

Report of Special Com.

and the Superintendent was requested to procure prices, etc. It was understood and agreed upon that the Fort Wayne Electric Corporation would put the switchboard in good operating condition; also, that said Corporation should furnish the necessary material and send an experienced Man to make new connections and re-insulate the incandescent armatures so as to bring them up to date in construction, the City to pay such man \$3.50 per day of ten hours, including the time coming and going to Fort Wayne, Ind., and to pay his traveling and living expenses also, it being estimated that the time necessary for the work would be two weeks.

Plans and specifications for connecting up the Stillwell-Pierce and Smith-Vaile pumps with the spring water supply having been prepared by the Superintendent, and proposals for furnishing the material and doing the work were advertised for, and on that instant three bids were received, as follows:

Jas. St. Knight, to furnish material and work according to plans and specifications as prepared by the City, \$5390.

Burt McDonald, to furnish material and do the work according to specifications suggested by him, \$4439.

Shedd and Dixon, to do all the work according to specifications, but to furnish no materials \$1300.

None of the bids being deemed satisfactory they were all rejected and the Superintendent was requested to get new prices.

The committee also considered the matter of the Gould Pumps and respectfully recommending the payment to the Gould Company the sum of Six thousand (\$6000.00) dollars on their contract, and that the balance be held until the pumps are placed in a condition satisfactory to the City. The committee also requested the Superintendent to communicate with the Gould Company and ascertain if said company would entertain a proposition of taking out the present pumps furnished by said company and giving in exchange pumps having a capacity to deliver 8000,000 gallons per day into the two idle penstocks from which the large Stillwell-Pierce and Smith-Vaile pumps would take the water by suction into the mains.

Respectfully submitted,

W. H. Tobin, Chairman.

Police Com's report on City Marshal's report for June

Alderman Powell, for the Police Committee, to whom was referred the reports of the City Marshal for the month of June, presented their reports, stating that they had been carefully examined and found correct. On motion, the report was adopted, and ordered filed.

Com. on Claims and Accounts report on report of Hon. J. M. Harlan

Alderman Sawles entered the Council Chamber and answered to his name. Alderman Platt, for the Claims and Accounts Committee, to whom was referred the petition of Mrs. S. M. Harlan, requesting the Council to refund to her certain taxes, presented the following report:

Justified, \$1000, July, 1896.

For the Hon. City Council, J. H. City, of Christian:

Resolved, That the Council do not consider the petition of Mrs. S. M. Harlan, and do not refund to her the taxes.

Mrs. S. M. Harlan and are of the opinion that your honorable body is without authority to grant the relief prayed for by her. She had the right to appeal from the action of the Board of Equalization if she felt dissatisfied. As no appeal was taken the action of said Board becomes final.

Respectfully,
R. Blatt,
A. J. Zilker,
O. D. Horton.

Com. on Sanitation & Sewerage
report on Swill & Slops Ord.

On motion of Alderman Sime the report of the committee was adopted. Alderman Glass, for the committee on Sanitation and Sewerage, to whom was referred an ordinance limiting the time in which slops, and swills can be moved by garbage carts, wagons and other vehicles in the City, presented their report recommending the passage of the ordinance. On motion, the report was laid over. It came up with the ordinance.

Special Com. majority report
on suggesting names for election
as Board of Equalization

Alderman Zilker entered the Council Chamber and answered to his name. Alderman Borth, for a majority of the special committee to suggest names of citizens for election as Board of Equalization, presented their report, suggesting the names of six citizens, as follows: Sam De Cordoba, Wm. Von Rosenberg Sr., Henry Hirschfeld, Frank Brown Sr., Judge James Smith and O. M. Thomson.

Special Com. minority
report on above

Alderman Zilker, from the same committee, presented a minority report, suggesting the following names: Joe Cloud, J. S. Wren, M. H. Randolph and Dave Wilson.

On motion of Alderman Fiedt the reports were laid over to come up under the head of new business.

Ord. amending certain
sections of an Ord. providing
for management & operation of
W. & Power plants

Unfinished Business.
The chair laid before the Council an ordinance amending certain sections of an ordinance entitled "An ordinance providing for the management and operation of the Water Works and Electric Light and Power plants of the City." The ordinance was read a second time.

Substitute Ord. offered for
above.

Alderman Horton offered the following as a substitute for the original ordinance.

An ordinance to provide for the management of the Water Works, Electric Light and Power plants of the City of Austin. Whereas, the proper management of the City's great enterprise is of paramount importance; and
Whereas, Reasonable compensation should be given to those who devote their time to the City's interests, and, under the City Charter, no compensation can be given for such service to a Water and Light Commission chosen from the members of the City Council; now therefore:

Section 1. Be it ordained by the City Council of the City of Austin, that the City Council shall elect three citizens who shall be members of the City Council, and, with the Mayor of the City, or

Substitute Ord.

Chairman ex-officio, they shall constitute the Water and Light Commission and shall perform all the duties of the Water and Light Commission as prescribed and fixed under the ordinance governing the Water Works, Electric Light and Power plants of the City of Austin, passed and approved January 7th 1895; and said commission so constituted shall serve until the next annual City election, and shall receive Five dollars for each day they shall devote to the City's interest; provided, that the sum paid each commissioner shall not exceed the sum of Five dollars per week, and, provided further, that said commissioners shall meet for the transaction of business twice a month, at least one day before each regular Council meeting.

Section 7. And so much of an ordinance entitled "An ordinance providing for the management and operation of the Water Works, Electric Light and Power Plants of the City of Austin, and establishing rules and regulations for the government thereof, and fixing rates for service," approved January 7th 1895, as in conflict with this ordinance be and the same is hereby repealed.

Alderman Gorth moved that the substitute be laid upon the table. Alderman Zilker moved as a substitute that the original ordinance and the substitute be laid upon the table, which motion was lost by the following vote:

Yeas Aldermen Beatty, Sinn, Powell, Bradd, Rosengren, Schneider, Townsend and Zilker 8.

Nays Aldermen Fischer, Glass, Gorth, Haynes, Horton, Sawless, Platt, Robertdeau, Shelley, Stumpf, Taylor and Tobin 12.

The vote was then taken on the motion of Alderman Gorth to table the substitute offered by Alderman Horton, which motion was lost by the following vote:

Yeas Aldermen Beatty, Fischer, Gorth, Haynes, Sawless, Powell, Bradd, Robertdeau, Rosengren, and Taylor 10.

Nays Aldermen Glass, Horton, Sinn, Platt, Schneider, Shelley, Stumpf, Tobin, Townsend, Zilker and the Mayor 11.

Motion to adopt substitute Ord. Lost.

The motion to adopt the substitute offered by Alderman Horton was then lost by the following vote:

Yeas Aldermen Glass, Horton, Schneider and Tobin 4.

Nays Aldermen Beatty, Fischer, Gorth, Haynes, Sawless, Sinn, Platt, Powell, Bradd, Robertdeau, Rosengren, Shelley, Stumpf, Taylor, Townsend and Zilker 16.

Original Ord. to be acted upon section by section, adopted. Sec. 1 amended.

Alderman Platt moved that the original ordinance be acted upon, section by section, which motion prevailed.

Section one was read. Alderman Taylor moved to amend by inserting after the word "that" in second line, the following:

Sections 1, 2, 4, 9, 11, 15, 16, 17 and 18. of an ordinance entitled "An ordinance providing for the management and operation of the Water Works, Electric Light and Power plants of the City of Austin, and establishing rules and regulations for the government thereof, and fixing rates for service."

The amendment was adopted. The amendment was adopted. The amendment was adopted.

Yeas Aldermen Fischer, Glass, Gorth, Haynes, Sawless, Platt, Roberdeau, Shelley, Stumpf, Taylor, Tobin and Townsend. 17.
Nays Aldermen Beatty, Horton, Linn, Powell, Redd, Rosengren, Schneider and Zilker. 8.

Alderman Schneider offered the following amendment: Amend Sec. 1, after the word vested, 'strike out all after the word vested in' and insert, 'a standing committee of the City Council to be called the Water and Light Commission, subject to the control of the City Council'.
The amendment was lost.

Sec. 1 adopted

Section one as amended was then adopted.

Section 7 was then read. Alderman Schneider moved to strike the word "three" and insert in lieu thereof the word "five". The amendment was lost by the following vote:

Yeas Aldermen Linn, Powell, Schneider, Stumpf and Townsend. 5.
Nays Aldermen Beatty, Fischer, Glass, Gorth, Haynes, Horton, Sawless, Platt, Redd, Roberdeau, Rosengren, Shelley, Taylor, Tobin and Zilker. 15.

Sec 7 adopted

Section 7 was then adopted.

" 3 amended "

Section 3 read. Alderman Tobin moved to amend by striking out the words "Finance Committee". Adopted.

" 4 adopted

Section 4 as amended was then adopted.

" 9 "

Section 9 was read and adopted.

" 11 "

Section 11 was read and adopted.

" 15 "

Section 15 was read and adopted.

" 16 "

Section 16 was read and adopted.

" 17 "

Section 17 was read and adopted.

Section 18 was read and adopted.

Motion to suspend rules
& place Ord. on 3rd reading
lost.

Alderman Shelley moved to suspend the rules and place the ordinance on its third reading which motion was lost by the following vote:

Yeas Aldermen Beatty, Fischer, Glass, Gorth, Haynes, Sawless, Platt, Roberdeau, Rosengren, Shelley, Taylor, Tobin and Zilker. 13.
Nays Aldermen Horton, Linn, Powell, Redd, Schneider, Stumpf and Townsend. 7.

Ord. appropriating \$750 to buy
land for reservoir site
laid over til next meeting

The Mayor laid before the Council an ordinance appropriating the sum of \$750.00 to purchase a reservoir site.

On motion the ordinance was laid over until the next meeting of Council.

Ord. appropriating \$76. to pay
Extra Sanitary Laborers

The Mayor laid before the Council an ordinance appropriating the sum of \$76. to pay Extra Sanitary laborers for the month of July, with the favorable report of the Committee on Sanitation and Sewerage.

The ordinance was passed under suspension of the rules by the following vote:

Yeas Aldermen Beatty, Fischer, Haynes, Horton, Sawless, Linn, Platt, Powell, Redd, Roberdeau, Rosengren, Schneider, Shelley, Stumpf, Taylor, Tobin, Townsend, and Zilker. 20.

Nays Aldermen
None.
The Mayor laid before the Council an ordinance...

Ord. limiting time to move
Shops & Drills

Ord. Amended

Ord. passed as amended

The time for moving shops and drill by carts, wagons and other vehicles. The ordinance was read second time.

Alderman Powell moved to amend by inserting the following: "Provided, that this ordinance shall not apply to persons hauling such shops in motorless tanks at any time of the day." The amendment was adopted.

The ordinance was then passed under suspension of the rules by the following vote:

Ayes Aldermen Beatty, Fischer, Glass, Goeth, Haynes Horton, Sawles, Linn, Platt, Powell, Codd, Roberdeau, Rosengren, Schneider, Shelley, Stumpf, Taylor, Tobin, Townsend and Zilker 20.
Nays, Stone

Alderman Roberdeau asked that the Fire Committee be permitted to present a report. Granted.

Fire Com's report on
pet of East Austin Hose Co. &
to be refunded money paid
for repairs

Alderman Roberdeau, for the Fire Committee, to whom was referred the petition of East Austin Hose Company No. 4, requesting the Council to refund to them money paid for repairing their hall, presented their report recommending the payment of the sum of \$35, and submitting an ordinance appropriating that amount. The report of the committee was adopted and the matter laid over to come up under the head of new business.

Cemetery Com's report on
award of contract for cleaning
old part of City Cemetery.
Com's action confirmed

Alderman Horton, for the Cemetery Committee, presented a report stating that they had let the contract for cleaning the old part of the City Cemetery to E. Olson for the sum of \$750.

Alderman Fischer moved that the action of the committee be confirmed, which motion prevailed.

Old Business.

Report from Supt. Maddox
read by himself by request &
consent of Council

Alderman Haynes presented a report from Superintendent Maddox and asked that the Superintendent be permitted to read the report himself, which motion prevailed.

Superintendent Maddox then read the following communication:

Austin, Tex. July 28th 1896.

To the Mayor and the City Council of the City of Austin:
Gentlemen, About six weeks ago I took occasion to say that the Fort Wayne Corporation has not the reputation of making the best Electrical machinery, and then stated that the incandescent Switch board is better adapted to a 1000 than to a 2000 volt current; that the lightning arresters do not give protection; that the fuse blocks disintegrate and interrupt the service; that the switches are too light and that atmospheric currents and short circuits fuse their blades to their clips, and that the instruments are so close together that excessive currents are from one to another to their damage and injury; and that the metal frame of the board is a source of danger. I also informed you that improper insulating material was used in the armatures and field coils of the dynamos, causing short circuits and burn outs that greatly impede good service; that the exciters had no switches which made it necessary, in order to kill the machines in case of accident, for an operator to throw the belt at great risk of persons.

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injury; that the copper exciter brushes wore away the commutators so that it was often necessary to turn them down and true them up in the lathe; and that the shunts, as placed in the dynamo frames became overheated and were not readily accessible. I informed you also that the operating force had made and put switches upon the exciters, which obviated the dangerous necessity of throwing a belt in case of accident; that they had made carbon brushes and put them on, so that it is no longer necessary to turn and true the commutators; and that the resistance coils had been removed from the frame of the dynamos to a cooler and more accessible position.

Are these facts true? Has the Fort Wayne Corporation the reputation of making the best Electrical machinery? The City has six Fort Wayne incandescent dynamos in the station, and has paid that company a large sum for repair material. Three General Electric machines are also in the power station, and the repair material therefor has cost very little and this was procured as a precaution against possible accidents and not to repair damage already done. One of the General Electric machines was shut down for a few hours once only and the service of the other two has never been interrupted, while there is not one of the six Fort Wayne machines but what has been many times shut down and repaired. And, while Mr. Hunting says the operating force is unharmonious and incompetent, they have no trouble in operating the General Electric dynamos without accident or injury. But Mr. Hunting from conviction of necessity, urges that he be allowed to name an operator to be employed by the City who understands his machines, while the General Electric Company has not seen the necessity of making a similar request.

Is the Switchboard efficient? Is it better adapted to a 1000 than a 2000 volt current? Mr. Hunting has returned to Fort Wayne, as he says, to take the matter up with Mr. Wood, who designed the board, and has promised the special committee to make the board what it should be, a good and serviceable one. He says that the lightning arresters are not inherently defective, still he has determined to replace them by others made by the Westinghouse Company.

The instruments are not, he claims, too close together, but while he and Mr. Wood determine what permanent changes must be made, I am now, by his request, taking the arresters off the board altogether, and placing them on the wall behind. And I am under his written direction, changing the location of other instruments on the board so as to give more air space insulation between them. And while the metal frame of the board may not be a source of danger, still, by his request, I am removing the brass mounting strips entirely from the board.

Is Mr. Hunting theoretical or practical? The chief engineer of the Fort Wayne Company was with us two weeks and often expressed regret that he had not been so fortunate as to see the electrical manifestations produced upon his switch board

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by a thunder storm. I sincerely shared in that regret, and the sincerity of Mr. Huntling's regret was clearly shown on the Sunday morning before he left for Fort Wayne. He was in the Power Station, giving Mr. Stucky, Mr. Johnson, Mr. Murphy and other employees verbal instructions as to temporary changes which he desired made on the switchboard, I being then in possession of his diagram and written directions.

About 11:30 on that morning, I was very much gratified by the heavy rain storm which was coming up from the northeast. I called Mr. Huntling's attention thereto and informed him that I believed we should have some severe lightning, and, thinking that he would be pleased by the opportunity apparently at hand to see what he had so often expressed a desire to see, I requested him to take charge of the dynamo floor and operate or direct the operation of the plant until the storm had passed. He replied that if I desired it he would do so. I told him that I especially desired it, and I informed Mr. Johnson and Mr. Murphy in Mr. Huntling's presence that he had taken charge of the plant until the rain storm was over and that I wished them to take orders from him. The rain about this time began to fall in torrents, and Mr. Huntling walked by the switchboard, but to my surprise he passed by and on down to the extreme south end of the pump floor, and seemingly became much interested in the Skillwell-Caine and Smith-Tale pumps. By my directions Mr. Johnson went to the pump floor and offered Mr. Huntling a pair of overalls and asked him to return to the dynamo floor that he might be near the switchboard to observe its efficiency. The overalls were declined and the request to return was refused with the statement that no one could operate the dynamo floor better with the switchboard as it is than the employees had done and were doing. And though urged to return to his self-assumed duty on the dynamo floor, Mr. Huntling positively refused to do so, and continued his contemplation of the big pumps until the rain had ceased. Unfortunately no lightning came with the rain. I was disappointed that it did not and I was and am disappointed in Mr. Huntling. I went to the Driskill that night to say good bye to him and asked him whether he had ever operated a plant. He replied, "I have been in the office of the company" but, when informed that I considered the operation of a plant very essential to electrical knowledge, and urged him to give me a direct answer, he said he had installed and operated a plant at Bloomington, Ill. in two weeks and that he had subsequently operated it for about three months.

A. Thunderbolt. Mr. Huntling contends that it is a ridiculous impossibility that the switches should be fused to their clips by atmospheric currents, but while he says any Electrical Engineer knows that such currents are of enormous potential, but of small quantity, and that lightning discharges were never known to melt copper bars so large as his switches; still, Levi Terring, of the University of Pennsylvania, in his "Principles of Dynamo Electric Machines", page 17, says: "Several authorities have calculated the electro-motive force of a bolt of lightning to be about 5,500,000 volts, and the current to be about

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14,000,000 amperes, the time of the bolt being measured at one twenty-thousandth part of a second". And Mr. Herring adds: "A simple calculation shows that this amount of energy set free in that short time is about as much as that of a 100-horse power engine for almost ten hours". Think of this wonderful manifestation of energy, and then say whether I have made a ridiculously impossible statement. Calculation shows that the energy displayed is equal to 3,600,000 horse-power for a second, and that for the time of the bolt, the twenty-thousandth part of a second, it is equal to that of sixty-five thousand million horse-power. If Mr. Hunting has not the practical knowledge to enable him to operate the Fort Wayne dynamo, he at least showed a theoretical appreciation of the inefficiency of his switchboard, and indicated, wittingly or unwittingly, that while a thunder bolt possesses high potential or voltage, it is not entirely barren of electric quantity or amperage. If you multiply 3,500,000 volts by 14,000,000 amperes and divide the product by 746, the result will be volt-amperes (Watts) or the horse power energy of an atmospheric current, which is exerted in the twenty-thousandth part of a second. Mr. Hunting deliberately stated in his report to the Mayor that his company never put a switch upon an exciter, and that he had never known any other company to do so, as I have had done. The General Electric Company placed a switch on the exciter of your triphase power machine and it was to be seen on the dynamo floor when Mr. Hunting was here. And he says it is not desirable to do so, but that it is much easier and safer to kill the machine with the rheostat; but, when on the dynamo floor with the Special Committee I asked him to explain how it could be done under the existing conditions of the board, he frankly and explicitly said, "It can not be done". Mr. Hunting contends that the insulation used in the alternating dynamos is the best, still he admitted to me that his company no longer uses the insulating material of which I complain; and he agreed with the Special Committee to furnish better material and send a man down to re-insulate them and, as he expressed it "bring them down to date in construction". Referring to burn-outs in the armatures from improper insulation and bad joints, Mr. Hunting says a competent man would not await for the same trouble to happen more than twice before he would immediately take steps to remedy the defects in all the machines. He further says: "Good common sense would dictate such a course". Mr. Hunting being the Chief Engineer of his company, the inquiry may arise, why was the work not properly done at the shops? And it may occur to you as it does to me, that good business would dictate such a course, and that had the work been done in the shops as it should have been done, there would be no necessity for "incompetent" dynamo tenders to rebuild the machines, and Mr. Hunting's company would not have been under the necessity of sending him to Austin to write a report in defense of the Fort Wayne machinery. Nor would it have been necessary to cure defects, and none existed. In general terms, without deciding on the grounds on which he makes the statement, Mr. Hunting says in my criticism of the Fort Wayne dynamo.

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X machine is a woeful exhibition of my ignorance of electricity and of electrical engineering. I might return this compliment in the same general terms, by the broad assertion that Mr. Hunting's three-column effort is not creditable to the Fort Wayne Company, nor to him as the ^{Chief} Engineer of that corporation. But I prefer to be more specific, that others may judge of the justness of my criticism. And it is evident that I have stated with particularity the criticisms I have made of the Fort Wayne machinery for Mr. Hunting appreciates the defects pointed out and undertakes to cure them.

Some days since Mr. Hunting informed me that my report put his company on the defensive, so I was not entirely unprepared for what he has said in defense of the corporation he is paid to represent. He admits the existence of some defects, which he proposes to cure, and charges others to unfavorable local conditions. But the burden of his defense is that I am not an expert, that I have no electrical information and that my criticisms, therefore, are not worthy of consideration; and that the operating force is inharmonious and incompetent. It is true that I am not an expert. I make no pretensions to expert knowledge. But is a condition changed or a fact less true because stated by one who makes no pretensions to expert knowledge? When I see a condition state my opinion as to the cause of that condition, and give a reason therefor, is my opinion not to be considered because an interested expert expresses a contrary opinion? That the operating force is inharmonious was for Mr. Hunting, in a few days, to discover, while I, after daily intercourse with these men for many months, do not even now suspect it. And their failure to satisfactorily operate the Fort Wayne electrical machinery, in its present condition, is not to my mind an evidence of incompetency, even though the Chief Engineer of that corporation may entertain a different opinion.

While the Mayor, as I am informed, says Mr. Hunting is a man of good information and that he is such a man as your plant needs, and while Mr. Hunting fully agrees with the Mayor as to the necessity of other management of your plant, and, doubtless, also as to his qualifications for the position, still, I think you will agree with me that it would be most unwise to make such a selection. Had I been an expert, a Chief Engineer, I could scarcely have accomplished more than I have brought about in the interest of the City of Austin. For, by making what I then thought, and still believe, to be a truthful statement of facts, and by publishing that statement at my own expense, against the wishes of the Mayor and of those who believed it to be more harmful than good for the City's great enterprise, I brought Mr. Hunting to Austin, without the usual fee that attends the coming of an expert. And, while he has made a vigorous three column effort to defend his company, by calling frequent attention to the fact that I make no pretensions to expert knowledge, still the City loses nothing thereby; on the contrary, Mr. Hunting, for the Fort Wayne Company, has, without any legal obligation to do so, undertaken, at great interest without expense to the City, to cure the defects which I have pointed out. Undoubtedly this will be done.

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as undertaken to be done, I shall be content with the result of my efforts and shall not only feel grateful to the City Council who, believing I am right, stood by me and enabled me to do what I have done, but I shall thank the Mayor for his persistent and unfair opposition, which has compelled me to make the fight which has resulted in good to the City. It has been said by the Mayor that "We do not so much want a man to tell us who makes errors in the past and explain how disasters occur after they have happened as a man who can look forward and prevent them before they occur".

I fully agree with the Mayor and desire briefly to call attention to some betterment work accomplished by your employes, which avoided disaster, and I especially wish to mention some important work which, though recommended and urged, has not been done. Much betterment work has been done, too much to be stated here, and some remains to be done. It was early shown that your line shafts are entirely too light for the work they do, and that it was bad construction to suspend them from the dynamo floor. But it was not until I had urged the danger of the situation and called attention to a very much larger shaft in the San Antonio light plant that, with every clutch and pulley upon it, had been twisted and broken into a shapeless mass, that I procured permission to cut these shafts loose from the floor and support them on pillow blocks from below. This was an imperatively necessary improvement, and, had it not been done, the shafts, in all probability, would have been wrecked long ago. When this improvement was made, and frequently since, I called attention to the insufficient strength of these shafts. But it was not until a few days ago, when my views were concurred in by an unpaid expert, that the necessity of larger shafts was considered. Had the suggestion of your employes been acted on, this work would long since have been done. And now, that the necessity is being considered, prudence would dictate that it be done at once. It was also early shown that the dynamo floor is not sufficiently rigid under the machines, and while much work has been done to remedy this defect more should be done.

The Kittell-Dierce and Smith-Tale pumps developed a weakness in their suction chambers and your employes provided a temporary remedy, and, at their suggestion, the makers were required to furnish material to permanently cure the defect, which has been done. The makers of these pumps put iron bolts in the yokes of the valves which were liable to corrode, break off and give much trouble. And your operating force suggested that the makers be required to furnish proper bronze bolts, which they did, and they have been put in place. Owing to the fact that these pumps are under seven foot head, difficulty was experienced to keep the air chambers properly filled with air, but, by a simple and inexpensive arrangement, your employes utilizing the power of the turbine wheels which drives the pumps to keep the air chambers continuously supplied with air, and while it was found that the air chambers contained unsupplied quantities of air for cushioning, expelling,

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pipes, at small expense, were run between the four air chambers of each pump, which uniformly distribute the air to all. So that, so far as seen, all defects in these pumps have been remedied, and at minimum expense, save this one; the valves are of bronze and are seated in the cast iron bed. The seat corrodes and necessitates cleaning and adjusting to keep the valves in good working condition. This defect, chargeable to the designing engineer, while very bad construction, is not a source of danger, but one of annoyance that necessitates labor to keep the valves in ⁱⁿ ductible condition.

X When other more pressing betterment work is accomplished rubber valves should be substituted for the present bronze ones, and they should be seated in bronze by tapping out the cast iron ^{and putting in removable bronze seats} seats. When this has been done you may well be proud of these pumps, for they are massive, durable and efficient.

X Only one other thing remains which may interrupt the service of these engines, and attention has long since been called to it. Wooden steps inside the turbine cases support the turbine shafts, and these wear away, especially when the lake is muddy. And the time has been and may come again when it will be necessary to put in a new step; and, as there are no valves between the penstock and the turbine cases, this necessitates shutting down both pumps until the work is done. Many months ago I called attention to this construction, procured a pair of two special valves and recommended that they be put in. This is not so necessary, however, as some other things which should be done.

It had been proposed by the Mayor, and it has been insisted upon, that you should employ a skilled machinist, who is an expert electrician, to take charge of your plant; that he be paid \$3000 to \$4000 per annum; that he be backed up in his management, and that he be held responsible for the successful operation of the plant. The compensation given to your present Superintendent is not nearly so much, and, while he may not be the best man for the place, still, as he is held responsible for the successful operation of the plant, does it not seem wise does not fairness demand, that he also should have co-operation in his efforts to make your plant what it should be, a more perfect one? The imperative demands of your plant are a new main to the City and the utilization of the surplus spring water.

When your employees recommended the utilization of the spring water, they suggested that power be taken from the pump turbine shafts, and that by an inexpensive pump the water be raised to the suction of the 4,000,000 gallon pumps, and that they be employed to force the water to the City. This suggestion was referred to Mr. Fanning, who recommended the McCombs turbine and the Gould pumps, which we now have and which cost about \$500. Mr. Fanning came to Austin to advise you how to supplement the spring water supply. He spent eight days there looking into the matter over, three days coming down and three days returning to Austin, and some weeks in making up his report as to supplementing the spring water supply, and in drawing plans for a reservoir. Mr. Fanning's bill has not yet been seen by the Board. I apprehend that it will not be less than \$1000, as he was to be paid \$25. per day, and expenses. From Mr. Fanning's report we

Supt. Water Report

received, however, your employes picked up an old centrifugal pump, connected it into the river discharge of the spring, topped a small shaft through the river wall, took power from the turbine which lights your towers, and in two days, at an expense less than one single per diem of Mr. Hazen, they demonstrated that the spring would supply enough water for the City; hence it is not necessary to supplement the spring water supply. When your employes had thus demonstrated a sufficient quantity of water in the spring, they again recommended its utilization, as in the first instance, by taking power from the pump turbine shafts; by forcing the water into two of the idle penstocks by an inexpensive pump; and by using the two 4,000,000 pumps to deliver the water to the City. And again this recommendation was referred to Mr. Fanning and also to Mr. Hazen; and these gentlemen both recorted in favor of a new turbine and another pair of 3,000,000 gallon Gould pumps, to cost about \$9,000. And when the utilization of the spring water was urged and suggestion was made that the recommendation of Mr. Fanning and Mr. Hazen be considered in connection with the more economical one of your employes, to cost less than \$3,000 you authorized a special committee to utilize the spring water by the latter plan, carefully estimated to cost \$2,648. When the special committee met, at the suggestion of the Mayor, as I understand, a member of the committee moved to postpone action and invite an Alderman and the Captain of the Ben Hur to give the committee the benefit of their suggestions. I did not think the advice of the Captain necessary or desirable in view of the fact that both Mr. Fanning and Mr. Hazen had been consulted; and in view of the fact also that the carefully considered plan of your employes had been authorized by you. So I called attention to the complaint of the City water, when the lake was low, to the fact that we should expect muddy water when the river is up, as it now is; and also to the new pumps which the old company is putting in; and I urged the necessity of promptly utilizing the spring water, as you have authorized. And this should be done without delay.

Two mains, one a 16 and the other a 24-inch, were originally contemplated, and we now have one, a 20-inch main, which has a little less than half the capacity of the two contemplated. I have several times called attention to this and urged the necessity of another 20-inch main from the dam, to connect with the 16-inch main on Nineteenth Street. This would cost about \$24,000. Three times, within six weeks, our system has been in such condition that not a single fire stream could have been delivered anywhere in the City. This occurred once, when a plug was blown out of a 24-inch line near the power house; a second time when two lead joints were forced out of the 24-inch pipe in the park, and a third time when a hydrant was blown off on the boulevard. This was the result of the high pressure necessary to deliver a sufficient supply of water through the 20-inch main during the dry hot weather. In delivering 6,000,000 gallons of water to the intersection of Sixth Street and the Avenue through

Dupl. Maddox Report

the 20-inch main, there is a loss of 56 feet head, and the pumps must exert a correspondingly high pressure to meet the friction loss under the increased velocity necessary to deliver the quantity of water required. Mr. Hazen recommends a 3,300,000 reservoir, 8500 feet beyond the State Lunatic Asylum, and proposes to fill it, through the 20-inch main to the Avenue, the 16-inch main to Nineteenth Street, the 12-inch main to the Asylum and a 16-inch main to be extended 8500 feet beyond to the reservoir site. Owing to the want of capacity in these pipes and the great distances, about seven miles and the resulting frictional loss, I can not endorse Mr. Hazen's plan as feasible, nor do I believe that, if carried out, it would be of any practical utility. I repeat that the most imperative needs of your plant are the utilization of the spring water and the construction of a new main from the dam to Nineteenth Street. In time, and the time is not far distant, you will find it advantageous to build your dam higher to give greater head and more storage above the service line of your penstocks. The crest of the dam has ample thickness for increased height, the cost would be comparatively small and the advantage great.

Very respectfully Submitted,
Geo. W. Maddox, Superintendent.

Alderman Goeth moved that the Council stand adjourned until 8:30 o'clock tomorrow night. Lost by the following vote:

Yeas, Aldermen Goeth, Sawless, Platt, Roberdeau, Taylor and Tobin 6.
Nays, Aldermen Deaty, Fischer, Glass, Haynes, Horton, Linn, Powell, Redd, Rosengren, Schneider, Shelley, Stumpf, Townsend and Zilker 11.

Dupl's report adopted & ordered printed in minutes.

Alderman Powell moved to adopt the report of the Superintendent, and that it be published in full in the minutes, which motion prevailed by the following vote:

Yeas, Aldermen Deaty, Glass, Haynes, Horton, Linn, Platt, Powell, Redd, Rosengren, Schneider and Townsend 11.

Nays, Aldermen Fischer, Goeth, Sawless, Roberdeau, Shelley, Stumpf, Taylor, Tobin and Zilker 9.

Ord. Approp. \$6000. to pay The Gould Co. on acct.

The Mayor laid before the Council an ordinance offered by the Special Committee appropriating the sum of \$6000. to pay The Gould Company on account. The ordinance was passed under suspension of the rules by the following vote:

Yeas, Aldermen Deaty, Fischer, Glass, Goeth, Haynes, Horton, Sawless, Linn, Platt, Powell, Redd, Roberdeau, Rosengren, Schneider, Shelley, Stumpf, Taylor, Tobin, Townsend and Zilker 20.

Nays, None.

Alderman Sawless moved to adjourn until 8:30 o'clock tomorrow night. Lost by the following vote:

Yeas, Aldermen Fischer, Goeth, Sawless, Platt, Roberdeau, Rosengren, Shelley, Taylor and Tobin 9.

Nays, Aldermen Deaty, Glass, Haynes, Horton, Linn, Powell, Redd, Schneider, Stumpf, Townsend, and Zilker 11.

Alderman Glass moved that the Council now proceed to the action of the board of equalization. Lost.

5502
4444
10000
227

Alderman Taylor moved to adjourn. Lost by the following vote:
Yeas, Aldermen Fischer, Booth, Sawless, Oberdeau, Shelley, Taylor & Tobin,
Stays, Aldermen Beatty, Glass, Haynes, Horton, Sinn, Platt, Powell, Cadd, Rosengren,
Schneider, Stumpf, Townsend and Zilker 13.

Aldermen Fischer & Sawless
excused

Ord. Approp. \$148.⁸⁵/₁₀₀ to re-
imburse A. H. Co #1 and
Colorado Hose Co #2 for repairs

Aldermen Fischer & Sawless, were excused from further attendance on this
session of the Council.

By Alderman Schneider, An ordinance appropriating the sum of \$148.⁸⁵/₁₀₀
to reimburse Austin Hook and Ladder Company #1 and Colorado Hose
Company #2. for money advanced to repair Fireman's Hall.

Ord. approp. \$135 to reimburse
East Austin Hose Co #4 for repairs

On motion the ordinance was referred to the Fire Committee
The Mayor laid before the Council an ordinance offered by the Fire Com-
mittee, appropriating the sum of \$135. to reimburse East Austin Hose Com-
pany #4 for money expended for repairs.

The ordinance was passed under suspension of the rules by the following vote:
Yeas Aldermen Beatty, Glass, Booth, Haynes, Horton, Sinn, Platt, Powell,
Cadd, Oberdeau, Rosengren, Schneider, Shelley, Stumpf, Taylor, Tobin,
Townsend and Zilker 18.

Motion to proceed to election
of Board of Equalization. Carried

Stays Stone
Alderman Sinn moved that the Council now proceed to the
election of the board of equalization, and that three tellers be
appointed by the Mayor. Carried, and Aldermen Cadd, Stumpf and
Haynes appointed tellers.

The following Gentlemen, in addition to the names proposed by the
committee, were placed before the Council, viz: O. A. Rutherford, J. M.
Odell, A. R. Morris, D. B. Kinney, and Jos. Schubert. Nominations were
then declared closed.

H. H. Randolph elected

The following was the result of the first ballot: O. A. Rutherford 6 votes,
D. B. Kinney 7 votes, J. S. Kren 5 votes, J. M. Odell 5 votes, H. H. Randolph 10 votes,
Sam De Cordova 4 votes, Jas. H. Smith 1 vote, Frank Brown 2 votes, D. M. Wilson,
5 votes, Jos. Schubert 2 votes, Jos. Cloud 4 votes, Wm. Von Rosenberg Sr. 3 votes,
A. R. Morris 1 vote, A. M. Thomson 1 vote.

H. H. Randolph having received a majority of the votes cast was de-
clared elected.

Ald. Beatty excused.

Alderman Beatty was excused from further attendance at this meeting.
The result of the second ballot was as follows:

O. A. Rutherford 5 votes, J. S. Kren 5 votes, J. M. Odell 3 votes, Sam De Cordova
6 votes, Frank Brown 1 vote, D. M. Wilson 6 votes, Jos. Cloud 4 votes,
Wm. Von Rosenberg Sr. 2 votes, A. M. Thomson 2 votes.

No one having received a majority, another ballot was ordered.

The following was the result of the third ballot:

Rutherford 5, Kren 5, Odell 4, De Cordova 4, Smith 1, Wilson 8, Cloud 4,
Von Rosenberg 1, Morris 1, Thomson 1,

No one having received a majority, another ballot was ordered.

Alderman Taylor moved to adjourn until 8:00 P.M., Thursday night,
Lost by the following vote:

Yeas Aldermen Booth, Shelley, Stumpf, Taylor and Tobin 5.
Nays Aldermen Beatty, Haynes, Horton, Sinn, Platt, Powell, Cadd,
Oberdeau, Rosengren, Schneider, Shelley, Stumpf and Zilker 11.

Alderman Horton moved that all candidates be dropped who have received less than four votes. Adopted.

Alderman Horton moved that the candidate receiving the lowest number of votes on all subsequent ballots be dropped. Carried.

The following was the result of a fourth ballot: Rutherford 6; Wren 7; Odell 11; DeCordova 3; Wilson 7; Cloud 7.

The name of Mr. DeCordova was dropped.

The following was the result of the fifth ballot.

Rutherford 6; Wren 8; Odell 6; Wilson 9; Cloud 5

D. M. Wilson having received a majority of all the votes cast was declared elected.

The sixth ballot resulted as follows: Rutherford 5; Wren 7; Odell 5.

No one having received a majority, a new ballot was ordered.

Alderman Booth moved to adjourn until 8:30 A.M., Thursday. Lost by the following vote:

Yeas Aldermen Booth, Roberdson, Shelley, Stumpf and Taylor 5.

Nays Aldermen Glass, Haynes, Horton, Linn, Platt, Powell, Redd, Rosen-
gren, Schneider, Tobin, Townsend and Zilker. 12.

The following was the result of the seventh ballot: Rutherford 4; Wren 8; Odell 3; Schuber 3.

No one having received a majority a new ballot was ordered.

Alderman Tobin moved to adjourn until 8:30 P.M., Thursday night.

Lost by the following vote:

Yeas Aldermen Booth, Platt, Shelley, Stumpf, Taylor and Tobin 6.

Nays Aldermen Glass, Haynes, Horton, Linn, Powell, Redd, Roberdson,
Rosengren, Schneider, Townsend and Zilker. 11

The following was the result of the eighth ballot: Rutherford 3; Wren 7; Schuber 7; No election.

The ninth ballot resulted as follows: Wren 9; Schuber 7; Mr. T. Wren having received a majority of all the votes cast was declared elected.

Alderman Tobin called up the report of the special committee on Water and Light, regarding lightning arresters, and on motion of Alderman Shelby, the report was adopted.

On motion of Alderman Powell, the Council then adjourned.

J. J. Johnson
City Clerk.

D. M. Wilson Elected.

W. L. Wren Elected.

Special Committee report on Water and Light, regarding lightning arresters, and on motion of Alderman Shelby, the report was adopted.