(No Model.) 2 Sheets—Sheet 1.

A. G. BURTON.

SAFE LOCKING DEVICE.

No. 502,613. Patented Aug. 1, 1893.

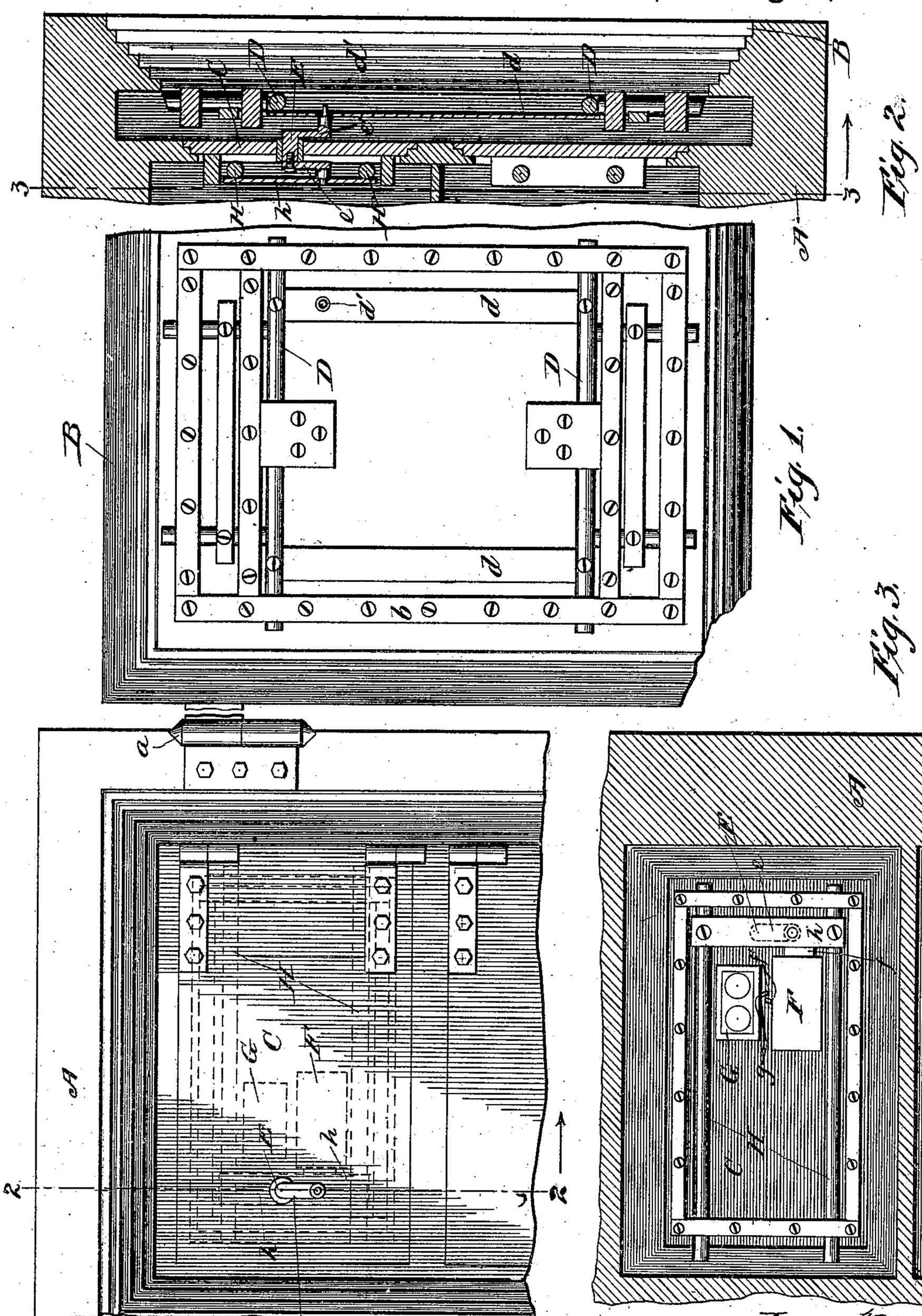

Fig. 2.

Fig. 1.

Fig. 3.

(No Model.)

2 Sheets—Sheet 2.

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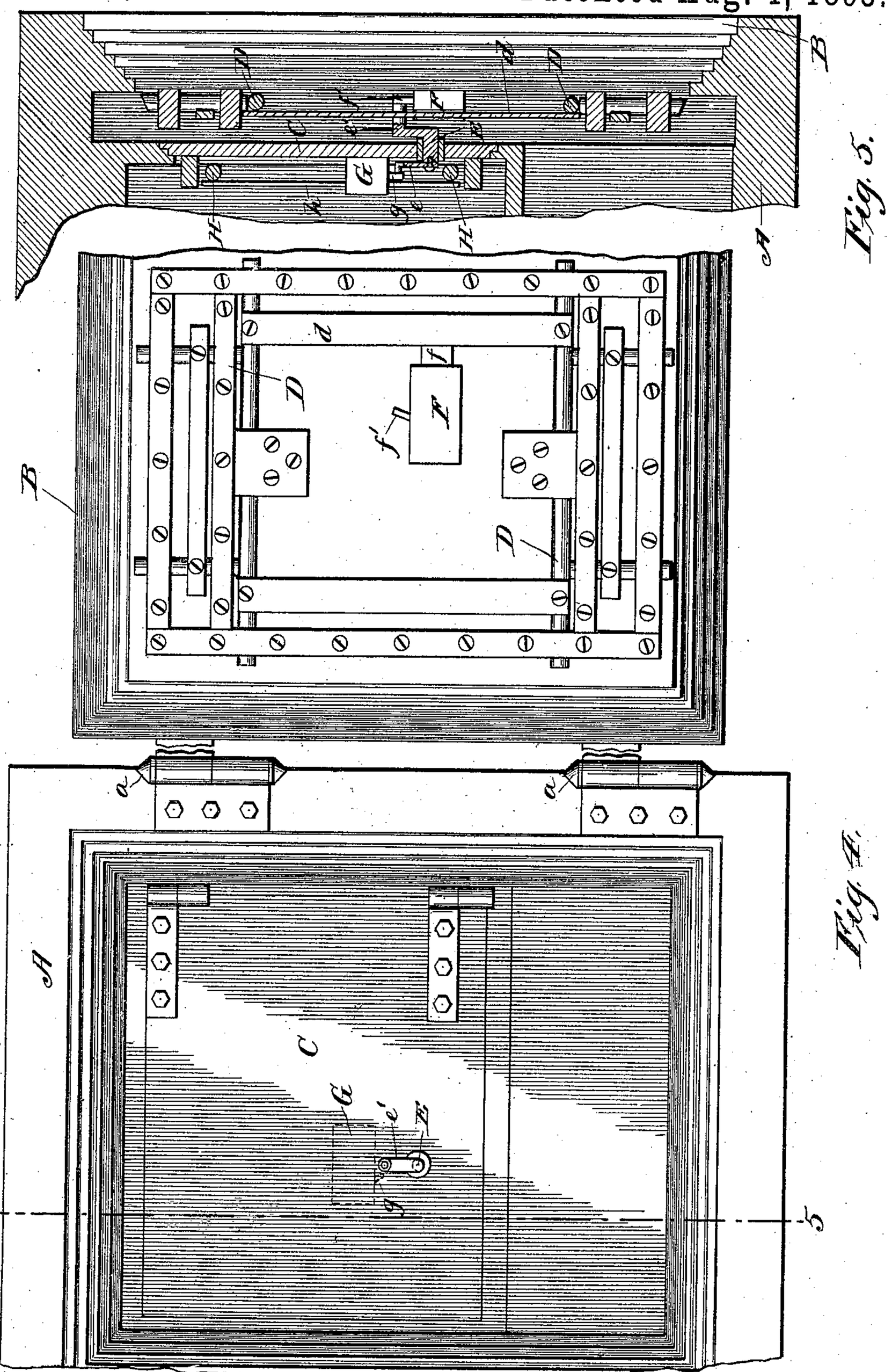

Fig. 5.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS G. BURTON, OF CHICAGO, ILLINOIS.

SAFE-LOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 502,613, dated August 1, 1893.

Application filed June 25, 1892. Serial No. 437,967. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS G. BURTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Safe-Locking Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of safe locks in which the lock bolts are cast and retracted for locking and unlocking a safe by springs or weights located inside of the safe, whereby the bolts may be actuated without the employment of any spindle or arbor passing through the door or other part of the safe.

My present invention is designed to be used in connection with such an automatic locking device as is shown in the Patent No. 382,071, issued to me May 1, 1888.

In the accompanying drawings, Figure 1 shows an elevation of a portion of the front of the safe with the outer door open. Fig. 2 is a vertical section on the line 2, 2, of Fig. 1. Fig. 3 is an elevation of the inner side of the inner door taken from the line 3, 3, of Fig. 2. Fig. 4 shows the same view as Fig. 1 with certain modifications as to details. Fig. 5 is a vertical section on the line 5, 5, of Fig. 4.

I show at A, a portion of the body of an ordinary burglar proof safe, at B, the outer door of the safe, and at C, the inner door of such safe; as shown, the outer door is open, and the inner door closed. The lock or train bolts of the outer door are shown at D, and *d*, *d*, represent the tie plates or carrying bars which connect the several bolts of this system. The lock bolts of the inner door are shown at H,—*h*, being a carrying bar for this system. There is danger of the time piece used in connection with the locks of a safe being damaged by the use of an explosive applied to the outer surface of the door, the concussion being sufficient, at times, to dislodge some of the pinions, and permit the timer to "run down" at once, and thus unlock the safe. It is not, ordinarily, material whether the automatic device is located upon the inner or the outer door.

It is the purpose of this invention to provide for the location of the time-piece upon the inside of the inner door, and of the automatic device upon either the inner or outer door and adapt the latter to actuate the bolt systems of either one or both doors, mechanical connection between the time-piece and the automatic device being provided for in either case.

I show in Fig. 3 an automatic locking device F, attached to the inner door, and in Fig. 5, such a device attached to the outer door; in the former instance the bolts *f*, of the device co-operating with the carrying bar *h*, and in the latter instance, with the carrying bar *d*. The detent lever of the device is shown at *f'*. The timer G, is shown in Fig. 3 attached to the inner surface of the inner door C, directly above the automatic device F, and in Fig. 5 it is shown secured to the inner surface of the inner door, a little above the position of the automatic device secured to the outer door. A swinging lever, *g*, such as is ordinarily used on the time-piece in connection with safe locks projects downwardly from the timer G. In the construction shown in Fig. 3, this lever is adapted to come directly in contact with the detent lever *f'*. In the construction shown in Figs. 4 and 5 the lever *g*, is adapted to come in contact with a device hereinafter described, which communicates its motion to the detent lever *f'*.

As a means of connection between the two doors I use a spindle E, journaled in a suitable aperture in the inner door C. Crank arms *e*, *e'*, are rigidly fixed upon the opposite ends of this spindle.

In the construction shown in Figs. 1, 2, and 3, these crank arms are provided with studs which engage in apertures in the carrying bars *h*, and *d*. The aperture in the carrying bar *d*, is shown at *d'*. The stud upon the crank arm *e*, is located permanently within the aperture in the carrying bar *h*. That upon the crank arm *e'*, is adapted to be withdrawn from the aperture in the carrying bar *d*, when the door B, is opened.

In the construction shown in Figs. 4 and 5 the crank arms *e*, *e'*, are provided with studs

located so that the former will be struck by the lever *g*, of the timer, in its movement, and the latter will thereby be forced against the detent lever *f'*, of the automatic device F, thus releasing the mechanism of the latter device so that the bolts of the safe will be retracted.

In the construction shown in Figs. 1, 2, and 3, the action of the automatic locking device F, is directly upon the bolt system of the inner door C. The movement of the carrying bar, *h*, actuates the spindle E, and its crank arm thereby moving the carrying bar *d*, and consequently the bolt system of the outer door.

It will be seen that the automatic device F, may be located upon the inner door and be adapted to control only the bolt system of the outer door, the bolts of the automatic device being brought into direct co-operation with the crank-arm *e*, instead of with the carrying bar *h*.

While I have shown only such an automatic locking device as is covered by the patent above referred to, it is obvious that any other form or device for this purpose, whether actuated by springs or weights, may be used in connection with the present invention. Neither do I desire to limit myself to the use of a spindle with crank arms as shown, as the means of connection between the outer and inner door, as any form of lever, might be substituted for the crank arms without departing from the scope of the invention.

I am aware that it is not new to so connect the systems of two doors of a safe that they will be held in a locked position by means of a time lock located upon the inner door, and I do not claim such construction.

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

1. The combination, with a vault or safe having exterior and interior doors, of an automatic device for casting and retracting the bolts, mechanical connection between the bolt systems of the two doors whereby the two systems are operated by a bolt throwing device located upon one of the doors, and a time piece for releasing the detent mechanism of the bolt throwing device, substantially as described.

2. The combination, with a safe or vault having exterior and interior doors, of an automatic device for throwing the bolts out and in, a timepiece for releasing the detent mechanism of the bolt throwing device, and mechanical connection between the bolt systems of the two doors, comprising a spindle journaled in an aperture in the inner door, crank arms fixed upon the ends of the spindle and studs on the crank arms for engaging apertures respectively in the carrying bars of the bolt systems of the inner and outer doors, substantially as described.

3. The combination with a safe or vault having exterior and interior doors of an automatic device for throwing the bolts out and in, located upon the outer door, a timepiece located inside of the inner door for releasing the detent of the automatic bolt throwing device, and mechanical connection between the time-piece and the automatic device, substantially as described.

4. The combination, with a safe or vault having exterior and interior doors, of an automatic bolt throwing device located inside of the inner door, mechanical connection between said device and the bolt system of the outer door whereby the automatic device casts and retracts the bolts of the outer door, and a time piece for releasing the detent mechanism of the bolt throwing device, substantially as described.

5. The combination with a safe or vault having exterior and interior doors, and with the bolt system of the outer door of such safe or vault, of an automatic bolt throwing device located on the inner side of the inner door, a spindle journaled in an aperture in the inner door, and having a crank arm fixed upon each of its ends, the outer crank arm being adapted to engage the carrying bar of the bolt system of the outer door, and the inner crank arm being actuated by the bolt throwing device, and a time piece for releasing the detent mechanism of the bolt throwing device, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUSTUS G. BURTON.

Witnesses:

L. K. GILLSON,

SPENCER WARD.