

# E. L. Roberts, Bolt.

No. 93,006.

Patented Jul. 27, 1869.

Fig. 1.

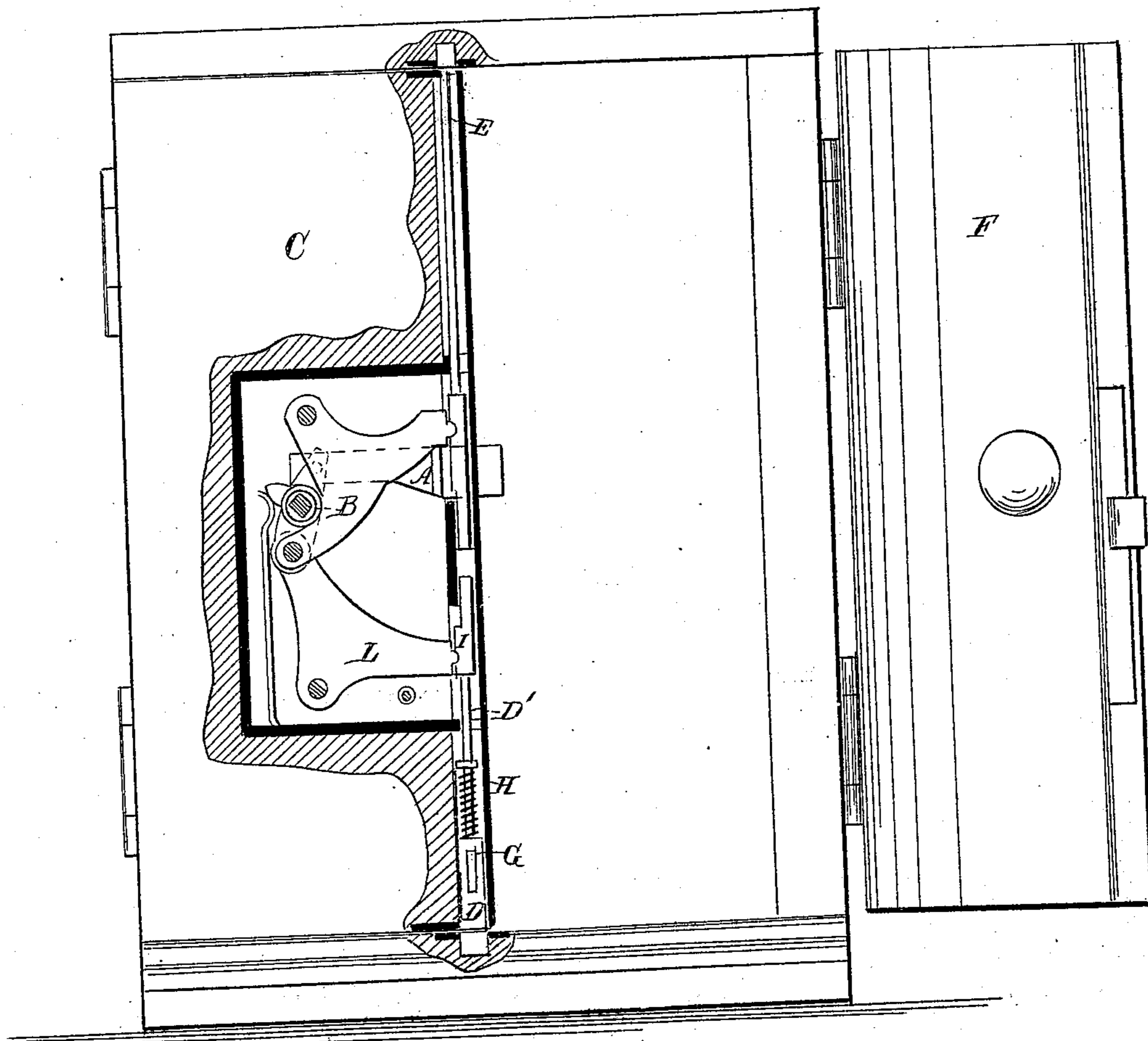
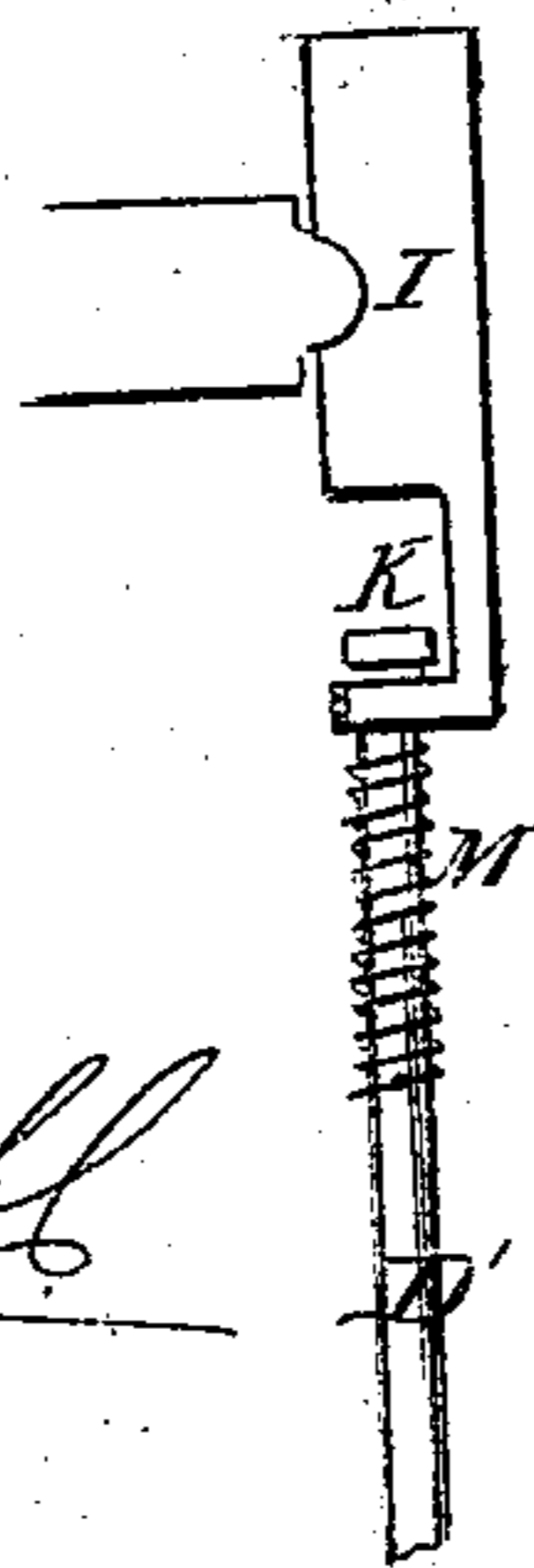


Fig. 2.



Witnesses:

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# United States Patent Office.

E. L. ROBERTS, OF BROOKLYN, NEW YORK.

Letters Patent No. 93,006, dated July 27, 1869.

## IMPROVED BOLT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, E. L. ROBERTS, of Brooklyn, in the county of Kings, and State of New York, have invented a new and useful Improvement in Bolts for Folding Doors; 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 make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improvements in sliding bolts for folding doors, such as patented to me, March 15, 1859, No. 23,262, the object of which is to provide for sliding the upper fastening-bolt, and the laterally-moving guard-bolt, whether the lower slide-bolt coincide with its mortise, so as to fall into it or not, as it frequently happens that it does not on closing the door, owing to warping or springing, which, in the arrangement described in the aforesaid patent, prevents the movement of any of the bolts until the said lower bolt is adjusted to coincide and pass into its notch.

Figure 1 represents a sectional elevation of my improved fastening, as applied to one of a pair of folding doors; and

Figure 2 represents a modified arrangement of the same.

Similar letters of reference indicate corresponding parts.

The object of the invention described in the aforesaid patent, is to prevent closing both the doors properly until the fastening-bolts (top and bottom) of one door have been forced home in the notches provided for them; and to accomplish this, a bolt, A, is so combined with the spindle B, by which the top and bottom bolts are operated, as to be thrown out of the edge of the door C, when the bolts D E are withdrawn, so as to prevent the closing of the door F until the said bolts D E are forced home, which withdraws the bolt A.

In carrying out this invention practically, I have found that when the doors warp and spring, as they generally do in a short time after being hung, the bottom bolts will not coincide with the notches provided for them, when the top of the door is arrested by the stops usually provided for them at the top, requiring care to be taken to properly adjust the bottom before the bolts can be shot.

I therefore propose to so connect the rod D' that the latter will not obstruct the movement of the spindle necessary for shooting the bolt E, and withdrawing

the bolt A, leaving the bolt D to fall into its notch, or to be forced therein by a spring, when, by the vibration imparted to the bottom of the door C, by the jarring of the other door in closing, the said bolt D is brought into coincidence with its notch.

This connection may be made in various ways. I have represented in fig. 1 a slotted bolt, having an axial hole, into which the rod D' projects, and a pin, G, connected to the end of the said rod, and working freely in the slot, to permit the rod to work in and out of the axial hole to some extent.

A spiral spring, H, is arranged on the rod D', and bearing against the top of the bolt, so as to have a constant tendency to press the bolt down.

In this arrangement, if the bolt D fails to enter its notch, the rod D' will, on the turning of the spindle, be forced down into the axial hole compressing the spring, the pin G sliding in the slot of the bolt D, thereby permitting the bolts E and A to be shot, and when the said bolt D coincides with its notch, the spring will force it down.

In fig. 2, I have represented the slide I, to which the operating-crank L is connected, and to which the rod D' is represented as rigidly connected in fig. 1, as having a recess, K, and the bolt D as connected to the slide, below the recess, so as to move in the said slide to some extent, and having a spiral spring, M, pressing against the under side of the sliding block M, to force the rod D', and the bolt D, which, in this case, will be rigidly connected to it, down.

This arrangement will have the same practical operation as the other, and other similar arrangements may be employed.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The combination, with the door C, of the bolts E, A, and D, when the bolt A is arranged to be thrown out, when the said bolts E A are withdrawn, and *vice versa*, and when the bolt D is arranged to permit the bolt E to be shot and the bolt A to be withdrawn, whether the said bolt D falls into its notch or not, substantially as specified.

The above specification of my invention signed by me, this 27th day of May, 1869.

E. L. ROBERTS.

Witnesses:

FRANK BLOCKLEY,  
ALEX. F. ROBERTS.