

JOHN FARREL.

Improvement in Permutation Locks.

No. 125,669.

Fig. 1.

Patented April 16, 1872.

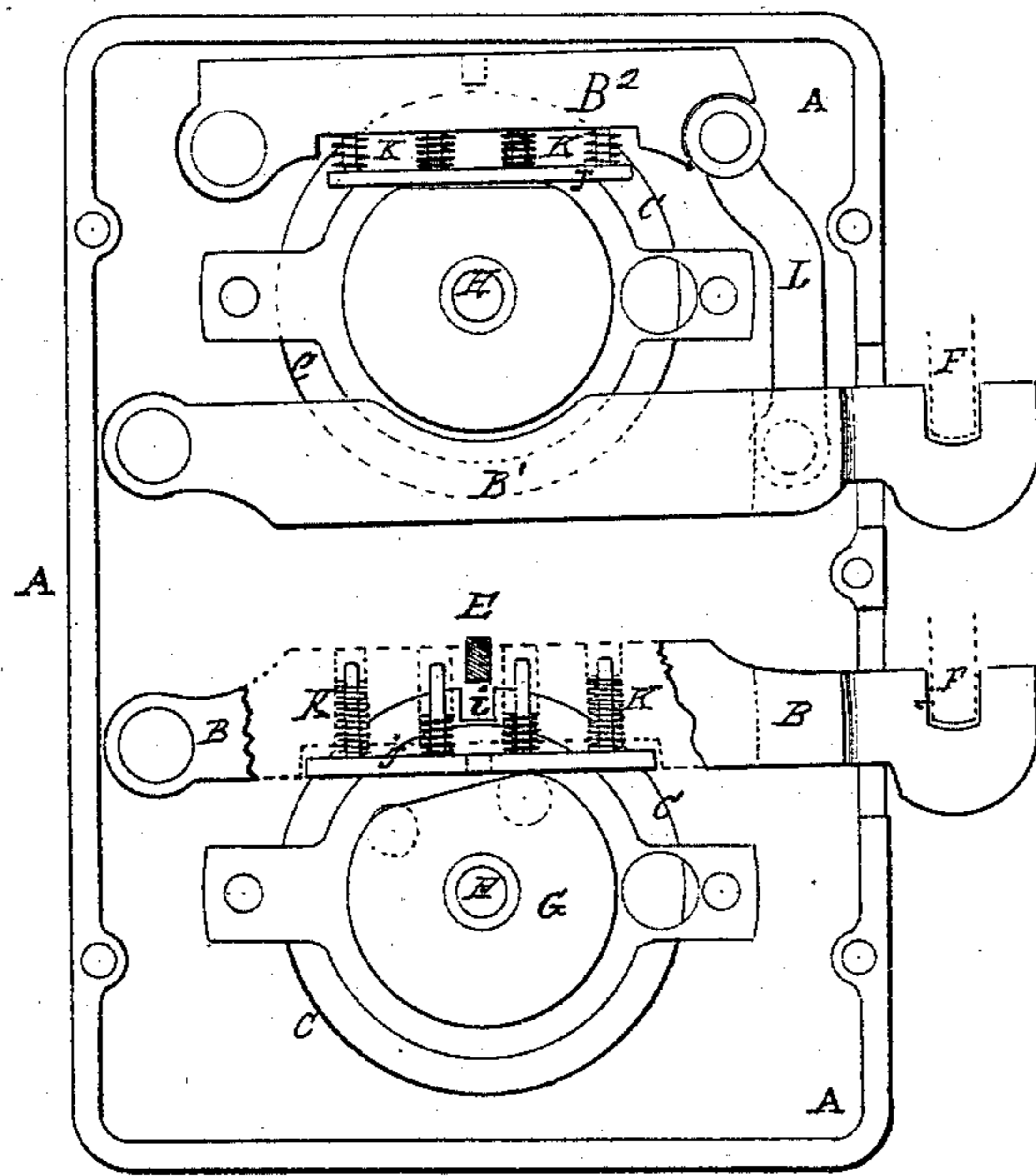
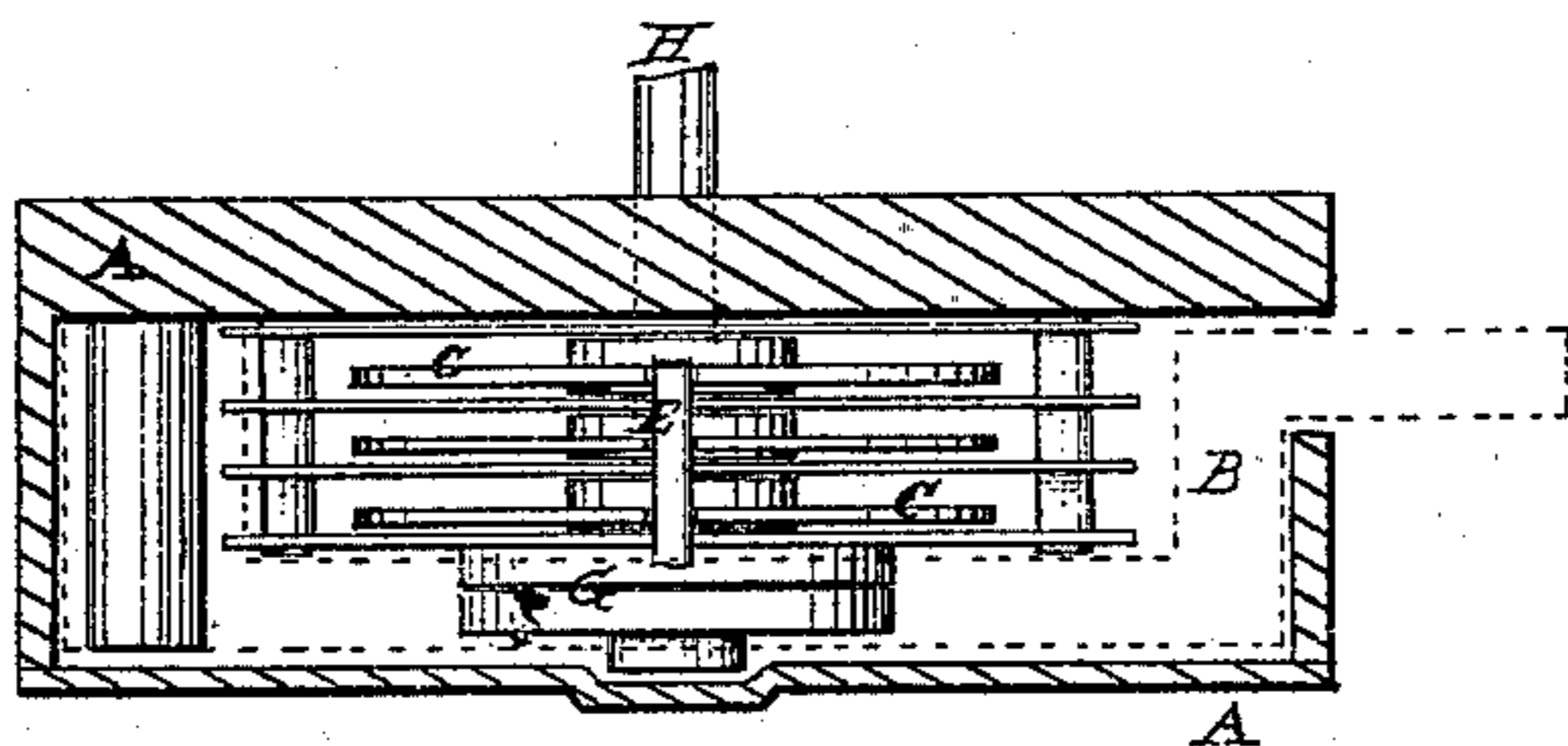


Fig. 2.



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IMPROVEMENT IN PERMUTATION LOCKS.

Specification forming part of Letters Patent No. 125,669, dated April 16, 1872.

To all whom it may concern:

Be it known that I, JOHN FARREL, of the State, city, and county of New York, have invented certain Improvements in Safe and Bank Locks; and the following is a specification thereof.

This invention relates to that description of lock for safes wherein the tumblers are revolvable wheels or disks. My improvement consists chiefly in the combination of wheel-tumblers with the fence of a latch-bolt, and with a bearer or bridge and intervened springs, whereby the bolt is provided with an elastic support, and the fence is prevented from entering the notches in the tumblers until the proper time, substantially as hereinafter described.

To enable others to comprehend and use my invention, I will proceed to describe the same, referring to the annexed drawing, wherein—

Fig. 1 is an interior view of the lock as seen from the back, and Fig. 2 is a vertical transverse section.

A represents the lock-case. B B' are latch-bolts, arranged within the same case, and each furnished with a separate mechanism for locking and unlocking the bolts, consisting chiefly of a series of disks or wheel-tumblers, C, arranged for rotation on a common axis, and otherwise so constructed as to be susceptible of the changes which characterize what are known as changeable locks. The tumblers represented have suitable notches, one to each, in their peripheries, to match a projection, E, termed a fence. Such fence is permanently fixed to the lower bolt B; but in the case of the upper bolt B¹ the fence is made fast in a hinged bar, B², which is connected with the bolt B¹ by means of a link, L. Said bolt or bolts, in locking and unlocking, are lifted and lowered by a cam or cams, G, on an operating-shaft, H, and when locked engage with suitable studs F, (dotted.) They may, however, be

released or disengaged only when the respective notches are all brought opposite the fence, and it then drops with the bolt by admission in said notches, such fence, while the bolt remains locked, tending to gravitate and rest on the peripheries of one or more of the tumblers.

Now, to support the bolt and hold it away from contact with the tumblers while revolving, in order that the position of the notches may not be ascertained by turning the tumblers and using the weight of the bolt to indicate such position, I provide a bridge or bearer, J, arranged to rest on the cam G; and between the bolt or bar B² and the bearer I introduce springs K, on which the bolt rests, and is thereby upborne and held away from the tumblers at all times, excepting when the flat sides of the cams are uppermost. When the cam or cams G are turned so as to raise the bearer the springs K are compressed, and when turned so as to lower it the resilience of the springs prevents the bolt from immediately obeying its otherwise downward tendency, and the fence from falling at once on the tumblers. The result is that under no circumstances can the position of one or any number of the tumblers be ascertained by experimental turning of the operating-shaft and tumblers.

Having thus described my improvements, what I claim as new, and desire to secure by Letters Patent, is—

The bridge or bearer J, having springs intervened between it and the latch-bolt B or bar B², in combination with the fence of a vibrating latch-bolt, a series of wheel-tumblers, and a revolving cam or cams, G, the parts being arranged and operating substantially as and for the purposes specified.

JOHN FARREL.

Witnesses:

EARLE H. SMITH,
JOHN L. ROBERTS, Jr.