H. URBAN & G. BERKMYER.

Fire and Burglar-Proof Safes.

No. 196,608 Patented Oct. 30, 1877.

Fig. 1

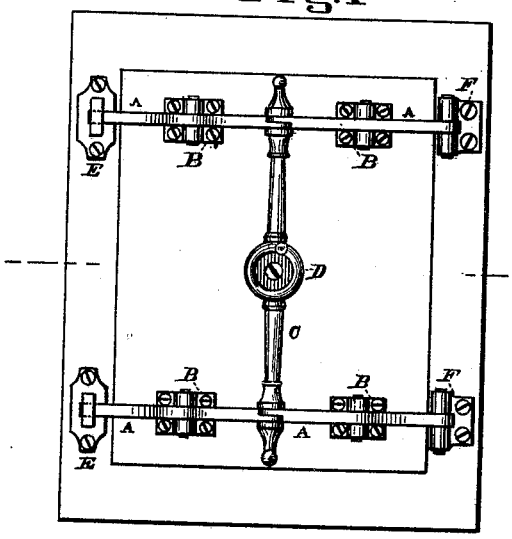



Fig. 3

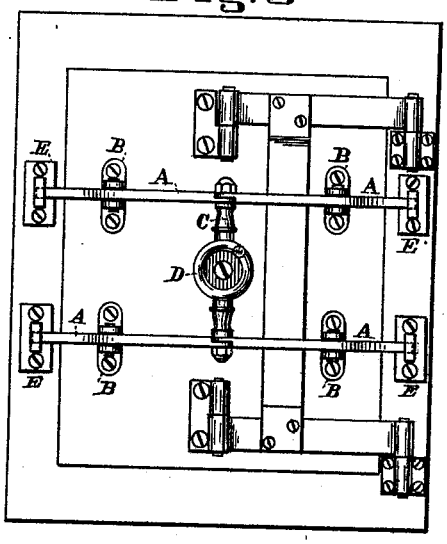
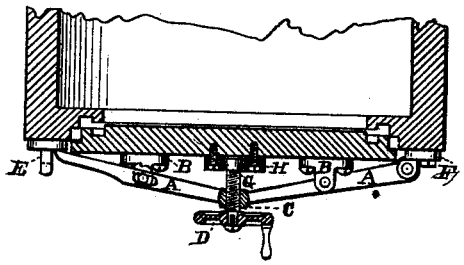



Fig. 2

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# UNITED STATES PATENT OFFICE.

HERMAN URBAN, OF CINCINNATI, OHIO, AND GEORGE BERKMYER, OF COVINGTON, KENTUCKY.

## IMPROVEMENT IN FIRE AND BURGLAR PROOF SAFES.

Specification forming part of Letters Patent No. **196,608**, dated October 30, 1877; application filed August 14, 1877.

*To all whom it may concern:*

Be it known that we, HERMAN URBAN, of Cincinnati, county of Hamilton, and State of Ohio, and GEORGE BERKMYER, of Covington, in the county of Kenton and State of Kentucky, have invented a new and useful Improvement in Fire and Burglar Proof Safes and Vaults, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front elevation; Fig. 2, a sectional plan of a safe-door and its framing with our improvement attached, and Fig. 3 a front elevation of a door and its frame with our improvement used in combination with the crane-hinge.

This invention is especially intended for safes in which the joint between the door and its casing is formed by projections upon the one entering corresponding cavities or rabbets in the other.

The object of it is to provide a means for forcing the door into or withdrawing it from its seat in the jamb in a line perpendicular to the face of the door, so as to secure a close joint, which means may be employed in combination with any double-acting hinge, or may itself perform the function of a hinge in addition to its function of forcing in and withdrawing the door.

It consists in swinging the door, near two of its opposite edges, to the bars of a toggle-joint, which are arranged to cross the door and have their bearings in the door-frame, and arranging a screw to operate the joint, for the purpose of moving the door out and in in a straight line.

In the drawings, A are the bars of the toggle-joints, of which there are two, arranged horizontally across the door, near its upper and lower edges. These are jointed in front of the vertical center of the door, and connected together by the bar or shaft C, which serves as the hinge-pin of both joints, as well as the means by which they are operated to open and close the door.

The shaft C is tapped with a screw-thread at a point midway between the two joints, to receive the screw G, which passes through it, and is secured to the face of the door by the plate H, which is swivel-jointed on the end of screw G.

D is a hand-wheel secured upon the outer end of screw G. B are bearings secured to the door near the edges. They have lugs projecting up upon each side of bars A, and pins passing through these lugs and through slots in the bars A secure them together.

E are lugs or slotted bearings secured to the frame of the door in a position to receive the ends of bars A when the bars are straightened, and to permit the ends of the bars to be withdrawn from the slots when the joint is bent, as seen in Fig. 2.

F in Figs. 1 and 2 are hinge-leaf bearings, which are to be substituted upon the hinge side of the door-frame for lugs E, when the bars upon this side of the door are to be jointed to its bearings and form part of the hinge.

This mode of hinge-jointing the bar to its bearing may be used to advantage when the cam-hinge or the double-jointed hinged is used on the door, thus adding the strength of two sets of hinges; but when the crane-hinge is used the form of operating device shown in Fig. 3 is preferable.

In the drawings two toggle-joints are shown, and this is desirable when used upon a heavy door, and necessary when no additional hinges are used, as in Figs. 1 and 2; but for ordinary doors one set of jointed bars will answer the purpose. In that case the bars should be placed across the center of the door, their jointed ends made forked, and double-jointed upon the opposite ends of a pin, the operating-screw passed through the pin of the double spade-handle thus formed, and secured to the door by its swivel-jointed plate H, at a point in the door near its center of gravity.

We claim—

In combination with the door of a safe or vault, the levers A, jointed on shaft C, and screw G, passing through said shaft, and swiveled to the door for operating the levers, said levers crossing the door and having their fulcrum-bearings on the jambs, and said door hung to the lever near its opposite edges, substantially as hereinbefore specified.

HERMAN URBAN.
GEORGE BERKMYER.

Witnesses:
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