

(No Model.)

W. R. KINNEAR.
FIREPROOF BLIND.

No. 576,586.

Patented Feb. 9, 1897.

Fig. 1.

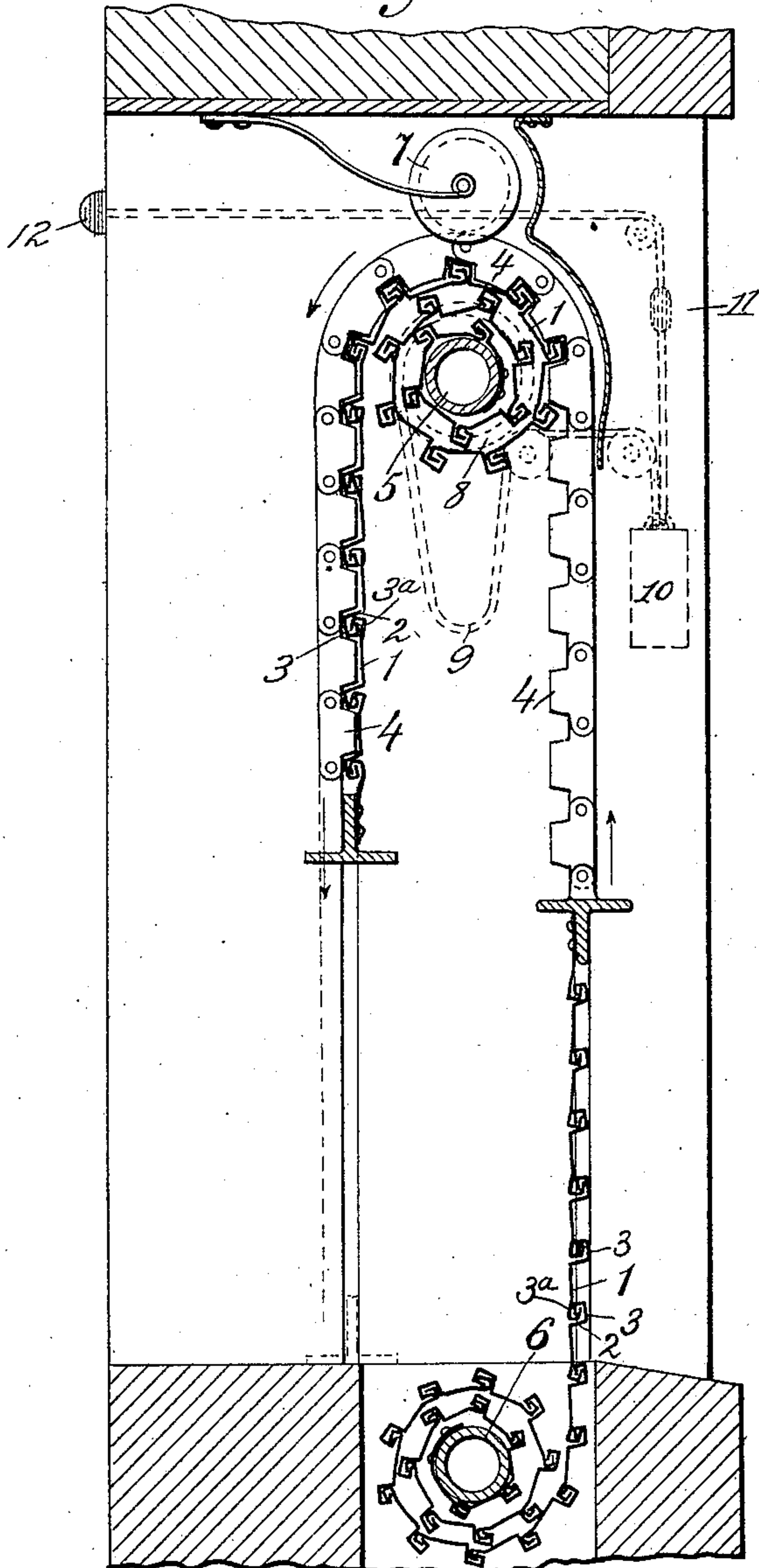


Fig. 2.

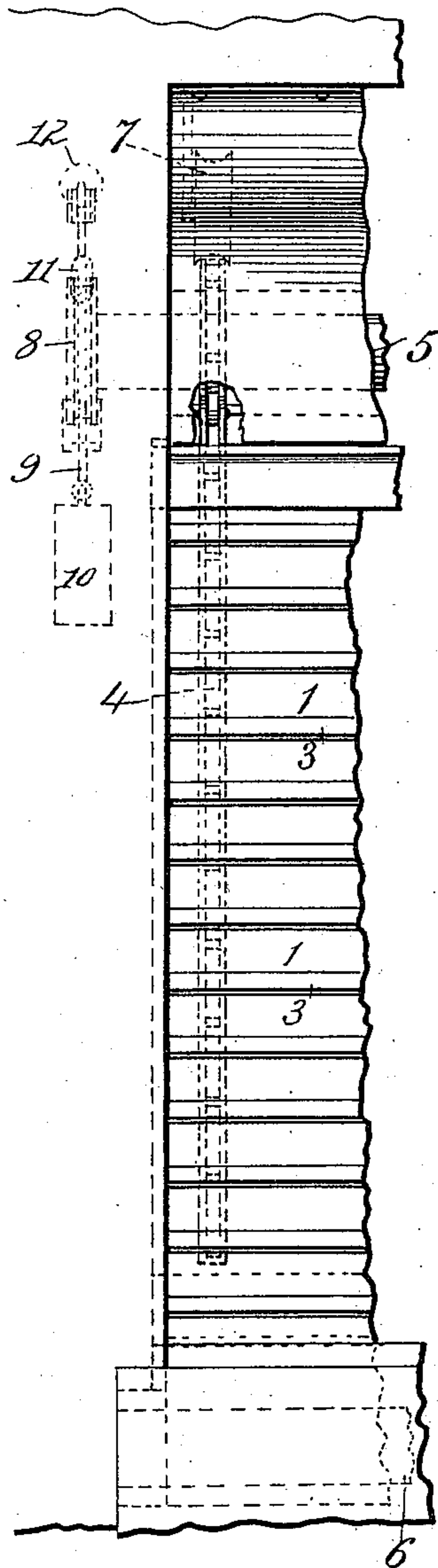
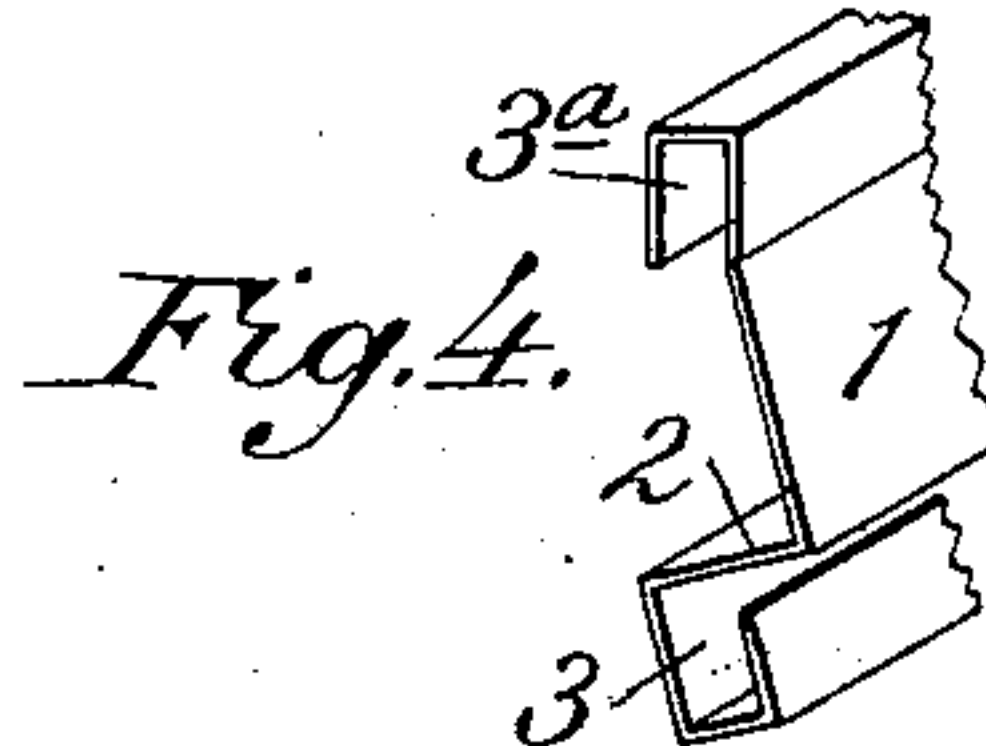
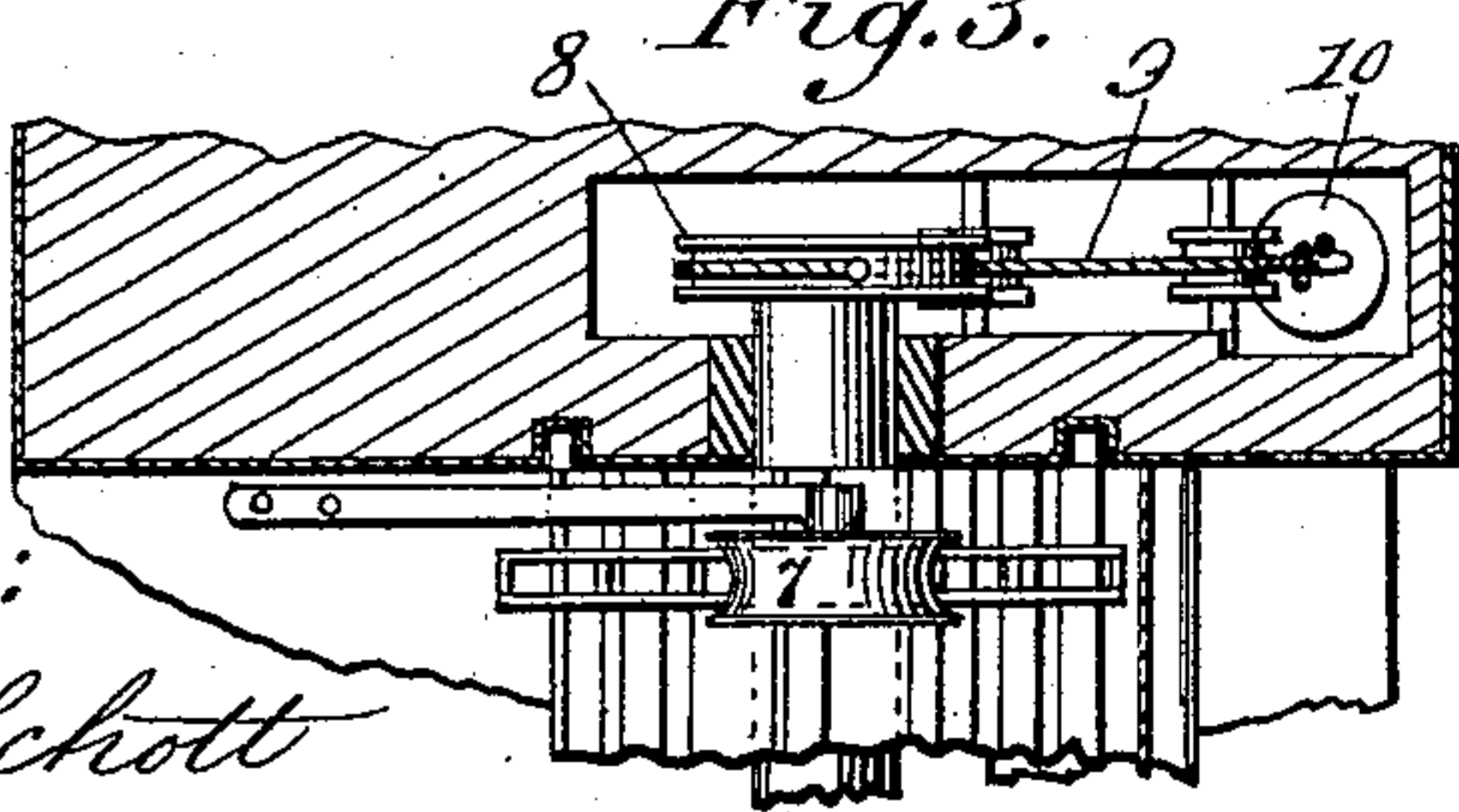


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF COLUMBUS, OHIO.

FIREPROOF BLIND.

SPECIFICATION forming part of Letters Patent No. 576,586, dated February 9, 1897.

Application filed June 27, 1896. Serial No. 597,118. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Fireproof Blinds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention in the present instance is threefold—first, to provide an improved slat for the construction of rolling fireproof and waterproof blinds, curtains, &c.; second, to provide improved means for raising and lowering such curtains, blinds, &c., and, third, to provide devices for the automatic closing of rolling curtains in the event of fire within or without the building in which such curtains are placed.

In the annexed drawings, Figure 1 is a vertical sectional view of a window provided with my improvements. Fig. 2 is a front view of one side of such a window. Fig. 3 is a detail view of the device for automatically closing the curtain, and Fig. 4 is an enlarged detail perspective view of the end of a slat formed according to my invention.

1 designates the body of the metallic slat, which is bent to form at one edge a deep shoulder 2 and at the edge of the shoulder with a groove 3 of less width than the depth of the shoulder, the opening of which faces the outer side of said shoulder. The other edge of the slat is bent to form a groove 3^a similar in form to the groove 3 and lying on opposite sides of the general plane of the slat, so that a slat having such a groove 3^a may be slid longitudinally upon one having a shoulder 2 and groove 3 and be movable with a hinge-like movement thereon, but inseparable laterally therefrom, and having a water-shedding joint between them. A series of these slats put together in this way form a flexible fabric, which may be fastened to a roller and rolled up thereon, as indicated in Fig. 1. While the shoulders 2 form the means for preventing the lateral separation of the slats, they also afford pockets for the reception of the sprockets 4 of a chain or belt for moving the curtain.

In the practical application of my present invention I propose to use two curtains, one winding on a roller 5 in the upper part and the other on a roller 6 in the lower part of the window or other opening. The sprocket-chain will be fastened to a T-iron on the end of the lower curtain, which moves in a groove in the side of the frame of the opening, and the chain will pass up over the curtain rolled upon the upper roller, its end hanging free. The lower end of the upper curtain will also be furnished with a T-iron and move in a separate groove of the window-frame, so that when the lower curtain is up and the upper one down there will be an air-space between the two which will augment its fire-resisting power. A spring-held pulley 7 will suffice to hold the sprocket-chain upon the curtain. I propose also to make the upper curtain slightly heavier than the lower one, so that the closing of the curtains will be automatic.

To render the closing of the curtains certainly automatic upon the occurrence of imminent fire either within or without the building, I add fixedly to the end of the shaft of the upper roller a small drum 8, upon which winds a small rope or cord 9, to the end of which is attached a weight 10, which is held suspended in the upper part of the window or opening by two readily-fusible connections 11 and 12, one of which is on the outside and the other on the inside of the building. When the curtains are unrolled, the cord unwinds and hangs in a loop in the side of the window-frame, and when the curtains are rolled up the cord is wound up. When heat severs the fusible connection of the suspending-weight, the latter descends, thus turning the drum and unrolling the curtain against the ingress or egress of the flames.

What I claim, and desire to secure by Letters Patent, is—

1. A slat for metallic curtains and the like having a deep shoulder forming a socket or recess in the slat adapted to receive the sprockets of an operating-chain, a narrow groove on one edge, and a groove on the other edge, the grooves lying on opposite sides of the general plane of the slat, substantially as described.

2. A curtain composed of slats constructed

to be engaged by a sprocket chain or belt combined with a sprocket chain or belt adapted to engage and move said curtain and run upon the outer surface thereof as it is wound upon
5 a roller.

3. The combination with a rolling fireproof curtain and roller therefor, of a pulley or drum on the shaft of said roller, a cord on said pulley or drum adapted to be wound with
10 the opening of the shutter and unwound with the closing of the same, a weight attached to said cord, whereby the curtain may be raised or lowered independently of the weight, and
15 a device sustaining said weight in a position to unwind the cord adapted to be operated ordinarily only upon an abnormal rise of temperature to release said weight to cause the

closing of the shutter, substantially as described.

4. A fireproof curtain comprising a curtain adapted to be raised from the lower part of a window, door, or other opening, a curtain and roller therefor in the upper part of said opening, and a chain or strap attached to the lower curtain adapted to engage the outer
25 surface of the upper curtain to operate the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM R. KINNEAR.

Witnesses:

R. H. KINNEAR,
E. F. SCOTT.