

AN OLD-TIME FIRE ALARM.

Bellringing Superseded in Boston by Morse
 Telegraph Code and Then Fires Could be Found.

THE FALSE ALARMS OF THE YEAR 1856.

PRIOR to 1852 Boston sounded its fire alarms by the old-fashioned system of general bell ringing. As the city extended its domain, the streets were increased in number, and buildings were erected in all parts of the municipality, and the ringing of many bells on the occasion of a fire was confusing and misleading. The old volunteer companies frequently exhausted their strength, and enthusiasm as well, in running all over town to locate the fire, and volunteers from the lookers-on had to man the brakes when the scene of the blaze was reached. It was in this emergency that Dr William F. Channing, a practicing physician of Boston, who had made much study of electricity, as the subject was revealed in those days, in June, 1846, called the attention of the Boston City Government to the possibility of utilizing the comparatively recent discovery of the Morse telegraph for the purpose of establishing a system of fire alarm signals for the benefit of both the local Fire Department and the citizens.

While Dr Channing was a man of much earnestness, and positive in his own self-ascertained convictions, it is said that the Channing attempt in the early 40's to revolutionize the method of summoning help at fires would have been a failure but for the intervention of Moses G. Farmer, a New Hampshire boy, who was born with a brain which delighted in the intricacies of natural physics. Farmer and Dr Channing united their individual efforts in one common purpose, and with the aid of Mayor Josiah Quincy, in 1848, an order was received from the city of Boston for the construction of two machines which should be used for striking the city bells from a distant point. One of these original devices was placed in the belfry of the old City Hall and it was connected with the Morse wires, which ran to New York city. Under these circumstances, the New York operators frequently rang the Boston City Hall fire bell, which action, as might naturally be supposed, caused many false alarms of fire in Boston. In 1851 the City Government finally appropriated \$10,000 for the work of installing the Channing-Farmer system as an additional feature to the local Fire Department, thus giving the device of Channing, which was improved by Farmer, a thorough practical trial. The entire construction of the apparatus was entrusted to Mr. Farmer, and the plant, consisting of 40 miles of wire, 45 signal boxes and 16 alarm bells, was formally accepted by the city on April 23, 1852. Dr Channing, in a lecture before the Smithsonian Institute at Washington, in March, 1855, said that "the American fire alarm telegraph, in its development as a practical system of organization, tested now for nearly three years, should thus always be

ascribed to Mr. Farmer equally with myself."

Boxes Were Crude.

The first boxes were very crude affairs. They were operated by a crank which turned fast or slow, backward or forward, according to the degree of excitement under which the operator labored; but this objection was soon remedied and the next machines were made so that the crank could only be turned in the right direction. In the first construction of these signal devices a double set of wires were used. One set was designed for the signal boxes on which to receive the alarm, while the other set was used to strike the bells. These stations had each a set of characters,

numbers; but, like many other improvements, it was accomplished.

Mr Farmer was appointed superintendent of the service, with four assistants, their first duty dating from April 29, or the day after the system was completed from District 1, Station 7, now box 12, located at that time on a church in Cooper st. The original plan for supplying the electric force necessary to run the plant consisted of a Grove battery for the signal circuits, and a large magneto-electric machine turned by water power, and later by hand, for the bell circuits. Mr Farmer continued in charge until Oct 8, 1853, when he was succeeded by Joseph B. Stearns, under whose management several changes and improvements were made, consisting of the introduction of the method of giving the box number instead of district number, as above alluded to. Mr Stearns did away with the double circuit system and placed the alarm bells on a single circuit, so that the alarms were received and given on the same circuit. On Sept 30, 1853, the electric wires were extended to East Boston by means of a cable at the expense of \$5000, and on Dec 26 of the same year the circuit was extended to South Boston, the boxes being placed on the corner of 8th and K sts, 1st and 1sts and Sullivan st.

lowed by a single blow from one or more of the bells. But where the lightning catchers have been in place, they have proved sufficient, except in rare instances, to divert atmospheric or induced currents from the electro-magnets to the ground. No practical or serious inconvenience has resulted from this source. But it has occasionally been a matter of curiosity and interest to hear the lightning thus tolling the alarm bell.

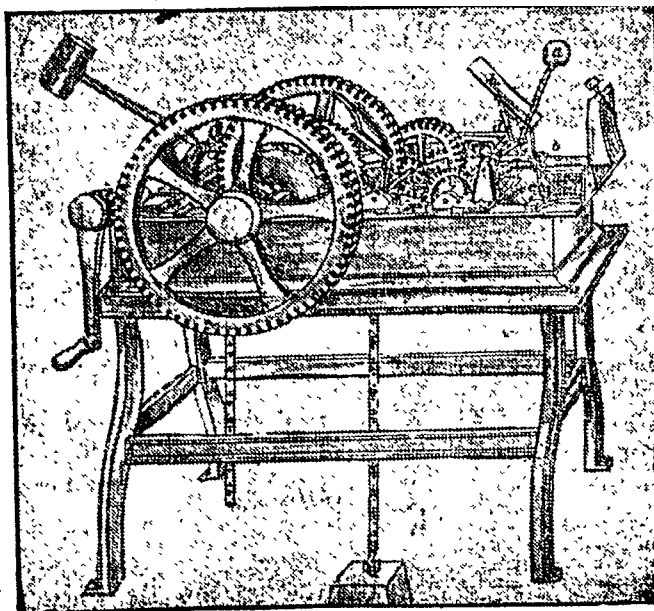
The False Alarms.

Out of 195 alarms of fire in Boston in 1854, 12 are recorded as false; but at least six of these were from supposed fires, leaving only six unaccounted for. The whole number of alarms and the proportion of false alarms have been greatly diminished by the system. Science can make no contribution to civilization without the requisite social conditions. The trust of the fire telegraph system in this case was placed in the hands of the citizens, and it has yielded to them its full fruits without abuse. This may deserve perhaps to be chronicled as an instance of well-rewarded confidence in the sobriety and capacity for self-government of the American people. The signal box, which is the sensitive extremity of the system, may be protected by various methods, according to social requirements. In Boston it has been guarded best by putting it in the most public place and exposing it to the fullest light.

The fire alarm telegraph contains also the elements of a perfect police system. In addition to the crank for alarm, every signal box is provided with a finger key, by means of which communications in the ordinary telegraphic method can be sent to the central station, and an answer can be returned from the center and read by sound from the little bell in the signal box."

Meanwhile Dr Channing was busily engaged in delivering lectures and publishing pamphlets upon his favorite topic, until through the agency of this industrious scientist, the Boston Fire Department and its new-fangled method for signalling fires became well-known in both the United States and in Europe. As the co-worker of Farmer, in this particular field of municipal reform, permanently left Boston in 1858, his name and his labors in this line of electrical research are now well-nigh forgotten. As late as 1894 Dr Channing was an elderly resident of Pasadena, Calif. The doctor was the only son of Dr William Ellery Channing, the noted Unitarian divine, and writer, pastor of Boston's Federal-st Church, and whose books are still important additions to every theological library. To the son, whose name should be enduringly associated with the fire alarm signal system, no better tribute can be paid than in quoting his own closing words in the Smithsonian lecture to which reference has been made.

"The mechanism of the fire telegraph is arranged and disposed for the purpose of preserving wealth, the fruit of human industry and nature's bounty, from destruction, it therefore accomplishes an end of human use. But more than this, it is a higher system of municipal organization than any which has heretofore been proposed or adopted. In it the new world has taken a step in the forms of civilization in advance of the old."



SKETCH OF FARMER-CHANNING SOUNDER ON FIRE ALARM SIGNAL OF 1852, OPERATED BY WATER.

as the city was divided into districts, and only the district number was struck on the bells. The box number, sounded separately on the boxes, as, for instance, three dots, and, after a pause, a dash and three dots, thus coming in from a station, indicated district three, station six, so that, on the first sound of the city bells, the firemen had to run to the box and listen for the box number. When it was proposed to improve on this method by striking the box number direct on the bells, and omit the district, there went up a great cry from those interested, as they thought it was impossible to indicate so many

Another peculiar feature in the old system, as described by Dr Channing in his Smithsonian Institute address, was the heaviest hammer in the old system, which weighed 100 pounds. "It was wielded by the Cochituate water, at an expense of only one gallon for each blow, and tripped by telegraph from a distance of two miles." Then again, quoting Dr Channing, "All of the stations were provided with lightning catchers or ground conductors for atmospheric electricity. When these ground conductors," said Dr Channing "have been temporarily removed from the alarm bell stations, a flash of lightning has been occasionally fol-