2 Sheets—Sheet 1.

G. L. DAMON.
Burglar-Proof Safe

No. 200,823. Patented March 5, 1878.

FIG. 1

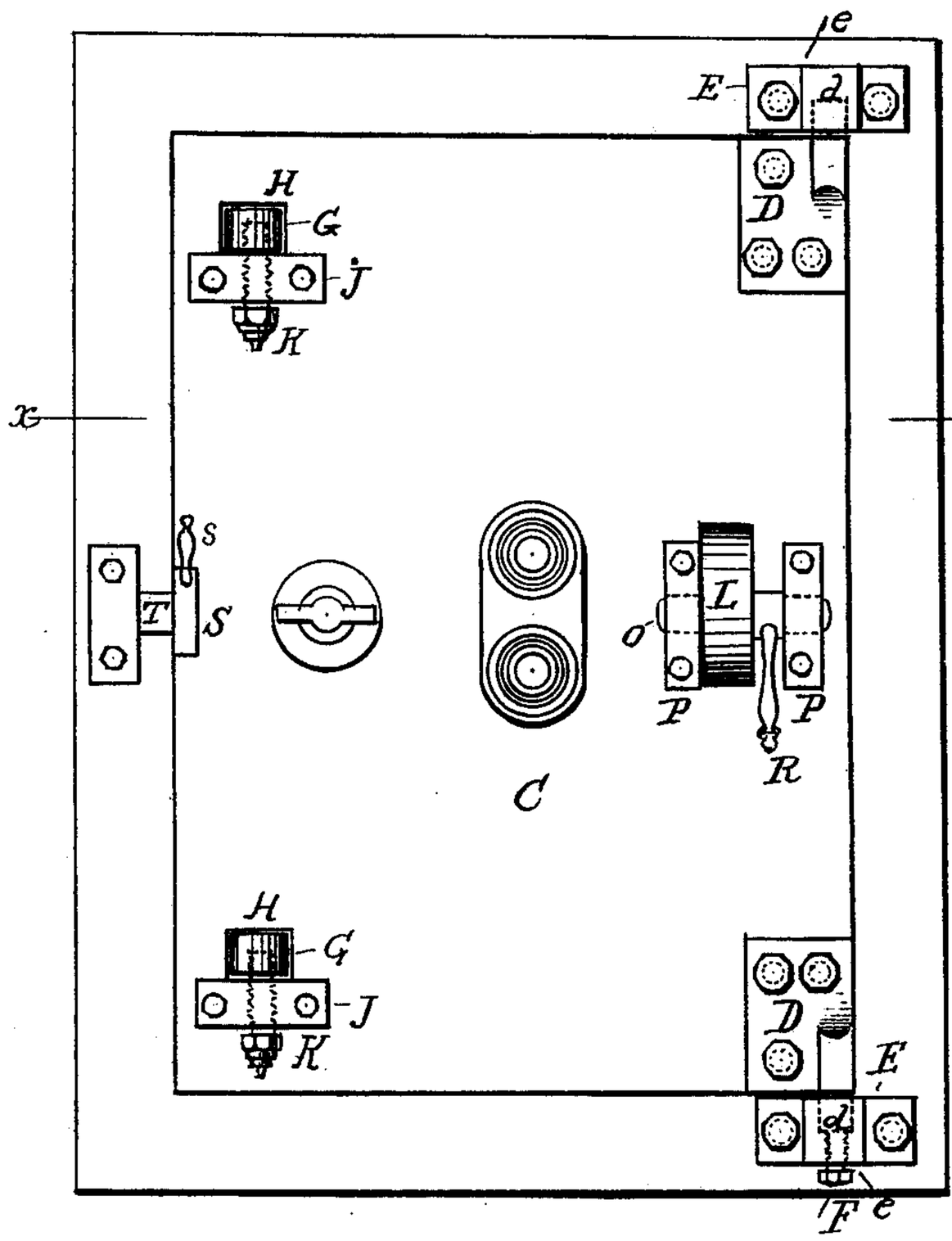

FIG. 2

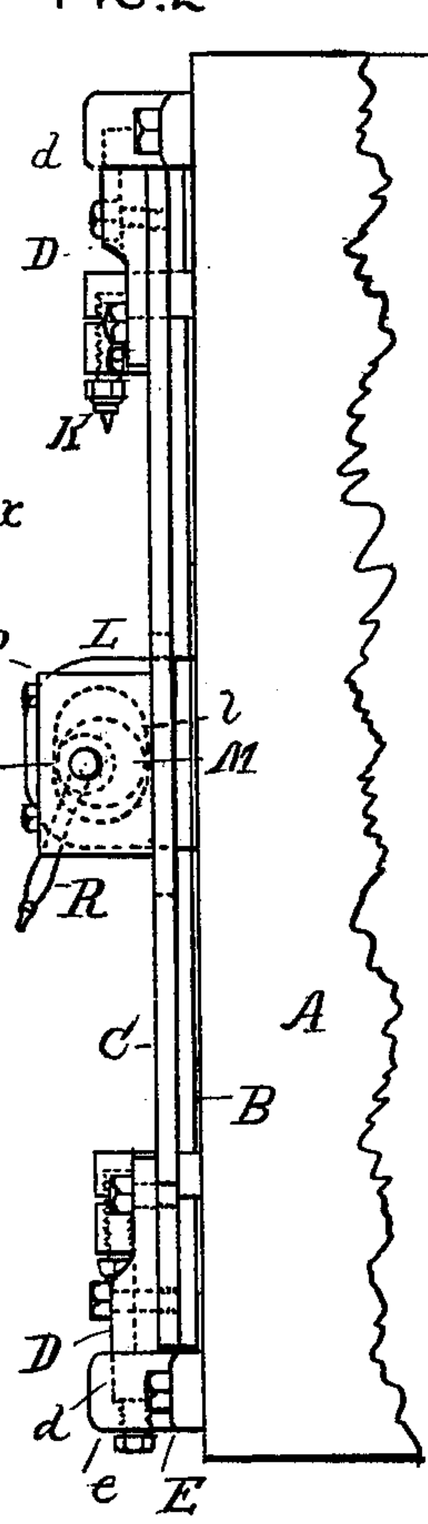

FIG. 3

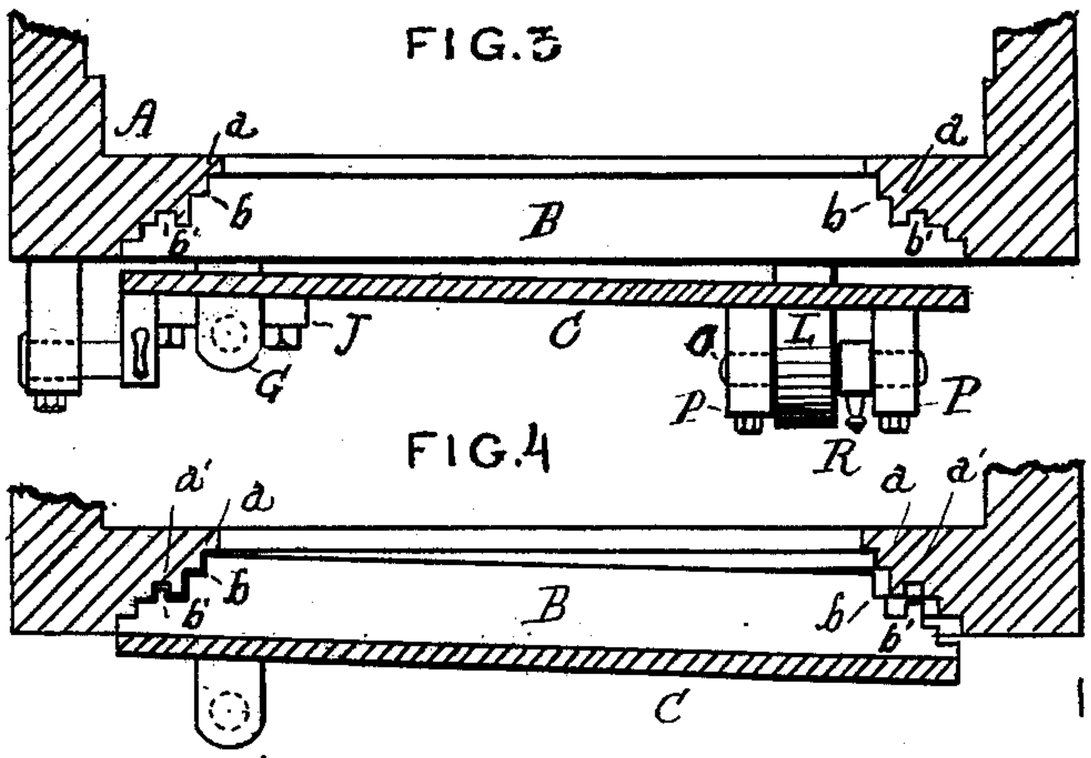

FIG. 4

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FIG. 5

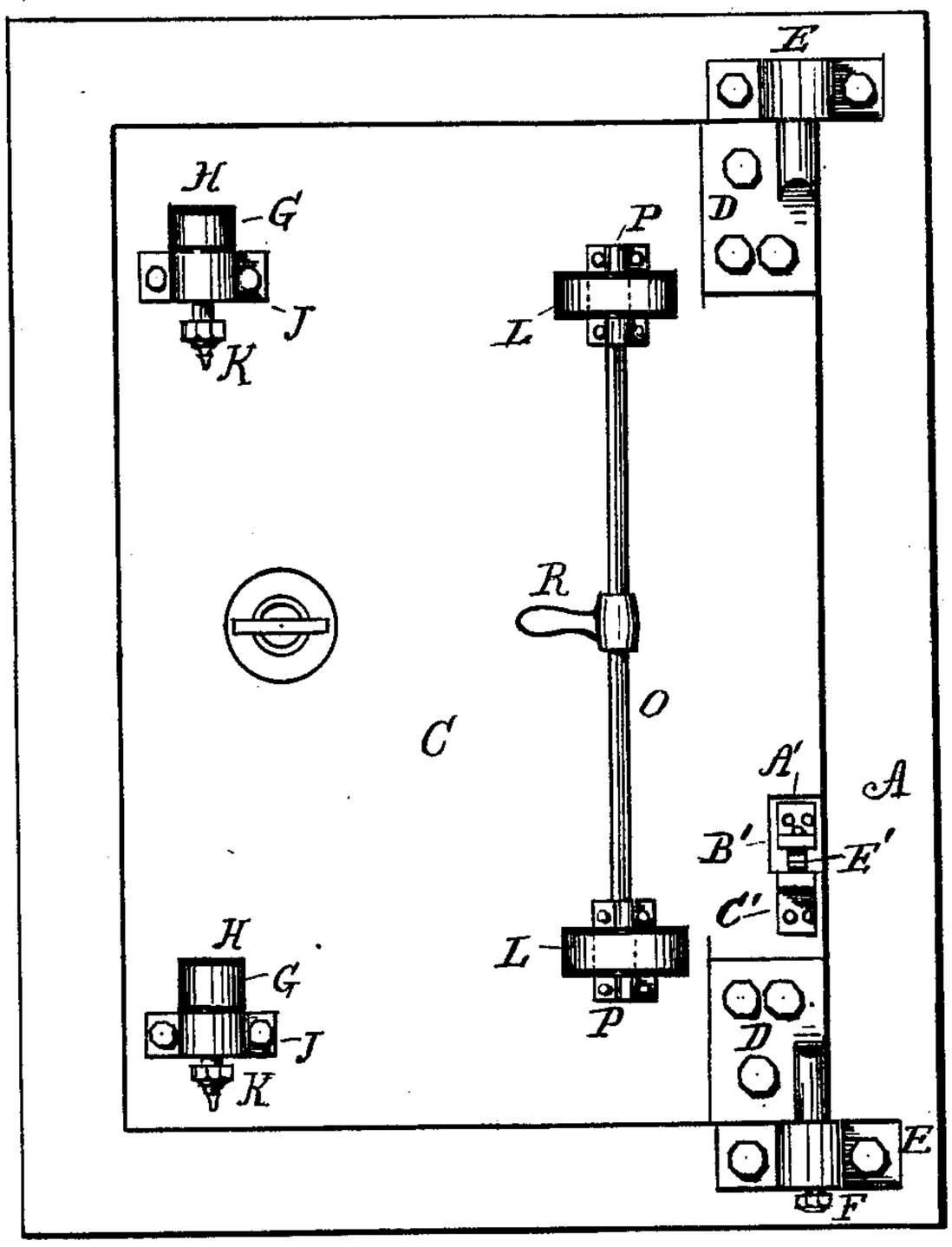
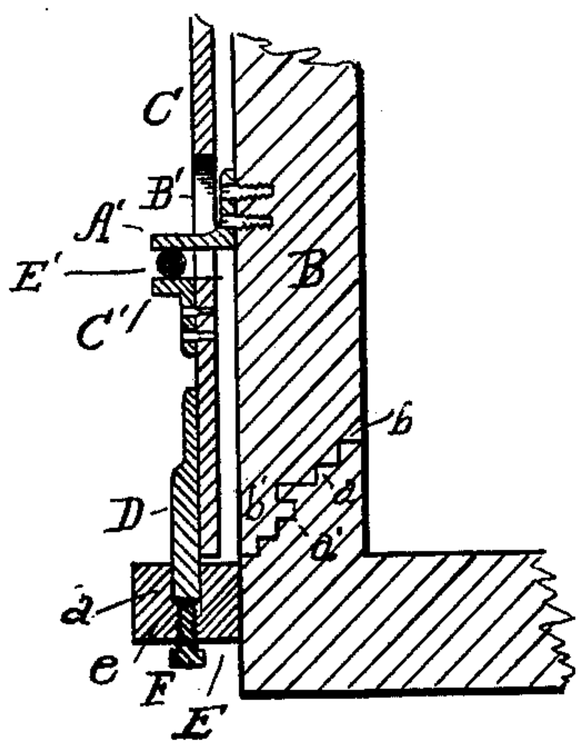


FIG. 6.



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UNITED STATES PATENT OFFICE.

GEORGE L. DAMON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BURGLAR-PROOF SAFES.

Specification forming part of Letters Patent No. **200,823,** dated March 5, 1878; application filed January 22, 1878.

To all whom it may concern:

Be it known that I, GEORGE L. DAMON, of Boston, in the State of Massachusetts, have invented certain new and useful Improvements in Burglar-Proof Safes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of burglar-proof safes and vaults in which the door and jamb are provided with a series of intermeshing or registering offsets and an elastic packing, for the purpose of forming a secure joint that will prevent the insertion of a tool between the door and jamb, or the introduction of explosives for the purpose of forcing or blowing open the safe.

The object of my invention is to provide a means by which the door of a safe or vault may be adjusted at the front or rear edges, or both, in order to more effectually compensate for the sagging of the door as the pintles of the hinges become worn, whereby all injury to the offsets of the door and jamb are effectually prevented, and to provide for more effectually forcing the door to its seat, and for supporting the free end of the same as it moves to and from the supporting-frame; and to this end it consists, first, in a burglar-proof safe having its door adjustably hinged at its front edge to a supporting-frame hinged to the jamb of the safe, whereby said door can be adjusted vertically at its front edge to compensate for sagging, as more fully hereinafter specified; second, in the combination, with a safe or vault and its door, of a supporting-frame, adjustably hinged or pivoted at one edge to the jamb of said safe or vault, and at the other adjustably hinged to the front edge of the door, whereby the front and rear edges of the door may be adjusted vertically to compensate for sagging, as more fully hereinafter set forth; third, in the combination, with the safe-door and its supporting-frame, of a device for supporting the door at its free edge, and facilitating its movement to and from the supporting-frame, as more fully hereinafter set forth; and, fourth, in the combination, with the safe, its door, and supporting-frame, of a cam or cams mounted on a rock-shaft journaled in bearings upon the frame, and adapted to operate in a slotted stud or studs attached to the door, and a cam mounted in bearings on the jamb of the safe, and adapted to bear against the front edge of the frame and door, as and for the purposes more fully hereinafter set forth.

In the drawing, Figure 1 represents a front elevation of a safe embracing my improvement. Fig. 2 represents a side elevation of the same. Fig. 3 represents a horizontal section on the line *x x* of Fig. 1, showing the door in a closed position and the frame just starting away from said door; Fig. 4, a similar view, showing the door in proper position to swing back with its frame. Fig. 5 represents a front elevation of a modification of my invention, and Fig. 6 a vertical sectional view of a part of Fig. 5.

The letter A represents the safe or vault, and B the door thereof. Said door is formed with a series of right-angled offsets, *b*, at its edges, and with a tongue, *b'*, and the jamb of the door with a series of similar offsets, *a*, and a groove, *a'*, with which the offsets and tongue on the door register when the door is closed, the groove being provided with a suitable packing-gasket for the purpose of making a tight joint.

The letter C represents the swinging frame or plate which supports the door. To one side of said frame, at the top and bottom, are attached the hinge-leaves D D, provided with pintles *d d*, which have bearings in the sockets *e e* in the leaves E E, which are firmly secured to the front of the safe or jamb of the door in any convenient manner. The lower one of said leaves E is provided with an adjustable set-screw, F, upon which the lower end of the lower pintle has its bearing, and by means of which the said pintle and the frame and door may be elevated when the hinge becomes worn, so as to prevent the offsets and tongue of the door from becoming out of register with the offsets and groove in the safe or jamb of the door.

The letter G represents two studs formed

on or secured to the front of the door near its outer edge, and projecting through apertures H in the swinging frame. Below each of said studs the frame is provided with a stud, J, through which passes vertically a set-screw, K. The upper ends of said set-screws set in recesses in the studs G, and form adjustable pivots for said studs, which may be operated in conjunction with the set-screw F, to adjust the door when it becomes out of register with the lower edge of the jamb.

The letter L, Figs. 1, 2, 3, and 4, represents a stud formed on the door near its inner edge, which projects through an aperture in the swinging frame. Said stud is provided with an oblong slot, *l*, in which is adapted to work a cam, M, mounted on a rock-shaft, O, journaled in bearings formed in the studs P P projecting from the front of the frame. Said rock-shaft is provided with an operating-lever, R, by means of which the cam may be rotated.

The letter S represents a cam mounted upon a rock-shaft, T, secured to the edge of the safe or jamb of the door, and capable of a longitudinal movement in its bearings, in such manner that it may be brought over the edge of the door or shifted clear of the same, as occasion may require. Said cam is provided with an operating-lever, *s*, by means of which it can be made to bear upon the edge of the door for the purpose of forcing it to its seat when closed, said cam acting in conjunction with the cam M before mentioned.

The letter A′, Figs. 5 and 6, represents a stud projecting horizontally from the face of the door at or near its inner edge, and through an opening, B′, in the supporting-door; and C′, a similar stud projecting outwardly from the swinging frame. Between said studs is interposed a steel friction-roller, E′, upon which the upper stud rests and travels as the door is shifted to and from the supporting-frame.

In small-sized safes a single cam for moving the door to and from the swinging frame will be found most convenient; but in large safes and vaults I prefer to employ double cams, as shown in Figs. 5 and 6. In this modification the door is provided with two studs, L, projecting through the swinging frame near the top and bottom thereof. The cams are mounted on a rock-shaft, O, extending across the face of the frame or plate, and journaled in bearings P P. The cams work in oblong slots in the studs in the same manner as the single cam, as shown in Figs. 1, 2, 3, and 4, the rock-shaft being provided with a lever, R, for the purpose.

The operation of my invention will be fully understood from the above description without further explanation.

It will be perceived that in my improved safe, by reason of the hinged supporting-frame being adjustably hinged to the front edge of the door, provision is made for raising the door either at the front or rear edge or at both edges, as may be desired, by means of which the door may be readily brought to its true position when it has sagged to one side or edge.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with a safe or vault, a swinging frame hinged to the jamb of the safe or vault, and a door adjustably hinged at its front edge to said frame, whereby the door may be adjusted vertically at the front edge to compensate for sagging, substantially as specified.

2. In combination with a safe or vault and its door, a supporting-frame adjustably hinged or pivoted at one edge to the jamb of the safe or vault, and at the other adjustably hinged to the front edge of the door, whereby the front and rear edges of the door may be adjusted vertically to compensate for sagging, substantially as set forth.

3. In combination with the safe-door and supporting-frame, the studs projecting from said door and frame, and the intervening friction-roller for supporting the free end of the door and facilitating its movement to and from the frame, substantially as specified.

4. In combination with a safe, its door and supporting-frame, a cam or cams, M, mounted on a rock-shaft, O, journaled in bearings upon the frame, and adapted to operate in a slotted stud or studs, L, attached to the door, and a cam, S T, mounted in bearings on the jamb of the safe or vault, and adapted to be brought to bear against the front edge of the frame and door, substantially as and for the purposes specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GEO. L. DAMON.

Witnesses:

CHAS. L. COOMBS,

J. W. HAMILTON JOHNSON.