W. T. VOSE.

FIRE-SHIELD.

No. 186,444. Patented Jan. 23, 1877.

Fig. 1.

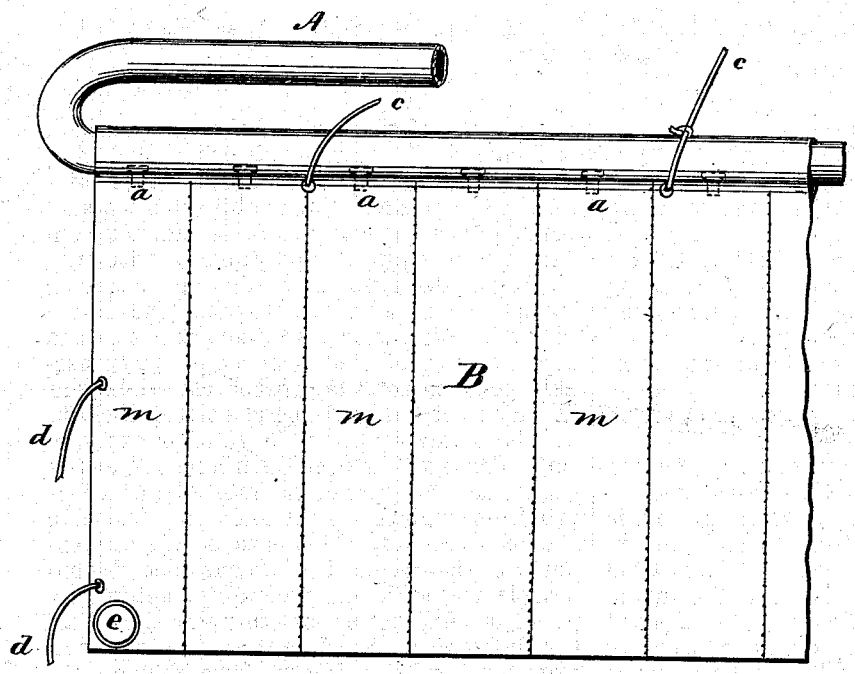


Fig. 3.

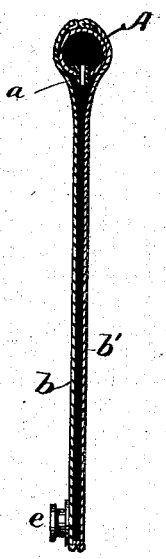
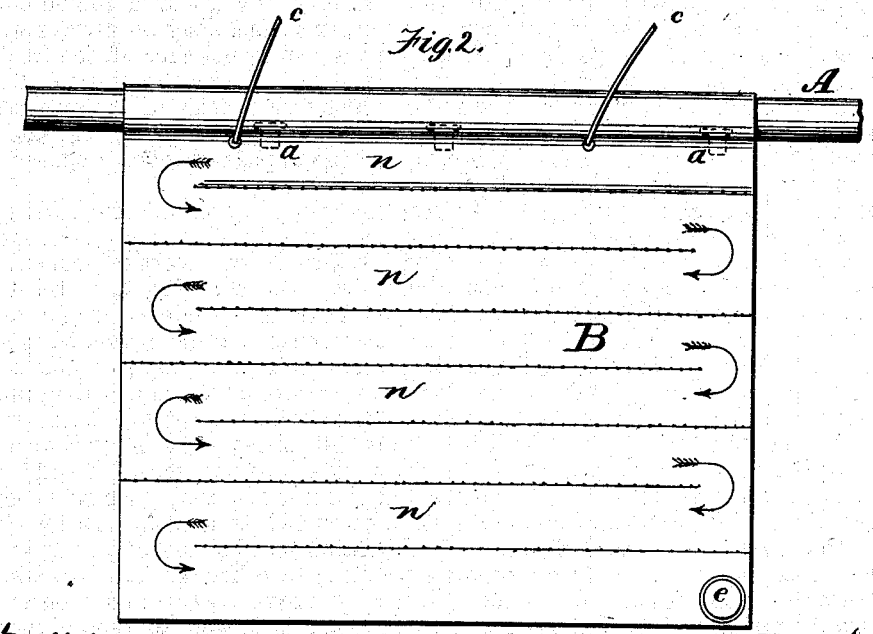


Fig. 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM T. VOSE, OF NEWTONVILLE, MASSACHUSETTS.

IMPROVEMENT IN FIRE-SHIELDS.

Specification forming part of Letters Patent No. **186,444**, dated January 23, 1877; application filed January 6, 1877.

To all whom it may concern:

Be it known that I, WILLIAM T. VOSE, of Newtonville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Fire-Shield; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are front elevations, representing different constructions of my invention. Fig. 3 is a vertical section of the form shown in Fig. 1.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to provide for the public an efficient, ready, and convenient protection from the heat radiated from burning buildings; to which end the invention consists, first, in a fire-screen composed of two flexible sheets or blankets properly connected together, so as to inclose a space or spaces between them, and provided with, or to be used in connection with, means for supporting and adjusting them, and for saturating one or more of them, and filling or partially filling with water the inclosed space or spaces between them, for the purpose of intercepting radiant heat in conflagrations; secondly, in constructing one of the blankets or sheets of some flexible water-proof material, (which at the same time may or may not also be fire-proof,) for the purpose of more effectually retaining the water within the screen, and also of preventing the hot water dropping from the screen from injuring the buildings to be protected, and from annoying the firemen or their assistants; thirdly, in dividing the space within the screen into two or more compartments, each provided with its water supply and outlet; and, fourthly, in arranging and constructing said compartments so that the water-currents within the screen will be caused to travel in zigzag direction from the upper to the lower edge of the screen.

In the drawings, A represents the water-supply pipe, which may be constructed of any suitable material, flexible, inflexible, or jointed; and *a a a* represent taps or outlets, from which the water is delivered in thin sheets, or in jets or spray, into the interior of the screen, or upon the exterior of that side of the screen which is composed of porous or absorbent material, through which it can percolate into the interior. B represents the double blanket, suspended from, or in any suitable manner connected to, the pipe A, and provided with supporting cords or wires *c c*, adjusting cords or wires *d d*, and a water-outlet, *e*. The side *b* of the blanket, which is to come next to the object to be protected from the heat, I preferably construct of water-proof material, such as india-rubber or gutta-percha cloth, oil-cloth, or other equivalent flexible water-proof material; and it will answer the purpose if, at the same time, this part of the fabric be also fire-proof, although this is not essential. The side *b'* of the blanket, which is to be directly exposed to the radiant heat, I construct of some flexible material, but, preferably, not water-proof, it being better that this side should allow the water to percolate through it outward from the inside, or inward from the outside, so that the outer surface may be always wet, and yet the water may not shed off too freely. The porosity of this material will also allow the steam which forms inside of the screen to escape freely, thereby preventing any undue distention of the apparatus when exposed to a great heat.

To keep the flow of water uniform throughout the screen it may be, by stitching or otherwise, divided into several vertical compartments, as shown at *m m m*, Fig. 1, each being supplied with water independently of the rest; or the compartments may be arranged horizontally one under another, as shown at *n n*, Fig. 2, the water passing back and forth around the ends of the partitions, between them, until it reaches the outlet *e* and is discharged.

The front side *b'* of the screen should be constructed of some material, such as woolen cloth, felt, &c., which is as little liable to injury from heat as possible, although any kind of textile, felted, or other fabric will answer the purpose approximately; but whatever material be used it is well to render it as nearly fire-proof as possible without unduly adding to its weight, rendering it liable to crack, or detracting from its flexibility.

To prevent injury to the pipe A, or to the upper edge of the blanket, from heat, the up-

per side of the pipe may be punctured, so as to allow a small quantity of water to escape from it, sufficient to keep it and the upper edge of the blanket wet. The spaces between the two blankets may be filled with sponge or other porous material, if preferred, which will allow the water to filter slowly down through; or the front blanket *b'* may, if preferred, be made of very light, thick, porous material, such as thick woolen, sponge, or loosely-woven linen, to arrest the flowing water, and hold it from running down too freely over the surface of the rear blanket *b*, which is, in that case, water-proof, and offers but little resistance to the movement of the water.

The screen may be used by filling it with water and raising it to its position between the fire and the property to be protected, or the screen may be first placed in position, and then the water may be continuously forced into it under any degree of pressure that may be judged best, according to the degree of heat to be intercepted. The screen may also be used effectively to smother a fire by throwing it over the fire, with the porous saturated side next to the fire.

I claim as new—

1. The fire-screen A B, having the water-pipe combined with the flexible double blanket, and with suitable devices for supporting and adjusting it, substantially as described.

2. A flexible-fire screen, consisting of two blankets, the rear one practically water-proof and the front one porous, combined with a water-supply, A, and with suitable devices for supporting and adjusting, substantially as described.

3. The flexible fire-screen A B, the body of which is composed of two blankets attached together at or near their edges, and having the interior chamber between them divided into several compartments, communicating or not communicating, substantially as described.

WILLIAM T. VOSE.

Witnesses:

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