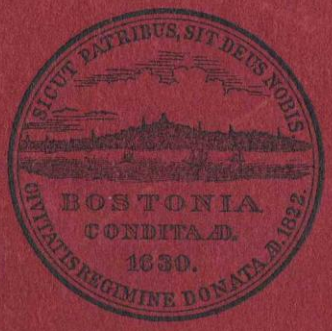
ANNUAL REPORT

OF THE

FIRE DEPARTMENT

FOR THE YEAR

FEB. 1, 1907 — FEB. 1, 1908.



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FOR THE YEAR 1907-1908.

January 31, 1908.

HON. GEORGE A. HIBBARD,

Mayor of the City of Boston:

SIR, — In compliance with the Revised Ordinances, the annual report of the operation and expenses of the Fire Department is herewith submitted.

The time covered by this report is from February 1, 1907, to February 1, 1908. The year has been a hard one for the department. While there has been no extra serious fire, several of dangerous and threatening proportions have occurred, and the number of small and incendiary fires has exceeded all record.

The average number of bell alarms for the past ten years was 1,596; this year, 2,441. The average number of still alarms for the past ten years, 1,165; this year, 1,600, or a total of 4,041 bell and still alarms, against an average of 2,762 for the same period, and exceeding the largest number of any year by 826.

The total loss for the year, though large, has not been excessive. This result is in great part due to the excellent service rendered by the officers and men under the very capable direction of the Chief of Department.

The discipline has been excellent, the work at fires quick, efficient and intelligent, and the good discipline has been further demonstrated by the excellent conduct and appearance of the men and the neat and orderly condition of the houses and apparatus.

WORK AND DETAILED MEN.

A great deal of work has been done in company quarters in the line of painting and improving sanitary conditions. These improvements have been made entirely through the labor of detailed members of the department, and the cost has been confined to the value of the stock furnished, and to such weakening of the fire force as might have come from the leaves granted the detailed men for the hours from six to ten o'clock at night, Sundays and holidays, their services at other times being available if a serious fire occurred. This has caused no interference with outside labor, as the improvements would not have been made unless the work could be done without labor cost to the department.

LOANS, FIRE-BOAT, ETC.

The year should be given a distinctive credit for the favorable answer of the City Council to the appeal of two years' standing for an appropriation for a new fire-boat. The importance of this addition to the fire-fighting equipment cannot be overestimated. Many times the cost of the boat has been lost by this weakness in the service on the water front. An accident to the present boat, Engine 44, considering the condition of the old reserve boat, Engine 31, would be most serious.

The recommendation in the report of the past two years and the financial recommendation made to the Mayor reads as follows: "A new fire boat is most urgently needed. The present situation invites disaster, and the Commissioner again calls the attention of the City Government and the Board of Underwriters to the danger." After much careful study and examination of the latest boats in other cities, plans and specifications for the new boat were presented by the naval architect, and the contract and specifications printed with the intention of calling for bids the coming month of February.

The recommendation that loans should be provided for the additions to, rearrangement and partial rebuilding of the houses of Ladder Company 1, Engine Company 7, Engine Company 6, and Engine Company 29–Ladder Company 11, was accepted by the City Council and appropriations made

therefor. The recommendation that loans be provided for an apparatus house in the Forest Hills section, and for new quarters for the Fire-boat crew, was also heeded, and for this consideration of the department's needs the Commissioner desires to thank the Mayor and City Council of 1907.

1907. — SPECIAL APPROPRIATIONS AND EXPENDITURES.

PURPOSE.	Amount.	Expenditure.	Work.
Rebuilding House, Ladder 1	$6,000 00	$3,022 66	Finished.
Addition, Engine 6	8,000 00	7,085 53	Finished.
Changes, Engine 7	2,000 00	1,393 86	Finished.
Changes, Engine 29	4,000 00		
House and apparatus, Parker Hill	15,000 00	21 65	
House, land and apparatus, Forest Hills	30,000 00	21 65	
House, land and apparatus, Orient Heights	15,000 00	24 65	
Landing for Fire Boat and quarters for men	10,000 00		
New Fire-boat	75,000 00	2,076 72	

NEW APPARATUS PUT IN SERVICE, 1907.

Purchased.

Engine 8, Salem street, City Proper. First size engine.
Engine 14, Centre street, Roxbury. Second size engine.
Engine 32, Bunker Hill street, Charlestown. Second size engine.
Two automobiles.
72 Extinguishers.

Built in Department Shop.

Ladder 13. 89-foot Aerial truck, equipped with Dahill compressed air quick-raising device.
Engine 7. Extra size hose wagon.
Engine 26. Extra size hose wagon.
Two chiefs' wagons.
One large supply wagon.
One fire-alarm wagon.
105 Ladders, from 15 to 65 feet — a total of 2,345 feet, built at less than two-thirds outside cost and stronger and more durable.

Rebuilt in Department Shop.

Ladder 8, City Proper.
Ladder 22, Charlestown.

OTHER CHANGES DURING THE YEAR.

The blankets and comforters formerly furnished have been gradually replaced by the regulation army blanket, and a red blanket carried in a roll at the foot of the bed. This greatly adds to the neatness of the sleeping quarters, and has done away with the unsightly and unsanitary comforters.

Owing to the increase of street noises, and particularly in consequence of the elevated structures, and also because of the vestibules on the cars, making it difficult for the motormen and conductors to hear approaching apparatus, larger bells have been adopted and siren whistles placed on two of the down-town trucks.

The total number of hand extinguishers carried on the apparatus is large. Because of the exploding of defective extinguishers, a careful inspection has been made and seventy-two were replaced.

The equipment of apparatus with rubber-tired wheels has been greatly extended with excellent results, both as to saving in the cost of repairs and prevention of accidents.

In place of gates in summer across the main doors of the sixty odd fire houses chains have been substituted with a gain in appearance, saving in time of apparatus getting out, and in the end a saving in maintenance and cost. These were furnished from the department shop.

An entire revision of the Rules and Regulations of the department was made, and the book containing same issued January 15, 1908. The duties of the officers are set forth in much more detail, and every branch of the service is fully covered. The book consists of 126 pages, containing 400 sections.

Closer co-operation has been extended between the departments of fire, building and insurance with good results.

Reports of defective buildings received by the Building Department are forwarded to the Fire Department. All conditions reported by district chiefs calling for attention of the Building Department or the Board of Underwriters are forwarded to them.

By arrangement with the Board of Underwriters, the regulation of roof signs on buildings has been continued with good results.

Under the law, the Fire Commissioner has authority to order the taking down or repairing of such abandoned buildings as may from their condition constitute a fire hazard. Acting under this law, for the first time, a considerable number of such buildings have, on notice from the department, been taken down as a fire risk, and the sanitary and landscape conditions at the same time have been improved.

Legislation should be passed giving the Commissioner power to take down such buildings, the cost to be charged against the estate. As a protection, such action might first be approved by a commission consisting of the Chairman of the Board of Health, the Building Commissioner, and the Fire Commissioner. In the case of a number of buildings constituting a fire and also a health hazard, it has been impossible to secure action because of uncertain, divided or absentee ownership. Court action under the present statute would be slow and difficult.

The hanging bits were discarded and the former custom of keeping the bit in the horse's mouth returned to; this for the reason of health as well as for speed and safety in hitching. A spare bit was provided for each horse, and the drivers are required to change these each day.

New style rein snaps were furnished throughout from the department shop. This is in the interest of safety.

Quite frequent calls are made on the department for assistance in removing persons caught in elevators. This, in most cases, necessitates cutting the floor or frame. Especially adapted saws and tools placed on certain of the ladder trucks have greatly facilitated the work and increased the chance of saving life and minimized the suffering.

LICENSES.

By recent legislation all licenses for theatres, public halls and other places of amusement are now granted by the Mayor's office. All applications for such licenses are first referred to the Fire Commissioner, and no license is granted until the recommendations of the department as to fire extinguishing apparatus and other safeguards are complied with.

As a result, the regulation and supervision of places of public entertainment is much more thorough and systematic than in the past.

THEATRE REGULATIONS.

After careful consideration, a set of rules governing the theatres was put into effect after receiving the approval of the Mayor's office, and after consultation with the different theatre managers, who willingly co-operated to bring about safer conditions.

These regulations, which are posted in all theatres, are as follows:

BOSTON FIRE DEPARTMENT.

REGULATIONS REGARDING THEATRES.

There shall be two employees appointed, after examination and approval by the Fire Commissioner, who shall be present at least one half hour previous to the raising of the curtain, remaining during the performance, and until the performance is completed. These employees shall have supreme command in case of fire until the arrival of a member of the city fire department, and will be required to wear, in full view, a badge furnished by the Fire Commissioner. They will be known as the "Fire Patrol," and will be supplied with a certificate to that effect from the office of the Fire Commissioner, the same to be hung in a conspicuous position on the "prompt" side of the stage.

The "Fire Patrol" shall call the remaining employees together at least once each week for the purpose of holding drill. Each employee will be assigned a position, which he will occupy in case of fire, and he shall be taught to remain in that position from the receipt of the fire signal until he is relieved by the proper person.

One of the fire patrol shall, at all times, be stationed on the "prompt" side of the stage, and will be the person to give the alarm to the city fire department, regardless of instructions to the contrary from other persons. The other patrolmen shall be stationed on the "opposite prompt" side of stage, and shall visit, between the acts, the fly floors, trap, dressing, property and orchestra rooms, to ascertain if everything is in proper condition and that the rule relating to *no smoking* is not violated.

Before each performance the fire patrol shall cause to be tested the fire curtain and automatic ventilating skylight, and examine all appliances to ascertain their condition and readiness for use in case of fire.

Upon written call from the District Chief of the district in which the theatre is located, the members of the fire patrol of the several theatres will call at the District Chief's headquarters for instructions.

In Case of Fire, Keep Cool.

First of all, *notify the fire department.* This is important, and must be observed.

Have a place for everything, especially fire extinguishing and prevention appliances, and insist upon each being kept in its place.

Keep all exits and passages to fire appliances clear of obstruction.

Keep fire buckets filled with water at all times, and allow them to be used for *fire only.*

Keep fire extinguishers ready for use at all times; have extinguisher heads removed and contents stirred once a month, and charge and recharge them twice a year. Care should be taken that valve seats and nozzles are free from obstructions and that rubber hose attached is in good condition.

Keep metal box in "first" entrance, in which to deposit cigar or cigarette stubs brought from the stage.

Keep all scenery away from steam pipes, fire appliances, exits and fly floors.

Candles, if used, must be in metal candlesticks with extra wide base.

Keep fire curtain down, at all times, when stage is not in use.

The stage should be kept clear and clean when not in use. No "set" should be allowed to remain after an evening performance.

Have *blue* illuminated transparencies at fire-pipe valves, with directions on each valve for its use, and keep transparencies lighted at all times during performances.

All waste paper or rubbish must be deposited in a metal can, with cover, and must be emptied each day.

Do not hang articles on fire appliances or on gas or electric fixtures.

Allow axes and plaster hooks to be used *only in case of fire.*

Keep a blanket in a metal humidor on each side of the stage, to be used in smothering or "spanking" fires.

Keep buckets labelled "*Sand—for fire only*" near all electric switches, fuses and cut-out boxes; also, a metal scoop for same.

Have all hose taken from racks or reels at least once each month; at that time it should be swept free of dust, and, if damp, dried before returning to its place. See that hose nozzles are free from obstructions by blowing through them. Keep washer in female coupling, and be sure that this coupling is screwed tightly to water pipe.

No smoking. This rule must be enforced.

Permit only *safety matches* to be used on the stage.

Keep fire escapes, and exits to same, clear at all times. Particular attention should be given to the escapes in cold and stormy weather. Keep all movable parts well lubricated.

Have *red* illuminated transparency or electric light over fire-alarm box, the same to be kept lighted at all times during performances.

If gas is used, one person should be assigned to light all jets with an electric sparkler.

Have fire curtains tested before each performance.

Keep automatic ventilating skylight free from obstructions, especially in cold and stormy weather. Use plenty of grease to permit of easy manipulation.

When colored fire is used, the same must be fired in a metal receptacle, and a pail of water should be handy. The receptacle should be cooled in the pail of water before being put away.

Have watchman make tour of every part of building immediately after every performance.

BENJAMIN W. WELLS,
Fire Commissioner.

September 16, 1907.

MUTUAL ASSISTANCE.

The arrangements made for mutual assistance with the neighboring cities and towns have been continued, and Brookline, Newton, Somerville and Chelsea have responded to Boston alarms, and Boston has responded to alarms in Milton, Chelsea, Brookline, Cambridge and Somerville.

Germantown, a section of this city far removed from local fire protection, is now covered by arrangement with Dedham. A Dedham fire-alarm box has been placed next to the Boston box, and the instructions are in case of fire to pull both boxes, the Dedham apparatus being very much nearer than the Boston.

The mutual assistance plan should be taken up in a more comprehensive and definite way, closer co-operation provided for and advance arrangements more in detail made to cover the Metropolitan district.

The city of Portland, Maine, called for assistance on the early morning of the recent fire in that city, and three engines and three hose wagons were loaded on flat cars provided by the Boston & Maine Railroad Company. The call was cancelled before starting. The experience, however,

showed the need of suitable loading platforms in the Boston & Maine yards. The loading platform at the south side of the city is better arranged, but this could be improved.

The special blockings, etc., prepared by the department shop, as a result of the Brockton experience of two years ago, were a great aid to rapid and safe loading. The railroad officials furnished prompt service.

HOSE AND HARNESS SHOP.

Changes have been made in this branch of the repair division to meet the great demand for new harnesses and also the making of fire helmet fronts. This is a new departure and a decided economy. Doubtful hose of the down-town companies was sent to the shop for test and replaced with new.

PAINT SHOP.

The work in this branch has greatly increased, and better results are obtained than by letting out the work. All materials for the painting of department houses by detailed members are given out by this branch.

CHANGES IN APPARATUS HOUSES.

Generally speaking, the houses are in excellent condition.

The quarters of Ladder 17, Engine 7, Ladder 1 and Engine 6, where the conditions were most unsatisfactory, have been improved by the following changes:

House Ladder 17, Harrison Avenue.

Captain's room moved to front of building, formerly in the rear without windows. A room provided for the lieutenant; shower baths installed, and toilet and plumbing improvements; better ventilation provided for sleeping room of men; half story added for smoking room; roof garden provided, rearrangement of stalls, and main floor lightened by painting brick walls with white enamel and change in main doors, and house painted throughout. This work was nearly completed last year.

Engine 7 House, East Street.

New room for captain; lieutenant's room made habitable; shower bath installed; new toilet arrangements and roof garden.

Ladder 1 House, Friend Street.

Formerly, conditions almost unbearable; now excellent as a result of the following changes: Entire front above first floor taken down and rebuilt, making good quarters for the captain and lieutenant; pleasant smoking room and roof garden for the men; main floor lightened by painting brick walls with white enamel; entire house painted; shower bath, toilet and plumbing improvements.

Engine 6 House, Leverett Street.

The ventilation of sleeping quarters of men, condemned by Board of Health, corrected by extending room to street front; half story added for smoking room and room for lieutenant; bay-window to captain's and lieutenant's rooms; roof garden; changes in main floor doors and entire house painted.

House Engine 29, Ladder Company 11.

Chestnut Hill Avenue, Brighton.

For the very necessary changes in this house, plans have been prepared and a special appropriation is available.

SHOWER BATHS.

The condition of the appropriation did not allow of the installation of shower baths at a number of the busy company houses. This change from the use of bath tubs is greatly to be desired when the necessary funds shall be available.

REPAIR AND CONSTRUCTION DIVISION.

The name of the Repair Division of the department has been changed to the Repair and Construction Division.

In the past three years, such changes and additions have been made in the equipment, and conditions in the shop so improved as to make possible not only all repairs on apparatus, but the building and rebuilding of all ladder trucks, hose, chiefs' and other wagons, the making of all ladders, the painting and repainting of all apparatus, the making and repairing of harnesses, the repairs and coupling of hose, the making of fire helmet fronts, life nets, canvas bags, apparatus aprons, coverings, rein snaps, hitching poles and chains, and nearly all the odds and ends required for the department work.

The quality of the output has been of the highest standard and made according to the best ideas of the needs of the

Boston service. The economy of doing the work in this way is undoubted, and the former excess of power, light, heat and plant has been utilized, and profits formerly accruing to outside manufacturers for repair and new work saved to the city.

Furthermore, the force is kept fully engaged, and any rush of repair work, always needing the promptest attention, can be cared for, as the new work is of an extra nature, and can be dropped if emergency demands. Formerly the repair work dragged, and if received in quantity was given to outside shops.

Great credit should be given to the District Chief detailed as Superintendent of Repairs and Construction, appointed in 1906, for the efficiency, fertility of resource and industry which has so greatly improved the shop conditions, and made possible and profitable the work as outlined above.

A number of improvements have been made in the shop arrangements. Electric lights were installed throughout; fire protection furnished by equipping each floor with chemical tanks and hose; skylights put in paint shop, and a room for varnishing set apart; the woodworking shop enlarged, an additional forge placed in the blacksmith shop, the room occupied by the supervisor of engines improved, and the stock room enlarged and rearranged.

SUPPLIES.

The purchase and distribution of supplies, conducted in connection with the repair shop, has been systematized, and the stock room enlarged and arranged to provide better storage and facilitate deliveries. Supplies have been purchased with the greatest care, and very considerable savings made by the introduction of business methods. The plan is to buy in the best market, and make quality and price the standard for trade and the basis for continued dealings with the department.

HOSE.

The above applies also to the purchase of hose; the Boston method of selection of manufacturers rather than by advertisement to furnish this article has proved by years of experience to bring the best results.

The careful system of keeping the record of each piece of hose put in service, and holding the dealers responsible for any failure under their guarantee, is an important safeguard.

Last year, for the first time, every piece of hose in service was tested at company quarters under engine pressure.

This year, nearly 700,000 feet of 2½-inch hose was laid at fires. Because of this constant service testing and by reason of special examination and inspection of the hose, special engine pressure test was not considered necessary. It is not advisable to submit the hose to heavy pressure too frequently because of the strain, the test pressure being much greater than the usual fire pressure. The hose has stood the unusually hard service of the year in an excellent manner.

FIRE-ALARM DIVISION.

Twenty new fire alarm boxes have been installed in public streets, six in private business places, two in institutions and six in school buildings, and all the boxes in the city have been repainted. Some twenty boxes have been equipped with keyless doors, completing this work.

The underground work of the year will be about the usual amount.

Two new dynamos were installed for the purpose of increasing the electric service; this in consequence of the extension of the outside circuits.

A new striking machine was placed in the tower of Faneuil Hall and connected with the system July 27, 1907, and the alarm bell restored to service. It was cut out in 1898 during changes in the building, and had not been in use in the intervening time. Because of the great congestion of teams in the market district, it is important that the police should have advance warning of the approach of fire apparatus.

A machine room, carpenter's shop and storeroom have been fitted up in the fire-alarm shop. Up to the time of its removal all machine work pertaining to the fire-alarm service was done in the apparatus repair shop.

A time stamp has been established in connection with the receiving register in the operating room, by the use of which the time of receiving alarms and transmission of the same is made a matter of exact record. This prevents intentional or mistaken incorrect records.

Following is the district prescribed by the Commissioner of Wires for underground construction for the year 1907:

That part of Main street, Charlestown, from Charles street to Somerville line; Dudley street, from Magnolia street to Columbia road; Congress street, from the bridge to A street; A street, from Congress to First street; Tremont street and Columbus avenue, from Cottage place to Old Heath street, a total distance of 10,810 feet, exceeding the amount required by legislative act by 250 feet.

Within this district the underground construction has been completed, the necessary cables laid, and all overhead wires removed during the year. Much underground work has been done outside the district described above on account of extensions of the service, changes and repairs made necessary by various causes.

Some details of this work are as follows: New cables have been laid in Chandler street, between Berkeley and Clarendon streets, for connection with Box 80, and in Cordis, High, Cross and Bartlett streets, from Warren to Bartlett street, for Box 2,419.

For the purpose of providing for new circuits a cable was laid in Dorchester avenue from the house of Engine 46 to Codman street, and the overhead cable attached to poles has been removed. On Broadway, between H and I streets, an underground cable has been substituted for the overhead wires.

A new cable has been laid in City square, Charlestown, to replace one that had become defective from long service.

Extensive changes in construction have been made on Saratoga and Bennington streets, and on Maverick, near Orleans street, on account of work done for the purpose of abolishing grade crossings of the Boston & Albany railroad tracks at those points.

Changes in the location of the cables and repairs to the same were made necessary by work of the Transit Commission on the new subway at corner of Washington and State streets and in Haymarket square. The new construction in Dorchester, referred to in previous report, has been completed. Four box circuits have been built, boxes taken from other circuits and connected therewith, making a more equitable distribution of the same and promoting the general safety and efficiency of the service in that district.

Extensive repairs have been made to the circuits in South Boston, about two-thirds of which have been built, the new wires being distributed among the five circuits covering the district.

The circuit running to Jamaica Plain and West Roxbury, with the intervening box loop attached to poles on several streets between Heath street and Jamaica Plain railroad station, has been rebuilt, about ten miles of covered iron wire being required to complete the work.

New poles have been set in conjunction with the New England Telephone and Telegraph Company on Southampton street and wires placed on same from Massachusetts avenue to Andrew street. This work was made necessary by the construction of the new circuits in Dorchester. New electric

service has been installed in the fire-alarm shop and in quarters of Engine Company No. 44, and extensive changes and repairs have been made in houses of Engines 6, 7 and 40, and Ladders 1 and 17.

HORSES AND VETERINARY HOSPITAL.

The number of horses owned by the department is 398.

The number of horses receiving treatment at the department hospital during the past year was 310, resulting in 800 cases; of the number of cases treated, 2 died, 14 were killed and 2 retired.

During the year the horseshoeing forge connected with the hospital has placed upon the department horses 3,000 shoes, with a saving to the department.

The number of horses purchased during the year was 69; sold or exchanged, 42; destroyed, 12; killed in service, 2; died, 2; retired, 2.

The grounds of the hospital, formerly a wet and unsightly dump, have been filled in, graded, grassed, trees planted and fences built. The assistance of the Park and Street Departments in this work is herewith acknowledged with thanks.

OPERATING TABLE.

An operating table recently installed has proved of immense value. The horses can now be treated more humanely and with less danger to the operator, and better opportunity is given for careful and thorough work.

The former method of preparing a horse for operation was crude, and was the cause of suffering and fright.

The padded top of the operating table is turned upright, the horse led alongside and securely strapped while standing. The top is then cranked to a horizontal position, and the horse, unable to move foot or body, is ready for the operation, and the operator can work in safety and at ease. In the interest of department veterinarians and of suffering horseflesh, I call this to the attention of brother officials who may receive this report.

MEMORIAL DAY PARADE.

Entries were made in the Memorial Day parade of the Work Horse Parade Association, and first prizes were received. Two purposes were served: the advancement of a most worthy cause and an incentive furnished to drivers and officers to keep the horses under their care in good condition.

NEW COUPLINGS.

Quick attachable couplings (a new invention) were recently placed in service on the down-town companies. If these prove, after test of sufficient time, to be without defect, they will be furnished to other companies and the first work at fires materially quickened.

APPARATUS — RECOMMENDATIONS.

Engines.

The engines in service, as far as it is possible to judge, are in excellent condition, with the exception of Engines 2, 5, 16, 30, 31 (fire-boat), and 41 and 45.

The present Amoskeag Engine No. 2, 18 years old, should be rebuilt and then assigned to Engine Company No. 30.

Engine No. 30 is a third size Clapp & Jones, in service 17 years, in very poor condition and should be condemned.

Engine No. 16 should be rebuilt.

Engine No. 5 should be replaced with rebuilt Engine No. 14.

The boiler of Engine No. 31 (reserve fire-boat) should be retubed. The present tubes are badly pitted and unsafe for use.

Engine No. 41, which is a third size Clapp & Jones, 15 years old, should be condemned.

Relief "B," 15 years old, and Relief "H," 20 years old, both of which are third size Clapp & Jones, should be condemned.

Engine 10 should be replaced by a lighter engine on account of the Beacon Hill grades.

The department is greatly in need of six new engines; two first size, four second size engines. One of the new second size to be assigned to Engine Company No. 41, one to Engine 45, and the other four engines — two first size and two second size — be used for reserve engines.

The importance of having sufficient engines and other apparatus in reserve is apparent.

The fire service requires reserve equipment for sudden demands. A big fire accompanied by accidents or a series of breakdowns would leave the department below normal strength. There is no economy in dropping to the danger line in fire department equipment.

Chemical Engines.

Three double, vertical tank (50 gallon) chemical engines should be purchased to replace those now in service at Chemical Houses 7, 9 and 10. These are old and the tanks of too large capacity. Oftentimes when only a small amount of solution has been used at a fire, that remaining in the tank is wasted. With smaller tanks on these new engines, and those at present in service placed in reserve, this portion of the fire-fighting apparatus would be in excellent condition. *The new apparatus should be of the automobile type.*

Ladder Trucks.

Four of the five aerials have been rebuilt with quick raising devices. The fifth, Ladder 18, should be so equipped.

Ladder 4, Dudley Street. — This should be replaced by a 75-foot quick raising aerial truck.

The locality covered by this truck is rapidly developing, and many apartment houses and other high buildings have been and will soon be built in the Roxbury and Dorchester districts, and a truck of this description is a necessity.

Present Ladder 17 should be assigned to Ladder 4, and the new 75-foot truck to Ladder 17.

Ladder 16, Roslindale. — A light, single tank combination ladder truck, fitted with two 35-gallon horizontal chemical tanks, should replace the truck now in service, the present truck being old and unsafe and out of date.

Ladder 10, Jamaica Plain. — Similar action should be taken with Ladder 10, located at Centre street, Jamaica Plain.

Ladder 26, Longwood Avenue. — An extra light truck of similar design should replace Ladder 26, at Longwood avenue. The present truck would serve well as a spare truck, but is too heavy and otherwise unfitted for the Parker Hill service, and not altogether well adapted to other territory covered by it.

Water Towers.

It is important that a new water tower, equipped with monitor nozzles, be purchased, to replace the one in service at Tower Company 1, Bulfinch street, Tower 1 then to be thoroughly overhauled and placed in service in the quarters of Tower 2. Present Tower 2, now in poor condition, to be overhauled and placed in reserve.

Chiefs' Wagons.

Six could be built to advantage unless automobiles are substituted.

Hose Wagons.

All companies equipped with the small, out-of-date wagon should be supplied with larger wagons. Twelve wagons could be built in the repair shop and assigned to advantage.

The need of greater hose-carrying capacity has been fully demonstrated.

HOUSES — RECOMMENDATIONS FOR CHANGES.

Repair Shop.

An addition to the Repair and Construction Division building, consisting of an extension of the blacksmith shop to Bristol street, would greatly add to the economy and convenience of the work, and a special appropriation should be provided therefor. It would also be very desirable to add a story to the main building, if the money could be made available.

House, Engine 2, South Boston.

The main doors of this house should be widened so as to accommodate a larger engine with a three-horse hitch. While serious fires in this section are not frequent, there are factory and business conditions on the northern water front near City Point that make stronger service desirable. The considerable cost made the work impossible this year.

House, Engine 4, Bulfinch Street.

The quarters of the chief of District 4 located here are small, and not suited for his work. Plans were prepared, and at a comparatively small expenditure a great improvement could be made, and the district chief, the captain and lieutenant given quarters in accordance with modern conditions.

House, Engine 28, Centre Street, Jamaica Plain.

(Quarters of the District Chief.)

This house is old, and could be greatly improved if money could be provided to make a considerable rearrangement. The cost would not be great.

House, Engine 43, Andrews Square.

A certain strip of land in the rear of this house was offered to the city at a reasonable price, and if purchased an entrance might be provided which would greatly add to the convenience and comfort of the house. At the present time, ashes must be taken across the main floor, and the arrangements for the receiving of hay and grain through the front are very unsatisfactory.

Veterinary Hospital.

It would greatly add to the efficiency of the service if additional quarters could be built on the Veterinary Hospital grounds to be used for a contagious hospital and as a training stable for new horses.

Plans.

All plans for rearrangement and alterations in houses have been prepared by the Chief of the Architectural Division of the Public Buildings Department, who has also acted in a supervisory capacity in regard to the carrying out of the specifications of the contracts, and the Commissioner desires to express his appreciation for the very competent service rendered.

RECOMMENDATIONS FOR NEW HOUSES.

Forest Hills.

Land should be purchased and a double apparatus house built thereon in the neighborhood of Forest Hills square, for which a special appropriation of $30,000 is already provided, and a single company and apparatus installed at this time, the extra accommodation to provide for the future need.

Lauriat Avenue District.

A special appropriation should be provided for the purchase of land and the construction of a fire house in the Lauriat avenue district of Dorchester to take the place of the present temporary arrangement. Two years' experience has proved the value of fire service at this point. The very rapid growth of this neighborhood, and particularly the nature of the construction of the new buildings — lightly constructed double apartment houses in close proximity to each other — make necessary quick service if serious fires are to be averted.

Charlestown.

The present house, Winthrop street, Charlestown, now occupied by Chemical Company 3, should be rebuilt and a large-sized engine placed therein to protect the very important Charlestown water front and Navy Yard.

House, Engine 17. — Ladder 7, Meeting House Hill.

These buildings are old, in poor condition and unsuited for the service. Quoting from report of last year, "The School

Department desires the space now occupied by these houses, and, also, because of the great number of children attending the schools at this point, believe the removal of this fire apparatus most desirable." Another location should be found and an appropriation made for land and buildings, the Schoolhouse Commission to pay a fair price for the present site.

New House, Battery Street.

A very serviceable addition to the strength of the department would be the locating of a chemical engine company on Battery, near Hanover street, on the land now vacant belonging to the Police Department, in the rear of Station 8.

Oak Square, Brighton.

It is quite desirable that in the near future an apparatus house be built in the neighborhood of Oak square, Brighton, and a combination ladder truck installed therein. This section is growing rapidly, and has no other ladder protection than Ladders 11 and 26. The latter is located a long distance away — Longwood avenue — and there is the liability of its being called to service at fires in the Roxbury section, thus leaving this territory without sufficient protection.

BERTH AND QUARTERS, ENGINE 44.

For many years Engine 44, Fire-boat, has been stationed at India wharf, free of rental. The India Wharf Company, however, needing the room, gave the department notice to vacate. At Central wharf the city has occupied under lease for some years a berth for the spare boat and the intake of the salt water system. Engine 44 was moved to this berth and temporary quarters arranged. A special appropriation of $10,000 was secured for the building of new quarters.

A location on the new Northern-avenue bridge was considered favorably, and preliminary plans prepared by the City Engineer. At a hearing held as required by law before the Harbor and Land Commissioners such opposition developed from the owners of adjoining wharf properties that consideration of this location was abandoned. The site now favored, both because of the location and by reason of city ownership, is the pier of the Congress-street bridge. After examination by the City Engineer it was found, however, that a considerable extension of the pier would be necessary and the cost would exceed the amount provided, and no further action has been taken, the temporary quarters caring for the immediate present. This matter should receive early

attention, as the berth at Central wharf is a poor one, owing to the bumping the boat receives by steamers entering this dock, and also on account of the exposed condition. If the intake of the salt water mains could be changed to the Congress street end of the system, and the Central wharf berth given up, the rental of $4,000 per annum would be saved and a more suitable location for the present coal station now at that point could be secured.

CALL FORCE.

The growth of Dorchester, West Roxbury and Brighton warrants the granting of the very proper demand of the citizens of those sections that the call force be abolished and the department placed on an entirely permanent basis.

HIGH PRESSURE WATER SERVICE.

Attention is called to preliminary studies and plans in the office of the City Engineer for utilizing the water of the Charles River Basin on the completion of the dam now under construction. To fully protect from fire the business or down-town district of Boston, more power is required than is available under the present conditions. In place of a number of comparatively small pumping units or engines which must be hauled or propel themselves to a fire, one or more permanent pumping stations are needed, capable of delivering at any point in the district a quantity of water entirely beyond the capacity of the existing engines. The fact that water concentrated in large streams is the most efficient means of extinguishing fire is generally recognized. Philadelphia has recently installed a high pressure system capable of supplying fifteen 2½-inch streams that may be concentrated upon any one block. The demonstrated efficiency of this system resulted in a reduction of 35 cents per $100 insurance throughout the portion of the city affected.

New York also is completing a fire system with a capacity of 30,000 gallons per minute, at a cost of more than $3,000,000.

In 1898, a salt water fire system about one mile in length was established on Central street, Exchange street, Post-office square and Congress street. Connections were provided at Central wharf so that the full capacity of the fire-boat is available at any point on the pipe line.

This was a step in the right direction, but its protection extends to a limited area only. When the Charles River Basin is completed, ideal conditions will exist for adequately

protecting not only the down-town portion of the city, but other sections. A large lake will be formed from which an unlimited supply of fresh water is available.

I strongly recommend that this subject be given most serious attention with a view to the establishment, in the near future, of a pumping station of large capacity at a location near the house of Engine 10 on Mt. Vernon street. From this point a system of mains and hydrants of sufficient size should be extended throughout the district to be protected, connecting with the present salt water system. This will do away with the present need of using the fire-boat as a pumping station for the down-town pipe system.

Should a large fire exist calling for this reserve power, the fire-boat should not be called away from her regular assignments, as it is certain that under conflagration conditions the fire-boat would be needed elsewhere.

AUTOMOBILE APPARATUS.

Automobile apparatus has been sufficiently tested in this and other cities to prove its superiority over horse-drawn apparatus, and an important gain in efficiency is shown and a saving in the cost of maintenance. The Boston Protective Department installed this year an automobile wagon to cover the suburban districts of Roxbury, Dorchester, West Roxbury and Brighton or long distance runs. The following is from the 1907 report of that department: "Experience with this automobile, although short, has been satisfactory and justifies its introduction. The belief is entertained that better service will be had and much property saved by its use."

The results attained by such service in other cities is being carefully studied, and it is hoped that the Boston Department, which has always been progressive and in the lead, will soon be able to make an advance in this direction. In Massachusetts, the City of Springfield is leading the way in adoption of the automobile for fire department service.

AUTOMOBILES FOR CHIEFS.

The use of an automobile by the Chief of Department for some time over a year proved so successful in attaining better results and increased efficiency that a new car, a "Ross Steamer," was provided. This car was specially built for the use for which it was intended, and supplied with all necessary parts in duplicate, so that the service might be interrupted as little as possible. There is an apparent increase in expense from such service, as compared with

horse-drawn vehicles, but, taking into consideration the miles covered, the increase in the efficiency and value of the Chief's service, the slight additional cost is not to be considered.

Furthermore, a fact to be counted upon is the well-being of the Chief of the fire department of a great city. Few appreciate the weight of responsibility that rests upon his shoulders every moment of the night and day. The conditions of the service bring to him nights of broken rest and exposure to wet and weather. In our city the Chief of Department takes no days off, but, provided with an automobile, it is possible for him to spend some time with his family and yet be as available for fire duty as if in quarters.

With the automobile all sections of the city can be inspected without fear of being too far away to make his service at fires late in case of need. With the automobile, the Chief is often first to reach the scene, and always his arrival is early, and he is able to give direction to his forces at the time when such direction means much in results attained. In responding to alarms he has better opportunity to think of the conditions surrounding the box to which he is answering, and thus plan his action in advance.

Under horse-drawn conditions, the Chief of Department must necessarily spend his almost entire time in quarters, to the injury of his health and to the detriment of his fire duty and other department work.

When the present Commissioner took charge in 1905, the then Chief of Department had not made a general inspection of the department for over a year, and some of the houses had not been visited for a longer period.

With the automobile, inspections of all the houses have been frequent. Every request or recommendation from the district officers for new work or changes in the houses is first considered after actual inspection by the Commissioner and Chief before granting, and the progress and completion of all work is inspected.

Inspection of all the apparatus and equipment is also frequent. All fires of any consequence outside of the range of the Chief of Department's activities are, as soon as possible, inspected in company with the local district chief, and the story of the fires given and the work of the men judged. This gives encouragement to the outlying district chiefs, and brings their work directly under the eye of their superior officers.

With the automobile, inspection by districts of all dangerous conditions in every part of the city with the district chiefs are now frequent. Examination of buildings reported

dangerous, requests for fire-alarm boxes, inspection of districts with a view to conditions brought about by new building operations, are made possible. In this way the Commissioner and Chief of Department make almost a daily study of every part of the greater city and the conditions as relating to fire.

Then, also, as a result of the automobile conditions, the deputy chiefs, upon whom at any time full charge of the department may fall, and who, by reason of the confinement of the fire service and the limitation of time and distance placed by the horse-drawn vehicle, have in the past had little chance to extend their observation, have been given an opportunity to study the city.

Again, district chiefs have been instructed in the conditions of the neighboring territory to which they may be called on alarms.

The automobile has proved invaluable as a means of conveyance of injured firemen and citizens from the scene of fire to the hospitals. This alone has proved its value at fires. Only lack of funds prevented the purchase of automobiles for at least the West Roxbury and Dorchester district chiefs.

From the view point of safety to riders and the public on the street, the record of accidents shows greatly in favor of the automobile. To the observer this may not appear to be so, but the fact remains that in the thousands of miles covered with the automobiles no injury to persons has occurred, while in the same period district chiefs have been thrown from their wagons on several occasions, and one pedestrian has been killed and several injured by being knocked down by these fire wagons. The automobile in skilful hands is easily and promptly controlled; the horse is not.

The first automobile (a Columbia) used by the Chief of Department was built over into a runabout in the department repair shop and assigned to Deputy Chief McDonough (Roxbury District).

A Baker electric runabout was purchased for the use of the Commissioner and the Pope Waverley car assigned to the superintendent of the repair shop.

WATER SUPPLY.

While the Fire Department is keeping pace with the rapid building up of the suburban sections, the water mains, small and laid many years ago, are proving entirely inadequate when called upon for the extra services required by the new conditions. Larger and more engines respond to alarms, larger nozzles, Siamese connections, etc., are now used, making a heavy draft on the water supply, and at times this has

almost entirely failed. To check a body of fire, large, powerful streams are absolutely necessary. In view of the very hazardous type of buildings being rushed up in certain sections of the city this subject of increased water supply demands attention.

BUILDING LAWS.

The character of buildings being erected in Roxbury and in the outlying sections should receive the attention of some authorized commission, with a view to recommending building restrictions in accordance with safety and common sense.

Given a high wind, delay in giving alarms, inadequate water supply, and the Boston Fire Department with its equipment and force at its highest efficiency, conflagration conditions for certain localities exist.

DANGEROUS BUILDINGS.

As stated on page 5, the Fire Commissioner should be authorized under certain conditions to take down dangerous buildings. This is important, and such action would make possible the correction of a serious evil not now within the power of any board or department to overcome.

STABLES.

Scores of horses are suffocated or burned to death every year in this city. Some reasonable regulation covering stable conditions should be passed looking to proper arrangement of runways and exits. This great and cruel loss of horse life has been to a very considerable degree unnecessary, and if some official supervision of stables with authority to require proper conditions could prevail, the horror could be greatly abated.

The Work Horse Parade Association, which has accomplished so much for the welfare of the horse in this city, might well take this subject under consideration.

PENSIONS — CHIEFS' DRIVERS.

These boys or young men are not regularly enrolled as members of the department, and therefore not eligible for a pension in case of serious injury. The pay received is small, but their work is at times as dangerous as that of the regular firemen. This subject should be taken up with the Civil Service Commission, with a view to a change in rating so that chiefs' drivers might become regular members of second-

class standing, and preferred as to appointment to the position of first-class firemen. This would also remove any doubt as to their right to participate in the Firemen's Relief Fund of Boston and of the State.

The writer's opinion is that the service would be benefited by having these places filled by regular men with special qualifications. Until this policy is adopted, however, the action suggested above should be taken.

DISPOSAL OF OLD HORSES.

One of the most trying duties the Commissioner is called upon to perform is the condemning to sale or death the old and faithful four-footed servants of the city, the horses, who by reason of years or disability have become unfitted for further Fire Department work. The Commissioner appeared before the legislative committee in favor of the following bill introduced by the Mayor of Boston (same becoming effective February 27, 1908):

[CHAP. 133.]

AN ACT RELATIVE TO THE DISPOSITION OF CERTAIN HORSES OWNED BY CITIES AND TOWNS.

Be it enacted, etc., as follows:

SECTION 1. Whenever any horses used in the fire department, the police department, the street or sanitary department, or any other department of any city or town shall, by reason of disability or disease, become unfit for use therein, the commissioner or other officer having charge of such department, in cities with the approval of the mayor, and in towns with the approval of the selectmen, instead of causing such horses to be sold, may transfer them to the custody of the charitable society incorporated under the name of Red Acre Farm, Incorporated, or to any other charitable society incorporated in this commonwealth for the prevention of cruelty to animals, or for the care and protection of dumb animals, if the society is willing to accept the custody thereof, to be disposed of in such manner as the said society may deem best; *provided*, that the society upon receiving any such horse shall give a written agreement not to sell the horse or to let the same for hire. If any horse so received shall thereafter be sold or let for hire, the proceeds of such sale or letting shall be the property of the city or town, and custody of the horse shall revert to the city or town.

SECT. 2. This act shall take effect upon its passage. [*Approved February 27, 1908.*

STATISTICS.

CHANGES IN THE FORCE YEAR ENDING JANUARY 31, 1908.

Appointments:		
Probationers		65
Chiefs' drivers		6
Reinstated		4
		75
Resignations	21	
Pensioned	23	
Deaths	9	
Discharges	6	
	—	59
Net increase		16

ALARMS FOR THE PAST TEN YEARS.

YEAR.	Bell.	Still and Automatic.	Total.
1907	**2,441**	**1,600**	**4,041**
1906	1,687	1,262	2,949
1905	1,905	1,210	3,115
1904	1,580	1,159	2,739
1903	1,633	1,121	2,754
1902	1,566	1,099	2,665
1901	1,349	977	2,326
1900	1,351	1,143	2,494
1899	1,387	1,125	2,512
1898	1,068	962	2,030

BOX ALARMS BY DISTRICTS.

FEBRUARY 1 TO FEBRUARY 1.

DISTRICT.	DISTRICT CHIEF.	1906-1907. ALARMS. First.	Second.	Third.	Fourth.	Fifth.	Total.	1907-1908. ALARMS. First.	Second.	Third.	Fourth.	Fifth.	Total.
1. East Boston	Godbold*	118	2	.....	.....	.....	120	219	13	6	2	...	240
2. Charlestown	Pope	131	1	.....	.....	.....	132	180	8	3	...	1	201
3. North End and City Proper	Garrity	169	7	5	2	.....	183	255	11	8	...	.....	276
4. West End and City Proper	Fox	163	5	2	.....	.....	170	255	3	2	2	.....	260
5. City Proper and So. Boston	Sennott	100	4	1	1	.....	106	132	7	2	2	.....	143
6. South Boston	Perkins	197	3	1	.....	.....	201	272	3	.....	.....	.....	275
7. South End and Back Bay	Ryder	239	4	1	.....	.....	244	269	5	2	.....	.....	276
8. Roxbury and Back Bay	McDonough	148	4	.....	.....	.....	152	218	6	1	1	.....	226
9. Roxbury and Dorchester	Kennedy	131	2	.....	.....	.....	133	198	4	.....	.....	.....	202
10. Dorchester	Taber	123	2	.....	.....	.....	125	226	4	2	1	.....	233
11. Brighton	Ryan	47	1	1	.....	.....	49	69	4	.....	.....	.....	69
12. West Roxbury	Mulligan	72	2	.....	.....	.....	74	135	3	.....	.....	.....	138
	Total	1,638	37	11	3	.....	1,689	2,437	67	26	8	1	2,539

* Keyes to October 4, 1907.

FIRE LOSSES FOR YEAR ENDING JANUARY 31, 1908.

Buildings	$868,195
Contents	1,399,879
	$2,268,074

FIRES OVER $15,000.

DATE OF FIRE.	Location and Owners.	Loss.
1907.		
Feb. 1	100 Condor street, Lockport Co	$108,497 01
Feb. 6	1247 Tremont street, Hunt Bros. *et al*	69,560 41
Feb. 9	34 Cooper street, Jesuit Fathers	22,552 68
Feb. 11	City square, Waverley House	21,990 75
Feb. 23	97 Pearl street, Baldwin, Robbins *et al*	105,537 75
March 21	119 Hanover street, Monarch Clothing Co. *et al*	32,364 12
April 7	131 Kingston street, Superior Manufacturing Co. *et al*	57,130 86
April 16	34 Central wharf, Howe & French	20,841 57
June 8	45 Walcott street, various parties	19,645 65
June 17	257 Clarendon street, K. A. Skinner *et al*	25,977 80
July 9	23 Avon street, T. D. Cook & Co	17,223 83
July 10	130 Friend street, A. Hastings & Co	55,626 04
July 13	347 Congress street, Eagle Shoe Co. *et al*	44,844 99
July 18	6 Sherman street, Clark Shoe Co	47,504 53
July 19	140 Border street, Bertelsen & Peterson	29,946 40
July 23	221 Columbus avenue, H. R. Turner *et al*	26,156 18
Aug. 2	B and Fargo streets, Cunningham Iron Co	24,521 95
Aug. 11	19 Pittsburgh street, Brown & Adams *et al*	51,832 57
Aug. 19	195 A street, New England Waste Co	28,415 91
Aug. 26	229 Marginal street, Massachusetts Coal Co. *et al*	47,554 00
Aug. 29	Union Wharf, Barry, Thayer & Co	32,521 47
Sept. 2	105 Atkinson street, Leatherbee & Co	16,704 63
Sept. 10	36 Scotia street, E. O. Fitch & Co. *et al*	103,084 00
Sept. 16	National Dock, Barry, Thayer *et al*	78,917 85
Sept. 19	Roland street, Cutter & Cutter	17,530 59
Oct. 30	69 Beach street, Matoof *et al*	21,731 08
Dec. 10	95 Albany street, J. M. Hassell *et al*	54,335 06
Dec. 24	19 High street, Costello, Corey & Co	21,873 46

FIRES OVER $15,000.— *Concluded.*

DATE OF FIRE.	Location and Owners.	Loss.
1908.		
Jan. 7	15-21 Meridian street, E. B., John McWeeney *et al*	$20,378 00
Jan. 16	Washington and Centre streets, Dorchester, Congregational Church	39,531 00
Jan. 19	43-47 Commercial street, Delano Potter Co.	67,379 00
Jan. 24	263 Atlantic avenue, Niles Bement Bond Co.	19,942 00
Jan. 29	108-112 Broad street, Hilson Co. *et al*	15,375 00
Jan. 31	6 Parley Vale street, Gottlieb Burkhardt	17,100 00

YEARLY FIRE LOSS FOR THE PAST FIFTEEN YEARS.

Year ending February 1, 1894	. . . .	$4,348,902 00
" " 1, 1895	. . . .	1,369,230 00
" " 1, 1896	. . . .	1,040,486 00
" " 1, 1897	. . . .	1,394,707 00
" " 1, 1898	. . . .	775,525 00
" " 1, 1899	. . . .	1,441,261 00
" " 1, 1900	. . . .	1,630,149 00
" " 1, 1901	. . . .	1,702,217 00
" " 1, 1902	. . . .	1,830,719 00
" " 1, 1903	. . . .	1,762,619 00
" " 1, 1904	. . . .	1,674,333 00
" " 1, 1905	. . . .	2,473,980 00
" " 1, 1906	. . . .	2,130,146 00
" " 1, 1907	. . . .	1,130,334 00
" " 1, 1908	. . . .	2,268,074 00

MONTHS.	ALARMS RECEIVED. Members.	Police.	Citizens.	Telephone.	Automatic.	Unknown.	Total.	LOSS. Buildings.	Contents.	INSURANCE. Buildings.	Contents.	ALARMS. TELEGRAPH. Fire.	False.	Needless.	STILL. Fire.	Needless.	Confined to Building.	Extended to Others.	Not in Building.	Out of City.	BUILDINGS. No Damage.	Slight Damage.	Considerable.	Totally Destroyed.
1907.																								
February	3	11	187	27	17	3	248	$144,039	$209,679	$1,422,705	$434,000	138	5	16	67	27	192	5	8	...	81	107	13	2
March	8	21	218	47	24	14	332	49,051	54,572	1,266,600	329,100	150	17	11	105	40	178	6	78	2	81	97	12	6
April	6	29	241	44	13	10	343	44,368	93,832	919,540	698,066	177	10	7	134	15	200	5	104	2	110	97	8	1
May	5	21	229	28	6	20	309	32,989	49,947	1,088,350	283,835	168	20	9	96	17	181	3	76	3	101	83	3	3
June	12	29	286	36	8	20	391	45,023	32,117	2,703,705	325,500	204	19	15	134	19	239	4	95	...	135	122	8	2
July	19	33	308	60	17	25	462	89,874	101,076	1,747,200	640,325	218	22	16	160	46	243	7	127	1	140	106	13	1
August	13	28	349	91	16	13	510	95,589	159,510	1,436,000	1,256,475	233	13	11	223	30	220	5	229	2	120	98	16	1
September	3	16	193	15	9	21	257	80,504	211,690	846,880	888,720	137	20	16	66	18	154	4	43	2	64	75	19	4
October	4	14	198	33	9	32	290	39,005	61,097	1,173,150	647,300	130	32	9	104	15	201	1	29	3	118	68	16	1
November	4	12	196	29	14	27	282	31,775	45,853	990,880	626,400	132	26	14	83	27	183	2	29	1	94	78	16	1
December	8	11	215	27	12	6	279	78,982	137,066	1,689,900	891,325	157	6	9	85	22	223	...	15	4	91	112	20	...
1908.																								
January	7	12	201	48	22	12	302	126,095	184,781	1,665,440	1,085,430	211	12	15	121	38	268	5	58	1	137	119	21	3
Totals	92	237	2,911	485	167	203	4,005	$886,195	$1,369,879	$17,279,610	$8,046,670	2,064	202	143	1,977	306	2,462	47	801	21	1,372	1,162	165	25

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