

## Associated Factory Mutuals.

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2	RHODE ISLAND	Providence,	" " Pres't.
3	BOSTON MAN'RS	Boston,	EDW. ATKINSON, Pres't.
4	FIREMENS	Providence,	EDWIN BARRONS, Pres't.
5	STATE	Providence,	THOS. J. BORDEN, Pres't.
6	WORCESTER MAN'RS	Worcester,	W. E. BUCK, Vice-Pres't.
7	ARKWRIGHT	Boston,	R. W. TOPPAN, Pres't.
8	ELACKSTONE	Providence,	JOHN EDDY, Pres't.
9	FALL RIVER MAN'RS	Fall River,	THOS. J. BORDEN, Pres't.
10	MECHANICS	Providence,	JOHN R. FREEMAN, Pres't.
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15	COTTON & WOOLEN M/s.	Boston,	B. F. TAFT, Vice-Pres't.
16	AMERICAN	Providence,	THOS. J. BORDEN, Pres't.
17	PHILA DELPHIA M'RS	Philad'la,	E. I. ATLEE, Sec'y.
18	KEYSTONE	Philad'la,	F. A. DOWNES, Sec'y.
19	RUBBER MAN'RS	Boston,	B. F. TAFT, Vice-Pres't.
20	PAPER MILL	Boston,	R. W. TOPPAN, Pres't.

## INSPECTION DEPARTMENT

OF THE ASSOCIATED

Factory Mutual  
Fire Insurance Companies.

INSPECTIONS. PLANS. ADJUSTMENTS. VALUATIONS. FIRE PROTECTION ENGINEERING.

31 MILK STREET, ROOM 63.

Long Distance Telephone,  
"BOSTON, 2928."

Boston, Mass. May 5th. 1898.

Manufacturers Mutual Fire Ins. Co.,  
John R. Freeman, President,  
812 Banigan Building, Providence, R. I.

Dear Sir: -

The following gives the facts of interest with reference to the Technology fire as far as we have been able to obtain them.

Mr. Lacount when at the Tech. to-day on other work, got hold of some later information as to the early stages of the fire which is of interest.

The fire started in the top story of the Architectural Building, probably in the north-west corner. The best evidence obtained is that from the Fire Marshal's office where the report says a roofer's charcoal furnace was left with burning coals in it after dinner the day of the fire and that this in some way got fire through the roof or through the hollow wall of the monitor and this communicated to the combustible stuff below.

The top story of the Architectural Building was used for the "Life Class" room and had not been occupied since noon. It contained a good many chairs, several shelves around the walls, framed drawings, racks for drawing boards and casts for studies also a number of heavy curtains arranged to divide the room into sections. All opinions seem to be that the amount of combustible material in the room was less than in the ordinary drawing room at Tech.

civil -

There were men working in the ~~xxxxxx~~ engineering drawing rooms on the same floor and also men working in the architectural building under the life class room.

Somewhere about 4.15 or 4.20 the men in the Civil Engineering drawing room heard a noise in the life class room and also smelt smoke, - the noise was also heard by the men in the architectural building on the floor below. The curtains at the windows between the Civil Engineering Room and the Life Class Room almost immediately dropped so that the students saw the fire in progress. Very quickly the fire burst through these windows so that some of the men did not have time to pick up their drawing materials before running. The architects below started to investigate and from the best evidence of the men at Tech. 10 Min. were taken up in fighting the fire before the alarm was given. The report of the District Chief states that the boys fought the fire for 20 Min. with pails but I am inclined to think this stretched the matter.



The first alarm came in at 4.29, - the second at 4.43 and the third, at 4.46 P.M. There is good evidence that 10 Min. elapsed between the time when the first piece of fire apparatus arrived and the first water was gotten on to the fire by the City Department, - before this the boys had been fighting the fire with pails and had gotten ~~xxx~~ on two lines of hose in the top story. The pressure from the standpipe was found so weak that the stream from the nozzle only went about 10 Ft. Before the City Department got to work the floor of the architectural building had been considerably wet and the student at the nozzle played in at the door until his hands were considerably burned.

The first act of the Department was apparently to get a line of hose up the stairway in the architectural building. First a break occurred in the hose or at a coupling near the entrance to the building, then when after considerable calling for water the Chief sent a man to the engine, he found them replacing another length at the engine. These accidents account for the 10 Min. delay and it was probably 4.40 or 4.45 before any water was gotten on the fire which at that time had been burning for <sup>nearly</sup> one-half hour since its discovery and probably longer as the noise which the men heard was the falling of a heavy plaster cast, the supports of which must have burned away.

The firemen approached the fire as already stated and also by a line of hose up the stairs of the Engineering Building, and it is thought that these two lines were put to work at about the same time.

Prof. Miller told me that he went to the top of the building with the District Chief and looked into the Engineering drawing room and found it filled with a dense black smoke. The Chief would not allow anyone to enter but as soon as the door was pushed open a little a flash went over the room and after that the Chief ~~went in~~ and Prof. Miller went in and he stated that the timbers and floor plank over their heads were burning.

*It was probably this rather than fire that door*

<sup>says</sup> One of the instructors in the Engineering Laboratories tells that he started up the stairs about 4.30 then when looking out through the window of the Engineering Building, saw the fire through the unbroken glass of the Life Class Room which fire apparently filled that room.

Somewhere about 5.15 the fire had been pretty well drowned out although it was apparently six o'clock before the Fire Department went home.

The roof of the Architectural Building is shown by the sketch inclosed. The skylights were entirely destroyed, hardly a vestige remaining. The hard pine timbers in both buildings were burned in fully 1" and the fire extended back into the Engineering Building for about 60 Ft. and entirely destroyed half of the skylight in the Engineering Building. Back of this point the fire scorched things as far as the partition to the stair tower. The lath and plastering <sup>partitions</sup> in the Engineering Building was honeycombed. The roof plank in both buildings was burned in fully 1". In the Architectural Building beside this burning, the half-inch sheathing on the ceiling was entirely consumed so that the only evidence of it having existed was a few finishing nails which remained in the plank. In a number of places the plank was burned in so that the

*beginning at the*



splines fell out, a section looking like sketch opposite.

The contents of the Life Class Room were reduced to charcoal and ashes and shovelled out of the window in cleaning up.

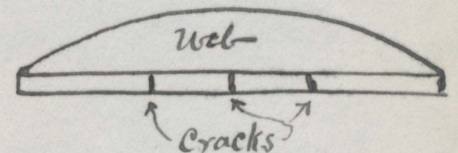
The floor of the Life Class Room which was of about 1 In. <sup>hard</sup> pine, was burned through to the plank in a number of places, but no fire whatever got into the floor below in either building. It is easy to see what would have been the result had these floors been of hollow construction.



The stairway in the Architectural Building was inclosed by Terra Cotta walls, 4 In. thick, plastered on both sides to a thickness of about  $3/4$  In. This appeared uninjured except for the falling off of the plaster in a number of places. The brick walls of the top story of the Architectural Building were so badly damaged that Mr. Woodbury of Woodbury & Leighton, stated that they must come down. In places I found the bricks scaling off to a depth of nearly an inch and at all corners were rounded with a long curve; some of the piers between windows were cracked and in places a greenish glaze was apparently formed over the surface.

The square top windows in the Life Class Room were made with cast-iron girders similar to sketch, and these girders in several cases were cracked as shown.

The stirrup irons in the roof of the Life Class Room appear to stand the fire well although the beams were burned away from them and were only held in place by tying bolts. The two cast-iron columns in the ~~roof~~ Life Class Room were apparently uninjured.



One column in the Engineering Building nearest Trinity Place was warped so as to be instantly perceptible. The iron-doors between the buildings were ruined.

The wind at the time was from the north-east and blowing a gale so that men on the roof said that they had hard work to stand up.

In explanation of the somewhat unusual amount of burning in the mill construction, it would appear first, that the Life Class Room contained a considerable amount of material which was as dry as tinder and in kindling-wood shape. ~~XXXXXXXXXXXX~~ Prof. Chandler says that right under the point where the fire was supposed to have gotten through the roof, was a pile of easels which would certainly have made a quick, hot flame.

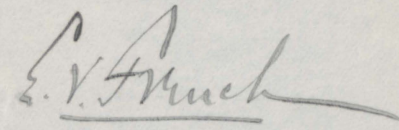
Second the very large glass areas in the roof without doubt broke out early in the fire and gave the gale an unusually good chance to fan the flames. The conditions were therefore, unusually favorable for a good deal of burning to occur in a very short time and the circumstances were such that a considerable time did elapse before any useful water was gotten on to the fire. This would seem to fairly explain what occurred.



The hollow joisted construction of the large sky-lights in the ~~roof~~ Life Class Room undoubtedly added more fuel to the fire and it appears very possible that if these skylights had been of mill construction and wire-glass had been used, the fire would have been materially retarded, for the hot gases would have accumulated near the roof and as the top of the windows were on one side 2 Ft. and on the other 4 Ft. below the ceiling the chance for the wind to work would have been lessened.

If there had been no windows and doors between the two buildings, and none were needed, at this story, the loss undoubtedly would have been lessened and it is also believed that automatic sprinklers in spite of the poor roof construction of the Life Class Room, would have held the fire and it would have been easily handled.

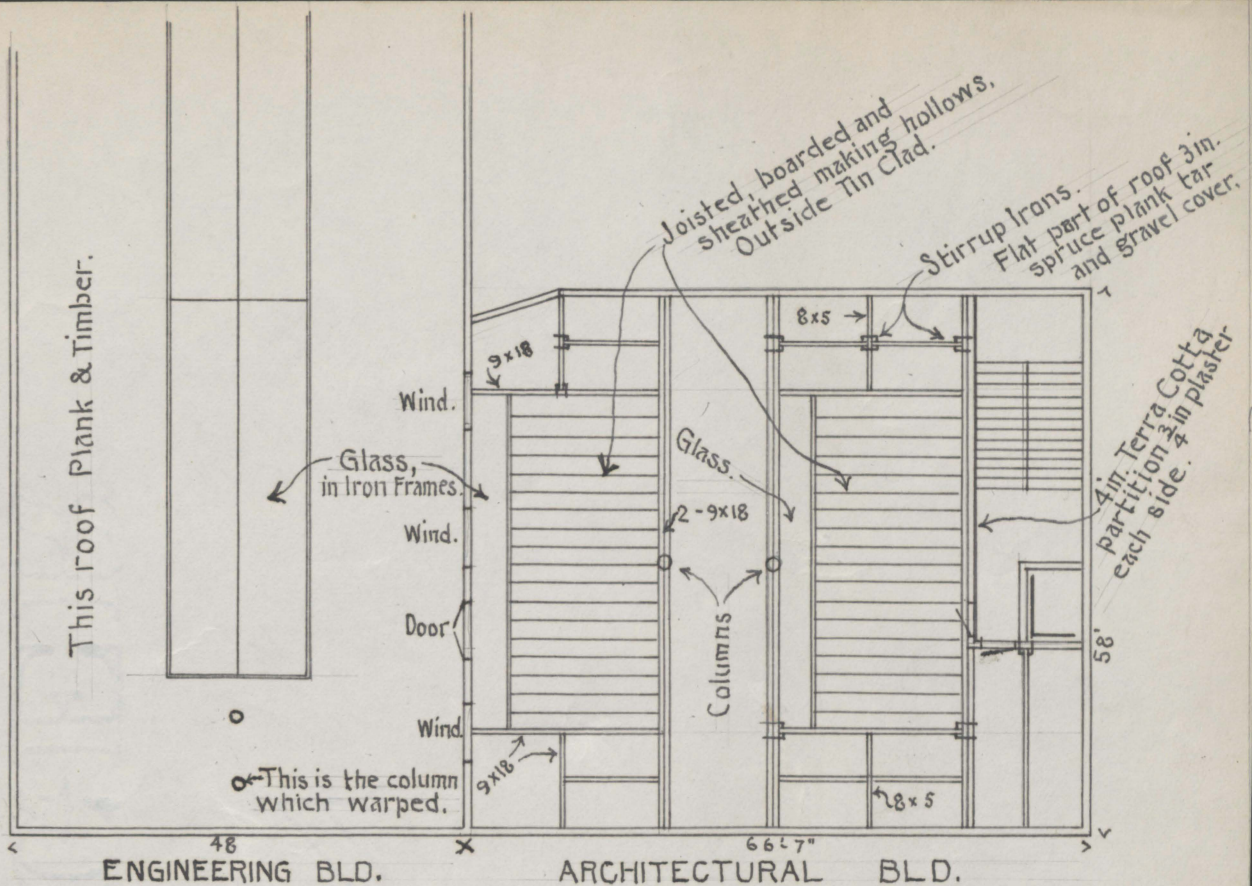
Yours very truly,



Inspector.

Inclosure: Sketches)



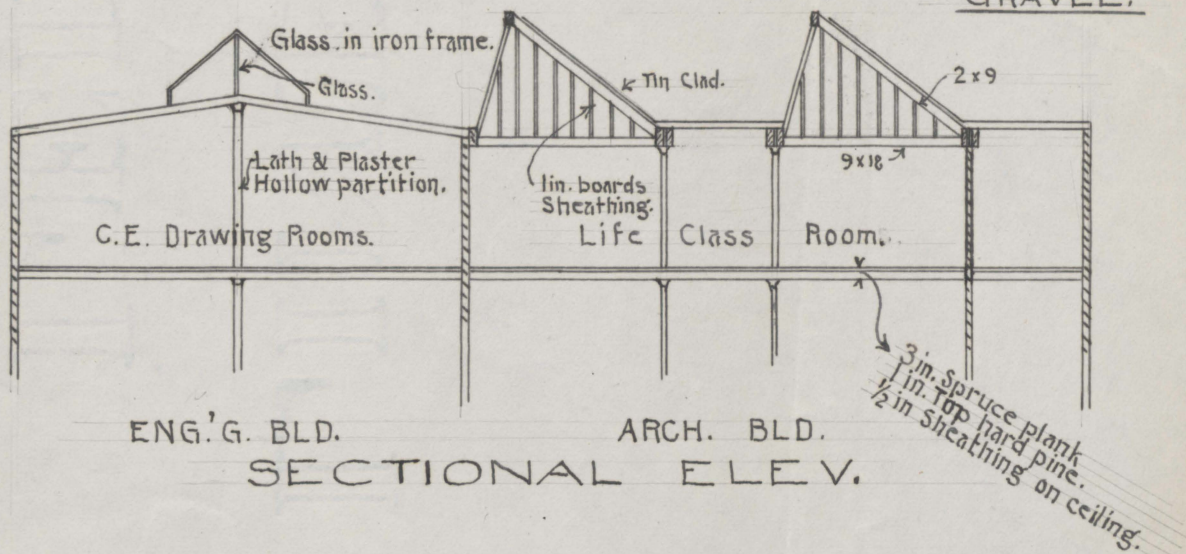


ENGINEERING BLD.

ARCHITECTURAL BLD.

ROOF PLAN.

FLAT ROOFS  
GRAVEL.



ENG'G. BLD.

ARCH. BLD.

SECTIONAL ELEV.

ROOF OF  
Mass. Institute of Technology  
Buildings  
Damaged by Fire April 27, 1898.