



# The Pacific Electric MAGAZINE



ISSUED MONTHLY BY THE EMPLOYEES OF THE PACIFIC ELECTRIC RAILWAY

Vol. I

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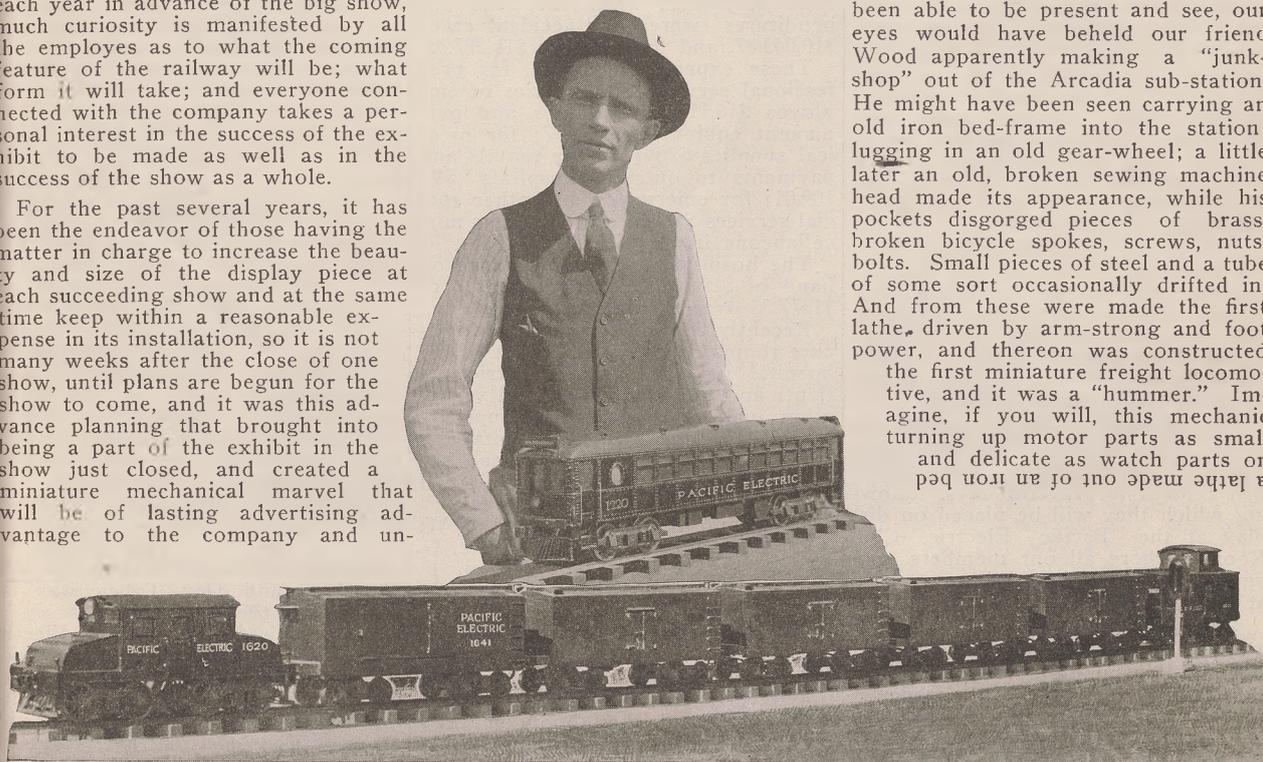
## THE NATIONAL ORANGE SHOW EXHIBIT

It really seems that the National Orange Show at San Bernardino is an annual Pacific Electric Event, for each year in advance of the big show, much curiosity is manifested by all the employes as to what the coming feature of the railway will be; what form it will take; and everyone connected with the company takes a personal interest in the success of the exhibit to be made as well as in the success of the show as a whole.

For the past several years, it has been the endeavor of those having the matter in charge to increase the beauty and size of the display piece at each succeeding show and at the same time keep within a reasonable expense in its installation, so it is not many weeks after the close of one show, until plans are begun for the next to come, and it was this advance planning that brought into being a part of the exhibit in the show just closed, and created a miniature mechanical marvel that will be of lasting advertising advantage to the company and un-

builder would not have given of his free time many, many hours; would not have imposed upon himself the

But, we have digressed somewhat from the Orange Show and our exhibit. About two years ago, had we been able to be present and see, our eyes would have beheld our friend Wood apparently making a "junk-shop" out of the Arcadia sub-station. He might have been seen carrying an old iron bed-frame into the station; lugging in an old gear-wheel; a little later an old, broken sewing machine head made its appearance, while his pockets disgorged pieces of brass, broken bicycle spokes, screws, nuts, bolts. Small pieces of steel and a tube of some sort occasionally drifted in. And from these were made the first lathe, driven by arm-strong and foot power, and thereon was constructed the first miniature freight locomotive, and it was a "hummer." Imagine, if you will, this mechanic turning up motor parts as small and delicate as watch parts on a lathe made out of an iron bed



doubtedly prove of gratifying interest to every employe and to the builder of it in a large degree. Reference is particularly made to the miniature trains and signal system that was a part of the recent show and the handiwork of Mr. I. C. Wood, of the Electrical Department, pictures of which accompany this article, but do not in the slightest measure tell the story of the little trains and the painstaking, delicate care given in their construction. The story of these small electro-mechanical objects, if told in detail, would make a large volume. It would find its inception in the brain of Mr. Wood surrounded by apparent physical difficulties that to a man less determined and courageous almost insurmountable. The first motor was brought into being first by an affection for his company that dictated a desire to reproduce one of its chief objects of utility. This feeling must have come from something far deeper than a mere desire to build something; to work off excessive energy; or the

burden of assembling from scrap heaps here, there and everywhere, odds and ends of materials, and work for weeks and months to construct first the machines and tools necessary before even starting on the first small motor car. Not many of us would have deprived ourselves of the ordinary pleasures of life in order to create something that would attract attention to our company more than to ourselves; and without any hope or even desire of reward of our efforts; and these are only a few of the many things that Mr. Wood did; out of his affection and loyalty for his company and for the honor and credit of his department, that not once has he forgotten, and this little tribute is given him for no other purpose than to recognize as should be done, honest, loving effort by an employe on behalf of our company which represents not only our daily activity and daily thought, but also our industrial family in which all is, or should be as harmonious as in our immediate personal family.

and the cast-off scrap of creation. Duplicating parts of mechanism to the 1-1000th part of an inch with the most crude tools imaginable; and when it had been finished we beheld a counterpart of our 1600 class freight locomotives built on a very small scale, but perfect; capable of making 15 miles per hour on level track and that possessed strength enough to pull 200 pounds on a direct draw.

To the locomotive, Mr. Wood added two cars of the freight type and when San Gabriel Valley put on an exhibit a year ago this little train was a feature of the show; and, that little train showed the feeling of Mr. Wood, as he did not think San Gabriel Valley would be complete or properly portrayed without the Pac. Elec. Railway running through it. And, incidentally the mechanical genius got into the lime-light. The President of the company saw his little train and saw a better one in the future; the Traffic Manager, always on the lookout for advertising possibilities saw it about the same time, and saw that

Wood's superior saw it. That superior recognized merit when he saw it and a lot of other people also had visions. As a result, in true family style, these officials compared notes, and one of them began to do something else. The bedstead-sewing machine lathe was quietly pushed over into the corner of the sub-station; its place was taken by a new honest-to-goodness lathe of recent manufacture, driven by a pretty, humming motor. Materials of the proper kind were provided, and a very happy man went to work preparing a new freight train of the latest electric type, and a new passenger car of the 1200-type. And these are the trains that comprised a very interesting part of the Pacific Electric exhibit.

During the Orange Show the little trains made something like 700 miles on the miniature track which was equipped with miniature block signals as reliable in their flashing as those in use on the company's main lines. Not a particle of attention was necessary to the cars except to protect them from the curiosity of the public. The bearings are of the finest hardened steel, are self oiling, and will run for three months without renewal of the lubricant. So perfect are the various parts of the motors that in their long run at the show not enough heat was developed in spite of the high speed of the motors to melt the hard oil pack and because of this a lighter lubricant had to be substituted.

The miniature trains are now on exhibit at the German-American Bank, 7th and Spring Streets, where they will remain for several days, following which they will be placed on display at the Pacific Electric Club Rooms, where all our members may have an opportunity to inspect them at close range.

And now, for the balance of the exhibit. Our old friend "Dick" Kelly, that restless bundle of energy at San Bernardino, surmounted the pedestal around which our little train ran with one of the most entertaining shows we have ever placed in the big show tent; and the show was staged beneath a kiosk of most pleasing design, illuminated and decorated in a most attractive manner, and at every performance was surrounded by a perfect jam of humanity. Wickersham's entertainers, dancers, singers and musicians, put every act beyond the footlights with a heavy punch. It was a dandy, clean exhibition, that pleased the audience and livened up the Show.

Travel to the Show was very good, notwithstanding the unfavorable weather conditions; and, if all the days had been such as Saturday, the 24th, the Show would have been swamped. That was the day of greatest attendance in the history of the orange show in any year of its existence; and it was the day of greatest travel over the San Bernardino Line since it was opened. It took 41 cars to handle the crowd from Los Angeles on that day, and then more equipment could have been used very handily had it been available.

On Sunday, the 25th, our big band played two concerts at the show and came away with their usual laurels.

## HOSPITAL REPORT

From the Hospital Department report to the Railroad Commission of the State of California the following figures have been taken showing the operations of the department during the year 1916:

The total number of employes who received benefits due to accident during the year was 747, of whom 698 were injured while on duty and 49 were injured while off duty. 2951 employes received benefits on account of sickness. The average time consumed in recovery from sickness was three days and the average time of recovery from accident was 9.3 days.

The total receipts from participants, (50c month hospital fees) were \$30,308.25, while the total expenditures were, for accident cases \$10,043.87, and for sickness \$19,287.05.

These expenditures were, for professional services and salaries of employes \$16,119.28; for new and permanent equipment \$274.97; for medical supplies \$2691.50; for rentals and payments to outside hospitals \$9,109.01; for emergency and other special services \$518.56 and for other miscellaneous items \$617.60.

The hospital fund has a balance on hand of \$19,778.35, an increase of \$1377.33 over the previous year.

Recently, it has been possible to secure rooms on the second floor of the hospital for all Pacific Electric patients and the better light and ventilation make this a decided improvement. Drop down to the hospital and see the boys who are there and see for yourself. The following is a list of our patients at Crocker Street:

Joe Salino, E. D. McKinnon, W. W. Morgan, J. F. Jester, F. B. White, G. L. Bridges, V. Puiz, C. Duron, F. Richardson.

## ROD AND GUN CLUB NOTES

Members of the Club who did not take advantage of the invitation of the Beverly Hills Rifle and Revolver Club to attend the shoot on their grounds Sunday, March 4, certainly missed a treat. We were given an exhibition of the workings of the new altiscope, or periscope rifle, which has recently been perfected and will doubtless be adopted by the government at an early date, for future use in the army.

This new rifle is simply an adaptation of the Springfield army rifle, and can be used as a plain rifle when desired. When opened up the periscope sight is automatically thrown into position, and the gun may then be fired from behind a barricade without exposing the operator in any way, his head being several inches below the barrel of the gun, thus affording the enemy no target.

It is expected that this new gun will revolutionize warfare, and those of us who were present at this demonstration consider ourselves lucky to have had a chance to see it.

In addition to other events, an interesting exhibition was furnished of the workings of the Benet-Mercier machine gun now in use by the government, and the new Colt's machine gun, the former firing the regular Springfield cartridge at the rate of

ten shots per second, or 600 per minute, and the latter firing a 7mm cartridge at the rate of six shots per second, or 360 per minute. While we were much impressed with the shooting made by these guns, it occurred to me, and probably to others, that these times of so-called modern civilization, it is a shame that men do not needs bend their efforts toward the perfection of instruments such as these guns for the wholesale slaughter of their fellow men.

In another column of this magazine is gratefully acknowledged the receipt of an old model Winchester which some unknown party has donated to our club. We wish to thank the donor of this gift, and stand ready willing to take good care of any such interesting relics which anyone may care to turn over to us.

Trap shoots and casting tournaments are being held regularly at the Vernon Gun Club Sunday mornings and a few of the unfamiliar would not look out of place at the meetings.

L. M. KOHLER

## BASEBALL

The two Pacific Electric Base Clubs have been going very well since the last number of the magazine, having won all of their games played. On February 11th the first house team and Pasadena played the third and deciding game of the series between those two teams, which was won by the P. E. boys, score 7-1. The game was well played before a large and enthusiastic crowd of 800 and was featured by the batting of Pacific Electric, the pitching of St. Lenbach and the fielding of Boone short for the P. E. This was the opening day of the new ball park at Pasadena and Dan Tobey was speaker of the occasion.

On March 4th the Pacific Electric team played San Gabriel and will win from them 4 to 1 in a well played game. This was an ideal baseball and the game was witnessed by a large crowd. Voorheis, our new giant foot ten inch twirler, made his debut in the box and allowed only four batted hits.

February 11th the Pacific Electric Trainmen's team played at El Segundo and defeated their team in a game by the score of 1 to 0. The lanes was on the mound for the trainmen and pitched a fine game, as seen from the score. On February 18th Santa Ana was defeated by the trainmen by the score of 9-1. Arellanes again pitching for the Pacific Electrics. Tustin was beaten 4 to 4 on March 4th, with Priddy in the box for the trainmen.

The trainmen are playing excellent ball, having won six out of the last seven games played.

Pitcher Frank Schellenbach probably pitched his last game for the Pacific Electric team, as he has been signed by the White Sox and has reported to them. Not many youngsters make a jump from the semipro ranks to the Big League, and we congratulate Frank. Success to him!

The Pacific Electric boys had the honor of playing in Pasadena on the opening day of the new ball park.

# NOTES FROM THE CLUB

## CLUB CALENDAR

March 10th to April 10th

**Monday, March 12**—Band Rehearsal at 8 p. m.

**Wednesday, March 14**—Executive Committee Meeting at 2 p. m.

**Thursday, March 15**—Trainmen's Instruction Class at 7:30 p. m.

**Friday, March 16**—Dancing Class at 8:00 p. m.

**Monday, March 19**—Band Rehearsal at 8 p. m.

**Wednesday, March 21**—Orchestra Rehearsal at 8 p. m.

**Thursday, March 22**—Trainmen's Instruction Class at 7:30 p. m.

**Friday, March 23**—Dancing in the Auditorium at 8:30 p. m.

**Monday, March 26**—Band Rehearsal at 8 p. m.

**Wednesday, March 28**—Vaudeville Show of Employes in Auditorium at 8 p. m.

**Thursday, March 29**—Trainmen's Class Instruction at 7:30 p. m.

**Friday, March 30**—Dancing Class at 8 p. m.

**Saturday, March 31**—Athletic Night for Men at 8:00 p. m.

**Monday, April 2**—Band Rehearsal at 8 p. m.

**Wednesday, April 4**—Popular Musical Concert, at 8 p. m., featuring Ballads, Ragtime and Hawaiian Music. Rod, Reel and Gun Club meeting at 8 p. m.

**Thursday, April 5**—Trainmen's Class Instruction at 7:30 p. m.

**Friday, April 6**—Dancing in Auditorium at 8:30 p. m.

**Monday, April 9**—Band Rehearsal at 8 p. m.

As may be found necessary or desirable, announcement of extra events will be made by bulletin through the various departments.

—PE—

## The Club's Dancing Class

As announced in the last Magazine, a dancing class for employes has been organized under the direction of Mr. George Barclay of the Signal Department, and during the past month has been constantly growing in interest and attendance. The last session of the class held on Friday evening last was attended by about eighty of the members, while previous sessions have varied from sixty to seventy-five. Do not hesitate to join if you desire to learn the various steps. There is still room for more students from among the membership of the club and no charges are made for the class lessons. The effect of Mr. Barclay's work was very greatly noted at our last dances and reflects much credit.

—PE—

In another place in this issue, the reader will find a list of books recently donated for the use of members of the club, as well as news of the contribution of other articles. Our members who feel so inclined, may add much to the beauty of our club home at their pleasure by contributing such articles as books, sofa pillows, art reproductions, etc. These things brighten the home much.

## GIFTS TO THE CLUB

During the past month the Club has received many handsome gifts which indicate that our friends like us and want to share in our pleasure in the new club home.

It is with much pleasure we acknowledge the gift of three beautiful San Bernardino mountain views in rustic frames from Mr. Max Green of the San Bernardino Mountain Auto Stage Line. They will lure many of us to the heart of nature.

Mr. W. H. Brown of the Electrical Department, has brought to us a handsome pillow for the restful couch we hope to have in the main lobby one of these days.

G. D. Davidson & Co. have hung in the main lobby a large standard type clock which is much appreciated. No longer can we claim to have overlooked the flight of time while enjoying the comforts of the club.

In the Rod and Gun Club room Mr. W. C. Thompson has hung a beautiful deer head. Members of the Gun Club who expect to go hunting next season are recommended to spend some time in this room with an eye on this deer-head as an antidote to buck ague.

The Rod and Gun Club has also received an old Winchester rifle, dated 1873, from one who does not wish his name mentioned, but who states that it was carried by his father who pioneered in the northwest when there were no railroads and the Indians were the principal inhabitants. If it could speak our language what tales it might tell of days and nights in the big woods and on the plains; of deer and bear and buffalo. This rifle will have an honored place on the walls of the Gun Club room.

—PE—

## BOYS MUST NOT PLAY POOL

It has proven a great disappointment to a number of the boys whose parents belong to the Club, that they are not permitted to play pool, and it is regretted by the management that they are prohibited, but the law requires that young gentlemen must be 18 years of age before permission to play pool may be granted, hence the rule. It is hoped, that as soon as it is possible to open the gymnasium, other forms of amusement may be provided in order to make up this loss to them.

—PE—

## The Club's Monthly Dances

Friday and Saturday evenings, February 23rd and 24th, witnessed two of the most delightful dancing parties given by the club since its opening, the attendance at each event being approximately 350, and practically all of those present participated in the dancing. Music for the occasions was rendered by the Pacific Electric Orchestra, which is a close rival for our band in the production of good music, and has the unbounded thanks of everyone for the enjoyment they give on these occasions. Their efforts on behalf of the club are much more appreciated than words can express.

## THAT ATHLETIC NIGHT

Saturday evening, Feb. 17th was some evening at the Club, and had been looked forward to with a great deal of anticipation by those athletically inclined. It was "athletic night" with a vengeance, and while the crowd was not up to expectations, those present had a run for their money in larger measure than they expected. Weather condition undoubtedly made the attendance low, there being something like one hundred and fifty present.

Wrestling opened the festivities, with Karl Blanton and Van Loo on the mat, and it was one of the cleanest, prettiest bouts seen in Los Angeles for many a day, resulting in a draw. There was no idle moments and very little jockeying for positions, and "speed" seemed to be the first thought of both wrestlers. The spectators were on their toes during the entire bout and were yelling for more at the finish.

Johnny Humerich, the little old reliable, and Ike Blanton, his team-mate gave a very fine demonstration of the various wrestling holds, and concluded the bout with five minutes' exhibition wrestling that was of a very classy character.

The boxing was an agreeable surprise to the audience, for while a pleasant entertainment was expected, it exceeded the mark, and a number of thrills were in evidence. The first mill was between Dick Scott of the traffic department, and Dan Anderson of the mechanical department. Three rounds of two minutes each, with one minute rest. Both boys were in the light-weight class and made time fly. It has been quite a few days since any of us have seen anything of the kind any "faster" or much more "classy." They "found each other numerous times and if some of the hay-makers had landed there would have been some "slow music" for somebody.

Clyde Thompson and Joe Burns, both of the Electrical department, put on the second event, and for two rounds of three minutes each, did some fast work on each other. They were well matched, very clever with the mittens and aroused much enthusiasm in the spectators. Following this bout, Burns, and Crook, the latter of the Maintenance of Way Department, went in for about the fastest single round affair imaginable. It was of such a rapid pace, that Dan Toby, the referee, ran out of wind following them and had to jump the ropes a time or two to keep out of the way.

Not the least entertaining features of the evening were those introduced between the events by "boys" of the company. Gene Kelly, the jovial trainman, tore off quite a quantity of ragtime rhapsody on the piano to the delight of all his friends; Montgomery of the Electrical Department, created much amusement and made many hits with his monologue; and our old friend Howe, of the Southern Division, created a whirlwind of mirth with his black-face comedy.

(Club Notes Cont'd on Page 8.)



# THE PACIFIC ELECTRIC MAGAZINE

Los Angeles, California

March 10, 1917

The Magazine is published on the 10th of each month. It aims to print matters of interest and information to employees. Items of general interest are solicited and should be addressed to THE PACIFIC ELECTRIC MAGAZINE, Pacific Electric Building, Los Angeles. Contributions should reach this office not later than first of each month.

"It's no use waiting for your ship to come in unless you have sent one out."

The ladies have expressed much gratification at the action of the Executive Committee of the Club last month in opening the main lobby to them at all times. This enables them to enjoy the big Edison phonograph and the other features of this comfortable room with us.

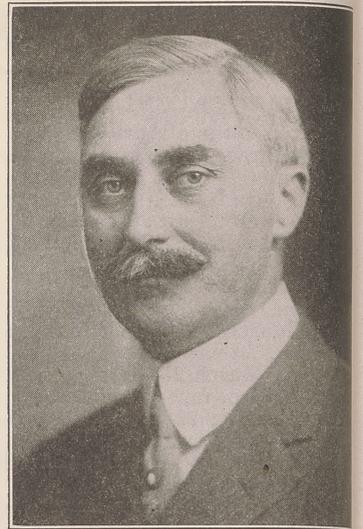
The last week in February saw the Southern Division climb to the first place in coasting percentages, a feat gratifying alike to the motormen and officials of the division. Much interest has been aroused in the coasting records since the publication of the records for the year in the February Magazine with the symposium by men who have been successful in this feature of their work. Data on operating conditions on various lines is now being compiled with the expectation that the coasting percentages, which mean much in the way of operating efficiency and economy will be improved by a closer knowledge of the situation.

It was a very fine thing the Executive Committee of the Club did at its February meeting when it decided to start a relief fund for the assistance of Pacific Electric employes who may be, through illness or misfortune, in need of financial help. For years we have been accustomed to subscription lists passed about from man to man in such cases which advertised our fellow-employee's misfortune and, well meant and helpful though it was, undoubtedly caused him much embarrassment. The newspaper receipts originally started for a library fund were turned into the relief fund as a nucleus and already more than one case has been investigated and help given promptly and without publicity. The collection of newspapers for this fund should be a matter of interest and enthusiastic effort for every employe. Will you not help?

"Is life worth living? It depends upon the liver" is an old saying containing much truth. How different the world looks to us when our digestive apparatus is not working properly. Watch the people on a car and how easy it is to pick out the ones with exuberant health and the ones who are thinking all the time about their "tummy-ache." Which ones will get the most good out of their day; which go farthest in a business or social way? Knowing the influence of health on ourselves we should give it enough thought in relation to our individual needs to keep ourselves up to the highest possible health standards. This is all simply a preliminary to the announcement that we expect to have at the club soon a series of talks on health. These talks will be given by men who know and they will undoubtedly help us in "keeping fit."

It is very gratifying to note the use being made of our Club Library by the members of the Club and the circulation is apparently increasing day by day. At the present time something like 1500 volumes are upon the shelves, with a continuous circulation of approximately 10 per cent, the withdrawals being almost equally divided between historical works and fiction, with about 2 per cent of the requests being for technical works. Within a short time, should the present growth of demand keep up, a section of the City Library will be requested and added to our own collection of books, but at the present, because of the added burden to be assumed with city library circulation, the demand does not justify it. Our library has been a great surprise to many book-lovers because of its variety and quality, and as new works are coming in every few days, it should not be long until it will rival several of the best private libraries in the city.

There are a great many tourists in Los Angeles at this time and the opportunity now presents itself for every employe of the company to be of value in promoting traffic for the various programmed trips as well as for general travel. It does not require a large amount of acumen or perception to single out the stranger within our gates, and we should all be prepared to extend kindly courtesy and information on request. It is unnecessary to thrust information on the friends from the east or the north, but when a desire is manifested, a ready response should be given; and where we are not informed on any subject ourselves, let us go to the trouble to find out for them then and there. Telephones are almost always handy, and our information bureau easily reached. Do not refer them to the phone, be more than usually courteous and perform the service for them. You will make a friend for yourself, you will add to the revenues of the company, and better than all else, you will have the satisfaction of knowing that you have been the means of making the paths of the stranger more pleasant by your act.



S. E. WILSON

The picture of Assistant Superintendent Peachey in the February Magazine was so appreciated that it has been decided to make these portraits a regular feature, and this month we present Assistant Superintendent Wilson of the Southern Division, who has held this position since 1913. Mr. Wilson entered service January 17th, 1905 as motorman on the Southern Division, which at that time consisted of the Long Beach Line, Whittier Line, San Pedro via Dominguez Line, and as far as Wilmington and Newport as far as Huntington Beach. On the latter two lines the service was ordered by shuttle cars connecting Long Beach trains at Dominguez and Willows, respectively. He was promoted into the dispatcher's office April 1905, where he worked second until the first trick dispatcher being O. Davis, now superintendent. Mr. Wilson was promoted from dispatcher to assistant superintendent June 1913.

### AGENTS' ASSOCIATION

At the February meeting of the Agents' Association there was a fine attendance. Traffic Manager Mr. D. W. Pont addressed the members on the subject of salesmanship, as applied to traffic solicitation and drew from his own experience for illustrations of good points. A telegram was read from General Passenger Agent McGinnis of the Southern Pacific who had expected to speak but who was detained at Phoenix by a case before the Arizona Railroad Commission. As the apology was accompanied by a box of good cigars it was promptly accepted. The March meeting is scheduled for Saturday, March 10, when the subject will be the solicitation and handling of Southern Pacific ticket business. It is expected that Mr. F. S. McGinnis, General Passenger Agent of the S. P. will be present and address the Association.

## FEBRUARY ACCIDENTS

The accident report for February, shown below, gives us something to think about. The large increase in vehicular accidents is especially noticeable. Constant, careful attention on the part of every employe and the observance of the rules of safety are necessary if we are to improve our record.

	Northern Division		Southern Division		Western Division		Eastern Division	
	1917	1916	1917	1916	1917	1916	1917	1916
Interferences with vehicles . . . . .	90	54	25	27	56	30	8	4
Col's'ns & int'f'ncs with cars . . . . .	2	4	2	3	3	1	1	1
Persons struck by cars . . . . .	3	8	5	3	4	1	1	0
Derailments . . . . .	10	14	13	20	7	23	5	6
On and off moving cars . . . . .	27	33	13	12	17	22	3	1
Miscellaneous . . . . .	19	40	23	16	17	24	4	2
	151	153	81	81	104	101	22	14
Interferences with vehicles . . . . .			179	115	35.7%	Increase		
Collisions and interferences with cars . . . . .			8	9	11.1%	Decrease		
Persons struck by cars . . . . .			13	12	7.7%	Increase		
Derailments . . . . .			35	63	44.4%	Decrease		
On and off moving cars . . . . .			60	68	11.7%	Decrease		
Miscellaneous . . . . .			63	82	23.2%	Decrease		
			358	349	2.5%	Increase		

cars to regular trains during the rush hours. In all there are 1290 scheduled trains handled in and out of the terminal in each plant-operation day of 20 hours. In routing a train in, out or through the terminal, an average of 4 lever movements from normal to reverse is required. This being doubled when lever is again placed at normal, makes an average total of 10320 lever functions each day. However, the above figures showing scheduled trains handled do not include trains going to carhouse, tying on, etc., which materially increase the number of movements.

An annunciator system has been installed in connection with the plant, which is so arranged that at leaving time of trains conductors push a button, of which there are several located on the columns of the umbrella sheds on loading platforms, which indicates to towerman the number of the signal required for the train to start its departure from terminal, simplifying the work of the towerman, as he knows at a glance just what route is required. Further, this system is so arranged that when "Leaving Button" is pushed an indication is given to gatemen showing section of track the train about to leave is standing on, thus enabling them to close the gate leading to this train, time being allowed so that the last passenger passing through the gate will be able to board the train before its departure. This system is so designed that all trains entering the terminal are announced to towerman to place each train on its respective track. Further, a second button is placed in each starting box and marked "R" meaning "Recall," that is, in case a train has called for a signal and cannot accept same when given, conductor pushes this button which gives a red indication to towerman, who then may restore signal and re-line for another route. The above system is composed of telephone relays and switchboard lights. The lights are hooded so as to represent miniature electric light signals.

The power to operate the annunciator system is taken from the ringing source of the telephone train-dispatching system, no batteries of any kind being used in connection with the plant. This power is taken from trolley through a series of resistance and an interrupter so that where power is delivered to the ringing line the voltage is 30 with about 25 pulsations per second.

PE

The New York City subway claims an unequalled record in the safe carrying of passengers. In the last ten years, according to its official bulletin, it has carried 2,915,200,205 passengers, with the loss of only a single life. No other railway, it is claimed, has equaled this record. The subway, it is estimated, carries twice as many passengers daily as the Pennsylvania Railway system. It is perhaps not unfair to add that during rush hours, under present conditions, they are carried as uncomfortably as on any railway in the world.—Outlook.

## ELECTRO-PNEUMATIC INTER-LOCKING PLANT AT NEW TERMINAL

The following description of the interlocking plant in the new 6th and Main terminal is from an article which will appear soon in the Railway Signal Engineer, a magazine of international circulation, from the pen of our Signal Supervisor, S. R. Florence, who built the plant and is qualified to speak with authority regarding it:

The Pacific Electric Railway Company has just completed its new terminal at Sixth and Main streets, Los Angeles, and has installed in connection therewith an electro-pneumatic interlocking plant of Union Switch & Signal Company manufacture.

The plant consists of a 23-lever vertical roller type machine with lever lights on detector circuit. Alternating current 110 volts 50 cycle is used for switch and signal control also for indication and lock circuits.

The interlocking machine has 18 working levers; 8 levers for control of 20 signals and 10 levers for 15 switches. Signals are the three-indication color electric light type of special design. Each signal is equipped with a set of lenses on side next to the track which it governs, this making it possible for motorman to plainly see the indication of signal should the train be standing directly opposite the site. This is done in order to make use of practically every foot of track from space and to facilitate the handling of trains.

Switches 17-19-21 being of the standard split point type, are equipped with switch and lock movements. Switches 3-5-7-9-11-13-15 are manganese cast switch-and-mate type. On these switches direct acting switch movements are used. All switches are equipped with polarized indication and lock circuits using a three-position two element vane-type relay for this purpose. Direct acting switch movements are placed between the rails and are connected direct to switch tongues. Switch valves are mounted on separate foundations and are located on the steel work of ele-

vated structure near each switch movement, thus eliminating any chance of trouble due to dirt or water.

The plant is equipped with full alternating current route and detector locking, using single-rail track circuits of 3 to 5 volts. Track relays for detector circuits are of the two-element vane type with 110 volt locals quick acting. Route locking track relays are single-element vane quick acting. Signal control relays are 110 volts single-element vane. All relays, both track and line, are located in tower room in a case specially designed for their housing, the back of which is used as a terminal board on which all line switch fuses, circuit breakers and relay track grids are placed. This board is laid out in squares; each square stenciled to indicate the name or number of relay, the terminals or fuses controlling same, this making it possible to quickly locate trouble, if same should exist, as a slight delay to traffic might cause a serious blockade. This can be readily seen by the number of train movements in and out of terminal.

Below is a list of the lines using this new terminal, with maximum service headway:

	Minute
Long Beach Line . . . . .	20
San Pedro Line . . . . .	40
Redondo Beach Line . . . . .	30
Santa Ana Line . . . . .	30
Whittier Line . . . . .	15
La Habra Line . . . . .	1 hr. 30
Glendale-Burbank Line . . . . .	20
Pasadena Short Line . . . . .	10
Pasadena-Oak Knoll Line . . . . .	20
Alhambra-San Gabriel Line . . . . .	20
Newport Line . . . . .	1 hr.
Santa Monica Air Line . . . . .	30
San Bernardino Line . . . . .	2 hrs.
Monrovia-Glendora Line . . . . .	30
Pomona-Covina Line . . . . .	30
Annandale Line . . . . .	20
Mt. Lowe Line . . . . .	1 hr.
Sierra Madre Line . . . . .	30
Sierra Vista Line . . . . .	10

A great number of tie-ons are made, that is, coupling one or two additional

## ELECTRICAL DEPARTMENT

### THE FIRST ELECTRIC RAILWAY IN LOS ANGELES

By W. H. Brown

On Sept. 14, 1886, a company called the Los Angeles Electric Railway Company, was incorporated in Los Angeles under the state laws. The purpose of the company was "to construct, maintain, and operate street railways in the city of Los Angeles." The incorporators of the company were Chas. H. Howland, Edward Bouton, Milton Santee, S. W. Church, and Thomas E. Beatty, all of Los Angeles. These men served as directors and elected the following officials: President and General Manager, Chas. H. Howland; Secretary and Treasurer, Thomas E. Beatty; Superintendent, A. W. Best.

During the latter part of 1886, and the early part of 1887, the above named company (which was later spoken of as the Pico Street and Maple Avenue Electric Railway) constructed a single track, narrow gauge line with necessary passing tracks, extending from the Plaza south on Los Angeles street to Third street, east on Third street to San Julian street, south on San Julian to Seventh street, west on Seventh to Maple avenue, south on Maple avenue to Pico street, and thence west along Pico street to L street, later called Lerdo, and now Harvard boulevard.

The company used the Daft system of electricity, and was one of the first overhead systems of electric railroads in the United States. It also owned the first electric locomotive ever in use. An electric railway in Boston is said to have used the Daft system a year or so before, but that company used the third rail system and not the overhead trolley.

The writer of this article, having been employed as lineman on the construction of this first overhead trolley system, remembers the very crude construction at that time as compared with the present. The poles were of sawed redwood, 10x10 inches, planted along one side of the street. A pine wood arm, 4x4 inches, extending out over the track, supported two trolley wires by a semi-circular iron fixture extending through the arm with the ends pointing upward. The trolley wire was clamped in position on top of these, leaving the top side of the wire free from any obstruction.

The current was transmitted to the motor by a small four-wheeled carriage placed on top of the two trolley wires, and connected to the car by a cable, which served the double purpose of carrying the current and drawing the carriage along the wires. Naturally it was no uncommon occurrence for the carriage to leave the wires in a curve, and break connection with the car. It would sometimes be left hanging by one or two wheels on the wires, or possibly would fall to the ground. In such cases the motorman and conductor would good-naturedly get the ladder on top of the car, provided for this purpose, prop-

erly place the carriage back on the wires, connect up the cables, and proceed on their journey. Such events would often happen as many as three or four times on a single trip. In these early days the cars were not run on any exact schedule, so that there was never any need of being delayed.

Nor were these all of the troubles. It was nothing unusual to burn out an armature or two on a car per day. Since at that time there was no No. 2 motor to take the car to its destination, the cars then being equipped with only one motor, it was up to the electric locomotive to pull in the car. Often the armature of the locomotive would burn out. When this would happen traffic would be completely tied up. Along the latter part of the week such an event would make everybody hustle so as to be ready to resume traffic by Sunday, as that was the busy day.

This first electric road was in reality nothing but a real estate attraction, to draw the people out to a tract of land subdivided along Pico street, west of Figueroa, this being far out in the country at that time. That the road served its purpose could be seen from the many curious passengers, especially on Sundays, when it was necessary to run an extra car. As the writer had no line work on Sundays, he usually served as conductor on the extra car. The passengers would climb on the car, inside and out, until it had the appearance of a honeycomb covered with bees. Still the conductor had quite a "snap"—no transfers to issue, no register on which to ring up fares and no trip-sheets to fill out. The most difficult part of the work was to get rid of Sunday's receipts. Business was so flourishing that all pockets were full of nickels and dimes by six o'clock. In attempting to turn the money in to the treasurer's office, it would usually be found locked, the treasurer, Mr. Beatty, or "Tommy" as he was called, having closed his office. Next morning on the way to work, another attempt to unload the cash would be made. It was usually necessary to "stick around" until "Tommy" made his appearance. On emptying the pockets before him, he would not so much as count the receipts, but would grab a handful of the small change, hand it over, and say, "Here, go get a smoke." Naturally the writer thought this great extravagance on his part, especially since the directors were trying to run the road in such an economical way. For instance—they had succeeded in completely eliminating the auditing department, (shortage slips were unheard of) there were no legal or claim departments, no dispatchers, no mechanical inspectors, or train masters.

In spite of practicing all this economy, the operation of the company's railway was not financially a success. Thus it happened that in the summer of 1888, after Col. Howland had sunk

a small fortune in the enterprise, regular operation of the road ceased and was carried on only intermittently the balance of that year. On June 20, 1891, the city council of Los Angeles served notice on the company "that regular operation of its cars of electricity, with not less than 15 minutes service must be inaugurated within 30 days" or the franchise would be canceled. Since no regular operation was maintained, the franchise was subsequently canceled by the city. It is evident that Col. Howland lived approximately six or seven years ahead of his time, as during the nineties, electric railways were in successful operation in Los Angeles.

### QUESTIONS AND ANSWERS

Employees are invited to submit questions pertaining to any electrical matters.

**Question:** Why has a railway motor a tendency to flash over if current is not turned off when crossing a trolley section breaker?

**Answer:** The trolley voltage on one side of the sectional insulator is different in amount from trolley voltage on the other side, due to differences in loads, sizes of feeders, etc. on the two sides. If a car passes under the sectional insulator from the low voltage side to the higher voltage side with the controller on, there will be impressed on the motors a sudden rise in the voltage, resulting in an abnormal rise in current in the motors, before there is time for them to speed up and increase their counter electromotive force. Also there is an abnormal instantaneous rush of current in the motors, due to the fact that their magnetic flux dies down during the time the current is off, and when it comes on again, it takes an instant for the flux and counter electromotive force to build up.

There is another reason why trolley controllers should always be thrown off when passing under sectional insulators in the trolley, and that is to prevent the sectional insulators from being rapidly destroyed by drawing a spark across them.

A. H. BALLARD

### GENERAL NEWS ITEMS

The Tug-of-War trophy, donated by Mr. Shoup, and now the permanent and proud property of the Electrical Department, it having been won three consecutive times by the department "huskies" at the P. E. Annual Picnic, is now on exhibition in the main lounging room of the Pacific Electric Club.

According to the Journal of Electricity, although electric current contributes to the cause of only a small number (8%) of the accidents in the electrical industry, it causes the largest number of serious and fatal accidents to employes and, therefore, the cause is worthy of the first consideration. All employes whose duties require them to work about electrical lines or equipment should use all the safety appliances provided, and should take every possible precaution to prevent electrical contact.

## ADVANTAGES OF CATENARY SUSPENSION OF TROLLEY WIRE

The direct suspension type of trolley construction has been in use for many years, and is standard for conditions involving low speed and moderate amount of energy. The type of support is either the familiar cross span wire, or bracket. It is unquestionably the cheapest type of overhead construction, and has performed a very useful service in keeping down the initial investments upon the early trolley roads, but with the increasing requirements for energy to be collected at high speeds, it became necessary to develop a more flexible type of construction.

The first installations of catenary suspension were made abroad primarily to comply with safety regulations and to prevent the high voltage trolley wires from falling to the ground or interfering with traffic. The trolley hangers were accordingly spaced at intervals of about 15 feet, and hung upon the supporting messenger wire above. The first installation in the United States was made in 1904, on the Indianapolis & Cincinnati Ry., which carried a voltage of 2200. From that time on obstacles have been overcome, so that now there are lines in successful operation carrying 11,000 volts.

The greatest advantages of the catenary suspension are great flexibility, and the flat, smooth alignment of the trolley wire. When the trolley passes beneath the wire a wave is produced, extending from 100 to 200 feet in either direction. The crest of this wave is just over the trolley wheel, and the height of the wave at a point depends to a great extent, upon the elasticity of the wire at that point. It is plain that any weights or obstructions, such as breakers, splices, crossings or clips, will produce hard spots, and consequent crystallization proportional to their weight. Crystallization results in broken trolley wire and resultant delay to traffic. By comparing the rigid direct suspension to catenary construction now in use on several of our lines, it can be seen that the chances of "hard spots" are, to a great extent, eliminated. The catenary hangers not only permit the trolley wire to raise with the pressure of the pole, but also have no projecting screws, as in direct suspension, to pound the side of the passing wheel, and result in damaging arc at each hanger. The dreaded hard spots are reduced in number to such an extent that the only places liable to crystallize are at breakers, frogs and an occasional splice. If the wire does break, the close spacing of hangers prevents it from going to ground and burning up a large amount of wire, and possible other valuable property. As the wire is carried at a constant level, there is very small chance of the trolley leaving the wire, also doing away with considerable wear on the trolley base. —R. M. COBB.

A contract has been let for an additional 1000 K. W. Motor Generator set, to be installed at Ocean Park Substation.

## SERVICE

On February 14th time of departure of Long Beach-Seal Beach cars was changed to afford better connection with Los Angeles trains.

On February 13th the freight agency at Hermosa Beach was discontinued. Hereafter this station will be classed as a prepay station.

Wells Fargo & Co. on March 1st opened an exclusive agency in Hollywood which made necessary some change in our station force. Assistant Agent C. A. Cheatham was transferred to Sherman as Agent vice Verne Simmons, transferred to El Segundo as Assistant Agent.

Effective February 19th, leaving time of Torrance train was changed from 6.25 a. m. to 6.02 a. m. so that employes of the Union Tool Co. might get to work earlier and in the afternoon the train formerly leaving Torrance at 4:45 p. m. was set forward to 4.15 p. m. except Saturdays, when the leaving time is 3:45. Travel on the Torrance Line is showing a steady increase.

Freight Agency at Alhambra was closed on February 28th, this now being a prepay station. Carload business for Alhambra has for a long time been handled at West Alhambra on account of local conditions, so that Alhambra freight business has been confined to l. c. l. which was very light on account of truck competition.

Timetables No. 32, Santa Ana Line, and No. 6, Santa Ana-Orange Line, were effective Wednesday, March 7th, giving Orange through service to and from Los Angeles. An experiment is being tried on these lines of operating some limited trains inbound in the morning and outbound in the evening, which should prove popular with our patrons. With the inauguration of the through service the one-man cars on the Santa Ana-Orange Line were replaced with regular equipment and light circuits were installed from Santa Clara avenue to Hargraves and from Hargraves to Orange.

The greatest change in service we have had in a long time was that made effective February 11 by the complete opening of the new terminal at 6th and Main streets. From the first day the station forces have handled the traffic as though they had grown up to it and they are deserving of much praise. As trainmen and the public have become more familiar with the station its operation has speeded up. The flexibility of the terminal has been demonstrated by the ease with which trains were re-routed and traffic kept moving when unusual conditions have made such re-routing necessary. The description of the interlocking plant by Signal Supervisor Florence in this issue of the magazine will be of interest to all. This plant may be well called the brain and nerve system of the terminal.

## IMPROVEMENTS

A concrete type E waiting station is being erected at Los Cerritos on the Long Beach Line.

M. of W. Department is just completing the construction of six drainage culverts in the Rose Hill district.

The M. of W. Department has just completed the rebuilding of double-track bridge at Wilshire blvd. on the Sawtelle Line.

Standard freight platform, 12x16 has been erected at Florence avenue on the Long Beach Line for l. c. l. freight shipments.

At Long Beach authority has been given for the construction of two spur tracks to the Curtis Olive Co. property near Water street.

The new station building at Claremont, on the San Bernardino Line, is almost completed and will soon be ready for occupancy.

A small freight house and platform has been erected at the west end of the Globe Mill spur at Culver Junction and is now in use.

A new 100-ton track scale has been installed at Sunset, on the Santa Monica Air Line, taking the place of 60-ton scale at Santa Monica.

An extension of the house track at Loftus on the La Habra Line is to be made at once to serve the oil loading racks of the Providential Oil Co.

At Bushard, on the Santa Ana-Huntington Beach Line, a cattle pen and chute are authorized. Every year large droves of cattle are fed in this locality in the beet fields.

600 feet of timber bulkhead was completed at Wilcox on the Whittier Line just before the last heavy rain to protect the line from Los Angeles river overflow and proved its value.

A team track and freight loading platform are under construction at Walnut avenue on the Newport Line for handling cucumber and other vegetable shipments from the Signal Hill district.

Authority has been given for paving and track re-construction on St. Joseph Street, Arcadia, between Santa Anita avenue and Second avenue which, together with overhead reconstruction, will cost \$15,720.00.

Between Compton and Abila on the Long Beach Line two and one-half miles of double track laid with 60 lb. rail is being renewed with 75 lb. steel. 7000 feet of single track has been changed up to date.

San Pedro main line is to be lowered two and one-half feet at First street, San Pedro, on account of the permanent improvement and paving of that street by the city. Old spur into sand pit at this crossing will be removed at the same time.

CLUB NOTES—CONTINUED

CLUB ENTERTAINMENT EVENINGS

During the month just passed, two very pleasant evenings were given over at the club to musical and literary entertainments, the first on the evening of February 20th, and the second on March 3rd, the talent for each of which came from the ranks of the employee members and was of a very high and enjoyable quality. The program for the first was as follows:

1. (a) "Poor Butterfly"  
(b) "Macushla"  
Miss Nano Carter, Soprano
2. (a) "All Maidens Fair"...Sheperd  
(b) "Fantasy"  
Mr. C. R. Martin, Pianist
3. (a) "Bubble" (from "High Jinks")  
(b) "Somewhere a Voice is Calling"  
Mr. Ben C. Berg, Tenor
4. Lecture  
Mr. J. Z. Gilbert
5. (a) "Meditation" (from "Thais")  
(b) "Gypsy Dance" .....Weir  
Mr. Elmer Kendricks, Violin
6. (a) "Spring Song" ...Mendelssohn  
(b) "La Donna e Mobile" (from "Rigoletto")  
Mr. Roy Davis, Whistler
7. (a) Selection from "Carmen" (In Italian)  
(b) Selection from "Carmen" (In Italian)  
Miss Agnes Kramer, Soprano

One of the very best and most instructive features of this program was the address, illustrated by lantern slides, by Prof. J. Z. Gilbert, of the Los Angeles High School, the discoverer and exploiter of the famous La Brea fossil pits, to the west of the city. For over three-quarters of an hour Professor Gilbert pictured and explained the wonderful discoveries made there, the pictures affording convincing proofs of the words of the speaker. It was a revelation of natural history new to most of the audience, and most interesting and enjoyable to all.

Last Saturday evening, the 3rd, the program offered was fully as enjoyable as the previous one, the offering being as follows:

1. (a) "Forget Me Not" Hoffman  
(b) "Prismatic Polka"...Rollinson  
Mr. Thomas Kendrick, Trombone
2. (a) "A Birthday".....Woodman  
(b) "Will o' the Wisp".....Spross  
Miss Reta Broom, Soprano
3. Address: "The Pleasure of Business"  
Mr. S. L. Weaver
4. (a) "9th Concerto" .....Dariot's  
Miss Ernestine Crane
5. (a) "To-night" .....Zardo  
(b) "To My First Love".....Lohr  
Mr. Lee Arthur Myers, Baritone
6. (a) "Springtime of Love".....  
.....Moskitusky  
(b) "A Wild Rose".....McDonald  
Miss Felice Jung, Whistler
7. (a) "Grand Fantasia—Sextette from Lucia" .....  
(b) "Prelude Rachmenoff".....  
Mr. Raymond Hayes, Pianist
8. (a) "I Sing to Thee".....Smith  
(b) "Jean" .....Spross  
Miss Marguerite Orth, Soprano

The address of Mr. Weaver, who is a past president of the Rotary Club, member of several important committees of the Chamber of Commerce, and one of the most progressive business men of the city, was most forceful. As explained by the speaker, the beginning of his narrative was at the opening of the Christian era, hence he was compelled to crowd some of the experiences of business during 2000 years into ten to twenty minutes, and that was almost as fast a schedule as maintained by the Pacific Electric. His talk treated of the change of public opinion relative to the status of the business man and the worker, the two terms being synonymous, comparing the estimate of the world concerning them then and now and at various times during the past twenty centuries. It is hoped that at some future day we may have the gentleman with us again, and present to him a larger audience.

As a closing number for the evening, General Superintendent Annable made a few pleasant remarks relative to the Club and its work with a very well received prophecy for the future.

NOW ENJOY LOUNGING ROOM

When the new Club was first opened the ladies were restricted to the use of their parlor and the library and reading rooms, except on the afternoons and evenings of Mondays and Fridays, when they were permitted all privileges of the Club except the card room. At the last meeting of the Executive Committee restriction was removed from the Main Lobby, so the ladies are now privileged to use that apartment also, and enjoy the use of the big Edison machine. They are requested, however, to avoid entering the pool room except on days set apart (Mondays and Fridays).

NEW BOOKS IN THE LIBRARY

Too much cannot be said of the generosity of our fellow-employee, Mr. Neil B. Vickrey for the royal gift of nearly one hundred volumes to our library. These include many standard works history and fiction, as the following list will show, all good editions, handsomely bound:

Dumas' complete in 15 vols., Marryat complete, 12 vols.; Balzac complete, 18 vols.; John Fox, Jr., 6 vol.; Horning, 5 vol.; Ridpath's History of the United States, 4 vol.; Patton's Among the Humorists, 3 vol.; O. Henry, 6 vol.; W. W. Jacobs Tales of the Sea, 6 vol.; Jack London, 6 vol.; and 16 vol. miscellaneous fiction.

Mr. A. F. Harvey has sent in eight volumes of stories for boys. Our juvenile library is growing and the boys and girls will enjoy it.

Mr. C. A. Merrill has given us two volumes of Gibson's drawings. Mr. D. A. Bruce presents a volume of Caricature by American artists.

THE POOL TOURNAMENT

Since the 26th of February, the preliminary games in the pool tournament have been under way, selecting from the different departments the most proficient players for the final contest which occurs tonight (Saturday, March 10th).

The good natured rivalry has been witnessed by quite a lot of the "boys" and some high class runs have been made on the string. Because of a series having not been completed before sending the Magazine to press full report of the affair will not be made until next issue.

The game Saturday night promise to be exciting. Better drop in and see the fun.

The Band Concert

On the night of Wednesday, February 14th, our big band gave one of the very best concerts ever given by the organization, but unfortunately owing to threatening weather conditions and apparent lack of public interest the attendance was not what it should have been by any means. Those who were present were more than rewarded for the effort of coming and undoubtedly the next feature of the band will show a large attendance. Director Stuart, of the Band, has added many new laurels to those already possessed by him in his music work and promises some new features in connection with the band in the near future, one of which will be a full-fledged saxophone quartette.

NEWSPAPER COLLECTION

The following notice was published on all divisions of the system recently:

"At the Executive Committee meeting of the Pacific Electric Club on February 14th, it was decided to collect all receipts from the sale of newspapers into a Relief Fund for use in emergencies for the benefit of employees in distress; this with the idea of doing away entirely with subscription papers which have heretofore been circulated in the various houses in behalf of such cases."

Suggestion was made that employees who have been gathering newspapers and would like to donate them in the manner mentioned above, be allowed to put them on any car convenient to their homes for delivery at terminals where they can be collected by supply cars.

"You will please be governed accordingly, disposing of such newspapers in the same manner as you are already handling papers collected from your cars."

With this object in view, we most appeal to every one of us, that collection of newspapers should receive a new impetus.

THE MISSION PLAY

After an extended trip east, Mission Play has returned to its home at San Gabriel, opening March 1st. The play is presented every afternoon and Wednesday and Saturday evenings. To those who have seen the words of commendation are unnecessary. If you haven't seen it, arrangements at once to go. Every resident of California should be familiar with the early history of the state and no more attractive or entertaining method of obtaining such knowledge exists than witnessing Mission Play. Take Pacific Electric trains from 6th and Main street station. Let your friends know about it also.