electrical Workers' Hall, over 106 West Front street. President, J. J. Eversole, P. O. Box 274; recording secretary, C. J. Winters, P. O. Box 274; financial secretary, W. S. Briscoe, Box 286.
- *No. 198, Dubuque, Iowa.—Meets second and fourth Wednesdays at Cascade Building, Room 1. President, G. D. Johnson, corner Fourteenth and Clay streets; recording secretary, John Blessing, corner Sixth and Main; financial secretary, J. N. Krahl, Lock Box 103.
- †No. 199 St. Louis, Mo.—Meets first and third Tuesdays at Electrical Workers' Hall, No. 1028 Franklin avenue. President, W. J. Kelley, 2914 Madison street; recording secretary, C. F. Hinds, 3113 N. Grand avenue; financial secretary, E. N. Glenny, 5827 Theodosia avenue.
- *No. 200, Anaconda, Mont.—Meets first and third Tuesdays, Mattie Block, East Commercial avenue. President, W. R. Wright, P. O. Box 483; recording secretary, Jas. O'Mara, P. O. Box 483; financial secretary H. J. Hamilton, P. O. Box 526.
- †No. 201, Appleton, Wis.—Meets first and third Tuesday of each month at Master Builders' Hall, corner Edward and Appleton streets. President, M. G. Smith, 485 Winnebago street; recording secretary, C. H. Mackey, 667 Appleton street; financial secretary, N. J. Deuster, 665 Appleton street.
- ‡No. 202, Seattle, Wash.—Meets second Tuesday of each month in basement of Hotel Seattle, Occidental avenue and Yesler street. President, R. C. Williams, 508 Fifth avenue; recording secretary, Gus Soderberg, Eighth avenue near Pike street; financial secretary, L. B. Brickley, 1212 East Columbia street.
- *No. 203, Champaign, Ill.—Meets first and third Tuesdays of each month at Odd Fellows Building, 7 and 9 Neil street. President, H. G. Easterman, 408 North Elm street; recording secretary, A. L. Chandler, 109 West Vine street; financial secretary, J. R. Sheffer, 509 North Neil street.
- †No. 204, Springfield, Ohio.—Meets every Monday at Trader's and Labor Hall, Main street and Walnut alley. President, F. C. Rotsel, 112 South Center street; recording secretary, H. S. Copeland, 198 Linden avenue; financial secretary, H. F. Shultis, 326 S. Center street.
- *No. 205, Jackson, Mich.—Meets every Tuesday night at Labor Hall, corner Jackson and West Main streets. President, E. Osborn, 511 North Jackson street; recording secretary, Wm. Lawrence, 316 Greenwood avenue; financial secretary, F. C. Lewis, 410 South Blackstone street.
- *No. 206, Hamilton, Ohio.—Meets every Thursday night at 8 p. m., in K. O. T. M. Hall, corner Third and Court streets. President, Peter Hovis, financial secretary, H. Ed Herrmann, 28 South B street.
- *No. 207, Stockton, Cal.—Meets every Tuesday, at Turner Hall, 110 North Hunter street. President, Frank Ellison, 229 South Sutter street; recording secretary, Wm. E. Lee, 539 South American street; financial secretary, James R. Wagner, 603 West Park street.
- *No. 208, Muscatine, Iowa.—Meets second and fourth Fridays of each month at Trades and Labor Assembly Hall, 105-107 Iowa avenue. President, L. P. Davis, 1607 Mulberry street; recording secretary, C. A. Adams, 417 Chestnut street; financial secretary, W. F. Demorest, 206 East Second street.
- *No. 209, Logansport, Ind.—Meets every Thursday at 7.59 p. m. at Washington Hall, 301 Third

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street. President, J. W. Abshire, 1930 Spear street; recording secretary, Nate Costenborder, 820 Race street; financial secretary, Chas. Ray, Rural Route No. 1.

†No. 210, Atlantic City, N. J.—Meets every Wednesday night at Odd Fellows Hall, S. New York avenue. President, Geo. H. Orr, 135 Mt. Vernon ave.; recording secretary, I. N. Cramer, rear 12 South Ohio ave.; financial secretary, Jas. Dorman, 1915 Caspian ave.

†No. 211, Atlantic City, N. J.—Meets every Friday night in Memorial Hall, New York avenue. President, W. H. Malloch; recording secretary, J. F. Moore; financial secretary, A. J. Riley, 4 Bartlett avenue.

†No. 212, Cincinnati, O.—Meets every Tuesday evening, at Joseph's Hall, southwest corner of Twelfth and Vine streets. President, Joseph A. Cullen, 952 W. Sixth street; recording secretary, Harry Falquet, 1125 Jackson street; financial secretary, W. B. Kelley, Norwood, O.

*No. 213, Vancouver, B. C.—Meets second and fourth Thursdays at O'Brien's Hall, corner Hastings and Homer streets. President, J. E. Dubberly, corner Seymour and Davie street; recording secretary, A. B. Godfrey, 1112 Melville street; financial secretary, H. V. Rankin, 126 East Cordova street.

*No. 214, Olean, N. Y.—Meets every Friday at Fountain Hose House, First street. President, S. D. Harding; recording secretary, E. E. Allen, 607 West State street; financial secretary, T. E. Dellinger, 128 South Twelfth street.

*No. 215, Hot Springs, Ark.—Meets every Tuesday night at Trade's Council Hall, Chapel street. President, J. T. Smith, P. O. Box 374; recording secretary, A. Manders, General Delivery; financial secretary, D. McDonald, Sixth and Kirk streets.

*No. 216, Owensboro, Ky.—Meets every Thursday at Lineman Hall, 815½ Frederick street. President, A. D. Faught, St. Elizabeth street; recording secretary, R. L. Woods, 815 Cherry street; financial secretary, R. L. Wood, 815 Cherry street.

†No. 217, Seattle Wash.—Meets Mondays at Waitresses Hall, 1420 Second avenue. President, G. W. Johnson, 307 First avenue, West; recording secretary, C. G. Johnson, 115 Fifth avenue, North; financial secretary, W. W. Morgan, 1529 Fourth avenue.

*No. 218, Sharon, Pa.—Meets every second Monday at Leslie Hall, Chestnut street. President, S. Tollman, Sharpville, Pa.; recording secretary, Chas. Ault, Rankin House, Sharon, Pa.; financial secretary, H. W. Rice, P. O. Box 80, Sharon, Pa.

*No. 219, Sullivan, Ind.—Meets first and third Tuesday night at Electric Plant Building. President, S. M. Riggs; recording secretary, J. E. Stanfield, Sullivan, Ind.; financial secretary, N. S. Worley.

†No. 220, Rochester, N. Y.—Meets first and third Tuesdays at Durand Building, West Main street. President, P. J. Cotter, 98 Ontario street; recording secretary, Frank A. Yatteau, 17 Gregory street; financial secretary, E. A. Thompson, 14, 435 Main street east.

†No. 221, Beaumont, Tex.—Meets every Friday at Rabbs Hall, Pearl street between College and Washington. President, O. M. Clark, Beaumont Tele. Co.; recording secretary, Claud Hildebrand, Beaumont Traction Co.; financial secretary, J. H. Cousins, 371 Cypress street.

*No. 222, Lafayette, Ind.—Meets every Thursday at Brick Masons' Hall, Tenth and Main streets. President, F. E. Williams, 418 N. Fifth street; recording secretary, Homer A. Davis, 410 N. Fourth street; financial secretary, Walter Hawkins, 352 N. Salisbury street, West Side.

†No. 223, Brockton, Mass.—Meets second and fourth Monday at Red Men's Hall, 47 Center street. President, Harry R. Allen, 46 Fuller street; recording secretary, Everett W. Cole, 416 School street, Whitman, Mass.; financial secretary, Arthur B. Spencer, 228 Crescent street.

*No. 224, Ft. Dodge, Iowa.—Meets second and fourth Tuesdays of each month at Painters Hall, 635½ Central avenue; President, C. J. Hakes; recording secretary, D. W. Lyman;

financial secretary, Henry C. Cox, Ft. Dodge, Iowa.

*No. 225, Topeka, Kans.—Meets every Thursday at Building Trades' Hall, 420 Kansas avenue. President, A. Thomas, P. O. Box 14; recording secretary, W. V. Paschal, P. O. Box 14; financial secretary, D. C. Piatt, 502 Chandler street.

†No. 226, Cedar Rapids, Iowa—Meets first and third Tuesday at Dow's Block, Second avenue and Second street. President, W. E. Washburn, Cedar Rapids; recording secretary, Fred. Day, Cedar Rapids; financial secretary, Alex. Sampson, Box 271, Cedar Rapids, Iowa.

†No. 227, Birmingham, Ala.—Meets every Wednesday night at Fox's Hall, corner Fourth avenue and 19th street. President, R. I. Parham, Southern Bell Tel. Co.; recording secretary, M. D. McRae, Southern Bell Tel. Co.; financial secretary, J. G. Pulliam, Southern Bell Tel. Co.

*No. 228, Oil City, Pa.—Meets first and third Tuesdays at K. of P. Hall, Center and Elm streets. President, H. Bocel, 19 Grove avenue; recording secretary, W. A. Humes; financial secretary, J. W. Bullock, 212 East South Second street.

†No. 229, Manchester, N. H.—Meets second and fourth Tuesdays at Building Trades Hall, Elm street. President, E. F. Farrell, 31 Armory street; recording secretary, Wm. E. Michie, City Hotel; financial secretary, W. G. Frazer, 53 Pennacook street.

*No. 230 Victoria, B. C.—Meets every second and fourth Thursday at Labor Hall, corner Johnson and Douglas streets. President, C. C. McKenzie, Douglas street; recording secretary, Frank R. Shapeland, 29 Mears street; financial secretary, Ed. L. Vaughan, P. O. Box 354.

†No. 231, Grand Rapids, Mich.—Meets second and fourth Friday evenings of each month at Lincoln Club Rooms, Pearl street. President, Stephen D. Foster, 221 Grand avenue; recording secretary, G. E. Miles, 274 Henry street; financial secretary, F. A. Shank, 1 Coit avenue Place.

No. 232, Schenectady, N. Y.—Second and Fourth Tuesdays, at Bradt-Yates Building, corner Center and State streets. President, A. Nuttall, 4 Harvard street; recording secretary, C. H. Tinke, 761 E. Liberty street; financial secretary, E. Burnham, 119 Guilderland avenue.

†No. 233, Colorado Springs, Colo.—Meets every Thursday at Building Labors Hall, over 12 East Huerfano street. President, James L. Smith, 732 East Kiowa street; recording secretary, Robt. J. Clark, 114 North Weber; financial secretary, S. C. Swisher, 425 East Boulder street, P. O. 654.

†No. 234, Schenectady, N. Y.—Meets first Saturday in each month, at Machinists' Hall, cor. Jay and State streets. President, Wm. Armor, 4 Catherine street; recording secretary, L. M. McIntosh, 338 Carrie street; financial secretary, C. A. Sherman, 338 Carrie street.

*No. 235, Cincinnati, Ohio.—Meets Thursday at Joseph's Hall Twelfth and Vine streets. President, Geo. Park; recording secretary, Ray McGregor, 1135 Vine street; financial secretary, Frank Misner, 524 Culvert street.

*No. 236, Streator, Ill.—Meets first and third Monday nights at Casey's Hall, 107 East Main street. President, H. M. Griffith, N. Bloomington; recording secretary, Geo. Duffner, 514 W. Bridge street; financial secretary, J. A. Shuler, 309 East Bridge street.

*No. 237, Lorain, Ohio.—Meets first and third Thursday in each month at I. O. O. F. Hall, Broadway. President, R. Lindsay, No. 8 Wilson Block; recording secretary, E. P. Barnes, 509 W. Erie Avenue; financial secretary, A. C. Marsh, 240 8th street, Elyria, Ohio.

*No. 238, Asheville, N. C.—Meets every Saturday at C. L. U. Hall, 39 Patton avenue. President, E. H. Clenenger, Western Union Telegraph Office; recording secretary, J. H. Graham, 140 Bailey street; financial secretary, J. H. Graham, 140 Bailey street.

No. 239, Newark, N. J.—Electric fixture fitters, wiremen, and hangers—Meets first and third Thursday at Electrical Workers Hall, 236 Washington street. President, Wm. G. Scheussler, 241 Camden street; recording secretary, Harry Schnarr, 185 North Fourth street; financial secretary, Michael Tanenbaum, 104 Hunterdon st.

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No. 240, Philadelphia, Pa.—Telephone.—Meets every Thursday at Morning Star Hall, northeast corner of Ninth and Callowhill streets. President, H. Demitrowitz, 2568 N. Napa street, recording secretary, J. C. Boone, 2328 Coral street; financial secretary, H. D. Loudenslager, 1004 Green street.

†**No. 241, Dayton, Ohio.**—Meets every second and fourth Friday night at Deister Post Hall, 25 North Main street. President, Thos. E. Fisher 54 Logan street; recording secretary, Harry Toot; 10 Hawken street; financial secretary, C. Reiter, 911 West Third street.

***No. 242, Decatur, Ill.**—Meets every Friday night at Room 416, Powers' Building, cor. South Water and East Main streets. President, E. O. Baker, Room 16 Syndicate Block; recording secretary, Jno. Simon, 416 Powers Building; financial secretary, A. Frazier, 416 Powers Building.

***No. 243 Vincennes, Ind.**—Meets every Wednesday night at Odd Fellows Building, corner Second and Broadway street. President, W. H. Patterson, 725 F G avenue; recording secretary, L. Johnson, 210 Vallmer street; financial secretary, C. F. Green, 621 North Seventh street.

†**No. 244, East Mauch Chunk, Pa.**—Meets first and third Sunday, 2 p. m., at Hess' Hall, Center street, between Fourth and Fifth. President, Wren Brown, East Mauch Chunk, Box 293; recording secretary, Anthony Armbruster, East Mauch Chunk, Box 232; financial secretary, J. P. Tracy, East Mauch Chunk, Box 195.

†**No. 245, Toledo, O.**—Meets every Friday night at Mulcaheys Hall, 714 Monroe street. President, William Nagle, 1001 Summit street; recording secretary, Joseph Callahan, 912 Vinton street; financial secretary, Jacob Snyder, 536 South Erie street.

***No. 246, Steubenville, O.**—Meets first and third Wednesday at Druids' Hall, North Fourth street. President, S. M. Richards, 100 South street; recording secretary, J. R. McCoy, 774 Lincoln avenue; financial secretary, E. D. Richards, corner High and South streets.

No. 247, Schenectady, N. Y.—Meets first and third Fridays of each month at Trades Assembly Hall, State street, near Canal bridge. President, Arthur E. Sparks, 20 Cora street; recording secretary, Herbert U. Merrill 110 State street; financial secretary, R. C. Schemmerhorn, 340 Falge street.

***No. 248, Chillicothe, Ohio.**—Meets second and fourth Fridays at Federal Labor Union Hall, 153 East Fifth street. President, E. O. Jackson, 157 West Wotter street; recording secretary, Strawder J. Swyers, 39 E. Second street; financial secretary, Strawder J. Swyers, 39 E. Second street.

***No. 249, St. Catharines, Ontario.**—Meets second and fourth Tuesday, each month, at Trades and Labor Hall, St. Paul street. President, James Crawford, St. Catharines, Ontario; recording secretary, J. Charles Clifford, St. Catharines, Ontario; financial secretary, Joseph Lappin, St. Catharines, Ont.

†**No. 250 San Jose, Cal.**—Meets every Tuesday in Building Trades Council Hall, First and Post streets. President, R. Kamp, First and San Fernando streets; recording secretary, Nick Cooper, 397 West San Carlos street; financial secretary, J. W. Hilton, 26 Sanborne avenue.

***No. 251, Pine Bluff, Ark.**—Meets first and third Wednesdays at Carpenters Hall, 112½ W. Banaque streets. President, B. R. Brown, P. O. Box 248; recording secretary, Vernon Mullen, P. O. Box 248; financial secretary, J. W. Johnson, P. O. Box 248.

†**No. 252, Schenectady, N. Y.**—Meets third Thursday each month at Ellis' Building, State street. President, Charles Heffernan, 306 Jay street, continued; recording secretary, Ralph Lathroup, 6 Landen Terrace; financial secretary, C. A. Bates, Box 655.

***No. 253, Cedar Rapids, Iowa.**—Meets first and third Thursdays, Federation Hall, corner First avenue and Second street. President, E. C. Gleason, 442 Fourth ave. W.; recording secretary, R. E. Galner, general delivery, Cedar Rapids; financial secretary, C. A. Eisentraut, Iowa Tel. Co.

No. 254, Schenectady, N. Y.—Switch-board Makers.—Meets second and fourth Tuesdays at Machinists Hall, State and Jay streets. President, Jno. H. Cornick, 808 Grand avenue; recording secretary, A. M. Franchois, 258 Broadway; financial secretary, W. J. G. Stewart, 511 Smith street.

***No. 255, Ashland, Wis.**—Meets every Saturday evening Longshoresmen's Hall, corner Ellis avenue and Front street. President, W. M. Hosack, Tremont Hotel; recording secretary, Chas. Branzell, 1112 Sixth street, West; financial secretary, O. Scott Tomkins, 220 Seventh avenue, West.

***No. 256, Charleston, W. Va.**—Financial secretary, B. F. Weaver, 403 Kanawha st., Charleston.

†**No. 257, Herkimer, N. Y.**—Meets first and third Friday of each month at Trades Assembly Hall North Main street. President, Martin Manion North Washington street; recording secretary, Chas. Folts, 311 Eastern avenue; financial secretary, H. Vilhauer, 223 Perry street.

†**No. 258, Providence, R. I.**—Meets every Friday night at Hanley Building, 68 Washington street. President, Raymond V. Grant, 185 Pleasant street, Providence, R. I.; recording secretary, Frank S. Gallagher, 39 Hilton street, Pawtucket, R. I.; financial secretary, John F. Noon, 69 Union avenue, Providence, R. I.

***No. 259, Salem, Mass.**—Meets first and third Tuesdays at I. O. O. F. Hall, Washington street. President, E. A. Oliver, 3 Granite street; recording and financial secretary, F. A. Coker, 41 March street.

?**No. 260, Fort Wayne, Ind.**—Meets Thursday night in Bank Block, Court street, opp. Court House. President, John T. Somers, 632 Hendricks street; recording secretary, Edward P. Schrantz, 325 Melita street; financial secretary, Leroy Zellers, 1420 Swenney ave.

†**No. 261 Saratoga Springs, N. Y.**—First and third Wednesday, Phythian Hall, 464½ Broadway. President, Chas. A. Drulette; recording secretary, Leonard Ager, 11 Maple avenue; financial secretary, Wm. H. Owen, 42½ Caroline street.

***No. 262, Pullman, Ill.**—Meets second and fourth Mondays at K. of P. Hall, Arcade Building, 111 Place. President, S. H. Dawney, 6525 Ellis avenue, Chicago; recording secretary, J. A. Larsen, 8028 Coles avenue, South Chicago; financial secretary, M. J. Coleman, 5630 Wabash avenue, Chicago.

***No. 263, Shamokin, Pa.**—Meets Thursday evening at 7.30, Room 7, Sells Zimmerman Building, Independence street. President, Harry T. Morgan, corner Pine and Diamond streets; recording secretary, Rosser Samuels, 118 Poplar street; financial secretary, Ed. Roth, 49 East Sunbury street.

†**No. 264, Pittsfield, Mass.**—Meets second and fourth Friday of every month at Bartenders Hall, England Block. President, S. W. Monkes, 124 Columbia avenue; recording secretary, M. C. Bly; financial secretary, C. C. Rowley, 240 Tyler street.

***No. 265, Lincoln, Neb.**—Meets every Thursday at Central Labor Hall, 130 South Eleventh street. President, Mark T. Caster, 2181 S. street; recording secretary, Thos. E. Arundel, 660 South Nineteenth street; financial secretary, George W. Neally, 428 South Thirteenth street.

***No. 266, Sedalia, Mo.**—Meets every Thursday at Glass Hall, corner Third and Lamine streets. President, John W. Henerman, 608 East Thirteenth street; recording secretary, L. Eiseman, 705 East Fifteenth streets; financial secretary, J. G. Fowler, 300 West Fourth street.

†**No. 267, Schenectady, N. Y.**—Meets first and third Saturday, at K. of C. Hall, State street, near Railroad. President, B. A. Cawley, 77 Second avenue; recording secretary, Joe Andry, 534 Munford street; financial secretary, Leonard Beyer, 1218 State street.

***No. 268, Newport, R. I.**—First and third Fridays, at Central Labor Hall, Thames street. President, C. W. Holm, 14 Bliss Road; recording secretary, W. H. Mitchell, Daily Cottage, Dixon street; financial secretary, F. A. Bloom, 1 Harrison avenue.

*No. 269, Princeton, Ind.—Meets first and fourth Monday night, on second floor of City Building, Broadway and Prince streets. President, Charles Stevens, Telephone office; recording secretary, Lewis S. Kell, 211 South Seminary street; financial secretary, L. S. Kell, 109 North Prince street.

*No. 270, New York, N. Y.—Financial secretary, I. C. Grant, 33 Broadhurst avenue.

*No. 271, Altoona, Pa.—First and third Monday, each month, Carpenter's Hall, Thirteenth street and Eleventh avenue. President, Chas. Downs; financial secretary, L. M. McPherson, 902 Chest. avenue; recording secretary, F. T. Kleffman, 910 Lexington avenue.

*No. 272, Sherman, Texas.—Meets first and third Tuesdays, at Union Hall, southwest corner square. President, Frank H. Wright, care of Grayson Tel. Co.; recording secretary, W. L. Porter, care of S. W. Tel. Co.; financial secretary, E. F. Jerger, care of Grayson Tel. Co.

*No. 273, Clinton, Iowa.—Meets second and fourth Wednesdays, at Labor Temple, Fifth avenue. President, J. J. Davie, 202 South Second street; recording secretary, O. A. Prest, 425 Dewitt street; financial secretary, C. C. Mathiesen, 629 Stockholm street.

*No. 274, Marinette, Wis.—Meets second and fourth Thursday at Trades Council Hall, Main street. President, Edwin A. Golden, Wells street; recording secretary, A. LaChance, 912 Elizabeth avenue; financial secretary, F. E. McWayne, 1838 Stephenson street.

*No. 275, Muskegon, Mich.—Meets first and third Thursday at Trades and Labor Hall, Western avenue. President, Edward Plunkett, 25 Sumner street; recording secretary, W. S. Krebs, 54 Western avenue; financial secretary, C. E. Morey, 32 Miller avenue.

*No. 276, West Superior, Wis.—Meets first and third Tuesdays, at Union Hall, Hammond Block. President, W. W. Kielly, 916 Baxter avenue; recording secretary, J. R. Tillotson, 1620 Oaks avenue; financial secretary, P. C. Miller, 1901 Butler avenue.

*No. 277, Kingston, N. Y.—Meets first and third Thursday evenings at Recorder's Room, City Hall, Reilly street and Broadway. President, E. H. Buckbee, Lucas avenue; recording secretary, Roswell Coles, 76 Maiden Lane; financial secretary, H. Rumsey, 100 Downs street.

*No. 278, Rock Island, Ill.—Meets first and third Friday of each month at Turner Hall, Third avenue, between Fifteenth and Sixteenth streets, Rock Island, Ill. President, George Briggs, 2005 Rock Island street, Davenport, Iowa; recording secretary, Harry Keys, 1301 Fourth avenue, Rock Island, Ill; financial secretary, Jay C. Mead, 655 East Sixth street, Davenport, Iowa.

*No. 279, Chicago, Ill.—(Machine repairers, dynamo and switchboard tenders.)—Meets every Monday evening at 196 East Washington street. President, S. Bennett 1587 West Twelfth street; recording secretary, S. A. Hoemann, 44 Win drop Place; financial secretary, Jas. A. Pepper, 178 Dearborn avenue.

*No. 280, Hammond, Ind.—Meets first and third Friday at K. of P. Hall, 247 State street. President, Geo. Larson, Sibley street; recording secretary, S. J. Carpenter, 271 Michigan avenue; financial secretary, Harry Hill, 430 Indiana ave.

*No. 281, New Orleans, La.—Meets first Friday in each month at McMahon's Hall, Dryades street, near Calliope. President, Chas. Kister, 2719 First street; recording secretary, P. Radlet, 1510 N. Robinson street; financial secretary, Geo. Lorrick, 6115 Laurel street.

*No. 282, Chicago, Ill.—President, P. Sullivan; 3733 Wallace street; recording secretary, E. Kelly, 5018 Aberdeen street; financial secretary, A. Fawcett, 6638 Halsted street.

*No. 283 San Francisco, Cal.—Meet every Tuesday, at Alcazar Building, 120 O'Farrell street. President, H. Wolfe, 333 Minna street; recording secretary, C. H. Hanson, 108½ Fell street; financial secretary, William Coyle, 1726 Twelfth ave., south.

*No. 284 Rochester, N. Y.—(Station men.)—Meets second and fourth Thursdays of each month, Snider's Hall, 14 North Water street. President, A. D. Rees, 211 Frost avenue; record-

ing secretary, W. J. K. Sutherland, 47 Elm street; financial secretary, S. B. Russell, 164 Cady street.

*No. 285, Lynn, Mass.—Financial secretary, H. Patten, 29 Hanover street.

*No. 286, New Albany, Ind.—Meets every Monday night at Cigar Makers' Hall, State and Market street. President, J. B. Firster, 1823 Rear Market; recording secretary, C. L. Biel, 1103 Oak street; financial secretary, J. P. Elliott, 526 Culb avenue.

*No. 287, Philadelphia, Pa.—Meets every Wednesday evening in hall located at No. 287 N. 9th street. President, Jno. McKenna, 873 Markoe street; recording secretary, C. E. Lawrence, 1737 Vine street; financial secretary, H. T. Ulmer, 2355 Cleveland avenue.

*No. 288, Waterloo, Iowa.—Meets first and third Thursday at Central Labor Hall, 215½ E. Fourth street. President, W. J. Braydon; recording secretary, E. W. Fisher, Iowa Tel. Company; financial secretary, Chas. Brickley, P. O. Box 764.

*No. 289, Oakland, Cal.—Financial secretary, L. C. Kohler, 1253 Twelfth avenue.

*No. 290, Danville, Ill.—Meets every Monday night at I. B. E. W. Hall, East Main street. President, J. A. Webster, Central Union Telephone Co.; recording secretary, J. W. Manning, Central Union Telephone Co.; financial secretary, W. E. Crosley, Central Union Telephone Co.

*No. 291, Boise City, Idaho.—Meets every Friday evening at Labor Hall, Banack street, between Eighth and Ninth streets. President, W. W. Moore, P. O. Box 525; recording secretary, E. R. Cole, P. O. Box 525; financial secretary, T. H. Martin, P. O. Box 525.

*No. 292, Minneapolis, Minn.—Meets second and fourth Tuesdays at Union Temple, No. 3. President, S. L. Ackerman, 1600 Fifth avenue north; recording secretary, Wm. G. H. Riach, 108 Washington avenue south; financial secretary, G. W. Lee, 924 Plymouth avenue, North.

*No. 293, North Adams, Mass.—Meets every second Sunday at 11 a. m., at Sullivan Block, sMain street. President, Fred. W. Pinkham. Holden street; recording secretary, Arthur A. Isbell, 80 Porter street; financial secretary, Edward S. Boylan, 18 School street.

*No. 294, Pluncke, Ind.—Meets every Tuesday night at Union Labor Hall, Room 2, corner Walnut and Main streets. President, Clyde Zeeke; recording secretary, Orvill Overcash; financial secretary, Ralph Garst, 405 Wheeling avenue.

*No. 295, Natchez, Miss.—President, L. T. Moore; financial secretary, C. R. Foreman, 209 South Broadway.

*No. 296, Poughkeepsie, N. Y.—Meets first and third Monday evening each month, at 405 Main street. President, Jno. McAbee, 9 Cannon street; recording secretary, Fred Wiggan, 35 Market street; financial secretary, Jacob Ostrom, 37 South Bridge street.

*No. 297, Piqua, Ohio.—Meets second and fourth Thursdays at Plock's Hall, 114 South Main street. President, Clark Reed, 617 N. River street, Piqua, Ohio; recording secretary, John Ballard, Tippecanoe City, Ohio; financial secretary, J. H. Parlett, No. 8 West street, Troy, Ohio.

*No. 298, San Francisco.—(Street car men.) Meets first and third Mondays at Unity Hall, 20 Eddy street. President, W. B. Haskell, 435 29th street; recording secretary, P. A. Clifford, 3327 17th street; financial secretary, William D. Thomas, 30 Bourbon place.

*No. 299, Camden, N. J.—Meets every Thursday at Daley's Hall, Northwest corner Seventh and Brick streets. President, John MacDougall, 815 Princeton avenue; recording secretary, R. A. Young, 638 Benson street; financial secretary, F. B. Fraser, 800 Kimber street.

*No. 300, Auburn, N. Y.—Meets first and third Thursdays, at C. M. E. A. Hall, Franklin street. President, Frank B. Cahill, Hotel Brunswick; recording secretary, J. J. Glynn, Hotel O'Neil; financial secretary, William Burns, 32 Pulsiver street.

*No. 301, Texarkana, Ark.—Meets every Wednesday at Union Labor Hall, 216 Pine street. President, H. T. Robertson, 220 Elm street; recording secretary, W. Adams, 220 Elm street; financial secretary, J. E. French, 220 Elm street.

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 †No. 302, Peoria, Ill.—Meets first and third Tuesdays at 218 Main street. President, E. C. Gregg, 918 First avenue; recording secretary, H. C. Lupton, 504 St. James street; financial secretary, L. C. Crawley, 115 Dechman avenue.

*No. 303, Lincoln, Ill.—Meets first and third Wednesday of each month at Painters' Hall, East Pulaski street. President, C. S. Ransdell, South Kickpoo; recording secretary, W. S. Codding, 318 Delavan street; financial secretary, C. E. Chowning, 302 Delavan street.

†No. 304, New Haven, Conn.—Meets every Tuesday night at Room 11 Masonic Temple Building, 708 Chapel street. President, W. A. Johnson, 773 Whitney avenue; recording secretary, W. M. Dutton, 542 Chapel street; financial secretary, Ch. Schmolke, 88 Franklin street.

*No. 305, Salt Lake City, Utah.—Meets every Monday at Electrical Workers' Hall, 11 W. First street south. President, Bert Cunningham, Salt Lake, general delivery; recording secretary, R. Baxter, 541 Ninth street east; financial secretary, R. Baxter, 541 Ninth street east.

*No. 306, Albuquerque, New Mex.—Meets first and third Tuesdays at 110 Gold avenue. President, M. Nash, Albuquerque, N. M.; recording secretary, Carl Gillam, Albuquerque, N. M.; financial secretary, E. R. Hotelling, Albuquerque, N. M.

*No. 307, Cumberland, Md.—Meets first and last Friday night at No. 4 Engine House, Maryland avenue. President, George A. Eyer, 47 Maryland avenue; recording secretary, J. C. Dye, 97 North Mechanic street; financial secretary, R. Snyder, 17 Harrison street.

†No. 308, Beaumont, Tex.—Meets every Tuesday night at Carpenters' Hall, Main and Washington streets. President, M. E. Graves, Beaumont, Texas; recording secretary, J. S. Gibbs, Beaumont, Texas; financial secretary, W. G. Miller, 284 Pearl street.

†No. 309, East St. Louis, Ill.—Meets every Tuesday at District Council of Carpenters Hall, Third street and Missouri avenue. President, Chas. Bennett, State and Sixteenth streets; recording secretary, C. Arnold, 22 North Main street, E. St. Louis, Ill.; financial secretary, R. Hartske, 2752 Lafayette ave.

*No. 310, Stamford, Conn.—Meets first and third Wednesday at Minor Post Hall.—President, Goodrich E. Risley, 221 Atlantic street; recording secretary, William A. Curran, 17 Dale street; financial secretary, Norman R. Wilcox, 109 Stillwater avenue.

*No. 311, Beloit, Wis.—Meets first and third Wednesday at Trades Council Hall, Bridge and Third streets. President, Chas. Ford, 774 Brooks street; recording secretary, H. E. Churchill, 110 East D street; financial secretary, A. J. Gilbertson, 1089 Prairie avenue.

*No. 312, Pocatello, Idaho.—Meets first and third Mondays at Eagle Hall, corner of First avenue and Center street. President, H. J. Reynolds; recording secretary, W. E. Mittenberger, P. O. Box 512.

*No. 313, Wilmington, Del.—Meets every Friday at 208 E. Fourth street, Fourth and French streets. President, Geo. Lyon, 422 East Sixth street; recording secretary, L. W. McClenahan, Bell Tel. Exchange; financial secretary, I. S. Lenderman, 912 Poplar street.

*No. 314, Tyler, Texas.—Meets second and fourth Wednesdays at Trades Assembly Hall, Southside Square. President, H. C. King, 740 W. Erwin street; recording and financial secretary, E. L. Ivey, 234 Adams avenue.

†No. 315, Chicago, Ill.—Meets first and third Monday in every month. President, E. Schweiker, 1975 N. Ashland avenue; recording secretary, C. B. Hopkins, 819 North Artesian avenue; financial secretary, J. Liebrich, 3682 LaSalle street.

*No. 316, Ogden, Utah.—Meets every Saturday at Union Labor Hall, 882 Twenty-fourth street. President, W. B. Gray, 613 Maryland avenue; recording secretary, Ed Jessop, 262 Thirty-third street; financial secretary, R. F. Dean, 2631 Grant avenue.

*No. 317, Ashland, Ky.—Meets Tuesday night at Central Labor Hall, corner Fifteenth and Greenup streets. President, S. Coulgrove; finan-

cial secretary, M. M. Argabrite, 115 West Winchester avenue.

†No. 318, Knoxville, Tenn.—Meets first and third Tuesdays of each month, Independent Hall, 718 Gay street. President, J. G. Harrison, Spring street; recording secretary, John McCarroll, Market Square; financial secretary Jess Waters, 712 Campbell street.

†No. 319, Pittsburg, Pa.—Meets second and fourth Monday of each month at K. of L. Hall, 535 Smithfield street. President, W. A. Kelly, 36 Oakland Square; recording secretary, J. J. Horner, 225 Lothrop street; financial secretary, Urban H. Friedman, 847 Estella street.

*No. 320, Paris, Tex.—Meets every Thursday night at Roundtree Building, North Main street. President, J. G. Sullivan; recording secretary, W. N. Banta; financial secretary, J. R. Hancock, Vineyard Hotel.

*No. 321, La Salle, Ill.—Meets first and third Saturdays at Reed & O'Neil's Hall, 845 First street. President, Thomas Heffron, La Salle, Ill.; recording secretary, Noxie Dusch, 227 Bucklin street; financial secretary, Jos. B. Skovare, 328 Second street.

*No. 322, Kokomo, Ind.

*No. 323, Fairmont, W. Va.—Meets Saturday nights at Musgrave Hall, Monroe street. President, H. S. Upton, general delivery; recording secretary, T. N. Bennet, Fairmont general delivery; financial secretary, George E. Allard, Box 607, Fairmont, W. Va.

*No. 324, Brazil, Ind.—Meets alternate Tuesday nights at United Mine Workers' Hall, Main and Walnut streets (Opera Block). President, Harry Reed, 12 W. Maple street; recording secretary, Birt Stauts, 203 South Lambert street; financial secretary, L. M. Moore, 403 South Lambert street.

*No. 325, Binghamton, N. Y.—Meets every Friday, 8 p. m. at C. L. U. Hall, 79 State street. President, F. K. Spencer, 18 New street; recording secretary, R. P. Noble, 18 New street; financial secretary, W. J. Bidwell, 120 Washington St.

*No. 326, Connellsville, Pa.—Meets second and fourth Mondays at Plumbers' Hall, No. 108 North Pittsburg street. President, Alex. Angus, Connellsville; recording secretary, Frank Buttermore, New Haven, Pa.; financial secretary, G. S. McClay, 118 N. Pittsburg street.

*No. 327, West Palm Beach, Fla.—Meets first and third Mondays at Central Labor Hall, Clematis avenue. President, E. W. J. Parrish; recording secretary, J. E. Chambers; financial secretary, Stephen L. Harman, P. O. Box 451.

*No. 328, Oswego N. Y.—Meets every Tuesday night at Mullin's Hall, 90 East First street. President, John Feeney; recording secretary, John Schaffer, 111 East First street; financial secretary, Frank Gallagher, 77 East Eighth street.

*No. 329, Shelbyville, Ind.—Meets every Friday night at Union Hall, Public Square. President, W. J. Smith, 143 East Walker street; recording and financial secretary, Alfred C. Lee, Second street.

†No. 330, Kansas City, Mo.—Meets every other Wednesday at Electrical Workers Hall, 1393 Grand ave. President, Henry Hollingbarger, 1710 Grand ave; recording secretary, Earl C. Zoll, 318 East Seventeenth street; financial secretary, G. V. Tudhope, Missouri and Kansas Tel.

*No. 331, Long Branch, N. J.—Meets first and third Monday each month at Phil Daly's Hose Company's Hall, Second avenue. President, E. J. Dougherty, 174 Union ave.; recording secretary, John A. Brokaw, 31 Washington street; financial secretary, Jno. Coles, Jr., Box 127, Station B, Long Branch, N. J.

*No. 332, Sault Ste Marie, Mich.—Meets Tuesday night, at La Lond Block, Ashmun streets. President, Dave Howey, 235 Ridge street; recording secretary, R. McClamohy, 508 Spruce street; financial secretary, C. Van Dusen, 809 Young street.

*No. 333, Emporia, Kans.—Meets every Tuesday night at 323½ Commercial street. President, E. McKinsey, 101 So. West street; recording secretary, W. M. Johnson, 709 Merchant street; financial secretary, W. C. Prince, 216 So. Merchant street.

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- *No. 334, Whatcom, Wash.—Financial secretary, G. L. Crews, 1431 Humbolt street.
- *No. 335, Springfield, Mo.—Meets Wednesday, Odd Fellows Hall, 302 Boonville street. President, Jno. Stowe, 443 Harrison avenue; recording secretary, E. D. Croft, 784 Robinson avenue; financial secretary, R. M. Sutton, 507 W. Ohio street.
- *No. 336, Oskaloosa, Iowa.—Meets first and third Tuesdays, at Engineer's Hall, West High avenue. President, W. F. Fortune, Oskaloosa; recording secretary, John Teos, Oskaloosa; financial secretary, G. W. Gordon, 207 E. Third avenue.
- *No. 337, Chicago, Ill.—Meets second and fourth Mondays at Dewey Hall, 70 Adams street. President, J. J. Sullivan, 666 North Park avenue; recording secretary, P. H. Hammang, 4226 Grand Boulevard; financial secretary J. J. McCabe, 4228 Wabash avenue.
- *No. 338, Denison, Tex.—Meets every first and third Mondays at Labor Hall, 202½ W. Main street. President, C. D. Sloan, 211½ W. Main street; recording and financial secretary, J. R. W. Pratt, 529. Murray street.
- *No. 339, Sterling, Ill.—Meets first and third Wednesday at Labor Hall, 308 Locust street. President, Geo. Thomas, Sterling, Ill.; recording secretary, John Powers, 102 Thirteenth avenue; financial secretary, R. L. Fairbrother, 1011 First avenue, Sterling, Ill.
- †No. 340, Sacramento, Cal.—Meets first and third Mondays at Pythian Castle, corner Ninth and I streets. President, J. A. Crombach, 1009 Q street; recording secretary, E. G. Fletcher, 725 G street; financial secretary, C. W. Beaton, 1620 I street.
- *No. 341, Ottawa, Ill.—President, Wm. F. Spore, 119 W. Washington street; recording secretary, P. Lavalle; financial secretary, Wm. H. Shafer, 1125 Post street.
- *No. 342, New Brighton, Pa.—Meets Thursday, E. J. Ryan's Hall, corner Third avenue and Ninth street. President, W. H. Irons, Third street, Beaver, Pa.; recording secretary Geo. J. Wolf, 1709 Fourth avenue, Beaver Falls, Pa.; financial secretary, J. L. Allwine, 654 Case street, Rochester, Pa.
- *No. 343, Norwich, Conn.—Meet second and fourth Wednesday at Carpenters' Hall, Shetucket street. President, R. M. Kittson, Woodmansee avenue; recording secretary, Walter Holden, 150 Main street; financial secretary, W. H. Hall, 87 Cliff street.
- *No. 344, New London, Conn.—Meets first and third Friday at Bacon Block, State street. President, W. H. Vibber, 24 Mountain avenue; recording secretary, C. C. Comstock, 5 Franklin street; financial secretary, John S. Loveless, 11 Berkley avenue.
- *No. 345, Mobile, Ala.—Meets second and fourth Mondays at I. O. O. F. Hall, corner of St. Joseph and St. Michael streets. President, W. O. Seagraves, care of Southern Bell T. & T. Company; recording secretary, C. E. Hooks, care of W. U. Tel. Co.; financial secretary, J. L. L. Eastburn, Elmira street, second dooreast of Charles street.
- *No. 346, Fort Smith, Ark.—Meets first and third Tuesday at K. of P. Hall, over 708 Gar. avenue. President, Nat. Graham, 21 N. Twelfth street; recording secretary E. M. Wright, 819 N. Fifth street; financial secretary, W. H. McDonald, 710 S. Eleventh and H streets.
- *No. 347, Peru, Ind.—Meets first and third Friday at Teamster's Hall, Petty Block. President, Frank Seamon, 72 E. Fifth street; recording secretary, Elmer Burlingame, 217 E. Fifth street; financial secretary, Wm. Odum, 92 E. Eight street.
- *No. 348, Greenville, Tex.—Meets second and fourth Thursday at Labor Hall, 278 West Lee street. President, C. A. Duck, 182 South Travis street; recording secretary, W. Brame, 216 North Stonewall street.
- *No. 349, Bangor, Me.—Meets every Wednesday at Lewis Block, 121 Main street, Room 1, President, B. P. Nickerson, 235 Center street; recording and financial secretary, J. C. Smith, 175 Ohio street.
- *No. 350, Hannibal, Mo.—Meets first and third Monday at Trades Council Hall, corner of Main and Broadway. President, H. S. Lambrecht, 522

- Broadway; recording secretary, Geo. M. Jackson, 220 Bird street; financial secretary, N. J. Givan.
- *No. 351, Meriden, Conn.—Meets first and third Wednesdays at Turners' Hall, Pratt street. President, F. E. Tuttle, Wallingford, Conn.; recording secretary, C. J. Maher, 44 Willow street; financial secretary, R. P. Collins, 40 Benjamin street.
- *No. 352, Lansing, Mich.—Meets second and fourth Tuesday at Labor Hall, Washington avenue, north. President, Bert Craus, Lansing, Mich.; financial secretary, D. B. Kinney, 818 Michigan street, West.
- †No. 353, Toronto, Can.—Meets first and third Mondays, at Occident Hall, cor. Queen and Bathurst streets. President, D. Mathieson, 32 Mansfield avenue; recording secretary, J. Fyfe, 82 Mansfield avenue; financial secretary, J. Ferguson, 722 Dufferin street.
- †No. 354, Salt Lake City, Utah.—Meets every Wednesday at 7.30 p. m., I. B. E. W. Hall, First, South and Main streets. President, W. H. Meldrum, P. O. Box 213; recording secretary, A. N. Thomas, P. O. Box 213; financial secretary, Robert Burns, P. O. Box 213.
- *No. 355, Pittsburg, Pa.—Meets second and third Thursday at National Bank Building, Wilkinsburg, Pa. President, C. E. Dougherty; recording secretary, W. Waterworth, E. Pittsburg; financial secretary, Geo. M. Smith, P. O. Box, 217, E. Pittsburg.
- †No. 356, Kansas City, Mo.—Meets every Monday, in Electrical Workers' Hall, 1333 Grand avenue. President, Sam H. Hawkins, 1333 Grand avenue; recording secretary, F. J. Schadel, 1333 Grand avenue; financial secretary, J. B. Schreiber, 203 West Fifteenth street.
- No. 357, Pittston, Pa.—Meets first Thursday after the 15th at Advocate Office, Butler Block. President, John Sheridan, 17 High street, Pittston; recording secretary, P. F. Toole, Union street, Pittston; financial secretary, E. L. Rowan, 232 William street, Pittston.
- *No. 358, Perth Amboy, N. J.—Meets first and third Thursdays at Carpenters' Union Hall, Srickers Building, 138 Smith street. President, Julius Kundson, 78 New Brunswick avenue; recording secretary, Wm. McDonough, 43 East avenue; financial secretary, Ambrose Mather, 44 East avenue.
- *No. 359, Iron Mountain, Mich.—Meets first and third Sundays, at Russell's Hall, 710 Brown street. President, B. G. Hull, Norway, Mich.; recording secretary, S. Tretheway, 219 D street; financial secretary, C. Carlson, 1120 River avenue.
- *No. 360, Sioux Fall, S. D.—Meets second and fourth Wednesday at Labor Hall, Syndicate Block. President, M. G. Lacy; recording secretary, E. C. De Long, 621 S. Main avenue; financial secretary, F. B. Harris, E. Eighth street.
- *No. 361, McKeesport, Pa.—President, George Griffith, Charleroi, Pa.; recording secretary, John J. Sullivan, McKeesport, Pa.; financial secretary, H. C. Bamford, McKeesport, Pa.
- *No. 362, Kankakee, Ill.—Meets every Monday at German I. O. O. F. Hall, 204 Court street. President, F. E. Jeffers, Hospital, Illinois; recording secretary, H. H. Boysen, 162 Dearborn avenue; financial secretary, C. C. Riley, 108 Rosewood avenue.
- No. 363, Asbury Park, N. J.
- *No. 364, Guthrie, Okla.—Meets first and third Tuesdays at Armory Hall, 109 West Harrison avenue. President, Art Carpenter; recording secretary, W. F. C. Perry; financial secretary, A. H. Harmon.
- *No. 365, Vicksburg Miss.—Meets first and third Saturdays at K. P. ante room, corner Clay and Washington streets. President, R. B. Zeilka, Walnut street; recording and financial secretary, John E. Ford 205 Bomar avenue.
- *No. 366, Allentown, Pa.—Meets Saturday at Nagle's Hall, Seventh and Turner streets. President, J. S. Hoffman, 1315 Court street; recording secretary, John F. Gaffney, 181 Teighman street; financial secretary, A. Weibel, 739 Fair street.
- †No. 367.—St. Louis, Mo.—Meets first and third Sundays, 2.20 p. m. President, C. A. Hose, 1927 Florrisant avenue, St. Louis, Mo.; record-

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ing secretary, C. A. Liles, Madison, Ill.; financial secretary, G. E. Sutter, 4603 Cook avenue.

¶No. 368.—New York, N. Y.—Meets second and fourth Wednesday, Union Hall, 1591 Second avenue. President, J. J. Strauss, 106 E. 118th street; recording secretary, Jas. S. Wellington, 263 W. 130th street; financial secretary, J. J. McCarty, 202 E. 96th Street.

†No. 369, Louisville, Ky.—Meets every Friday at Electrical Workers Headquarter, Fourth and Green streets. President, John Dieble, southwest corner Fifteenth and Pirtle streets; recording secretary, John W. Isaacs, Enterprise Hotel; financial secretary, D. Butterfield, 1767 Wilson avenue.

‡No. 370, Los Angeles, Cal.—Meets every first and third Saturday at Council of Labor Hall, No. 3, 488½ South Spring street. President, C. R. Holmes, 762 Lord street; recording secretary, Eldon E. Soper, 1709 Reed street; financial secretary, Hal Hamner, 319 West Avenue Fifty-one.

*No. 371, Redding, Cal.—Meets first and third Tuesdays at Horn's hall, 516 California street. President, John T. Reed, Golden Eagle Hotel; recording secretary, J. C. Powel, Temple Hotel; financial secretary, D. W. Rathburn, 828 Gold street.

*No. 372, Boone, Iowa.—Meets first and third Fridays at North Side Union hall, 917 Tenth street. President, H. C. Elliott, 515 Tenth street; recording and financial secretary, A. J. Beri, 1556 Fifth street.

*No. 373, Onedia, N. Y.—Meets first Monday of every month at Trades Assembly Hall, corner of James and Elm streets. President, Irving B. Hawkins, 40 Seneca street; recording secretary, P. Lamont Barr, Elm street; financial secretary, Henry Gasler, Boston street.

*No. 374, Escanaba, Mich.—Meets every first and third Friday evenings at Lemmer's Hall, 310 Ludington street. President, Geo. Roemer, 916 Well avenue; recording secretary, E. V. Smith, 510 Ludington street; financial secretary, Wm. Helligenthal, 1508 Ayer street.

*No. 375, Jefferson City, Mo.—President, M. P. Gaddis, Jefferson City, Mo.; financial secretary, G. W. Fleming, Jefferson City, Mo.

¶No. 376, Chicago, Ill.—President, Thos. V. Cos; tello, 646 W. Forty-fifth street; recording secretary, A. E. Tellefoen, 207 W. Emerson avenue; financial secretary, Thos. Queenan, 196 E. Washington street.

*No. 377, Norristown, Pa.—President, Wm. S. Miller, 680 Cherry street; financial secretary, E. E. Godschalk, 202 E. Oak street.

‡No. 378, Denver, Colo.—Meets second and fourth Fridays, 8 p. m., Room 218 Charles Block, corner of Fifteenth and Curtis streets. President, P. P. Bennett, 1431 Sixteenth street; recording secretary, S. H. Cleary, 1817 Glenorm street; financial secretary, A. C. Winsch, 742 South Twelfth street.

*No. 379, Greensburg, Pa.—Meets first and third Thursday of each month, at Glunts Hall, corner East Pittsburg street and Maple avenue. President, A. R. Mott, Franklin street, Greensburg, Pa.; recording secretary, Elmer Stahl, Greensburg, Pa.; financial secretary, C. M. Morgan, East Otterman street, Greensburg, Pa.

¶No. 380, Salt Lake City, Utah—Station men—Meets every second and fourth Monday at Emporium Building, 11 West First South Street. President, H. P. Burt, 1519 Indiana avenue; recording secretary, T. C. Husbands, P. O. Box 971, financial secretary, T. C. Husbands, P. O. Box 971.

¶No. 381, Chicago, Ill.—Flixture hangers—Meet first and last Tuesdays at Koch's Hall, 106 East Randolph street. President, Ed. Applin, 2807 Union avenue; recording secretary, O. H. Owen, South Harvey, Ill.; financial secretary, O. A. Lawson, 449 Cornelia street.

*No. 382, Columbia, S. C.—Meets Wednesday night, at Independence Hall, over Independent Engine House, between Main and Assembly streets. President, F. D. Cooper, Southern Bell Tel. Co.; recording secretary, J. W. Blease, Wm. Perry Electrical Co.; financial secretary, W. J. Jones, South Carolina Glass Works.

*No. 383, Mattoon, Ill.—President; Harry Schock; recording secretary, Ned Malaine; financial secretary, L. Morganstein.

*No. 384, Sydney, Nova Scotia—Meets every second Wednesday of each month at C. M. B. A. Hall, George street, Sydney, C. B. President, S. De Witt, Sydney, N. S.; recording secretary, Oscar L. Boyd, Sydney, C. B.; financial secretary, Angus Hugh Cameron, 467 Esplanade street, Sydney, C. B.

*No. 385 Lawrence, Mass.—Meets Friday nights at Music Hall, 304 Common street. President, A. M. Winslow, 125 Farnham street; recording secretary, T. H. Hogarth, 86 Andover street; financial secretary, Chester Kavanah, 51 Walnut street.

*No. 386, New Iberia, La.—Meets first Friday of each month, corner Main and Corinne streets. President, George Fay; recording secretary, E. R. Chivers; financial secretary, W. A. Broussard.

*No. 387, Freeport, Ill.—President, C. L. Gulon, 95 Cottonwood street; financial secretary, H. L. Brubaker, 214 Taylor avenue.

*No. 388, Palestine, Tex.—President, C. B. Turner; financial secretary, L. A. Pierce.

*No. 389, Paterson, N. J.—Meets every first and third Tuesday, in Columbia Hall, 462 Main street. President, F. H. Holmes, Lodi, N. J.; recording secretary, Charles Walton, 57 Twenty-third avenue; financial secretary, Geo. Twigger, 330 Market street.

*No. 390, Johnstown, Pa.—Meets Thursday at Electrical Workers Hall, 337 Bedford street. President, Robert Funderberg, 518½ Vine street; recording secretary, H. W. Apel, 531 Franklin street; financial secretary, F. W. Buchanan, 248 Adam street.

¶No. 391, Los Angeles, Cal.—Financial secretary, J. F. Greaves, Johnston Hotel.

*No. 392, Troy, N. Y.—Meets every Thursday night in Red Men's Hall, First and Congress streets. President, J. W. Lindsey, Lynn House; recording secretary, I. S. Scott, 18 Ingalls ave.; financial secretary, Robt. Grant, 142 Third street.

¶No. 393, Detroit, Mich.—Meets second and fourth Friday, in Johnson's Union Headquarters, corner Monroe avenue and Farrar street. President, George A. Dunkers, 478 Elmwood avenue; recording secretary, Sydney A. Smith, 369 Cass avenue; financial secretary, C. W. Guinness, 505 Trumbull avenue.

¶No. 394, Auburn, N. Y.—T. H. Mohan, 1 School street.

*No. 395, Kalamazoo, Mich.—Meets first and third Monday of each month, Trades and Labor Hall, South Burdick street. President, Geo. C. Milham, 722 Stockbridge ave.; recording secretary, Burton A. Whipple, 322 E. Lovell street; financial secretary, Morris W. Doyle, 1110 Clark street.

¶No. 396, Boston, Mass.—Meets first and third Tuesdays, at Seaver Hall, Paine's Mem. Building, Appleton street. President, W. W. Emmons, 125 Milk street (basement); recording secretary, D. E. McGregor, 241 Marriot street, Dorchester, Mass.; financial secretary, A. R. Young, 709 Broadway, Chelsea, Mass.

*No. 397, Quebec, Canada. Meets first and third Monday of each month at Montcalm Hall, Montcalm Market. President, Elzear L. Heureux, 394 St. Valier street; recording secretary, N. Mathurin, 238 St. Valier street; financial secretary, A. Bouret, 18 Levis street.

*No. 398, St. Cloud, Minn.—Meets every second and fourth Saturday, at I. O. U. W. Hall, corner First street and Fifth avenue, south. President, G. Gehrenback, St. Cloud, Minn.; recording secretary, Harry Hamlin, Sauk Rapids, Minn.; financial secretary, F. B. Doten, 618 Sixth avenue, south.

*No. 399, Portland, Me.—Meets Thursday at In-clasp Hall, 53 Temple street.—President, Arthur McDonlad, 20 Plum street; recording secretary, E. B. Waite, 6 Farrington Place; financial secretary, F. E. Sargent, 308 Portland street.

*No. 400, Ottawa, Ontario.—Meets second and fourth Wednesdays at Murphy's Hall, Sussex street. President, Charles Aitkens, 241 Lyon street, Ottawa, Ont.; recording secretary, W. H. Hickey, 136 Slater street, Ottawa, Ont.; financial secretary, C. G. Keys, 467 Rideau street, Ottawa Ont.

*No. 401, Burlington, Iowa.—Meets every Monday evening at Carpenters Hall, Third and Jef-

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erson street. President, Chas. McGuire, North, ern Hotel; recording secretary, E. W. Bischoff-Sherrill Moore Elec. Co.; financial secretary, Chas. Caster, 624 N. Fourth street.

¶No. 402, Portchester, N. Y.—Meets every first and third Monday nights at 8 each month, at Washington Hall, 115 North Main street. President, Andrew Bell, 26 Haseco avenue; recording secretary, Daniel B. Purdy; P. O. Box 240, Port Chester, N. Y.; financial secretary, J. C. Irving, Greenwich, Conn.

*No. 403, Meadville, Pa.—Meets every second and fourth Wednesdays at Central Labor Hall, South Water street. President, Fred. A. Berg, 372 Liberty street; recording secretary, Claud Ewing, 217 Pine street; financial secretary, A. R. Simpson, Phoenix Hotel.

¶No. 404, Denver, Colo.—(Winders)—Meets every Tuesday at 512 Charles Building. President, W. C. Metzgar, 115 West Bayard street; recording secretary, A. W. Gay, 1245 Clarkson street; financial secretary, Jack H. Cook, Hotel Midland.

*No. 405, Houghton, Mich.—Meets first and third Thursday of each month at Union Hall, Sheldon street. President, John Crawford, Houghton; recording secretary, W. M. Bates, Houghton; financial secretary, E. J. Porter, Houghton.

*No. 406, Ardmore, Ind. Ter.—Meets every Friday night at Union Hall, West Main street. President, E. M. Parker, Ardmore, I. T.; recording secretary, Luther Anderson, Box 63; financial secretary, La Mont Byers, P. O. Box 346.

*No. 407, Marquette, Mich.—Meets every second and fourth Saturday of each month at Siegel's Hall, N. Third streets. President, O. H. Siewert, 339 West Alger street; recording secretary, C. A. Ellstrom, 321 West Bluff street; financial secretary, G. H. Kemper, 511 West Ridge street.

*No. 408, Missoula, Mont.—Meets every second and fourth Tuesday at Fireman's Hall, West Main street. President, C. H. Christensen, 805 East Front street; recording secretary, R. G. Rowland, Missoula; financial secretary, E. H. Collar, 301 South Second street.

*No. 409, Ithaca, N. Y.—Meets first and third Saturday of every month at Central Labor Union Hall, East State street. President, W. W. Hardinger, South Cayuga street; recording secretary, J. W. Spaulding, 513 Willow avenue; financial secretary, O. Rittenhouse, 505 South Albany street.

¶No. 410, Albany, N. Y.—Meets first and third Mondays at 3 P. M., Laventall Building, Hounds avenue and South Pearl street. President, Geo. E. Gray, 339 Clinton avenue; recording secretary, Carl F. Mull, 461 Clinton avenue; financial secretary, Frank C. Shanno, 130 Second ave.

*No. 411, Warren, O.—Meets every other Wednesday night at Amalgamated Association Hall, Main street. President, E. S. Kelley, Tod ave.; recording secretary, Fred. W. Izant, 500½ Niles avenue; financial secretary, Sam F. Messer, Tod avenue.

*No. 412, Mankato, Minn.—Meets Thursday night of each month at Williams' Hall, corner Front and Hickory streets. President, W. C. Lestic, 327 E. Vine street, Mankato, Minn.; recording secretary, Chas. Brandon, 114 S. Fourth street, Mankato, Minn.; financial secretary, R. A. Anderson, box 140, Mankato, Minn.

*No. 413, Manila, P. I.—President, Wm. Wirt, Box 547; financial secretary, C. H. Hulbert, Box 547.

*No. 414, Macon, Ga.—Financial secretary, J. R. Hoffer, 556 Second street.

*No. 415, Cheyenne, Wyo.—President, F. P. Edlin, 218 E. Sixteenth street; financial secretary, B. M. Vance, box 326.

¶No. 416, St. Joseph, Mo.—Meets every Thursday at Elect Hall, 114½ W. Fifth street. President, W. H. Winters, 507 S. Third street; recording secretary, H. F. Howard, 720 Main street—Main and Louis; financial secretary, J. A. Wells, 113 E. Isabell street.

*No. 417, Newburgh, N. Y.—Meets every second and fourth Saturday at Labor Hall, Ann street, between Johnson and Liberty. President, John Gilroy Mezger, 1 High street; recording secretary, Raymond Hathaway Williams, 215 First

street; financial secretary, Thomas Perrott, 32 Smith street.

*No. 418, Mt. Vernon, Ind.—Meets second, third and fourth Monday nights at Franks Place, Main street, between Second and Third. President, Roscoe Combs, Mt. Vernon; recording and financial secretary, J. C. Mater, 328 Lower Sixth street.

*No. 419, Jacksonville, Ill.—Financial secretary, O. Sorrells, Jacksonville.

*No. 420, Moberly, Mo.—Meets second and Fourth Tuesday night of each month at Lincoln G. A. H., Reed street. President, Rieley Patterson, Moberly, Mo., care of Richmond Hotel; recording secretary, E. J. Hayes, 629 Culp street, Moberly, Mo.

*No. 421, Watertown, N. Y.—President, G. B. Dickerson; financial secretary, Wm. C. Anderson, 1 Arlington street.

*No. 422, Hackensack, N. J.—Meets first and third Wednesdays at Engels Parlors, 45 Main street. President, D. T. Evans; recording secretary, B. M. Pratt, 56 Main street; financial secretary, W. Kingsley.

¶No. 423, Montreal, P. Q.—Meets First and Third Friday each month, at Arcanum Hall, 2444 A St. Catherine street. President, L. R. McDonald, 2 Brunswick street; recording secretary, T. W. Rothery, 31½ Latour street; financial secretary, F. W. Cotten, 534 Antoine street.

¶No. 424, Milwaukee, Wis.—Meets every Thursday at Kizer Hall, Fourth street, north of State. President, F. M. Stark, 717 St. Paul avenue; recording secretary, J. W. Daley, 496 Twenty-seventh street; financial secretary, J. V. Field, 459 Sixth avenue.

¶No. 425, Wilmington, Del.—Meets every Friday evening, northeast corner Eighth and Orange streets. President, Henry T. Baker, 823½ Madison street; recording secretary, Isaac A. Gray, 1103 Shallcross avenue; financial secretary, R. S. Hertzog, 1112 King street.

¶No. 426, Milwaukee, Wis.—President, D. McQuarrie, 910 Third street; recording secretary, M. Pural, 811 Second avenue; financial secretary, Charles Nauertz, 648 Madison street, rear.

¶No. 427, Springfield, Ill.—Meets first and third Wednesday, at Electrical Workers' Hall, 210½ S. Fifth street. President, J. D. Valentine, 411 W. Canedy street; recording secretary, A. H. Barth, 615 E. Jackson street; financial secretary, R. W. Berry, 916 E. Edwards street.

*No. 428, Bakersfield, Cal.—President, F. T. Andrews; financial secretary, H. R. Leeds, 2617 M street.

*No. 429, Columbus, Ga.—President, John Ralph, Automatic Tel. Company; financial secretary, C. A. Sides, Automatic Tel. Company.

*No. 430, Racine, Wis.—Meets second and fourth Saturday at 8 p. m., of the month, at Trades Labor Hall, Fourth and Main streets. President, J. P. Browne, 1521 State street; recording secretary, Fred M. Brooker, Box 247; financial secretary, D. A. Howard, 1917 N. Chatham.

*No. 431, Frederick, Md.—President, S. F. Gardner; financial secretary, C. E. Young, 90 East South street.

*No. 432, Eau Claire, Wis.—Meets second and fourth Tuesdays at Union Hall, corner Barstow and Wisconsin streets. President, George Heachrich, 245 Barloud street; recording secretary, Chas. Anger, 943 Madison street; financial secretary, Louis Marsh, 521 Congress street.

*No. 433, Fremont, Ohio.—Meets second and fourth Tuesday of each month at Germonade's Hall, corner of Park and Napoleon street. President, Ed. E. McCarty, 337 Harrison street, Fremont, Ohio; recording secretary, R. G. Dunfee, 401 Ash street, Fremont, Ohio; financial secretary, Wm. P. Stevens, Fremont, care U. S. Telephone Co.

*No. 434, Douglas, Ariz.—President, J. H. Stewart; financial secretary, F. C. Farrington—care Douglas Imp. Co.

*No. 435, Marion, Ohio.—President, Ferd Rowe 269 North Oak street, Marion, O.; financial secretary, M. A. Charlton, E. Main street, Gallon, O

*No. 436, Oneonta, N. Y.—President, Carl L House, 12 Cherry street; recording secretary M. J. Young; financial secretary, Jno. O'Brien.

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*No. 437, Fall River, Mass.—Financial secretary, H. A. Manchester.

No. 438, Greater New York, N. Y. (Street car wiremen).—President, J. W. Schmidt, 638 Gates avenue, Brooklyn, N. Y.; recording secretary, E. M. Young, 112 East Eighty-third street; financial secretary, E. M. Young, 5901 Third avenue, Brooklyn, N. Y.

*No. 439, Alliance, Ohio.—Meets Second and Fourth Wednesday, second floor, over Post-Office, East Main and Seneca. President, A. N. Stanley, 218 W. Main Street; recording secretary, Jno. McCaskey, care O. B. Mason, R. F. D., No. 2; financial secretary, Henry Erhardt, W. Main street.

*No. 440, Grand Rapids, Wis.—Meets second and fourth Saturdays at Catholic Foresters Hall, East Side. President, Geo. M. Huntington; recording secretary, C. M. Dougharty; financial secretary, J. H. Noyes.

*No. 441, Janesville, Wis.—President, James Froscher, Janesville; recording secretary, Ed. Barren, Janesville; financial secretary, James Shuler, Janesville

*No. 442, Spartansburg, S. C.—Financial secretary, Fred Schueler, care of Se. Bell Tel. Co.

*No. 443, Key West, Fla.—Meets every Tuesday at Electric Company Plant. President, J. B. Hart; Recording secretary, J. H. Harris, 809 Galveston street; financial secretary, J. H. Harris, 809 Galveston street.

*No. 444, Richmond, Ind.—Financial Secretary, J. L. McNeill, 1139 Main street.

No. 445, Battle Creek, Mich.—Financial secretary, E. Wideman, care Mich. Tel. Co.

*No. 446, Columbus, Ohio.—Meets every Friday night at 7.36 p. m., at Lazarus' Block, High and Town streets. President, C. L. Sprague, Fourth and Oakland avenues; recording secretary, Harry Kerus, 167½ So. High street, room 15; financial secretary, Frank Naus, 51½ W. State street.

*No. 447, Port Huron, Mich.—Financial Secretary, P. S. Wittliff, 506 Water street.

*No. 448, Annapolis, Md.—Meets every Thursday at 30 West street. President, Chas. B. Orrell, 30 West street; recording secretary, Wm. G. Fothergill, 90 Dock street; financial secretary, Ed. T. Beavin, 13 Cathedral street.

*No. 449, Augusta, Ga.—Financial Secretary, J. L. Reed, care of Strowger Exchange.

*No. 450, Trinidad, Colo.

*No. 451, Pensacola, Fla.—President, G. Bursette; recording secretary, F. D. Adams; financial secretary, W. C. Walker.

No. 452, Pensacola, Fla.—Recording secretary, W. E. Pearl; financial secretary, W. C. Walker, 513 Sixth avenue.

*No. 453, Sumter, S. C.—Financial secretary, Jas. Larisey, 108 South Harvin street.

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No. 28, Baltimore, Md.—W. C. Worley, 1601 Edmonson avenue.

No. 38, Cleveland, Ohio.—Frank Estinghausen, 83 Prospect street.

No. 39, Cleveland, Ohio.—Frank J. Sullivan, 83 Prospect street.

No. 41, Buffalo, N. Y.—A. Cunningham, Council Hall.

No. 43, Syracuse, N. Y.—H. E. Yorker, 137 Wood avenue.

No. 45, Buffalo, N. Y.—James Shane, 78 South Division street.

No. 52, Newark, N. J.—Wm. Bamford, 236 Washington street.

No. 61, Los Angeles, Cal.—C. P. Lofthouse, 124 East Third street.

No. 68, Denver, Colo.—F. Shallert, P. O. Box 614.

No. 86, Rochester, N. Y.—J. Monaghan, room 3, Durand Building, 58 Main street.

No. 95, Joplin, Mo.—W. A. Nielson, 715 Jackson.

No. 98, Philadelphia, Pa.—Jas. S. Meade, 1321 Arch street.

No. 103, Boston, Mass.—Henry R. Thayer, 987 Washington street.

No. 112, Louisville, Ky.—Edw. Boyle, McDowell Building, Fourth and Green streets.

No. 114, Toronto, Canada.—W. J. Middleton, 18 Shaftsbury avenue.

No. 134, Chicago, Ill.—C. M. Bloomfield, 196 Washington street.

No. 154, Rock Island, Ill.—Charles Norton, P. O. Box 225.

No. 162, Omaha, Nebr.—F. Wittus, Labor Temple.

No. 184, Galesburg, Ill.—J. H. Shull, 266 Duffield avenue.

No. 210, Atlantic City.—Marshall Burkins, 117 N. Pennsylvania avenue.

No. 212, Cincinnati, Ohio.—J. C. Adams, south-west corner Twelfth and Vine streets.

No. 235, Cincinnati, Ohio.—M. L. Purkey, 1185 Vine street.

No. 324, Brazil, Ind.—C. J. Boland, care C. U. Tel. Co.

No. 356, Kansas City, Mo.—C. F. Drollinger, 1333 Grand avenue.

No. 381, Chicago, Ill.—Edward N. Nockels, 10 E. Randolph street.

No. 390, Johnstown, Pa.—M. R. Brennan, 244 Levergood street.

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No. 5, Pittsburg, Pa.—E. P. Allman, 302 Grant street.

No. 6, San Francisco, Cal.—Jos. De Vecmon, 27 Sixth street.

No. 9, Chicago, Ill.—M. H. Collins, office, Sam Jacks' Building, 83 Madison street.

No. 14, Pittsburg, Pa.—George Schmatzinetz, 302 Grant street.

No. 17, Detroit, Mich.—E. G. Smith, 439 Elmwood avenue.

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No. 21, Philadelphia, Pa.—Charles Kirk, 1320 Vine street.

No. 23, St. Paul, Minn.—Joseph Macaulay, 586 West Central avenue.

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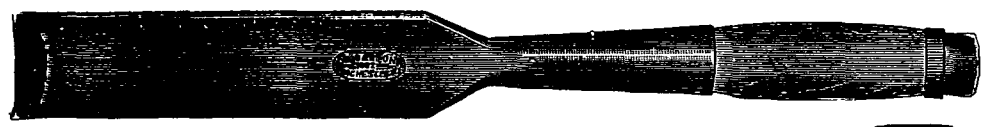


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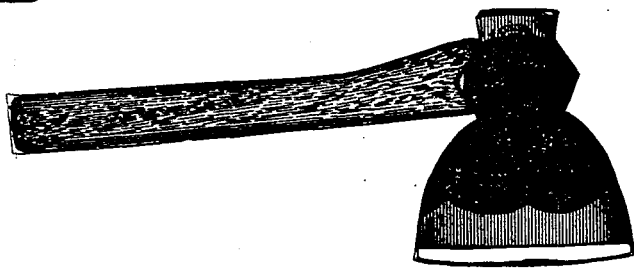
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