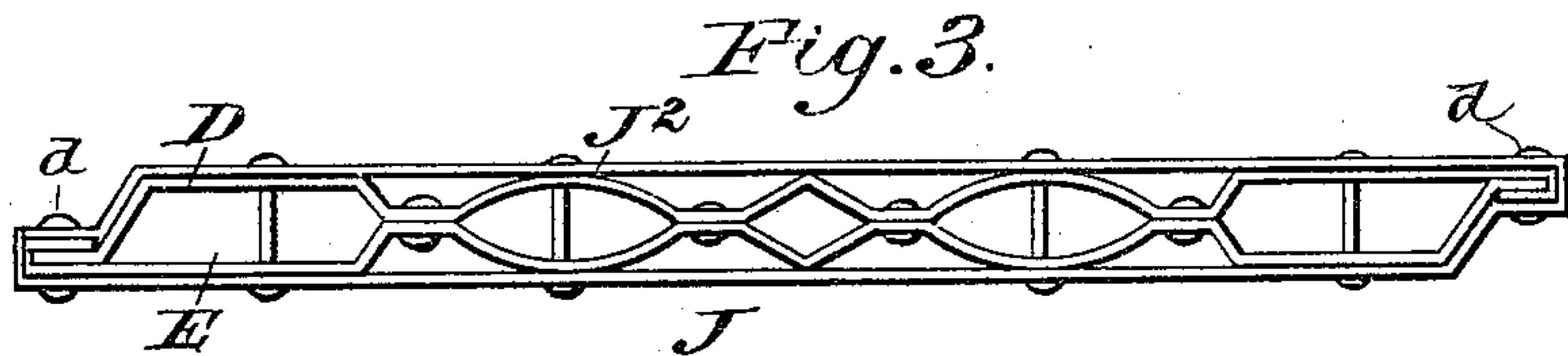
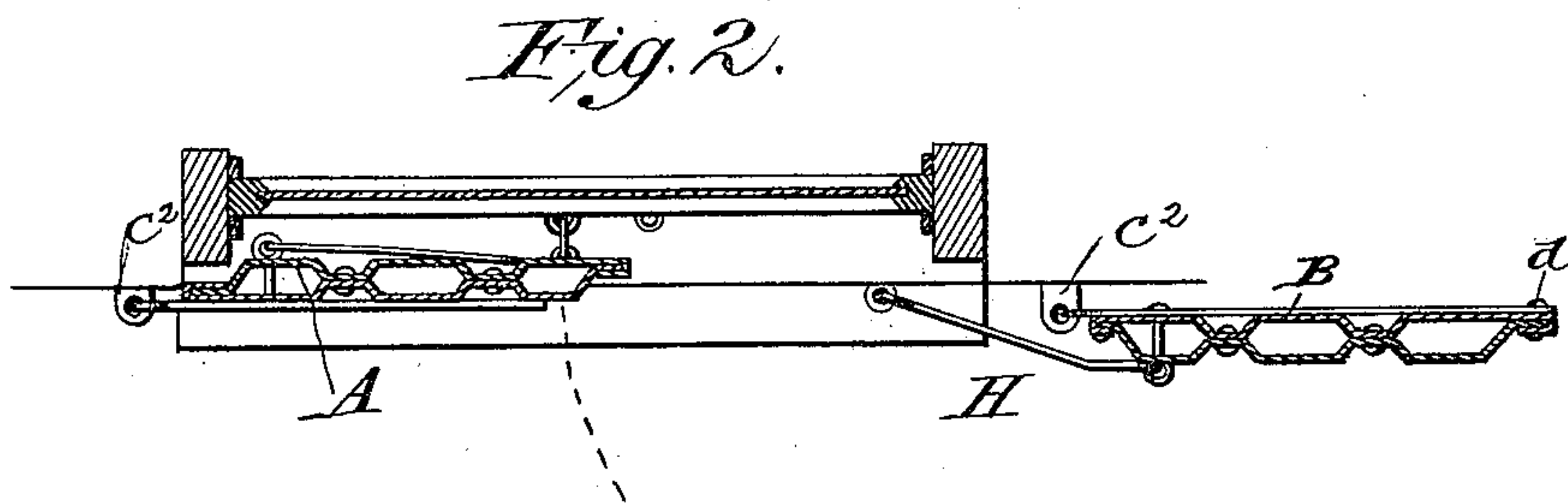
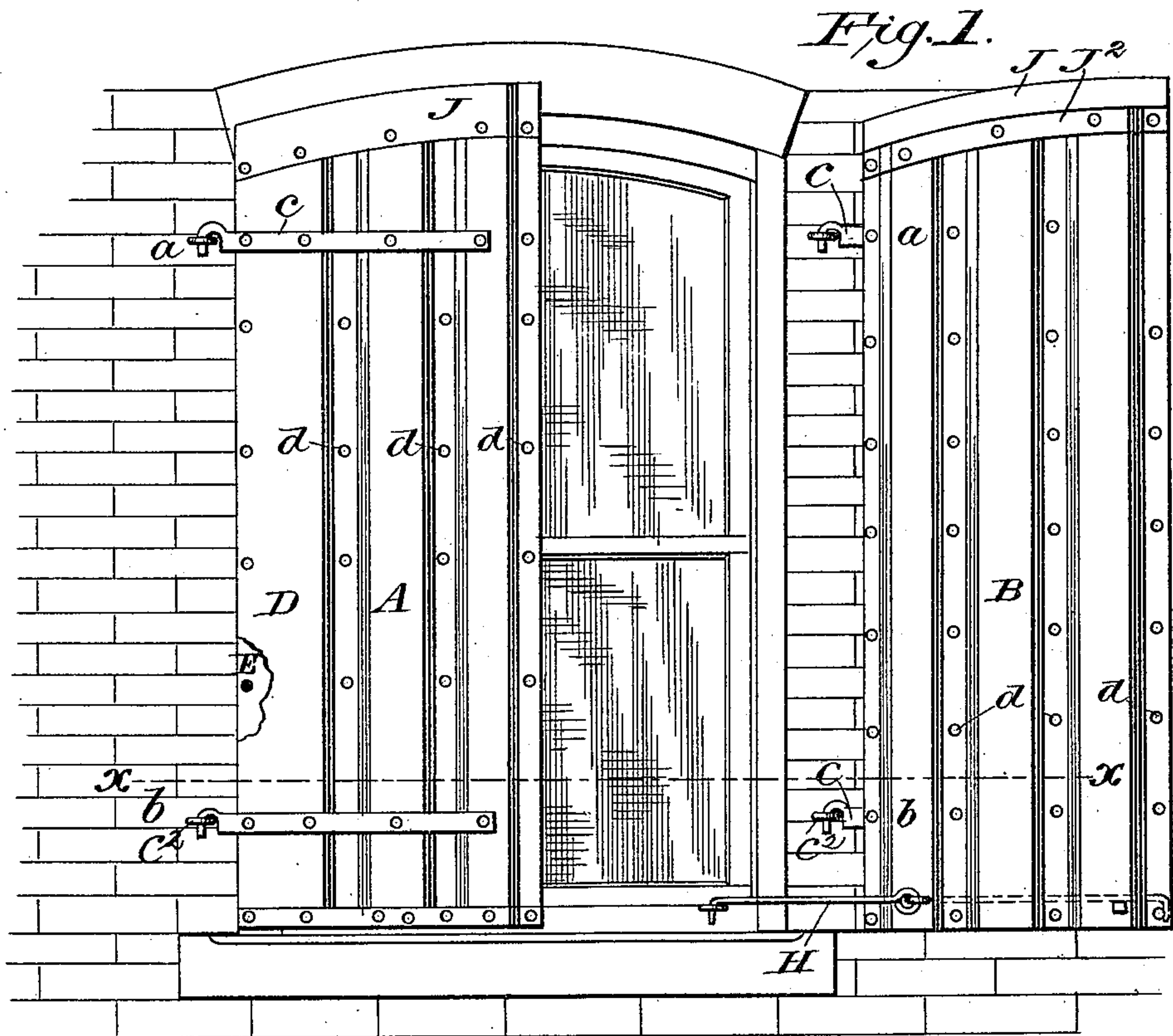


(No Model.)

C. ST. JOHN.
FIRE PROOF SHUTTER OR DOOR.

No. 438,652.

Patented Oct. 21, 1890.



Witnesses:

M. P. Smith,
R. H. Orrig.

Inventor:

Carlisle St. John,
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UNITED STATES PATENT OFFICE.

CARLISLE ST. JOHN, OF DES MOINES, IOWA.

FIRE-PROOF SHUTTER OR DOOR.

SPECIFICATION forming part of Letters Patent No. 438,652, dated October 21, 1890.

Application filed March 14, 1890. Serial No. 343,945. (No model.)

To all whom it may concern:

Be it known that I, CARLISLE ST. JOHN, a citizen of the United States, residing at Des Moines, in the county of Polk, in the State of Iowa, have invented a new and useful Fire-Proof Shutter or Door, of which the following is a specification.

My object is to provide a cheap, durable, and light metal shutter or door, which may be constructed by the joining together of corrugated sheet iron or metal plates, as hereinafter set forth.

In carrying out my invention I shape and combine two sheets or pieces of corrugated metal of uniform size and shape, the corrugations of the metal sheets being at intervals or points on the sheets, so that meeting planes or faces are provided between them. The two parts are placed together so that the meeting faces register and are in contact with each other, when rivets or other suitable means, are employed to secure the two sections of metal together, forming a window-blind or door, as desired. I also provide means by which the side edges of the sections overlap so as to form a tight joint when the shutters are closed, and also to strengthen the connection between said sections, and also a metallic strip conforming to the shape of the upper edge of the shutter, which is secured transversely thereto on the outer side thereof, so as to project upwardly beyond said shutter, and a re-enforcing-strip on the inner side.

My invention consists, further, in details of construction hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a view showing my improved window-shutters in position for practical use, one of said shutters being closed, showing the outside face, and the other opened to show the inside face, of the shutter. Fig. 2 is a sectional view of the shutter on the line xx of Fig. 1. Fig. 3 is an enlarged detail sectional view showing forms of corrugations differing from those shown in Figs. 1 and 2.

A and B are window-shutters hung at a b to the outer sides of the walls by means of hooks formed on the outer ends of bars c , said hooks entering eyes c^2 in the walls in the usual manner.

The sections D and E of corrugated metal,

the corrugations of which may be of any desired form, as shown in Fig. 2, oblong, or, as in Fig. 3, oblong, oval, and diamond-shaped, are then brought together, the plane faces between the corrugations registering and in contact with each other, and secured together by rivets or other suitable means, thus forming continuous open-ended spaces longitudinally of the shutters, permitting free circulation of the air. Each of said sections D and E, Fig. 3, are so formed at each of their sides as that finished edges are provided at one side by bending the edge of section E about the edge of section D, and at the other by bending the edge of section D about the edge of section E, and securing the edges of said sections together by rivets d . By reason of this construction, Fig. 2, when the blinds are closed, the finished edges of two mating shutters overlap and the beveled faces of the corrugations are in a position close to one another, and thus when the shutters are locked a joint is formed which it would be difficult to pry open either from the inner or the outer side of the windows.

H H are rods which hold the shutters in an open position.

J are flat metal plates conforming in shape with the top ends of the shutters and riveted thereto on the outside to project upward, and to overlap the window-casing, as required, to restrict the inward motions of the shutters and to produce close joints at the top of the window.

J² are plates on the inside, and their top edges are even with the top edges of the corrugated plates D and E.

I am aware that heretofore metallic shutters have been formed of sections which were corrugated to produce open-ended air-spaces, said mating sections having been fastened to a frame; but

What I claim as my invention is—

1. In the construction of a fire-proof shutter or door, the combination of two corrugated metal plates that have mating and overlapping sections that extend their entire lengths, in the manner set forth, and rigidly connected by means of rivets fixed in the said overlapping plane surfaces at intervals, as shown and described.

2. In the construction of a fire-proof shut-

ter or door, the combination of two metallic sections, each having corrugations with mating faces between them, said sections being joined by rivets through the mating faces, and their side edges being extended and overlapped, an outer strip at the upper edge of the shutter extending upwardly above the said upper edge of the shutter, and an inner reinforcing-strip, as and for the purposes set forth.

CARLISLE ST. JOHN.

Witnesses:

C. W. STILES,

THOMAS G. OVING.