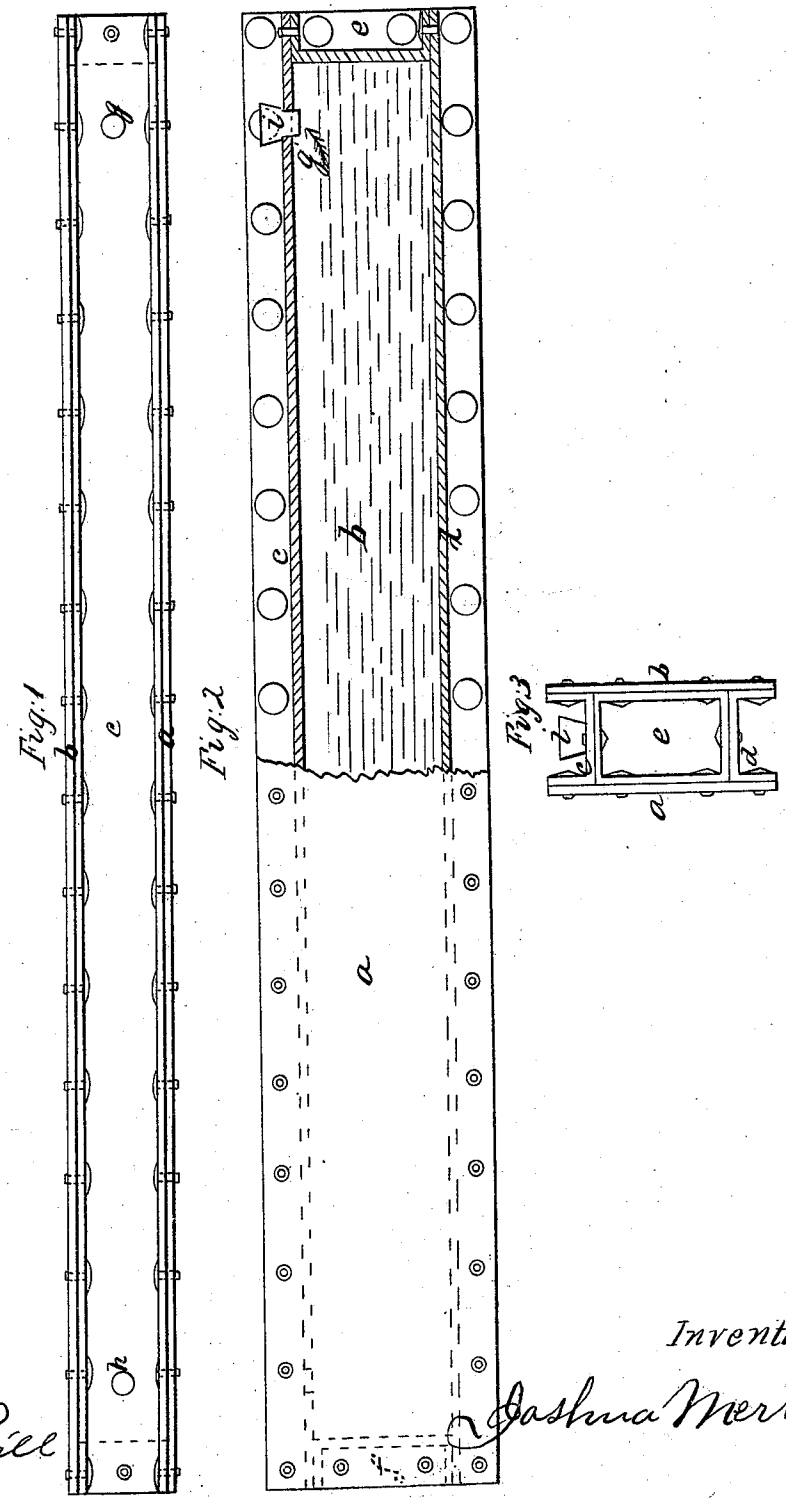
J. Merritt.

Column.

No. 64,783. Patented May 14, 1867.



Witnesses

Sam. Duncan

Wm. B. Merrill

Inventor

Joshua Merrill

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United States Patent Office.

JOSHUA MERRILL, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 64,783, *dated May* 14, 1867.

IMPROVEMENT IN METAL BEAMS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSHUA MERRILL, of the city of Boston, county of Suffolk, State of Massachusetts, have invented certain new and useful improvements in Metal Beams suitable for building purposes; and I do hereby declare that the following is a full and correct description thereof, reference being had to the annexed drawings, and to the letters of reference thereon.

The nature of my invention consists, first, in a metallic beam suitable for building purposes, made hollow and water-tight, so that it can contain a body of water within it which may be introduced by suitable apertures in the top or upper side of the beam; second, in combining with said beam a body of water contained within the beam for the purpose of preventing the beam from being heated above the temperature of boiling water when exposed to the action of fire so long as the water lasts, and also for the purpose of aiding in extinguishing the fire by the steam escaping from the beam.

But to more particularly describe my invention I will refer to the drawings which illustrate the construction I prefer to use.

Figure No. 1 of the drawings is a plan view.

Figure No. 2, a side elevation, with part broken to show the longitudinal section; and

Figure No. 3 an end view of my improved beam.

The beam consists of two side plates *a* and *b* riveted tightly to the flanged top and bottom plates *c* and *d*, the ends of the box so formed being closed by the flanged end plates *e* and *f*, which are riveted tightly to the side plates and to the top and bottom plates, as shown in the drawings. In the top plate are two apertures, *g* and *h*, which should be stopped with a cork, *i*, or other similar plug that will prevent the evaporation of water and yet yield to the pressure of vapor or steam from the water enclosed in the beam when heated. The end pieces may be made of cast iron. I prefer to make the sides and the top and bottom flanged pieces of wrought iron. The whole should be riveted together so as to be water-tight. The beam may be protected from rust by thoroughly painting the parts before putting them together. When the beams are placed in a building water is poured into them through the apertures provided for that purpose, and the apertures are corked or plugged up to prevent evaporation. Should a fire take place in the building the beams cannot be heated hotter than boiling water so long as the water lasts, and therefore will maintain their rigidity and keep in position better than ordinary beams of metal.

I claim as of my improvement in metal beams suitable for building purposes—

The hollow metal beam made water-tight, and suitable to contain a body of water within it, and provided with suitable apertures for the introduction of water, substantially as hereinbefore described, and substantially for the purposes hereinbefore set forth.

Also in combination with said hollow metal beam, constructed with suitable apertures for the introduction of water and the escape of steam, a body of water contained within said beam, substantially as described for the purposes set forth.

JOSHUA MERRILL.

Witnesses:

LEVERETT BRADLEY, Jr.,

JOSIAH DAVIDSON.