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ANNUAL REPORT

OF THE

FIRE DEPARTMENT

FOR THE YEAR 1920-21.

BOSTON, February 1, 1921.

HON. ANDREW J. PETERS,
Mayor of the City of Boston:

DEAR SIR,—In accordance with section 24, chapter 3 Revised Ordinances of 1914, City of Boston, I submit herewith the annual report of the Fire Department for the year ending January 31, 1921.

FINANCES.

The total amount spent in maintaining the department during the year was $3,223,133.35, including the Wire Division. The increased expenditure for 1920-21 over 1919-20 is due to the following causes: High cost of supplies, increase in pay of officers, men, clerks and inspectors, four-year provision for maximum pay, and the fact that the appropriation for the Wire Division for 1920-21 covered an entire year while in the previous year it was for seven months.

ALTERATIONS TO HOUSES.—PERMANENT IMPROVEMENTS.

In the quarters of Engine Company 26-35, Mason street, the first floor was torn out, walls and ceilings

cleared. A new reinforced concrete floor, from front to rear, was installed. New structural I-beams were added for the support of the second and third floors and roof, when the rest of the building is remodeled. The walls and ceilings were fireproof plastered and a handsome brick wainscot run along the walls of the apparatus room. A new fire alarm board, with all the latest instruments, was placed in the building. In addition to the tapper, alarms are now flashed insuring the men of getting the correct box number when motors are running or any other noise interferes with hearing the tapper strike. Besides the foregoing a new patrol desk, gasolene pump, fire alarm board in the basement were installed together with new house wiring.

In the station occupied by Ladder Company 23, Washington street, Grove Hall, quarters were provided for the deputy chief of the third division and other changes were made to bring this house into a first-class and up-to-date condition.

A new fireproof ventilating window was installed in the house occupied by Ladder Company 17, Harrison avenue.

In Ladder Company 1's quarters, Friend street, an inclosed patrol desk was installed.

At the house occupied by Engine Company 19, Norfolk street, Dorchester, the exterior brick walls on front of building were repaired and pointed, making them good for many years. The original high belfry towers of wood had strained and cracked these walls before their removal last year.

The retaining wall in the rear of the quarters of Engine Company 40, Webster and Orleans streets, East Boston, was rebuilt.

Shower baths are under installation in the quarters of Engine Company 11 and Ladder Company 21, Byron and Saratoga streets, East Boston.

In the Repair Shop a monorail shop conveyor and a battery of oil tanks were installed.

In the building used as a garage at Wareham street and Harrison avenue the former dormitory has been altered for use as a class room for the automobile school.

Automatic sprinklers and fire doors were installed in the third story of the Headquarters Building, and the stairway to the balcony on this floor was fireproofed.

RECONSTRUCTION OF STATIONS.

The following recommendations for improvements are made:

Headquarters Building, installation of elevator.
Engine 11 and Ladder 21, remodeling.
Engine 23, remodeling.
Engine 21, remodeling and addition of third story.
Engine 7, complete new building.
Engine 26, remodeling second and adding a third story.
Chemical 13, rebuilding retaining wall in rear and making waterproof cellar.
Engine 20 and Ladder 27, remodeling and improving.
Engine 36 and Ladder 22, remodeling.
Engine 4, general remodeling.
Engine 17 and Ladder 7, rebuilding.
Engine 37 and Ladder 26, remodeling.
Engine 28 and Ladder 10, remodeling.
Ladder 23, remodeling.
Chemical 2, remodeling.

I recommend that the policy of gradually fireproofing various fire stations to be followed where the fire apparatus is to be motorized in the near future.

FIRE-FIGHTING FORCE.

There are 1,382 employees in the Fire Department of whom 1,213 are privates and officers in the uniform force. The balance, 169 employees, are in various divisions of the department, namely Headquarters, Bureau of Supplies and Repairs, Fire Alarm Branch, Wire Division and Veterinary Hospital.

MOTOR APPARATUS.

During 1920-21 fourteen pieces of motor apparatus were purchased and placed in service.

On February 1, 1920, there were 97 pieces of motor fire apparatus in service and in reserve. On February 1, 1921, there were 111 pieces of motor fire apparatus in service and in reserve.

In connection with the installation of the high pressure system the department has purchased three high-pressure hose cars, the plans having been prepared by the Fire Department. These cars are adapted for the narrow

streets of Boston, and will carry 2,000 feet of 3-inch hose with 2½-inch couplings. On each wagon will be mounted two guns, each of which will deliver in fire streams of a maximum diameter of 2⅝ inches at 100 pounds pressure 2,046 gallons of water per minute, in an unbroken vertical stream of 167.3 feet in height or an unbroken horizontal stream of 154 feet in length. These high pressure cars will be located in the high value district of the city.

There has been a further increase in the number of 1,000-gallon motor pumpers in service.

The department has maintained the policy of standardizing the apparatus used and increasing the amount of motor apparatus.

On January 19, 1921, in response to a request for help from the city of Worcester, Engine Company 26, a 1,000-gallon motor-driven pumping engine, a motor-driven combination hose and chemical car, and one officer and ten men were sent. The engineer of motor apparatus was also ordered to accompany the apparatus.

The apparatus left Mason street at 6.30 a. m., and under its own power reached the fire, over the road, in two hours and ten minutes, after a run of approximately forty-six miles. This pumping engine weighed approximately six tons, without men, and the hose car, without men, weighed approximately four and one-half tons.

The city of Worcester had two large fires to extinguish at one and the same time, and in case a third fire broke out there was no means at hand to protect the city. The apparatus from Boston was ordered to the Central Fire Station with instructions to answer any alarms that might be received. At 10.20 a. m., the apparatus being no longer needed, it was released by the chief of the Worcester Fire Department and ordered to return to Boston. The apparatus returned in approximately the same length of time that was taken in going to Worcester. The total mileage covered was approximately ninety-two miles and when the apparatus returned to the fire station on Mason street, Boston, it was in first-class condition, and immediately went into service. This is the first time in the history of fire fighting that fire apparatus has responded, under its own power, so long a distance, and demonstrates what can be done by motor apparatus in protecting large territories from fire as compared with horse-drawn apparatus. The time consumed, namely two hours and ten minutes, is extraordinarily short in view of the general condition of the road to Worcester, namely curves and steep hills.

On the fifth day of March, 1897, the city of Worcester asked for help from Boston because of a large fire. The Boston apparatus was loaded on flat cars of the Boston & Albany Railroad, and four hours and fifteen minutes after the apparatus started loading in Boston it was stopped on the train at Riverside with a message to the effect that the fire in Worcester was under control.

IMPROVEMENTS AND CHANGES.

The efficiency of the department is continually being improved by changes in the organization and appliances. Among the improvements made during the past year are the following:

The reorganization of the accounting system in the Repair Shop, which is practically completed. By the new system of accounting it will be possible to establish comparative costs of maintenance of each of the various pieces of apparatus used in the department, as well as complete stock and repair records.

A study has been completed of the various types of smoke masks and oxygen-breathing apparatus to be used in the department. A final report has been received from the expert who made the investigation. The department has prepared plans and will construct a test house at the Drill School yard at Headquarters for the purpose of making practical tests of masks and oxygen-breathing apparatus. The house will eventually be used for the purpose of instructing all the members of the department in the use of masks, oxygen-breathing apparatus, and in the operation of the automatic sprinkler.

All the officers of the department completed the course of lectures at the Fire College. The college closed in July. In addition to the officers of this departments officers from Milton, Newton and Winchester fire departments attended the course of lectures. The college reopened in December, 1920, so that the privates of the department, who so desired, might avail themselves of the advantages it offered. The number of men of the department as well as officials of fire departments of other cities and towns who attended was very gratifying.

Small libraries have been established in the fire stations made up of books of reference. The subjects cov-

ered are: Fire prevention, hydraulics, gasolene, steam and marine engines, electricity, telegraph, fire protection, inflammables, building construction, automobiles, etc. The installation of these libraries has resulted in an increased efficiency in the department.

The annual drill and inspection of the companies of the department commenced September 1, 1920, and ended October 23, 1920. This was the second annual drill and inspection, the first having been held in 1919. A marked improvement in the efficiency of the various companies was shown by a comparison of the results of this year with 1919.

FIRE PREVENTION.

The work of the Fire Prevention Bureau of the department, reorganized in 1919, has been very satisfactory. The year ending December 31, 1920, marked the first full calendar year of the Bureau's activities. Although the fire losses showed a gain over the previous twelve months, nevertheless the number of alarms from all causes, namely 4,485, was 938 less than the previous year, and establishes a new low record in the number of alarms for the past nine years. The high fire loss is due mainly to the increased valuation of replacing the property destroyed. If business conditions were normal the fire loss would have been very much less in amount.

The following shows in part the activities of the Bureau:

Inspections and reinspections by bureau corps	62,000
Inspections by chiefs and officers	15,000
Inspections at the request of the State Fire Marshal,	864
	77,864
Cases reported for action to the State Fire Marshal,	552
Cases reported for action to the Building Department	905
Notices sent to owners or tenants to correct conditions	420
Recommendations and reports sent to the Police Department, Health Department, Public Buildings Department, Schoolhouse Department, Board of Fire Underwriters, Rent and Housing Commission (by request)	278

One thousand four hundred and sixteen complaints were closed. A great many cases have been remedied by the Bureau Inspectors without the necessity of forwarding written reports.

Extinguishers ordered and installed	1,230
Metal waste cans ordered and installed in garages, mercantile buildings and apartment houses	3,728
Sand pails ordered and installed	2,250
Water pails ordered and installed	4,700
Extinguishers ordered recharged	2,765

NEW FIREBOAT.

Arrangements are being made with the United States Navy Department to obtain the loan of one of the submarine chasers which were used in the late war. The indications are that we will be successful in obtaining one of these boats. When the arrangements have been completed it is proposed to convert this submarine chaser into a fireboat for the Boston Fire Department.

SCHOOLS.

Two new schools have been established in the department, one for motor pumps and one for chauffeurs. About eighty-five members of the department have attended the motor pump school in small groups, and received diplomas. In the chauffeurs' school 229 members have taken the course of training and received diplomas. The results in both these schools have been more than satisfactory.

FIRE ALARM OFFICE.

The office of the present fire alarm headquarters was established in 1895 in the Headquarters Building on Bristol street. The system is fast outgrowing its present quarters. I am of the opinion that action should be taken towards the selection of a new site and the making of preliminary plans and studies for a suitable building in which can be installed a new fire alarm system.

UNDERWRITERS' INSPECTION.

The National Board of Fire Underwriters completed its examination of the Fire Department up to February 1, 1921, and submitted a report superseding that of 1916. The report states, among other findings "Under the pres-

ent capable and progressive administration, the Boston Fire Department has resumed, and in some features surpassed, its former high standard of efficiency.

"The excellent system of drills and training for all members, the weeding out of aged or disabled members, the firm enforcement of discipline, and the refusal to permit interference from outside organizations, have all helped to restore efficiency and their effects are evident in the improved appearance and behavior of the men. Manual strength has improved since the return of members from the war, and, with the effective meal hour arrangements, is generally adequate. The organization of the fire force has been improved by rearranging into three divisions. There is still a shortage in company and chief officers.

"On the whole the department may now be rated as well managed, adequately manned and properly trained and equipped. With the further improvements contemplated by the administration, it should take high rank among modern metropolitan fire departments."

Yours very truly,

JOHN R. MURPHY,
Fire Commissioner.

NAMES OF CHIEF ENGINEERS, OR CHIEF OF DEPARTMENT, SINCE THE FIRE DEPARTMENT WAS ESTABLISHED, JANUARY, 1826.

Samuel D. Harris	1826–28
Thomas C. Amory	1829–35
William Barnicoat	1836–53
Elisha Smith, Jr.	1854–55
George W. Bird	1856–65
John S. Damrell	1866–74
William A. Green*	1874–84
Lewis P. Webber	1884–1901
William T. Cheswell	1901–06
John A. Mullen	1906–14
John Grady*	1914
Peter F. McDonough	1914–19
Peter E. Walsh	1919

* Appointed Fire Commissioner.

REPORT OF CHIEF OF DEPARTMENT.

FROM: THE CHIEF OF DEPARTMENT.
TO: THE FIRE COMMISSIONER.
SUBJECT: ANNUAL REPORT.

The following is the report of the Chief of Department for the year ending January 31, 1921:

During the calendar year the department responded to 4,485 alarms. The fire loss was $2,997,816. Marine loss $141,750. Total fire loss $3,139,566.

ADDITIONS AND CHANGES.

Apparatus.

February 21, 1920, an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,500 pounds, was placed in service with Engine Company 8, displacing the Seagrave motor-driven combination hose and chemical wagon.

March 2, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 1,000 gallons per minute, weight, fully equipped without men, 11,500 pounds, was placed in service with Engine Company 50, displacing the 750-gallon American-LaFrance pumping engine.

April 3, 1920, a first size steam fire engine, equipped with a Christie tractor, and a Seagrave motor-driven combination hose and chemical wagon was placed in service with Engine Company 15, displacing the Seagrave triple combination pumping engine.

April 13, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 10,500 pounds and an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,530 pounds, were placed in service with Engine Company 28. Five horses were displaced by this change.

April 15, 1920, an American-LaFrance motor-driven

combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,500 pounds, was placed in service with Engine Company 26, replacing the Seagrave motor-driven combination hose and chemical wagon.

May 2, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 1,000 gallons per minute, weight, fully equipped without men, 11,300 pounds, and an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,530 pounds, were placed in service with Engine Company 23. Five horses were displaced by this change.

May 14, 1920, a fuel wagon was placed in service in the quarters of Engine Companies 38-39. This apparatus consists of a body placed on the chasis of a Buick runabout formerly in service with the District Chief of District 5. Capacity, one and one half tons cannel coal.

June 23, 1920, a steam fire engine equipped with a Christie tractor and an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,530 pounds, were placed in service with Engine Company 48. Five horses were displaced by this change.

June 23, 1920, Chemical Company 14, District No. 15, was disbanded, the apparatus delivered to the Bureau of Supplies and Repairs and the members of the company reassigned. Two horses were displaced by this change.

July 12, 1920, Ladder Company 31 was disbanded, the apparatus placed in reserve and the members of the company reassigned.

July 12, 1920, Engine Company 51 was organized and established at the fire station in Oak square, Brighton, formerly occupied by Ladder Company 31. The apparatus assigned to this company is an American-LaFrance motor-driven triple combination pumping engine, hose and chemical wagon, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 11,050 pounds. In addition to the usual equipment this piece of apparatus will carry one 25-foot extension ladder and one 12-foot roof ladder.

July 12, 1920, a city service truck equipped with a Christie tractor was placed in service with Ladder Company 11 replacing the horse-drawn apparatus. Three horses were displaced by this change.

July 20, 1920, Chemical Company 2 was disbanded, the apparatus placed in reserve and the members of the company reassigned. Two horses were displaced by this change.

August 7, 1920, a Pierce Arrow chassis fitted with a body built by the Bureau of Supplies and Repairs was placed in service with Rescue Company 1 replacing the American-LaFrance motor-driven combination which is to be used at the Chauffeurs' School.

September 3, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 1,000 gallons per minute, weight, fully equipped without men, 11,300 pounds, was placed in service with Engine Company 10, displacing the steam fire engine equipped with an American-LaFrance tractor.

September 17, 1920, a steam fire engine equipped with a Christie tractor and a Seagrave motor-driven combination hose and chemical wagon was placed in service with Engine Company 42. Five horses were displaced by this change.

September 23, 1920, an American-LaFrance motor-driven 85-foot quick-raising aerial truck was placed in service with Ladder Company 8, replacing the 85-foot Seagrave aerial truck. Weight, fully equipped without men, 19,000 pounds.

October 16, 1920, an American-LaFrance motor-driven city service truck, seventy-two horse power, weight, fully equipped without men, 10,000 pounds, was placed in service with Ladder Company 10. Three horses were displaced by this change.

October 18, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 10,500 pounds, was placed in service with Engine Company 37, replacing the steam fire engine equipped with an American-LaFrance tractor.

October 25, 1920, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 10,500 pounds, was placed in service with Engine Company 46, replacing the steam fire engine equipped with a Christie tractor.

November 8, 1920, an American-LaFrance motor-

driven city service truck, seventy-two horse power, weight, fully equipped without men, 10,000 pounds, was placed in service with Ladder Company 28. Three horses were displaced by this change.

December 5, 1920, an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men 9,500 pounds, was placed in service with Engine Company 10, displacing the American-LaFrance motor-driven combination hose and chemical wagon in service with that company.

January 5, 1921, Engine Company 26 returned to the remodeled quarters on Mason street from the temporary quarters on Church street. The steam fire engine equipped with a Christie tractor was replaced by an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 1,000 gallons per minute, weight, fully equipped without men, 11,500 pounds. The American-LaFrance combination hose and chemical wagon in service with this company equipped with pneumatic tires.

January 5, 1921, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 10,500 pounds, was placed in service with Engine Company 35, replacing the self-propelled steam fire engine formerly in service with this company. The Seagrave motor-driven combination hose and chemical wagon in service with this company was replaced by an American-LaFrance motor-driven high pressure hose wagon. This wagon is equipped with two Morse guns. There are six 2½-inch inlets to each gun, with nozzle tips ranging from 1½ to 2⅝ inches in diameter. This hose wagon carries 1,300 feet of 3-inch and 700 feet of 2½-inch hose. Weight of high pressure wagon, fully equipped without men, 11,240 pounds.

January 26, 1921, an American-LaFrance motor-driven pumping engine, seventy-two horse power, with a rated pump capacity of 750 gallons per minute, weight, fully equipped without men, 10,500 pounds, and an American-LaFrance motor-driven combination hose and chemical wagon, forty-eight horse power, weight, fully equipped without men, 9,500 pounds, were placed with Engine Company 41, replacing the Robinson motor-driven triple combination pumping engine in service with that company.

January 27, 1921, replacing the city service ladder truck, equipped with a Christie tractor, an American-LaFrance city service ladder truck, 72 horse power, weight, fully equipped without men, 8,900 pounds, was placed in service with Ladder Company 11.

Chief's Automobiles.

Five new automobiles for the use of the chief officers were placed in service during the year, replacing old ones.

Tools and Appliances.

During the year the following new devices were introduced into the department as follows:

Buster bars were supplied to Ladder Companies 1, 4, 7, 8, 13, 17. This bar is used for jimmying or opening doors, windows, etc. It is a steel bar 20 inches long, with a beveled end; attached to this bar near beveled end is a small block of steel which acts as a fulcrum when bar is used.

The Boston bar, an invention of Capt. James Mahoney, Water Tower Company 2, was placed in service with Ladder Companies 3, 5, 7, 9, 13, 15, 18, 24. This is a steel bar with one end beveled and the other end hook shaped. It is used for opening doors, windows, pulling padlocks, wall plaster, etc.

BUILDINGS.

During the year the basement and main floor of Engine Companies 26-35 were remodeled, the old wooden floor being replaced with a solid concrete floor, the trussed support for second floor being replaced with steel girder supports and that portion of the building below second floor being made fireproof.

Numerous other company houses which contain motor apparatus are in need of alterations in order to comply with the regulations.

Much work has been done in the painting of the exterior and interior of several department houses. As regards cleanliness the houses are kept in good condition.

APPARATUS AND EQUIPMENT.

The annual inspection of apparatus and equipment, including hose, was made, and the necessary repairs made to bring same up to the proper standard of efficiency.

BUILDING INSPECTION.

As previously reported weekly building inspections were made by all officers of the fire-fighting force. A vast number of hazardous conditions were remedied by verbal requests. Where it appeared that verbal request was not sufficient to cause the remedying of hazardous conditions, complaint in writing was forwarded to Headquarters from whence copies were forwarded to the responsible parties, which action invariably produced the desired results.

Theaters and motion picture houses were inspected weekly and reports forwarded on their condition.

Fire appliances in schoolhouses and public buildings were inspected monthly and conditions reported.

The work of the inspectors of the Fire Prevention Bureau continues to show good results.

MUTUAL AID.

The usual fine spirit of co-operation manifested in previous years by the cities and towns on our border and adjacent thereto was shown during the year. The department responded to twenty-eight alarms outside of the city.

HYDRANTS.

The following is the number and type of hydrants in use for fire service January 31, 1921:

Ordinary post	4,068
Boston post	3,454
Lowry	1,483
Boston Lowry	608
Bostonhydrant	278
High pressure	289
Chapman post	200
B. & F. post	42
Ludlow post	20
Matthews	4
Coffin post	1
	10,447

ANNUAL DRILL.

During the year the annual company drill was held the various companies of the department reporting at

the Drill School yard, Headquarters, Bristol street, for the purpose of performing drill evolutions under the supervision of the department drill master.

Each company was marked according to the display of efficiency shown. Efficiency was determined by knowledge and method of handling apparatus, tools and appliances and promptness in executing commands.

Deputy Chiefs attended the drilling of companies of their respective divisions.

These drills were very satisfactory in their results. Each company drilled in ten evolutions, namely:

1. Connect two lines, 100 feet each, from engine to deluge set.
2. Connect two lines, 100 feet each, from engine to Morse gun.
3. Raise 50-foot ladder to fourth floor window and dog same.
4. Run 200 feet 2½-inch line over 50-foot ladder, up stairway and show pipe on fifth floor window.
5. Raise 30-foot ladder to the fire escape, carry 17-foot roof ladder over same to story above. Dog 30-foot ladder.
6. Run 250 feet of 2½-inch line over 30-foot ladder, over fire escape to roof, 75 feet from ground.
7. Take life line and haul 25-foot ladder to roof 75 feet from ground.
8. Take life line, haul 200 feet 2½-inch line to roof.
9. Run 100 feet 2½-inch line from engine, connect to Morse gate and Bresnan nozzle.
10. Connect chuck to hydrant (flexible suction) water to engine.

Drills.

The following tables show the result of the drills in which all companies participated, except the three fireboat crews. These tables show the list of companies drilling, the time consumed in each evolution, and time consumed by each company in completing all evolutions.

DIVISION ONE.

	Officers.	Men.	Evolution Number. 1. M.	1. S.	2. M.	2. S.	3. M.	3. S.	4. M.	4. S.	5. M.	5. S.	6. M.	6. S.	7. M.	7. S.	8. M.	8. S.	9. M.	9. S.	10. M.	10. S.	Total Time. M.	Total Time. S.
DISTRICT No. 1.																								
Engine Company 9	2	9		36		25	1	11	1	42		50	1	50	1	55		50		32		32	10	23
Ladder Company 2	2	7		44		38	1	15	1	36	1	4	1	32	1	27		58		23		46	10	23
Engine Company 5	2	8		34		30	1	26	1	30		46	2	6	2	12		34		39		38	10	55
Ladder Company 21, Chemical Company 7	2	8		25		39	1	32	1	42	1	11	1	49	1	51	1	6		20		39	11	14
Engine Company 40	2	8		32		23	1	46	1	32	1	1	2	6	2	2	1	11		25	1		11	58
Engine Company 11	1	7		44		30	1	32	1	46	1	19	2	3	1	37	1	52		25		48	12	36
DISTRICT No. 2.																								
Ladder Company 22	1	8		27		33	1	9	1	16		53	1	35	1	37		33		28	1		9	31
Engine Company 50	1	7		28		27	1	3	1	30		58	1	56	1	39		49		23		26	9	39
Engine Company 32	2	9		35		24	1	25	1	32		53	1	47	1	20		49		25		32	9	42
Engine Company 36	2	10		25		30	1	39	1	25		55	1	46	1	40		36		45		28	10	9
Ladder Company 9	2	7		38		25	1	14	1	32		56	1	38	1	50	1	13		24		39	10	29
Engine Company 27	2	8		33		27	1	19	1	47	1	14	2		1	42		35		20		36	10	33
DISTRICT No. 3.																								
Ladder Company 8	2	12		27		20		46	1	40		34	1	27	1	25		45		20		30	8	14
Engine Company 38	2	8		32		24	1	10	1	30		45	1	32	1	10		31		17		30	8	21

Rescue Company, 1 Tower Company 3	1	8		36		33		50	1	42		40	1	25	1	23		53		23		31	8	56
Ladder Company 18	1	9		29		29		58	1	27		54	1	35	1	40		35		27		36	9	10
Engine Company 25	1	10		35		29	1	5	1	25		45	1	36	1	43		50		22		21	9	11
Engine Company 39	2	8		40		27	1	11	1	28		49	2	41	1	48		49		26		24	10	43
DISTRICT No. 4.																								
Chemical Company 1, Tower Company 1	1	8		30		24		46	1	14		36	1	39	1	23		50		10		42	8	14
Engine Company 6	1	8		30		20	1	1	1	24		42	1	30	1	27		47		22		19	8	22
Engine Company 8	1	9		35		25		55	1	14		47	1	25	1	35		45		25		30	8	36
Ladder Company 24	2	7		32		53		59	1	15		41	1	33	1	59		39		42		32	9	45
Engine Company 4	2	7		32		21	1	13	1	20	1	2	1	33	1	49		37		26	1		9	53
Ladder Company 1	2	7		35		25	1	2	1	45		37	1	43	1	43	1	10		29		31	10	
DISTRICT No. 5.																								
Ladder Company 17	2	6		29		19		57	1	33		46	1	26	1	35		33		21		35	8	34
Engine Company 35	2	7		31		22	1	3	1	34		47	1	26	1	39		42		19		27	8	50
Engine Company 7	1	10		37		31	1	4	1	25		54	1	45	1	30		34		25		28	9	13
Engine Company 26	2	8		30		22	1	26	2	15		52	1	35	1	33		32		18		25	9	48
Engine Company 10	1	8		50		33	1	11	1	35		55	1	43	1	40		34		25		45	10	11

COMPANY RECORDS.— BY DISTRICTS.

District No. 1.— Engine Company 9, Ladder Company 2	10 minutes 23 seconds.
District No. 2.— Ladder Company 22	9 minutes 31 seconds.
District No. 3.— Ladder Company 8	8 minutes 14 seconds.
District No. 4.— Tower Company 1, Chemical Company 1	8 minutes 14 seconds.
District No 5.— Ladder Company 17	8 minutes 34 seconds

DIVISION TWO.

	Officers.	Men.	Evolution Number. 1. M.	1. S.	2. M.	2. S.	3. M.	3. S.	4. M.	4. S.	5. M.	5. S.	6. M.	6. S.	7. M.	7. S.	8. M.	8. S.	9. M.	9. S.	10. M.	10. S.	Total Time. M.	Total Time. S.
DISTRICT NO. 6.																								
Engine Company 43	1	8		31		22	1	05	1	41	1		1	40	1	32		35		17		20	29	12
Ladder Company 5	2	6		33		24	1	14	1	35		44	1	26	1	35		47		26		37	9	21
Ladder Company 20	1	6		48		25	1	16	1	25		57	1	29	1	53		44		18		26	9	41
Engine Company 15	1	8		33		29	1	10	1	30	1	3	2	10	1	26		40		27		39	10	7
Engine Company 2	2	7		38		30	1	22	1	40		58	2	2	1	30		45		22		53	10	40
Engine Company 1	1	7		33		29	1	23	1	47		54	1	40	2			52		26		47	10	51
Ladder Company 19	1	6		55		34	1	17	1	24	1	7	1	44	1	59	1	10		40		37	11	27
DISTRICT NO. 7.																								
Ladder Company 13	2	13		24		19		43	1			34	1	31	1	16		29		12		18	6	46
Ladder Company 3	2	10		23		21		38	1	11		35	1	16	1	25		30		13		26	6	58
Engine Company 22	1	8		26		26		53	1	8		42	1	15	1	21		28		13		32	7	24
Ladder Company 15	1	7		40		22		55	1	11		44	1	14	1	25		33		28		32	8	4
Engine Company 3	2	7		36		21		57	1	19		48	1	45	1	15		51		18		29	8	39
Engine Company 33	1	10		27		24		51	1	11		45	1	20	1	41	1	23		17	1		9	19
DISTRICT NO. 8.																								
Ladder Company 12	2	9		40		23		46	1	14		43	1	27	1	32		32		14		37	8	8

Engine Company 14	1	9		29		20	1	2	1	46		48	1	17	1	37		37		18		24	8	38
Engine Company 37	2	8		34		31		58	1	31		55	2	5	2	2		43		20		26	10	5
Engine Company 13	1	6		28		34	1	10	1	21	1	7	1	48	2	2	1	19		23		24	10	36
Ladder Company 26	1	8		32		32	1	6	1	29		58	2	3	1	42		56		19	1		10	37
DISTRICT NO. 11.																								
Ladder Company 14	1	10		29		34		41	1			38	1	20	1	27		32		17		32	7	30
Engine Company 51	1	9		29		26		50	1	11		41	1	17	1	15		51		15		23	7	38
Engine Company 41	2	10		29		18		50	1	11		43	1	33	1	22		40		12		22	7	40
Engine Company 34	2	10		25		23		50	1	11		46	1	18	1	38		48		23		26	8	8
Engine Company 29	1	12		28		24	1	3	1	11		46	1	34	2	5		39		24		29	9	3
Ladder Company 11	1	6		28		23	1	18	1	22	1		1	43	1	45	1	14		19		25	9	57

COMPANY RECORDS.—BY DISTRICTS.

District No. 6.— Engine Company 43	9 minutes 12 seconds.
District No. 7.— Ladder Company 13	6 minutes 46 seconds.
District No. 8.— Ladder Company 12	8 minutes 8 seconds.
District No. 11.— Ladder Company 14	7 minutes 30 seconds.

DIVISION THREE.

	Officers.	Men.	Evolution Number. 1. M.	1. S.	2. M.	2. S.	3. M.	3. S.	4. M.	4. S.	5. M.	5. S.	6. M.	6. S.	7. M.	7. S.	8. M.	8. S.	9. M.	9. S.	10. M.	10. S.	Total Time. M.	Total Time. S.
District No. 9.																								
Engine Company 23	2	11		24		32		50	1	30		47	1	30	1	33		24		18		19	8	7
Ladder Company 4, Chemical Company 10	2	13		35		40		52	1	17		47	1	17	1	22		30		26		22	8	8
Engine Company 24	2	11		31		52		56	1	5		44	1	32	1	25		33		22		23	8	23
Engine Company 12	2	13		26		27		59	1	30		47	1	30	1	27		33		24		27	8	30
Engine Company 21	2	8		38		23	1	23	1	37	1	2	1	49	1	58		43		23		32	10	28
District No. 10.																								
Ladder Company 29, Chemical Company 11	1	10		26		28		47	1	10		48	1	24	1	10		42		18		28	7	41
Engine Company 17	1	8		32		26	1	18	1	25		48	1	16	1	20	1	3		14		33	8	55
Engine Company 18	2	8		31		30	1	9	1	18		57	1	30	1	40		54		24		22	9	15
Ladder Company 7	1	6		35		30	1	1	1	37	1		1	31	1	50		48		42		30	10	4
District No. 12.																								
Ladder Company 23, Chemical Company 5	1	7		34		21	1	13	1	47		49	1	24	1	43		48		28		45	9	52
Engine Company 28	1	8		39		29	1	27	1	34	1	5	1	26	1	42		47		25		23	9	57
Ladder Company 10	1	8		35		35	1	10	1	34		54	1	42	1	35	1	9		24		25	10	3
Engine Company 42	1	8		28		32	1	12	1	37	1	7	1	48	1	57		49		32		36	10	38
Ladder Company 30	1	8		56		42	1	14	2	7		53	1	28	1	20		50		32		38	10	40
District No. 13.*																								
Ladder Company 25	1	6		24		34	1	7	1	21		41	1	51	1	25		51		31		23	9	8
Engine Company 30	2	7		28		23	1	3	1	13	1	21	1	25	1	35		59		32		23	9	22
Engine Company 45	2	7		45		29	1	7	1	35		58	1	57	1	44		58		36		38	10	47
District No. 14.																								
Engine Company 46	2	12		45		28		58	1	17		39	1	33	1	21		32		27		20	8	20
Ladder Company 27	1	8		49		30		58	1	18		43	1	25	1	47		49		23		22	9	4
Engine Company 20	1	10		28		26	1	4	1	24		55	1	42	1	31		43		22		31	9	6
Engine Company 16	1	11		42		39	1	12	1	42		44	1	28	1	37		38		24		22	9	28
Ladder Company 6	1	8		45		25	1	8	1	38		47	1	33	1	52		50		33		43	10	14
District No. 15.																								
Ladder Company 28	1	8		31		22	1	3	1	30		42	1	12	1	28		32		14		21	7	55
Engine Company 48	2	9		31		22		57	1	15		48	1	21	1	37		33		16		24	8	4
Engine Company 19	2	8		34		47	1	1	1	21		53	1	19	1	31		55		25		41	9	27
Engine Company 49	1	6		32		35	1	6	1	42	1	7	1	36	2	3		45		23	1		10	49

* Member of Chemical 13 drilled with companies of this district being divided amongst the same.

COMPANY RECORDS.— BY DISTRICTS.

District No. 9.— Engine Company 23	8 minutes 7 seconds.
District No. 10.— Ladder Company 29	7 minutes 41 seconds.
District No. 12.— Ladder Company 23, Chemical Company 5	9 minutes 52 seconds.
District No. 13.— Ladder Company 25	9 minutes 8 seconds.
District No. 14.— Engine Company 46	8 minutes 20 seconds.
District No. 15.— Ladder Company 28	7 minutes 55 seconds.

RECORD FOR EACH EVOLUTION.

Evolution No. 1.— Ladder Company 3	23 seconds.
Evolution No. 2.— Engine Company 41	18 seconds.
Evolution No. 3.— Ladder Company 3	38 seconds.
Evolution No. 4.— Ladder Company 13, Ladder Company 14	1 minute.
Evolution No. 5.— Ladder Company 13, Ladder Company 8	34 seconds.
Evolution No. 6.— Ladder Company 28	1 minute 12 seconds.
Evolution No. 7.— Engine Company 38, Ladder Company 29	1 minute 10 seconds.
Evolution No. 8.— Engine Company 23	24 seconds.
Evolution No. 9.— Chemical Company 1, Tower 1	10 seconds.
Evolution No. 10.— Ladder Company 13	18 seconds.
Best total elapsed time for ten evolutions, Ladder Company 13	6 minutes 46 seconds.

SCHOOLS.

Forty recruits passed the Drill School, including one man from outside the city.

Sixteen members passed the Engineer's School.

Sixty-one members attended and passed the Automobile School at the Franklin Union.

Eighty-five members passed the Motor Pump School.

The Fire College was attended by seventy officers and eighty-five privates during the past year. Three officers from departments outside the city also received instructions at the college.

Two hundred twenty officers and privates received instructions in the operation of motor apparatus.

Six members attended and completed the course of instruction at the Marine Engineering School at the Massachusetts Institute of Technology.

FIRE PREVENTION DAY.

On October 9, 1920, Fire Prevention Day, the department held a fireman's parade, which was made up of veteran organizations, members of the department on day-off and a detail of members on duty, together with a display of hand-drawn, horse-drawn and motor-driven apparatus of all types. The parade passed through several of the high value district streets, was reviewed by his Excellency, Governor Calvin Coolidge, and his Honor, Mayor Andrew J. Peters. Fire Alarm Box 1411, Dorchester avenue and Congress street, was sounded by his Honor, Mayor Andrew J. Peters, at 3 p. m.; the apparatus responded and operated the same as at a fire; this included the operation of fireboat Engine Company 44. This exhibition showed clearly the advancement made in fire-fighting apparatus by the competition between the old hand machine, the steam fire engine and the motor pumping engine.

In addition Fire Prevention Day was observed by the displaying of rules governing fire prevention on the screens of the various motion picture houses throughout the city. Officers visited the public and private schools of the city and addressed the pupils on fire prevention.

FIRE STATIONS.

I would recommend the fireproofing of the main floors of the following stations wherein motor apparatus is housed:

District No. 1.	Engine Company 11, Ladder Company 21, one house.
District No. 2.	Engine Company 36, Ladder Company 22, one house.
District No. 5.	Ladder Company 17.
District No. 7.	Engine Company 22, Ladder Company 13, one house.
District No. 8.	Ladder Company 12. Engine Company 37, Ladder Company 26, one house.
District No. 9.	Engine Company 21. Engine Company 23.
District No. 10.	Engine Company 17. Ladder Company 7.
District No. 12.	Engine Company, 28, Ladder Company 10, one house. Engine Company 42, Ladder Company 30, one house.
District No. 13.	Engine Company 45, Ladder Company 16, one house.
District No. 15.	Engine Company 19. Engine Company 48, Ladder Company 28, one house.

In addition I would recommend that the quarters of Engine Companies 4 and 7 be remodeled in anticipation of motor apparatus being installed therein in the near future.

FURTHER RECOMMENDATIONS.

Apparatus.

Engine Company 1.—A 1,000-gallon motor-driven gasolene pumping engine and a motor-driven combination hose and chemical wagon. The apparatus at present in service in this company consists of a triple combination pumping engine which is not sufficient for this centrally situated company.

Engine Company 2.—A triple combination pumping engine now in service with Engine Company 1 should be

placed in the quarters of Engine Company 2 at the same time that the two units are installed in the former company. This will complete the motorization of the engine companies of this district.

Ladder Company 19.—A motor-driven city service truck should replace the horse-drawn apparatus now in service with this company. The company should be removed from the present quarters and relocated in the quarters of Engine Company 2. This merging of the two companies into one building will result in economy and efficiency.

Chemical Company 11.—A 750-gallon motor-driven pumping engine and a motor combination hose and chemical wagon. With the installation of these two units, Chemical 11 should be abolished and a new company. Engine Company 52, established. This locality is rapidly developing into a mercantile and residential section and more adequate means of protection should be afforded than as at present.

Engine Company 20.—A 750-gallon motor-driven pumping engine and a motor-driven combination hose and chemical wagon. This company is located in a remote section of the city, Neponset, and the installation of motor apparatus there would not only increase the efficiency from a fire protection viewpoint but would also be a saving by displacing five horses now in service there.

Engine Company 30.—A 750-gallon motor-driven pumping engine and a motor-driven combination hose and chemical wagon. This company is also located in a remote section, West Roxbury, near the Dedham line. The installation of motor apparatus would not only increase the efficiency of the fire service but would also result in a saving because of the displacement of five horses.

Ladder Company 2.—A 75-foot motor-driven aerial ladder. This should be installed to replace the old style box truck now in service with this company.

Ladder Company 9.—A 75-foot motor-driven aerial ladder. This company also has the old style box truck which should be replaced with more modern apparatus.

Ladder Company 27.—A motor-driven city service truck. This company occupies a part of the building with Engine Company 20, Neponset, the apparatus consisting of the old style horse-drawn box truck type. This should be replaced with more modern and efficient apparatus.

Engine Company 14.—A 750-gallon motor-driven pumping engine and a motor-driven combination hose and chemical wagon. These two units should be installed in this company to replace the single unit triple combination pumping engine now in service.

Chemical Company 13.—The triple combination pumping engine located at Engine Company 14 should be installed in these quarters, the Chemical Company abolished and a new engine company established, to be known as Engine Company 53. This section is rapidly developing as a residential center and should have more adequate protection.

Rescue Company 1. Relocation.—This company is at present located in the quarters of Ladder Company 8, Fort Hill square, and should be relocated in the quarters formerly occupied by Chemical Company 2 on Church street.

Rescue Company 2.—A second rescue company should be established to be known as Rescue Company 2, to be located in the southerly, Roxbury, section of the city. The quarters of Ladder Company 4, Dudley street, would seem to be an ideal location for this second rescue company. Chemical Company 10, now located at these quarters, could be abolished and the members assigned to the new rescue company.

Motor-Driven Coal Wagons.—Motor-driven coal wagons should be placed in the quarters of Engine Companies 4 and 22.

I desire to express my appreciation to all the members of the department for the excellent spirit shown by them in the performance of their duties. I also wish to extend my thanks to the Boston Police Department, the Boston Protective Department, and to all other departments and corporations which at various times during the year rendered assistance.

Respectfully submitted,

PETER E. WALSH,
Chief of Department.

FIRE ALARM BRANCH.

FROM: THE SUPERINTENDENT OF FIRE ALARM BRANCH.
TO: THE FIRE COMMISSIONER.
SUBJECT: ANNUAL REPORT OF FIRE ALARM BRANCH.

I respectfully submit the following report of the Fire Alarm Branch for the fiscal year ending January 31, 1921:

OPERATING DIVISION.

(NOTE.—The records of this division are for the calendar year of 1920.)

BOX ALARMS RECEIVED AND TRANSMITTED.

First alarms	2,012
Second alarms	27
Third alarms	12
Fourth alarms	2

BOX ALARMS RECEIVED BUT NOT TRANSMITTED.

Alarms received from same box two or more times	214
Alarms received from adjacent boxes for same fire	176
Alarms received from boxes but treated as "stills"	3

STILL ALARMS RECEIVED AND TRANSMITTED.

Received from citizens by telephone	1,161
Received from Police Department	220
Received from department stations	853
Box alarms received but treated as "stills"	3
"Mutual Aid" alarms treated as "stills"	19
Emergency calls (for accidents, etc.), treated as "stills"	46
Still alarms for which box alarms were later transmitted	128

AUTOMATIC AND A. D. T. ALARMS.

Boston Automatic Company, alarms transmitted	137
Department box alarms transmitted after automatic alarms were received	3
Boston automatic alarms received after department box alarms had been transmitted	2
A. D. T. alarms received	38

A. D. T. alarms transmitted	30
Department box alarms transmitted after A. D. T. alarms had been transmitted	2

TOTAL ALARMS.

Box alarms received	2,446
Still, automatic, and A. D. T. alarms received	2,577
Total alarms received	5,023
Box alarms transmitted (including multiples)	2,053
Still alarms (omitting those for which box alarms were transmitted)	2,174
Boston automatic alarms transmitted	139
A. D. T. alarms transmitted	30
Total alarms transmitted, all classes	4,396

FIRE ALARM BOX RECORDS.

Boxes from which no alarms were received	542
Box tests and inspections	9,039

All keyless doors were tested weekly.

CONSTRUCTION DIVISION.

UNDERGROUND CONSTRUCTION.

Cable bought this year arrived so late in the season that a comparatively small part of it was installed, but notwithstanding that fact considerable underground construction work was done. About 33,270 feet of cable was hauled into underground ducts; 4,205 feet of ducts were laid; twenty-six box posts and two test posts were placed in position; one test post was relocated and one test post removed from service.

LINE CONSTRUCTION.

About fifteen miles of old line wire was replaced by new wire; sixteen miles of wire was removed from poles because of the extension of the underground system, and about 4,945 feet of aerial cable was installed. Fire alarm wires on poles in most sections of the city are in excellent condition, which is attested to by the fact that comparatively few line troubles occurred during the year. Improvements of lines in Hyde Park and in sections of Dorchester and West Roxbury will receive early attention this year.

FIRE ALARM BOXES.

Fire alarm boxes were installed in three schoolhouses, and one schoolhouse box was removed from the service: one box was placed in a hospital, and one in a hotel removed. Nine boxes were installed, for public use, on street corners; five new boxes were placed in iron posts, and fourteen were removed from poles and relocated on posts. Two new box circuits were added to the system, one in Brighton and one in West Roxbury. Thirty-six new red lights were installed over boxes.

INTERIOR CONSTRUCTION.

The force of inside wiremen was too small (due to sickness and injuries of men) to enable us to do much important work we had planned to do. The most important changes made in interior electrical construction was the complete rewiring of the first floor and basement of Engine 26-35 station, and in the station of Engine 2.

Several minor changes and additions were made in other stations.

RECOMMENDATIONS.

Conditions arising from and during the war prevented the extension of the system than would otherwise have been the case, but now since it is anticipated that the high cost of labor and material, prevailing for several years, will be considerably lower, plans are being made for the extension of the underground system on a larger scale than heretofore.

There remains work to be done in streets that were prescribed for the removal of overhead wires in each of the last four years. This work should now, of course, be provided for, but for the improvement of the system the most essential needs are the installation of two main cables, one to run from headquarters to Adams square and one from Headquarters to Northampton street. The present cables running from Headquarters have not a sufficient number of spare conductors to maintain the system in a safe and proper manner. The possibility of serious consequences happening by the failure of one of the present main cables, should be at least partially eliminated.

UNDERGROUND CABLES INSTALLED.

	Feet.
Massachusetts avenue (from Marlborough street), Beacon street, Commonwealth avenue and Brighton avenue to Harvard avenue, 10-conductor	13,345
Blue Hill avenue, Dudley street to Grove Hall, 10-conductor	7,015
Humboldt avenue, Walnut avenue to Seaver street, 6-conductor	5,299
Huntington avenue, Irvington street to Dartmouth street, 6-conductor	1,000
Chelsea street, Day square to Saratoga street, 6-conductor	1,031
Post and pole connections:	
10-conductor	1,468
6-conductor	1,631
4-conductor	2,421

FIRE ALARM BOX POSTS INSTALLED AND DUCT LENGTHS TO SAME.

	Duct.
Charlestown.	
Cambridge and Spice streets	27
Rutherford avenue and Mishawum street	17
Rutherford avenue and Essex street	38
Rutherford avenue and Dunstable street	10
Rutherford avenue and Chapman street	21
City Proper.	
Eliot and Warrenton streets	25
Huntington avenue and Dartmouth street	37
South Boston.	
Fargo and C streets	307
Dorchester.	
Park and Adams streets	22
Neponset avenue, opposite King street	38
Neponset avenue, opposite Boutwell street	31
Neponset avenue and Tolman street	14
Neponset avenue, opposite Walnut street	35
Roxbury.	
Humboldt avenue and Bower street	11
Humboldt avenue and Townsend street	12
Humboldt avenue and Waumbeck street	14
Humboldt avenue and Homestead street	20
Humboldt avenue and Seaver street	8
Columbus avenue and Centre street	109

West Roxbury.

	Duct.
Hyde Park avenue, opposite No. 544	21
Bellevue street and Howitt road	67
Washington and Rosecliff streets	18
Washington and Beech streets	26

Brighton.

Market and Mapleton streets	4
Market and North Beacon streets	9
Market and Lincoln streets	12

New Test Posts.

Summer street at viaduct, 2 ducts	11
Boston street at Edward Everett square, 2 ducts	10

NEW POLE CONNECTIONS.

Charlestown.

Cambridge street at Railroad bridge	27
Austin and Lynde streets	165

Dorchester.

Neponset avenue and Victory road	90
Neponset avenue and King street	65
Neponset avenue and Minot street	93
Neponset avenue and Walnut street	65
Pleasant and Pearl streets	5
Pleasant street and Sawyer avenue	135

Hyde Park.

River and Maple streets	202

Roxbury.

Devon street, rear of No. 32	108
Humboldt avenue and Howland street	127
Humboldt avenue and Waumbeck street	170

West Roxbury.

Washington and Albano streets	169
Washington and Cornell streets	137
Washington and Beech streets	147
Washington and La Grange streets	201
Beech and Orange streets	20
Bellevue street, near Howitt road	75
La Grange street, near railroad	146
Spring and Centre streets	162

Brighton.

	Duct.
North Harvard street at Soldiers Field road	12
Market street and Western avenue	331

DUCTS LAID BETWEEN MANHOLES.

Boston street at Edward Everett square	52
Pleasant street, Thornley street to Pearl street	338
C street at Summer street	25

MANHOLES BUILT.

C street at Summer street.
Pleasant and Pearl streets.
Bellevue street and Howitt road.

FIRE ALARM POSTS RESET.

Box.		Feet.
1234.	Commercial street, opposite Foster street (broken by truck).	
1281.	State street, opposite Kilby street (broken by truck).	
1282.	Congress and Water streets (account building construction).	
1283.	Milk and Oliver streets (broken by truck).	
1314.	Warren Avenue Bridge (bridge rebuilt).	
1422.	High street and High Street place (broken by truck).	
1451.	Tremont street, opposite Mason street (street widening).	
1511.	Tremont street and Van Rensselaer place (broken by truck).	
1534.	Boylston and Arlington streets (subway construction).	
1551.	Tremont street and Rutland square (change of curb).	
1563.	Huntington avenue and West Newton street (broken by truck).	
1663.	Harrison avenue and East Springfield street (broken by truck).	
2518.	Washington street and Mosgrove avenue (change of curb).	
2544.	Washington and South streets (change of curb).	
2632.	Centre and La Grange streets (street widening), 2 ducts	19
2724.	Centre and Church streets (street widening), 2 ducts	41

Box.		Feet.
2731.	Centre and Willow streets (street widening).	
2741.	Centre and Park streets (street widening), 2 ducts	41
3151.	Dennis and Stafford streets (broken gas connection).	
3722.	Hyde Park and Metropolitan avenues (street widened).	
3723.	Hyde Park and Greenwood avenues (street widened)	35
3731.	Hyde Park avenue and Arlington street (street widened).	
3733.	Hyde ark avenue, opposite Harvard avenue (street widened)	14
488.	Main and Miller streets (broken by truck).	
7135.	West First and A streets (broken by locomotive).	
7435.	East Fourth and L streets (broken by truck).	

TEST POSTS RELOCATED.

Columbia road and Stoughton street, 4 ducts	24

TEST POSTS REMOVED.

Washington and Ashland streets, Roslindale.

POLE CONNECTIONS ABANDONED.

Neponset avenue and Victory road	152
Spring and Centre streets	55
Summer street at viaduct	75

PUBLIC FIRE ALARM BOXES INSTALLED.

Box.	
1514.	Eliot and Warrenton streets.
1561.	Huntington avenue and Dartmouth street.
2535.	Hyde Park avenue, opposite No. 544.
2665.	Grove and Birchwood streets.
3175.	Quincy and Magnolia streets.
3228.	Mt. Vernon street, opposite American Radiator Company.
3423.	Park and Adams streets.
3841.	River and Norton streets.
5113.	Commonwealth avenue and Babcock street.

SCHOOLHOUSE BOXES INSTALLED.

Box.	
1615.	Wait School, Shawmut avenue, opposite Cobb street.
224.	Cottage Place School, Columbus avenue.
3225.	Harbor View School, Dorchester avenue.

PRIVATE BOXES INSTALLED.

Box.	
2765.	United States Public Health Service Hospital.

BOXES REMOVED FROM SERVICE.

1455.	Clark's Hotel.
1626.	Way Street School.

FIRE ALARM BOXES IN SERVICE.

Total number	1,216
Owned by Fire Department	853
Owned by Schoolhouse Department	205
Owned by Auxiliary Fire Alarm Company	65
Privately owned	93
Department boxes:	
On fire alarm box posts	432
On poles	398
On buildings	19
Inside buildings	4
Equipped with keyless doors (bell ringing attachment)	798
Equipped with keyless doors (glass guards)	48
Equipped with key doors	7
Equipped with auxiliary attachments	14
Designated by red lights	428
Schoolhouse boxes:	
On fire alarm box posts	19
On poles	15
On outside of buildings	101
Inside of buildings	70
Equipped with keyless doors	148
Equipped with key doors	57
Equipped with auxiliary attachment	159
Designated by red lights	20
Auxiliary Fire Alarm Company boxes:	
On fire alarm box post	1
On poles	6
On outside of buildings	20
Inside of buildings	38
Equipped with keyless doors	10
Equipped with key doors	55
Private boxes:	
On poles	7
On outside of buildings	23
Inside of buildings	63
Equipped with keyless doors	13
Equipped with key doors	80
Equipped with auxiliary attachments	2

CLASSIFICATION OF FIRE ALARM BOX STATIONS.

Acadamies	5
Armory	1
Asylums	4
Car barns	5
Cemetery	1
Church	1
City yards	2
Homes for aged people	2
Hospitals	19
Hotels	5
Manufacturing plants	26
Museum	1
Navy Yard	6
Office buildings	3
Police station (Chelsea)	1
Power stations	5
Prison	1
Public hall	1
Pumping station	1
Railroad shops	4
Railroad stations	5
Railroad yards	12
Retail stores	5
Restaurant	1
Schoolhouses	205
Stock yards	2
Street (public) boxes*	844
Theaters	28
Warehouses	8
Wharves	9
Wholesale houses	3

POSTS AND TEST BOXES.

Fire alarm box posts in service	452
Fire alarm box posts set but not in service	14
Test posts in service	69
Pole test boxes in service	202

CIRCUITS.

Box circuits	65
Tapper circuits	14
Gong circuits	13
Telephone circuits in department system	51
Telephone circuits to Beach exchange	9
Telephone circuit to Back Bay exchange	1
Special telephone circuit to Police Headquarters	1

* About one hundred schoolhouses and private boxes are accessible to the public but are not counted as street boxes.

Special telephone circuit to A. D. T. office	1
Special telephone circuit to Edison Electric Illuminating Company	1
Telephone connection to office of Automatic Fire Alarm Company	1
Telephone connection to Protective Department	1

WIRE, CABLES AND CONDUITS.

Line wire in service	234 miles
Aerial cable in service	25 miles
Conductors in same	150 miles
Aerial conductors in service	104 miles
Underground cable in service	150 miles
Conductors in same	2,239 miles
Underground cable conductors in service	1,150 miles
Conduits owned by Fire Department	61,330 feet
Ducts in Fire Department conduits	76,951 feet
Ducts in New England Telephone and Telegraph Company system used by Fire Department	551,848 feet
Ducts in Postal Telegraph Company system used by Fire Department	4,569 feet

FIRE ALARM APPARATUS.

Tappers in service (in main circuits)	146
Boston tappers in adjacent cities and towns	6
Tappers connected to adjacent systems in Boston Fire Department stations	5
Gongs in service	114
Registers in service outside of fire alarm office	28
Relays in service in department stations	13
Telephones in department system	148

PUBLIC CLOCKS.

This department keeps in operation twenty-six tower clocks, of which twenty-two are owned by the city. Twenty-seven reports of clock troubles, all of which were of minor importance, were attended to during the year.

SUMMARY OF WORK DONE.

New line wire used	78,055 feet
Old wire removed from poles	84,300 feet
Aerial cable installed (new work)	4,945 feet
Conductors in same	31,650 feet
Aerial cable removed from service	1,600 feet
Conductors in same	7,800 feet
Underground cable installed in ducts of New England Telephone and Telegraph Company	27,805 feet

Conductors in same	245,904 feet
Underground cable installed in department ducts	5,465 feet
Conductors in same	35,320 feet
Total underground cable installed (new work)	33,270 feet
Conductors in same	282,410 feet
Cable used to replace defective cable	6,509 feet
Conductors in same	120,738 feet
Conduits laid by department	4,205 feet
Ducts in same	4,434 feet
Ducts abandoned	472 feet
Handholes built	3
Fire alarm boxes installed by this department	9
Fire alarm boxes installed by Schoolhouse Department	3
Fire alarm boxes installed by private owners	1
Fire alarm box posts set	26
Fire alarm box posts reset or replaced by new	25
Fire alarm test posts set	2
Fire alarm test posts relocated	1
Fire alarm test posts removed	1
Fire alarm pole test boxes installed	3

GEORGE L. FICKETT,
Superintendent of Fire Alarm.

BUREAU OF SUPPLIES AND REPAIRS.

FROM: THE FIRST DEPUTY CHIEF.
TO: THE FIRE COMMISSIONER.
SUBJECT: ANNUAL REPORT.

The following is a presentation of the activities of the various branches connected with the Bureau of Supplies and Repairs for the fiscal year 1920-21:

REPAIRS TO MOTOR APPARATUS (OUR SHOP).

Number of jobs performed	2,915
Cost of labor and material on above	$52,952

This work consisted of all character of repairs on all types of motor-driven apparatus in the department, in many cases the entire mechanism being renewed or completely overhauled.

REPAIRS TO MOTOR APPARATUS (OUTSIDE CONCERNS).

Number of jobs performed	815
Cost of labor and material on above	$12,933

EMERGENCY MOTOR SQUADS.

We have assigned from our fire-fighting forces some ten members, who render night and day service, and are identified as Squads No. 1 and No. 2. These men have proven their ability to cope with any condition in the operation and re-establishment of service in our motor-driven or horse-drawn apparatus.

NEW MOTOR EQUIPMENT.

The following new motor equipment was contracted for and received during the fiscal year 1920:

American-LaFrance.

Three (3) type No. 75 combination hose and chemical cars.
Three (3) type No. 75 pumpers.
Two (2) type No. 12 pumpers.
Two (2) type No. 14 city service trucks.
One (1) type No. 31 75-foot aerial truck.

Three (3) type No. 17 high pressure hose cars.
NOTE: As you are well aware, these high pressure cars are delivered to us without equipment.

All additions are placed on this apparatus by our forces in accordance with our standards.

Buick.

One (1) seven-passenger touring car for the Chief of Department.
Four (4) roadsters for District Chiefs.

Ford.

Two (2) roadsters for the Fire Alarm Branch.

Mack.

One (1) two-ton truck for the Fire Alarm Branch, with new body and cable winch for special work.
One (1) One and one-half-ton truck for the Bureau of Supplies and Repairs, with new body.

REBUILT MOTOR EQUIPMENT.

One (1) Model B 36 Buick roadster for the Bureau of Fire Prevention.
One (1) Christie front drive tractor for Engine No. 15.
Three (3) rebuilt Buick emergency trucks for use by this Bureau.
(NOTE.—The bodies were constructed in our shops on old chassis).
One (1) Pierce-Arrow chassis, for use by the Rescue Squad, was equipped in our shops with a specially-constructed body suitable for this character of service. Other appurtenances necessary for the proper maintenance of this vehicle were furnished by this Bureau and attached by our forces.
Thirteen (13) Christie front drive motors.

MOTOR PUMP SCHOOL.

Classes were conducted during the open weather and will be resumed as soon as conditions warrant.

CHAUFFEURS' SCHOOL.

Under the direction of our Instructor of Motor Apparatus about two hundred twenty men have been given a thorough course of training in the care and operation of motor vehicles.

MOTOR VEHICLE INSPECTION.

Frequent inspection of each piece of motor apparatus in service is conducted by our Engineer of Motor Apparatus.

The Engineer of Motor Apparatus, in addition to his duties specified above, responds to multiple alarms of fire, at which time he notes particularly the workings of the various motor pumps in action.

TESTING OF NEW APPARATUS BEFORE ACCEPTANCE.

All of the apparatus purchased during the year was subjected to most severe tests in hill climbing, road work. turning radius and reverse movements. Cylinder compression tests by means of a gauge were made on all motors. Representatives of the makers, members of our department, and in some cases interested outside fire department officials have been present at these tests.

WAREHAM STREET GARAGE.

This garage was put in operation on June 1, 1920, in which are stored all trucks and cars of the Fire Alarm Branch, cars of the Wire Division, reserve chiefs' roadsters, and school instruction car. In addition, as an annex to this garage, we have the Plympton street garage, in which we store reserve apparatus and the Mack emergency truck used by the Fire Alarm Branch. In all we have from twenty to twenty-five cars stored in the Wareham street property. Here is maintained a day and night service, insuring proper care for all cars located therein.

In the garage a record is made of the time of leaving and time of arriving of each car. A daily report is kept of the gasolene and oil used, defects noted, and repairs made. All of the activities at this garage are under the direct supervision of the Instructor of Motor Apparatus.

On the second floor of the Wareham street garage are located the Officers' and Chauffeurs' schools.

REPAIRS TO HORSE-DRAWN APPARATUS AND EQUIPMENT (OUR SHOP).

Number of jobs performed	950
Cost of labor and material on above	$16,576

Included in the above cost were the overhauling and repairing of steam fire engines, replacing of band brakes, repairing and replacement of springs, the renewal of channel irons and solid butt end tires, and repairs to service ladders.

Among the minor renewals and repairs coming within the scope of the above figures were the following: Ladder rungs, handles for axes, sledge hammers and rakes, sharpening axes, harnesses, life belts, hose lines and fire hats.

REPAIRS TO HORSE-DRAWN EQUIPMENT (OUTSIDE CONCERNS).

Number of jobs performed	175
Cost of labor and material on above	$5,945

This expenditure covers the repair and renewal of shut-off nozzles, chucks, suctions, extinguishers, couplings, etc., due to the fact that our shop does not contain the proper facilities for handling the same.

REMARKS.

During the year all steam pumps were thoroughly tested and inspected.

On October 1, 1920, the Dover street storehouse was abolished. Much of the useless material was sold, and that which could be utilized by the department was stored in nearby locations, the property of this department, and within easy access of our shop.

The upkeep of various department buildings was cared for by our corps of carpenters, painters, plumbers and steamfitters. Among other things, many lights of glass were reset and worn sashes replaced with new ones. The necessary stock used in this work was obtained from reliable outside sources.

The cost of the above work is indicated in the following:

Number of jobs performed	790
Cost of labor and material on above	$35,657

When it was found that a repair job could not be handled by members of our force, the work was done by outside concerns.

The cost of this work follows:

Number of jobs performed	60
Cost of labor and material on above	$1,948

During the year, material to the amount of $550 was supplied to various fire companies in the department, for minor repairs to quarters to be performed by members of those companies who were best qualified to do the work.

At a cost of $800.50, mattresses and pillows were renovated and remade, chairs recaned, and new window shades furnished, by outside concerns.

FURNITURE REPAIRS.

Number of jobs performed (our shops)	42
Cost of above (our shops)	$250
Repairs made by company members, material furnished them	$55

FURNISHINGS PURCHASED.

250 Roller towels.	73 Chairs.
108 Hand towels.	175 Bed blankets.
100 Bedspreads.	624 Bed sheets.
780 Pillow slips.	

HOSE DATA.

Hose Purchased and Condemned During Year.

Purchased.	Feet.	*Condemned.*	Feet.
Leading cotton	12,400	Leading cotton	9,088
Chemical	1,200	Leading rubber	700
1-inch deck	100	Chemical	700
4-inch rubber suction	31½	1-inch deck	100
		3-inch flexible suction	175
		4-inch rubber suction	41
		3½-inch deluge	25
Totals	13,731½	Totals	10,839

Hose in Use and in Store During Year.

In Use.	Feet.	*In Store.*	Feet.
Leading cotton	124,966	Leading cotton	3,520
Leading rubber	2,000	Chemical	150
Chemical	19,650	3-inch flexible sucton	50
1-inch deck	900	2½-nch rubber suction	40
4-inch rubber suction	1,240	4-inch rubber suction	150
3-inch flexible suction	587½	3½-inch deluge	25
3½-inch deluge	637½		
Totals	149,981	Totals	3,935

HOSE AND HARNESS SHOP.

This year, to this branch was turned over the duty of receiving, marking and distributing of uniforms furnished by the City of Boston, to the uniformed forces requiring them.

In addition to the above, all hose is tested and repaired; all canvas work is also performed here, *e. g.*, radiator and engine hoods for motor vehicles; automobile top and upholstering work also done here by expert forces. Harnesses, fire hats, life belts, etc., are also repaired here.

PAINT SHOP.

In accordance with recommendations made, we have separated the house painting material from that of the apparatus painting material, both being located in the same room of this floor. We have installed a wire mesh inclosure, covering a small part of the floor area, for the storage of all usable material, brushes, etc., for our house painting forces.

Some forty-one jobs were performed by our house painting forces, which were of major importance; incidentally, many minor jobs were performed.

In the apparatus painting shop, fifty pieces of motor-driven and horse-drawn apparatus have been completely painted. This, with the many other jobs incidental to the apparatus, was put through at a much reduced figure than that of previous years.

MACHINE SHOP.

Much work of the most intricate type has been turned out at this shop, including motors, engine parts, lathe work, shaft grinding, and marine work.

WHEELWRIGHT SHOP.

The interior finish for our outside building carpenters is prepared here, as well as repairs on apparatus.

BLACKSMITH SHOP.

The application of solid butt end tires has been done by members of this branch on our heavy apparatus wheels, thus eliminating the necessity of recourse to outside concerns.

CARPENTERS.

The maintenance and upkeep of our department houses was cared for by the few carpenters at this Bureau, and in many cases it was necessary to detail men to assist from our fire-fighting forces, who possessed the necessary qualifications for this work. As you are well aware, we have some ninety odd fire stations to maintain, and during the year, on twenty-one of these we have made extensive alterations and repairs.

In fact, all carpentry work done in the department was performed wholly by our department forces, as well as the plumbing repairs and renewals.

GENERAL IMPROVEMENTS MADE AT BUREAU.

First Floor.

The installation of a Coburn overhead trolley rail to facilitate in the handling and transferring of heavy materials in the conduct of work throughout the shop. This rail is fitted with two traveling chain hoists with lifting power equivalent to 3,000 pounds.

Establishment of battery and ignition room with charging and testing equipment, so arranged as to simplify and safeguard this important work. This room is also utilized as a workroom by our ignition expert in the repair and testing of magnetoes, vibrating coils, vacuum tanks, etc. I have no hesitation in saying that this arrangement has paid for itself many times over since its installation.

Erection of new racks with three levels for the holding of various types of motor-driven and horse-drawn wheels. These racks are so arranged that the Coburn trolley rail runs in between, and the lifting in and out of these wheels is simplified by the use of the hoists, by which one man can now do the work, unassisted, which formerly required the services of many.

Machinists' benches were erected, running parallel with the Albany street building, thus providing for the better handling of tools, and facilitating in the repair of apparatus.

Installation of a blower system in the blacksmith shop, this being done at a minimum of cost, *i. e.*, a trade was consummated, through the Fire Commissioner's office, whereby we exchanged an old, unused forced-draft engine for a blower system.

Second Floor.

Institution of new tool room, where there are stored all tools necessary for the proper handling of repair work A metal check system has been adopted in order to eliminate carelessness on the part of employees, as these tools are for the most part of a delicate nature and costly.

Third Floor.

A change for the better has been wrought in the rearrangement of the stock in our storeroom. A most thorough and complete inventory of merchandise on hand has been made.

We have installed a battery of oil tanks, containing automobile oils and paint oils, on this floor. This has proved to be of great benefit as it has minimized to a great degree the time taken to distribute the monthly quota of oils requested on requisition or otherwise. Aside from the saving in time, it has also resulted in the prevention of loss of oils through leakage, overflowing, etc., and has made conditions much safer and saner.

Temporarily, for the purpose of holding heavy equipment and steam appliances, we have built a rack containing 150 bins, into which the various sizes of steam and other accessories are placed, with the sizes marked on the external side of the bins, thereby simplifying and saving much time in the distribution thereof.

A complete rearrangement of our motor accessories' stock room was made, and so systematized, that, whether it be night or day service, a record is kept of all material taken from this store room, which is subsequently turned into the office by our watchmen on duty.

NOTE.

Wherever space permitted, in houses throughout the department, reserve apparatus, both motor-driven and horse-drawn, were located, and so distributed throughout the city that there would be no interruption of service in the event of break-downs. This systematic arrangement has obviated the necessity of relying wholly on this Bureau in an emergency.

Respectfully,

JOHN O. TABER,
First Deputy Chief.

BOSTON FIRE DEPARTMENT, VETERINARY HOSPITAL.

FROM: THE VETERINARY HOSPITAL.
TO: THE FIRE COMMISSIONER.
SUBJECT: ANNUAL REPORT.

SIR,—The following is a statement of the whole number of horses in the service; those that were purchased, sold, died, transferred and destroyed during the year ending January 31, 1921:

Total number on hand February 1, 1920	185
Total number on hand February 1, 1921	147
Horses purchased	3
Horses sold	25
Horses transferred	6
Horses died	3
Horses destroyed	7

Respectfully submitted,

DANIEL P. KEOUGH, M. D. V.

REPORT OF MEDICAL EXAMINER.

FROM: THE MEDICAL EXAMINER.
TO: THE FIRE COMMISSIONER.
SUBJECT: ANNUAL REPORT.

SIR,—I respectfully submit the following report for the year ending January 31, 1921:

Number of cases of illness	517
Number of cases of injury	1,098
Number injured but remained on duty	840

EXAMINATIONS.

Examination at Engine Houses of pulmotors and medicine chests and including visits at homes of firemen and to hospitals and examinations of citizens or others injured by fire apparatus or other property controlled by the Fire Department	195

There is a noticeable improvement in the general health of the rank and file of the department due in a good measure to the mild weather this winter. There has been 136 cases of illness less than last year but an increase of 139 cases of injuries.

One hundred new pattern tourniquets have been placed for service in first aid outfits and also bottles of ammonia cubes to combat injuries sustained through inhalation of acids. Favorable reports have been received from the use of pulmotors, especially in cases of gas poisoning. Commanding officers have promptly rendered first aid many times to citizens as well as to firemen and should be thereby commended. All round efficiency is the watchword and untiring and intelligent efforts have been shown in spirit and action. An agreeable and welcome public service is the result.

DEATHS.

NAME.	Date.	Cause.
Thomas F. Conley	Feb. 10, 1920	Broncho-pneumonia.
John Griffin	Feb. 27, 1920	Lobar pneumonia.
Lieut. Daniel W. Mahoney	Oct. 8, 1920	Cardiac dilatation and profuse gastric hemorrhage.
William J. Cox	Dec. 6, 1920	Broncho-pneumonia.

Respectfully submitted,

WILLIAM J. MCNALLY, M. D.,
Medical Examiner.