

(No Model.)

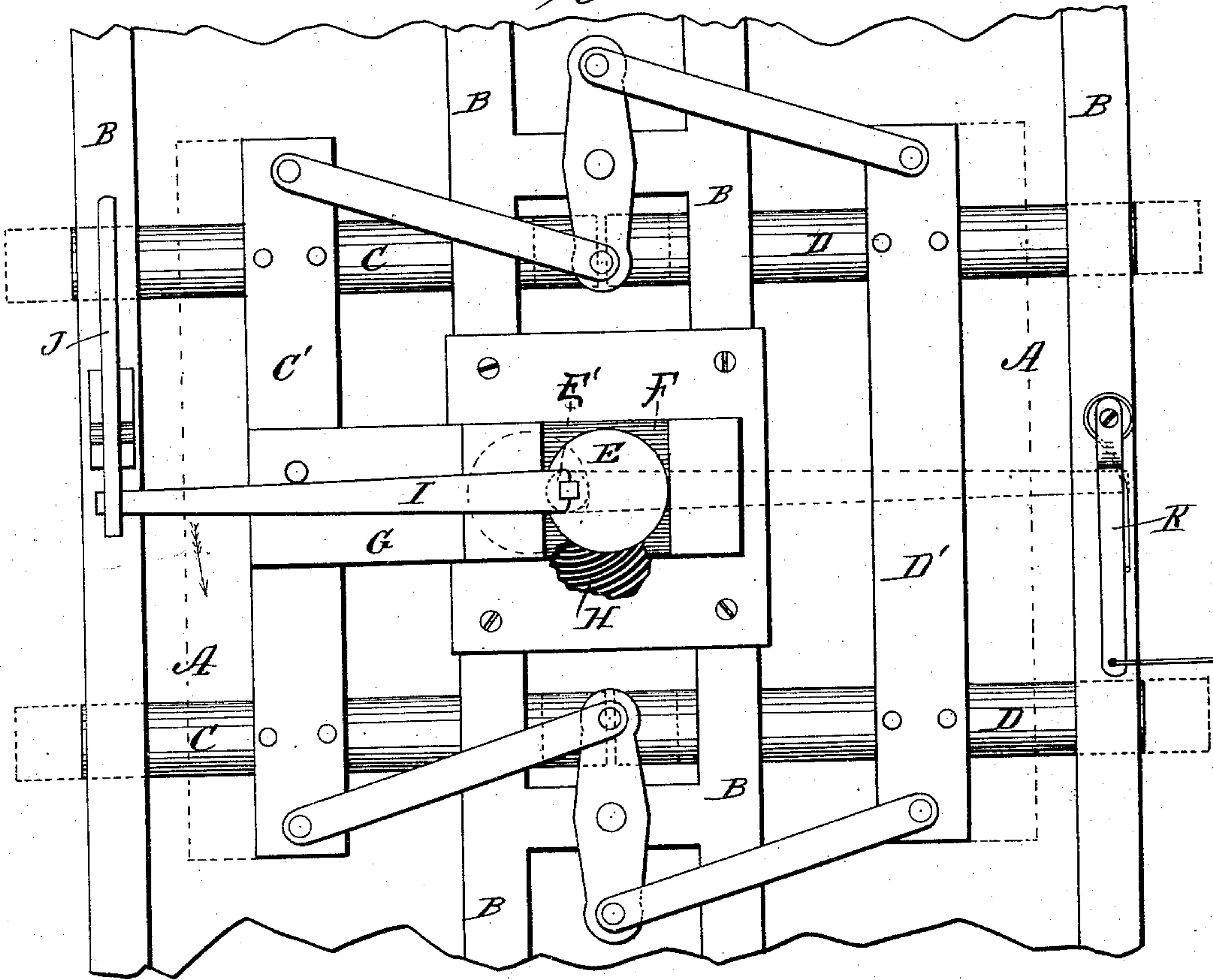
2 Sheets—Sheet 1.

T. M. BRINTNALL.  
BOLT WORK FOR SAFES.

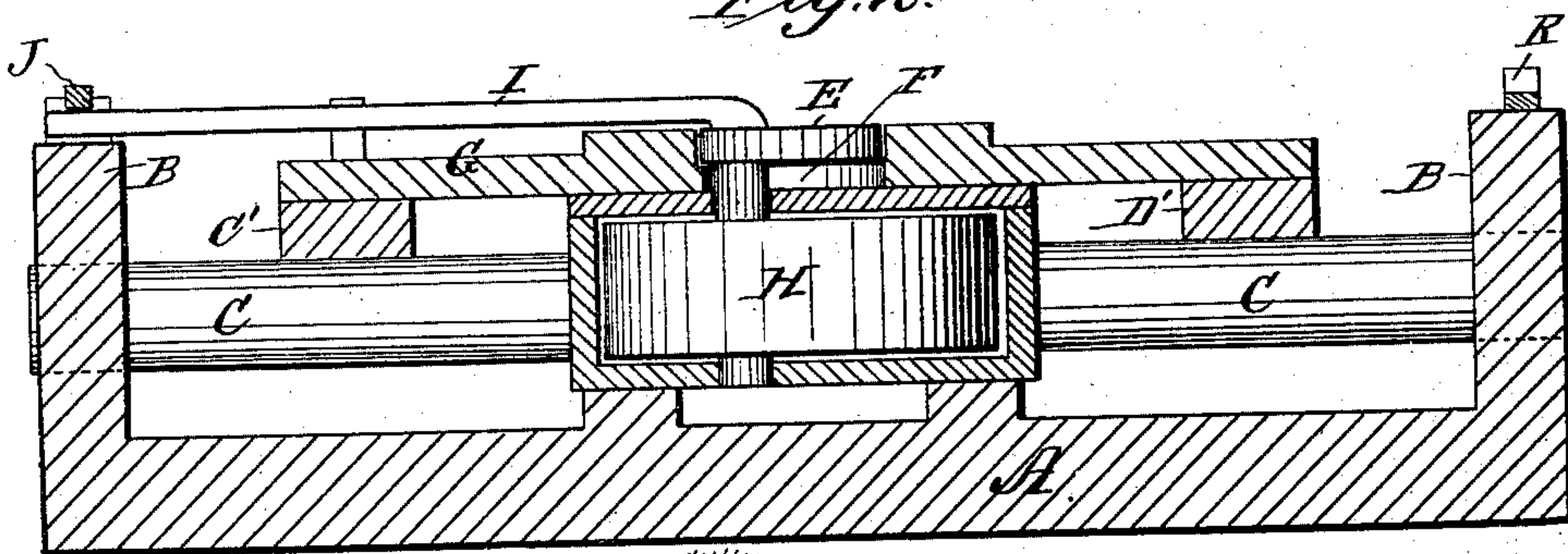
No. 315,232.

Patented Apr. 7, 1885.

*Fig. 1.*



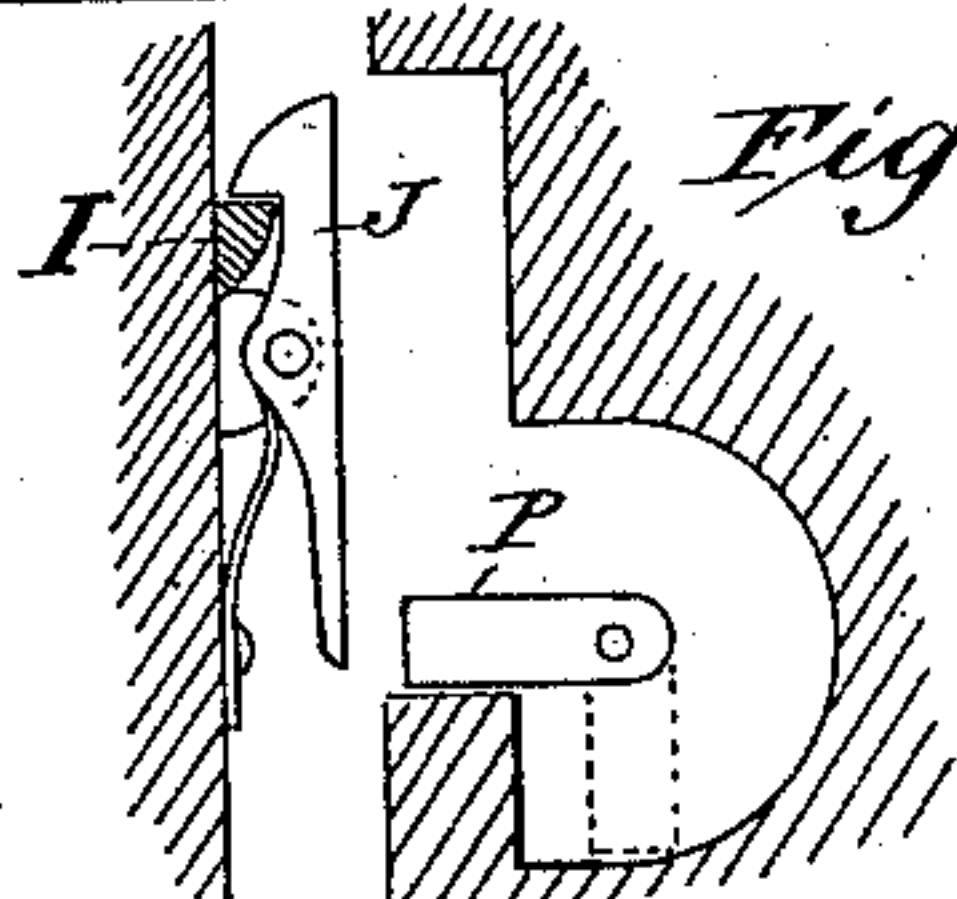
*Fig. 2.*



WITNESSES:

*W. W. Hollingsworth*  
*W. B. Stevens.*

*Fig. 3.*



INVENTOR:

*Thomas M. Brintnall*

BY

*Munn & Co.*

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

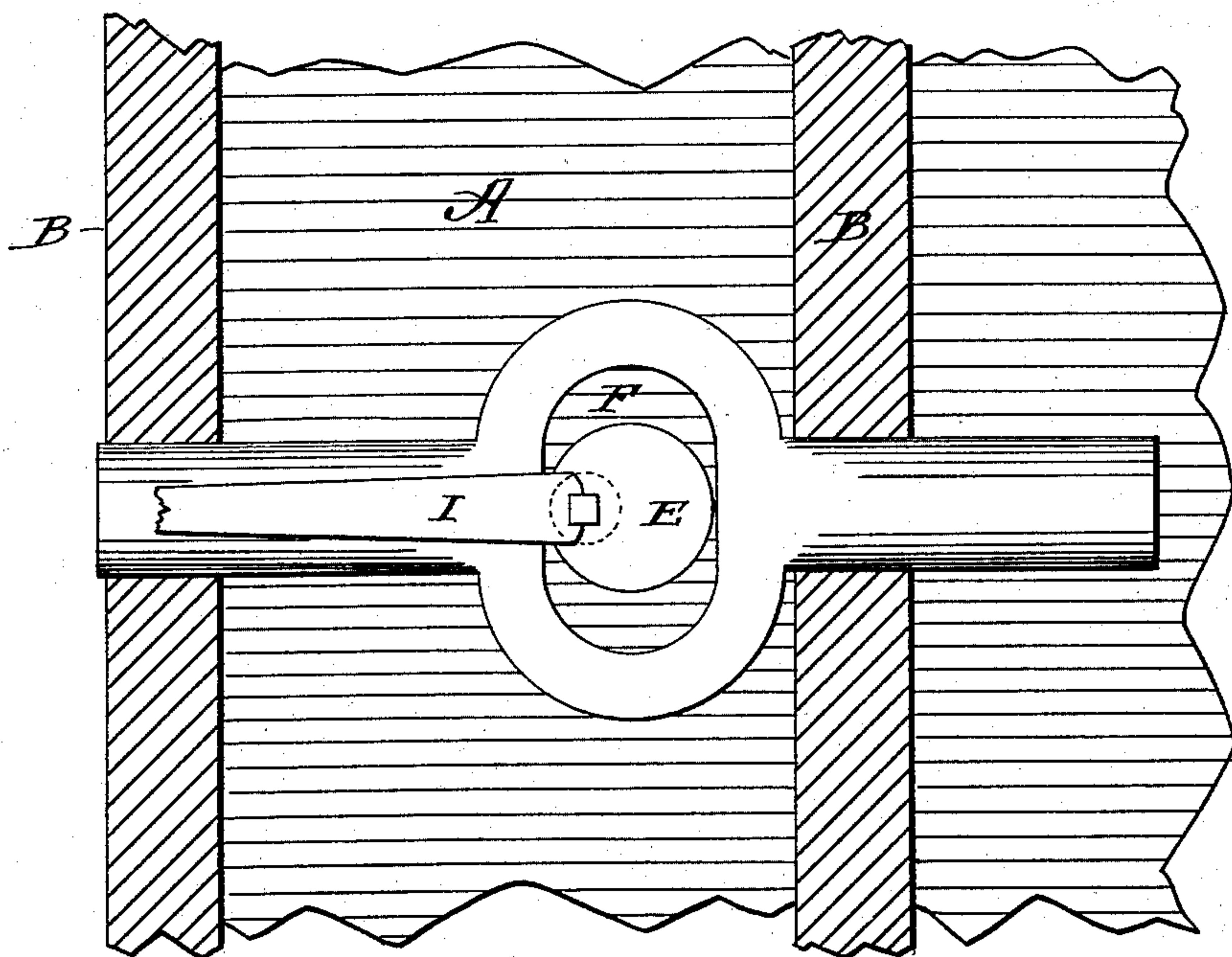
T. M. BRINTNALL.

BOLT WORK FOR SAFES.

No. 315,232.

Patented Apr. 7, 1885.

*Fig. 4.*



WITNESSES:

*W. W. Hollingsworth.*  
*W. R. Stevens.*

INVENTOR:

*Thomas M. Brintnall*  
BY *Munn & Co.*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THOMAS M. BRINTNALL, OF MARYVILLE, ASSIGNOR TO HIMSELF, AND  
GEORGE R. MANN AND NATHAN P. OGDEN, OF ST. JOSEPH, MISSOURI.

## BOLT-WORK FOR SAFES.

SPECIFICATION forming part of Letters Patent No. 315,232, dated April 7, 1885.

Application filed November 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS M. BRINTNALL, a citizen of the United States, residing at Maryville, in the county of Nodaway and State of Missouri, have invented a new and useful Improvement in Bolt-Work for Safes, of which the following is a description.

This invention relates to that class of devices which retract the bolts of a safe-door when set into action by clock-work. Its object is to extend the bolts of a safe-door by the act of closing the door, so as to securely lock the same, and to retract the bolts so as to unlock the door when set free to act by time mechanism, whereby the door may be both locked and unlocked without any means of communication with its lock after the door is closed.

Many of the details shown in this application are shown and claimed in another application of even date herewith, and will not be fully described nor claimed herein.

My invention consists in the construction and combination of parts hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the interior or inner side of a safe-door, showing my device; and Fig. 2 is a central horizontal section of the same. Fig. 3 is a detail view of the trip-latches in an inverted position relative to Fig. 1. Fig. 4 is a vertical section of a portion of a safe-door, showing in elevation a single bolt, an eccentric, and part of the arm thereof as one modification of my invention.

A represents the door of a safe, provided with interior ribs, B, through which two systems of bolts, C and D, pass in sliding out of and into the edges of the door, to engage and disengage the door-jamb in locking and unlocking the door. The bolts C are connected together by means of a bar, C', thereby forming one system of bolts acting as a unit. The bolts D are connected together by a bar, D', forming another similar system.

E represents an eccentric mounted on a shaft, E', which is journaled in the lock-frame, and it engages a slot, F, in a bar, G, attached to the system of bolts C, whereby a half-rotation of the eccentric will extend the bolts, as shown in dotted lines, and a full rotation of

the eccentric will first extend and then retract the bolts. The bar G is here shown as attached to the system of bolts by means of the bar C', which is secured directly to the bolts C. The slot F is just wide enough in the direction of the bolt's motion to admit the eccentric E, so that the whole throw of the eccentric is communicated to the bolt; but the slot F is open at its ends, or it is long enough to permit the eccentric to play freely without affecting the bar G or the bolt transversely.

H is a spring around the shaft of the eccentric actuating it to revolve in the direction of the arrow.

I is an arm attached to the eccentric, whereby to revolve it by hand to wind up the spring H in setting the lock. J is a spring-latch in the path of the arm, to retain it full set with the bolts retracted. This latch is arranged to strike the door-jamb or some adjunct thereof at the instant of closing the door, and be tripped thereby to release the arm I.

K is another latch adapted to arrest the arm I at the half-turn point—that is, when the bolts are extended. The latch K is connected with clock mechanism to be tripped thereby at a set hour, when it will release the arm I, permitting it to retract the bolts by being revolved in the direction of the arrow by the spring H around to nearly the position shown in the drawings. In case there were but one bolt C to be actuated by the eccentric E, the slot F would necessarily be directly in the said bolt or in some immediate adjunct thereof. The cross-bar C' and the transversely-slotted bar G are mere connections between the eccentric E and bolts C. The system of bolts D may be connected with the system C by a reversing-lever such as that described in my other specification before referred to, to be actuated therewith.

In order that the safe may be closed during the usual business hours without danger of being locked accidentally, I provide a latch, P, instead of a fixed lug on the inner face of the door-jamb, to engage the latch J, and I arrange the latch P to be moved out of the path of latch J in any suitable manner, such as by pivoting it to be swung over, as shown in dotted lines. When the latch P is thus



turned out of the path of latch J, the door may be closed and opened like any other door, as the locking device will not be affected thereby. Of course, any cam which will produce  
5 practically the same result may be substituted for the eccentric E. One advantage of this eccentric is its power to operate a heavy system of bolts. It permits the driving-spring to move through a long distance in moving  
10 the bolts but a short distance.

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

1. The combination of a door-bolt having a transverse slot, an eccentric engaging said slot  
15 and mounted on a shaft which is journaled in the lock-frame, a spring attached to the eccentric to revolve it, a radial arm attached to the eccentric, and two latches pivoted to the lock-frame in the circular path of the said arm at  
20 opposite sides of the circle, substantially as shown and described.

2. The combination of a bolt having a trans-

verse slot fitted to slide in a lock-frame, an eccentric journaled in the lock-frame and engaging said slot, devices for stopping the revolution of the eccentric at opposite points in  
25 its circle of revolution, and a spring to revolve the eccentric, substantially as shown and described, whereby a single revolution of the eccentric will first extend and then re-  
30 tract the bolt, as specified.

3. The combination, with a safe-door, of a bolt fitted to slide therein, a spring acting on said bolt to extend it, a spring-latch on the door adapted to retain the bolt against the ac-  
35 tion of the extending spring, and a latch movably fixed to the door-jamb in the path of the aforesaid spring-latch, substantially as described, whereby the latches may be set either  
40 to engage each other or not, as may be desired.

THOMAS M. BRINTNALL.

Witnesses:

W. X. STEVENS,  
SOLON C. KEMON.