(No Model.)

# W. R. KINNEAR.

## FIREPROOF SHUTTER.

No. 531,728. Patented Jan. 1, 1895.

Fig. 1.

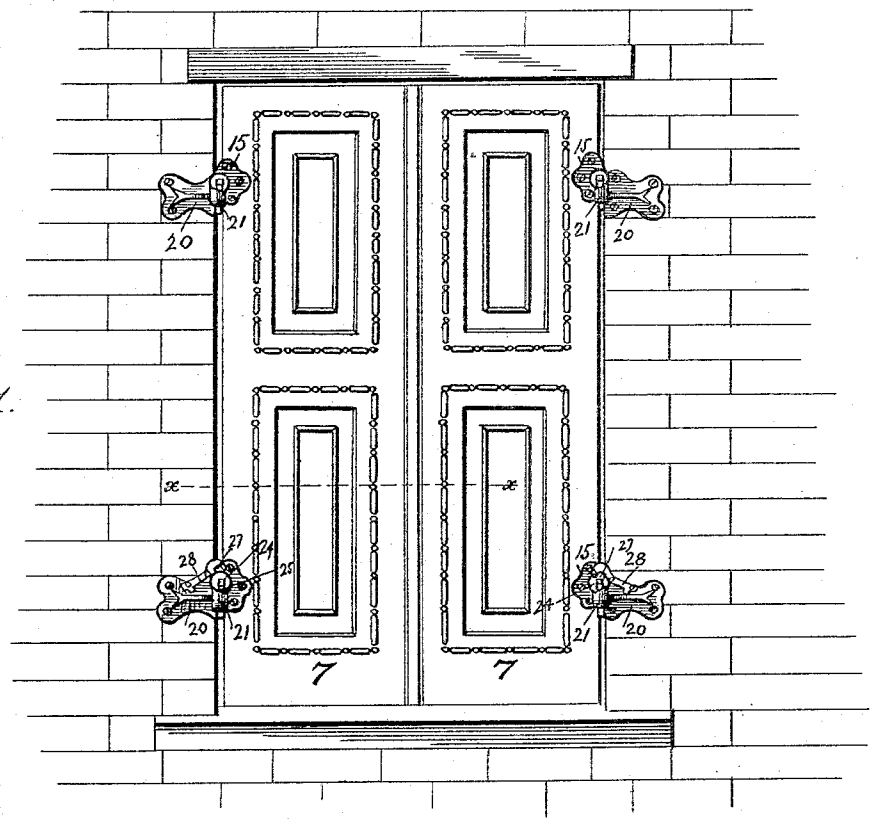



Fig. 2.

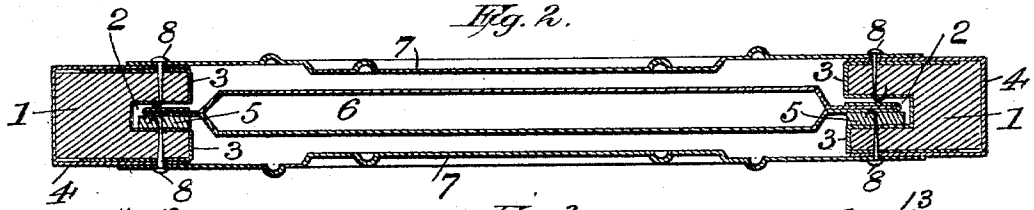
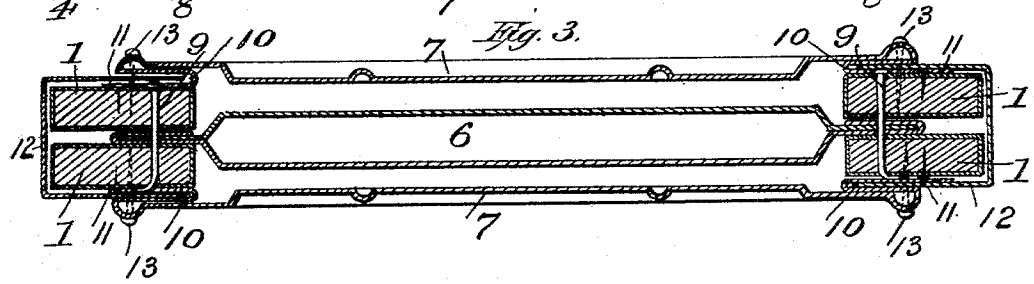



Fig. 3.




WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF COLUMBUS, OHIO.

## FIREPROOF SHUTTER.

SPECIFICATION forming part of Letters Patent No. 531,728, dated January 1, 1895.

Application filed May 10, 1894. Serial No. 510,770. (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 Shutters; 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.

In the construction of these shutters it is important that they be light, strong and capable of some ornamentation, and as poor conductors of heat as the former qualities will permit. I have found by much experience that an open wooden frame completely covered with sheet metal and provided with an interior dead-air chamber is best adapted to secure these characteristics.

In the accompanying drawings, I have illustrated the best ways I have so far devised for carrying into practice my invention.

In the drawings Figure 1 illustrates a front elevation of a window provided with shutters made according to my invention. Fig. 2 is a horizontal transverse sectional view of the shutter on line *x*—*x* of Fig. 1. Fig. 3 is a similar sectional view of a modified form.

Like characters of reference in the different views designate corresponding parts, and 1 designates the wooden frame of the shutter, which is usually rectangular, but may be modified to suit a different form of window. This frame as shown in Fig. 2 has a groove 2 around its interior side. Covering the inner side of the frame are strips 3 of sheet metal which are bent so as to extend into and cover the sides of the groove and wholly or partially, as desired, the outer faces of the frame. Over the outer edges and faces of the frame I also place a sheet metal covering 4, extending to or nearly to the inner edges of said frame.

In the groove 2 are inserted strips of wood 5 and the edges of a dead-air chamber 6. The dead-air chamber, or the space between the sides of the frame, is further covered by suitably ornamented panels 7 which have their margins secured to the frame by nails 8 which are of such length that they may be driven through the metal coverings 3 and 4 and the wood, to the triple thickness of the edges of the dead-air chamber by which their ends are bent around and clinched in place to prevent their displacement through warping of the shutter or other cause.

In Fig. 3 I have shown the wooden frame as composed of two similar parts matched together. When the frame is thus constructed each part is incased with sheet metal and the edges of the dead-air chamber placed between lapped parts of the frame, and the whole secured together by nails 9. In this figure I have also shown a modified form of panel, it being provided with a marginal groove 10. When so constructed, the nailing edge 11 is secured to the frame and a further sheathing 12 is placed around the outer edges and sides of the frame, the edges of this outer sheathing projecting into the marginal grooves and the same secured by nails 13 driven through a bead of the panel as shown.

In my shutter it will be seen that no wood is exposed to excessive heat, it being completely incased in metal. The use of wood for a frame upon which to secure the sheet metal has been deemed important, because the considerable thickness of shutter required renders the use of metal only, objectionable on account of its great weight and cost. My construction also permits desirable ornamentation at small cost.

If desired, perforations may be made in the panels along the upper and lower edges of the shutter to permit the flow of air therethrough, but the dead-air or confined-air chamber affords an efficient barrier to the passage of inflaming heat to the window frame. So long as the wood is tightly incased in the sheet metal there is no danger of it burning, air being required for this.

My shutter is superior to those which employ a solid core of wood, because in mine, there is less surface of wood to be charred by the heat and further, because of the smallness of the quantity of wood used the heat is more rapidly conducted away.

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

1. A fireproof shutter having an open frame

1 covered with metal, a confined-air chamber secured in said frame, and panels secured to said frame over the air chamber.

2. In a fire-proof shutter, an open wooden frame having a recess or groove 2 clad with metal, a confined air chamber 6 having flanges entering said recess or groove, and panels secured to said frame with nails clinched by said flanges, substantially as shown.

3. In a fire-proof shutter, an open wooden frame having a groove or recess 2 clad with metal, a confined air chamber 6 having flanges entering said groove or recess, and panels secured to said frame covering said air chamber, substantially as described.

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

WILLIAM R. KINNEAR.

Witnesses:
CHARLES A. FIELD,
GEORGE M. FINCKEL.