H. GROSS.

Hinges for Safe and Vault Doors.

No. 144,669. Patented Nov. 18, 1873.

Fig. 1

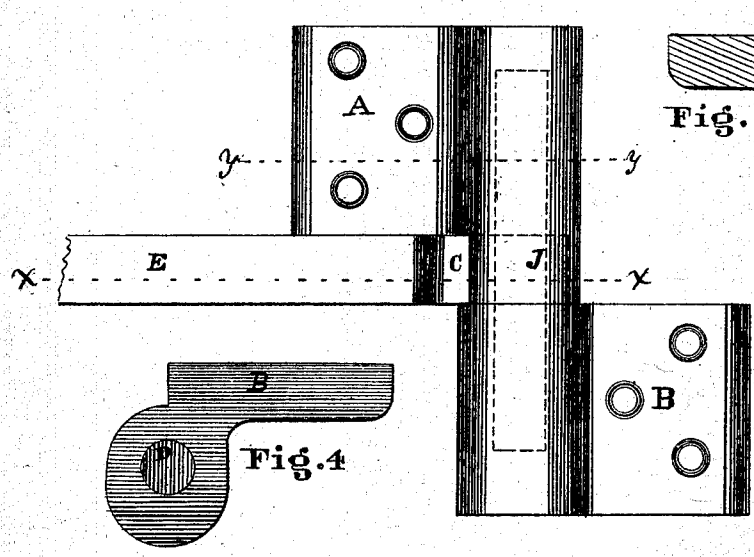


Fig. 3

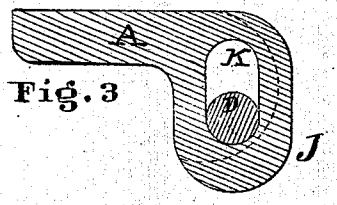
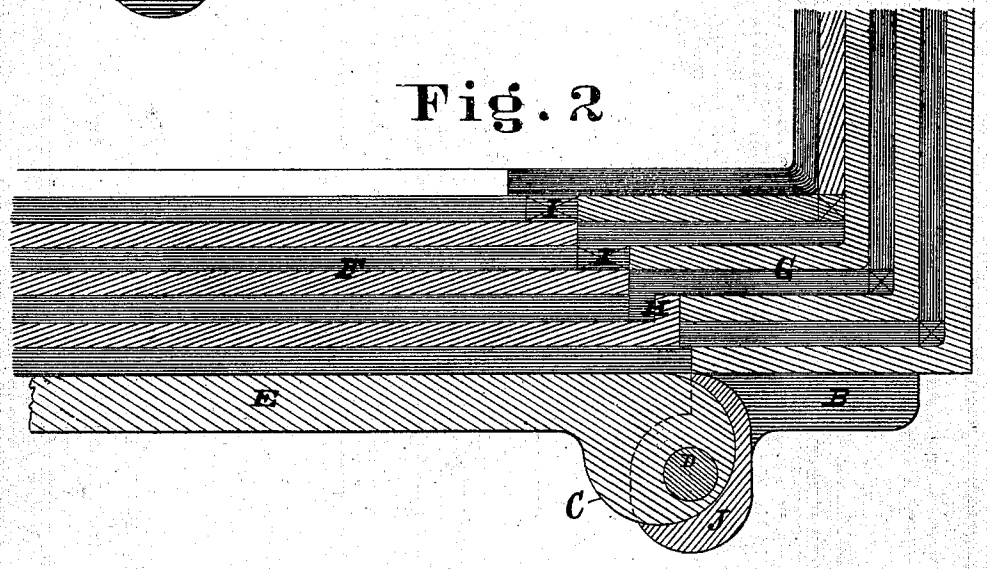


Fig. 4

Fig. 2



Attest.

Henry Millward

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Inventor.

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UNITED STATES PATENT OFFICE.

HENRY GROSS, OF CINCINNATI, OHIO, ASSIGNOR TO HALL'S SAFE AND LOCK COMPANY, OF SAME PLACE.

IMPROVEMENT IN HINGES FOR SAFE AND VAULT DOORS.

Specification forming part of Letters Patent No. **144,669**, dated November 18, 1873; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, HENRY GROSS, of Cincinnati, Ohio, have invented certain Improvements in Hinges for Safe and Vault Doors, of which the following is a specification:

My invention consists of a hinge, on one leaf of which is a concave lip or shoulder, against which an eccentric, journaled on the pintle, bears, and when moved, by means of an arm or lever attached to it, forces the leaf attached to the door, and consequently the door, outward, thereby drawing the interlocking flanges of the door and the jambs apart, preparatory to turning the door on its hinges, as hereinafter more fully described.

Figure 1 is a front elevation of my improved hinge with its operating lever. Fig. 2 is a horizontal section of the same on the line *x x* of Fig. 1, together with a portion of a safe having the hinge attached. Fig. 3 is a horizontal section of the upper leaf on the line *y y* of Fig. 1. Fig. 4 is a top plan view of the lower leaf.

In the drawings, B represents the lower leaf, which is made of the form shown in Figs. 1 and 4, with a vertically-projecting pintle, D. The upper leaf, A, is provided with a slot, K, having its longer axis standing at right angles to the face of the wall to which it is attached, and of the proper size for the pintle D to slide freely therein, as shown in Fig. 3. This leaf A is provided, at its lower rear edge, with a vertically-projecting lip, J, which is curved on its inner face, so as to fit down over the edge of an eccentric, C, which is formed on the end of a lever, E, that is pivoted on the pintle D, between the two leaves, as shown in Figs. 1 and 2.

From this description, it will be seen that when the lever E is drawn back or swung outward, the eccentric C will be turned on the pintle D, and its outer face, bearing against the inner face of the lip J, will cause the upper leaf, A, to move outward in a right line, the slot K permitting it to thus move on the pintle D, and this movement, of course, carries the door out with it far enough to disengage the interlocking flanges and recesses H and I of the door and jambs, after which the door can be turned on its hinges in the usual manner.

In closing the door it is first swung around in a line with or parallel to the face of the safe, after which, by pressing the lever E inward against the door, the opposite or inner edge of the eccentric presses against the inner portion of the lip J, and thereby forces the door in to its place, and interlocks the flanges and recesses, as represented in Fig. 2.

By this mode of construction I provide a very simple and efficient hinge, and means of operating the same.

Having thus described my invention, what I claim is—

1. A hinge consisting of the leaf B with its pintle D, and the leaf A provided with the slot K and lip J, in combination with the eccentric C, the said parts being constructed and arranged to operate substantially as described.

2. The lever E provided with the eccentric C, in combination with the lip J on the leaf A, the whole being constructed and arranged to operate as set forth.

In testimony of which invention I hereunto set my hand.

HENRY GROSS.

Witnesses:

HENRY MILLWARD,

RICHARD T. PULLEN.