

JAMES B. CLARK.

Improvement in Metallic Fire-Proof Shutters.

No. 126,020.

Patented April 23, 1872.

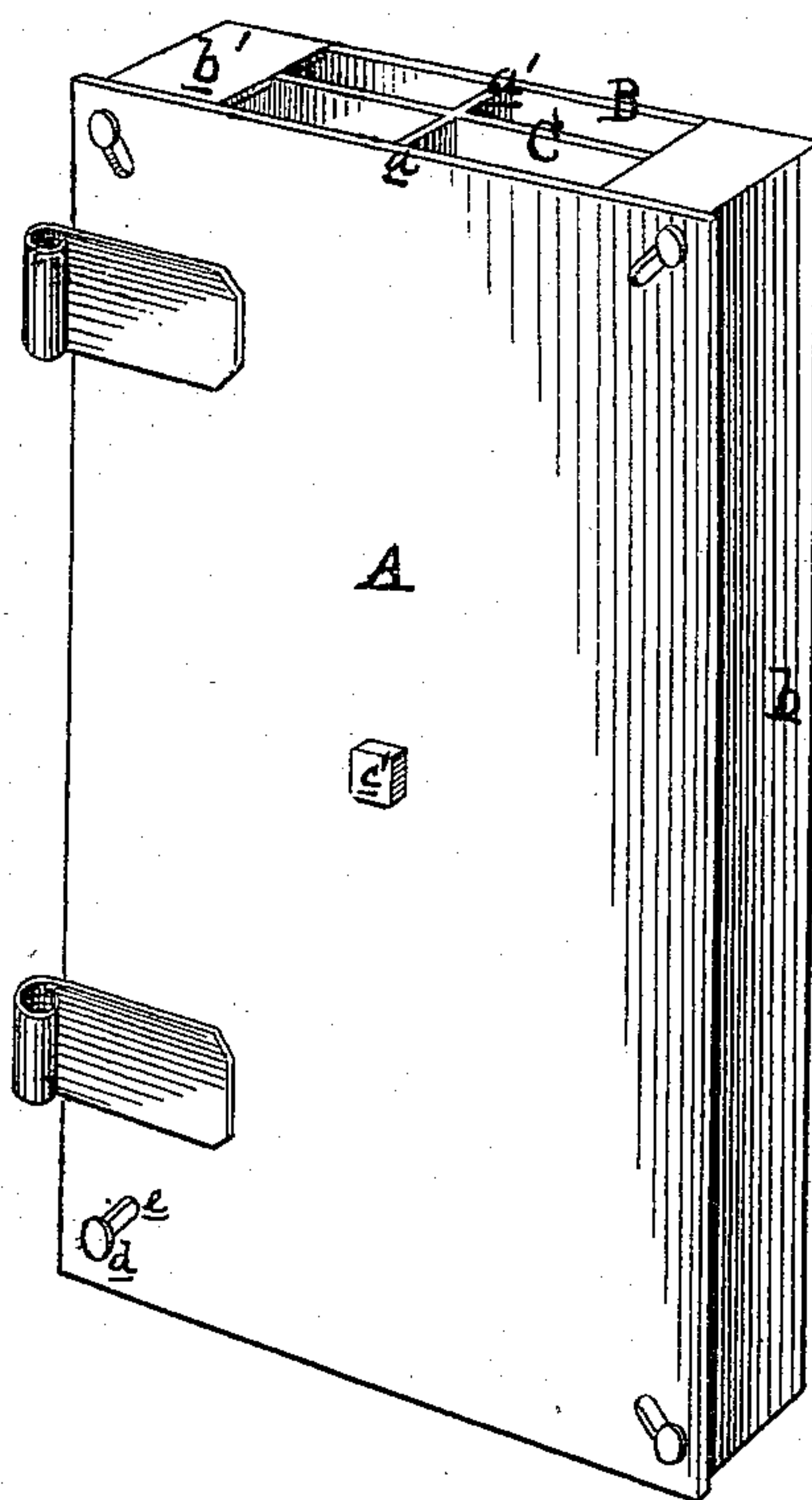


Fig. 1.

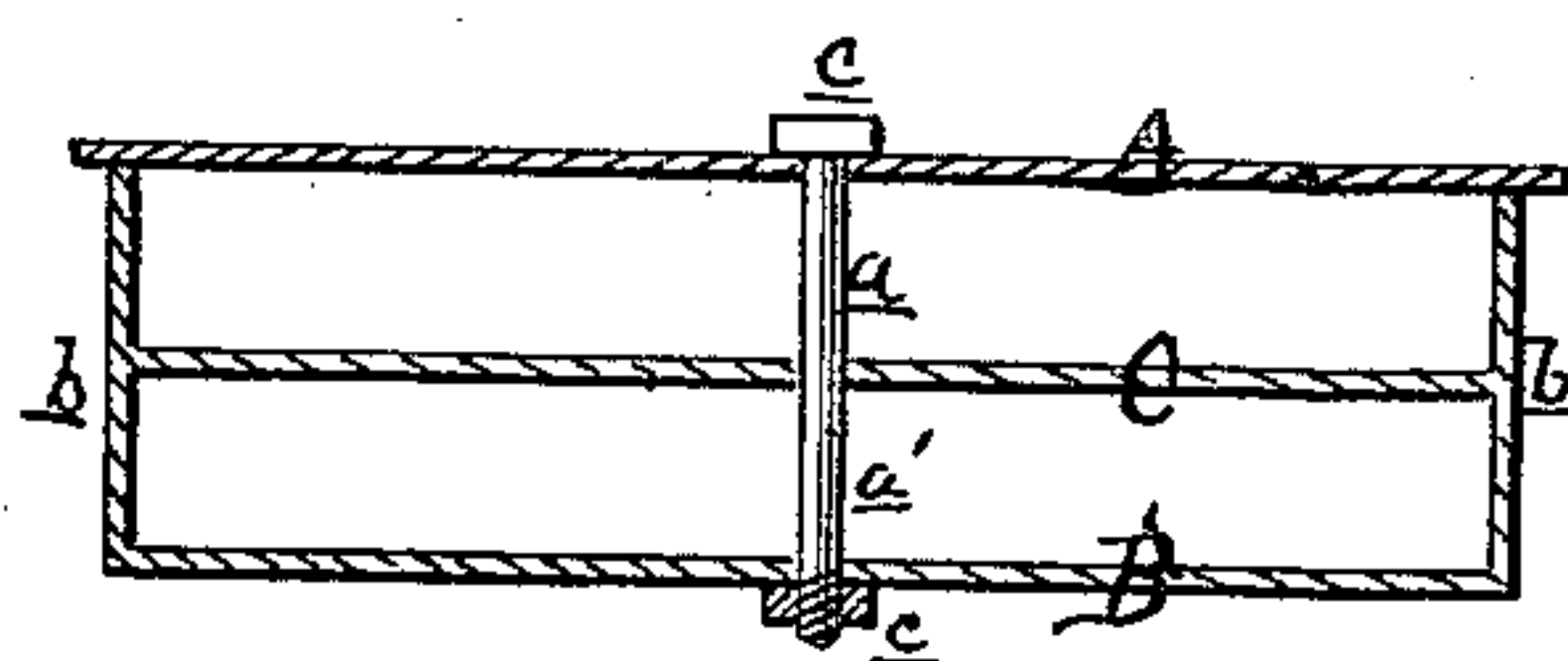


Fig. 2.

ATTEST :
H. F. Everts.
W. S. Sprague

INVENTOR:
James B. Clark
per attorney
W. S. Sprague

UNITED STATES PATENT OFFICE.

JAMES B. CLARK, OF YPSILANTI, MICHIGAN.

IMPROVEMENT IN METALLIC FIRE-PROOF SHUTTERS.

Specification forming part of Letters Patent No. 126,020, dated April 23, 1872.

To whom it may concern:

Be it known that I, JAMES B. CLARK, of Ypsilanti, in the county of Washtenaw and State of Michigan, have invented a new and useful Improvement in Metallic Fire-Proof Shutters; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, which—

Figure 1 shows my improved shutter in perspective, and Fig. 2 is a cross-section on the line *x x* in Fig. 1.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in the construction of metallic shutters for buildings which will not warp under the heat of an adjacent fire nor transmit heat to the wood-work behind the shutter; and it consists in the peculiar construction of the shutter with double air-chambers, and so securing the outer plate of the shutter that it may expand under the application of heat without warping.

In the drawing, A represents the external plate, B the inner plate, and C an intermediate plate of my shutter, separated from the others by vertical webs *a a'* at the center, and by flanges *b b'*, extending the full height at the sides and partially around the top and bot-

tom, so as to form two chambers in the shutter at each side of the webs, which chambers are open at top and bottom. The webs, flanges, middle and inner plates are riveted together, and the outer plate is secured thereto by a bolt, *c*, passing through the center of the shutter, having a nut, *c'*, screwed on its inner end. At the four corners of the shutter a headed stud, *d*, projects through diagonal slots *e* in the outer plate to hold the latter in place while it is allowed to expand or contract under variations of temperature without buckling or warping. A washer under each stud-head will cover the slot without confining the outer plate. *f* are the hinges with which to hang the shutter.

It will be seen that this shutter is not open to the objections urged against metallic shutters which warp under intense heat and expose the wood-work of the opening in which they are hung, while the double air-chambers prevent the transmission of heat to the space behind the shutter.

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

The plates A B C, webs *a a'*, flanges *b b'*, bolt *c*, studs *d*, and the slots *e* in the plate A for their reception, substantially as described.

JAMES B. CLARK.

Witnesses:

H. F. EBERTS,

H. S. SPRAGUE.