

J. F. Milligan,

Door Lock.

N^o 90,864.

Patented June 1, 1869.

Fig. 1.

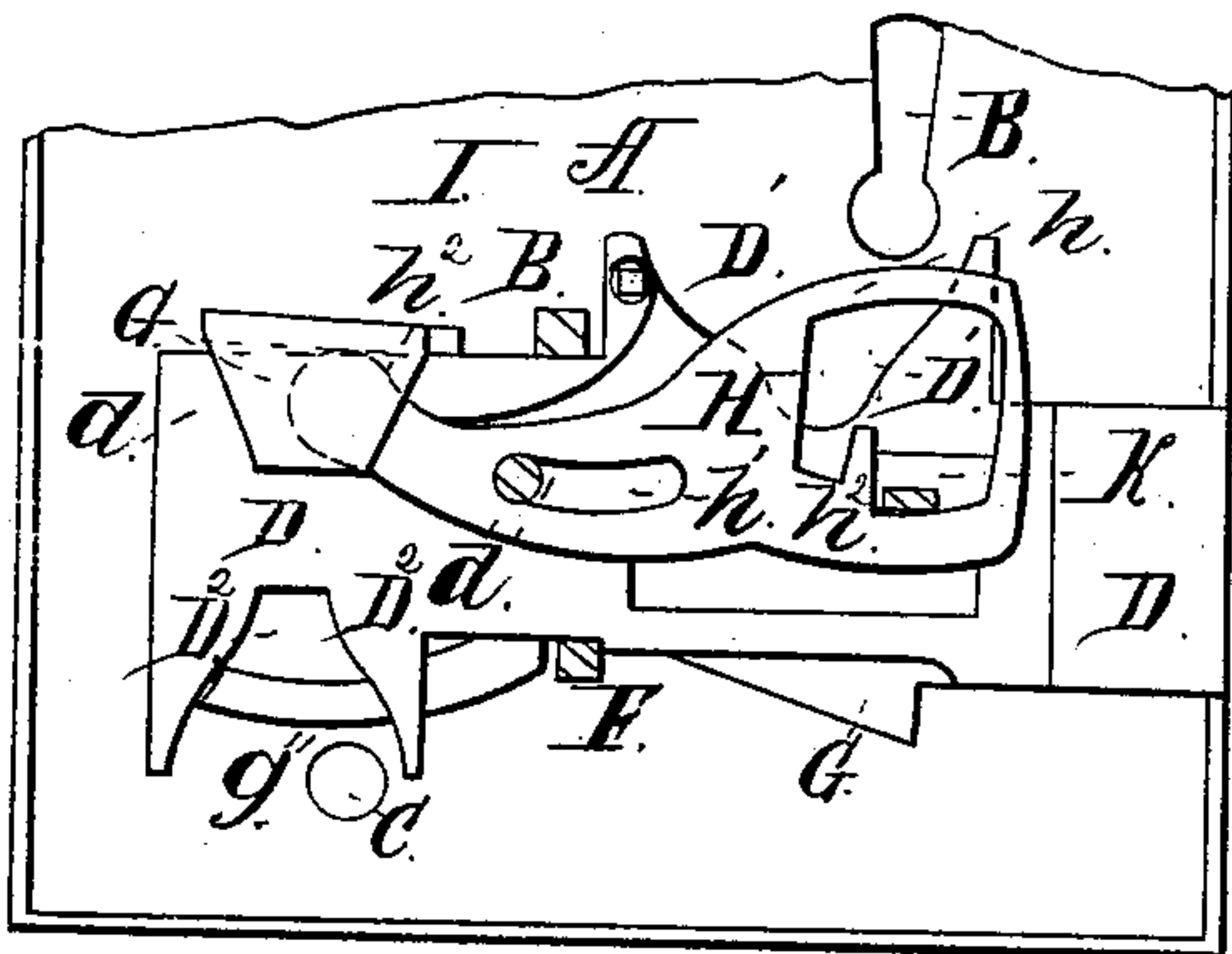


Fig. 2.

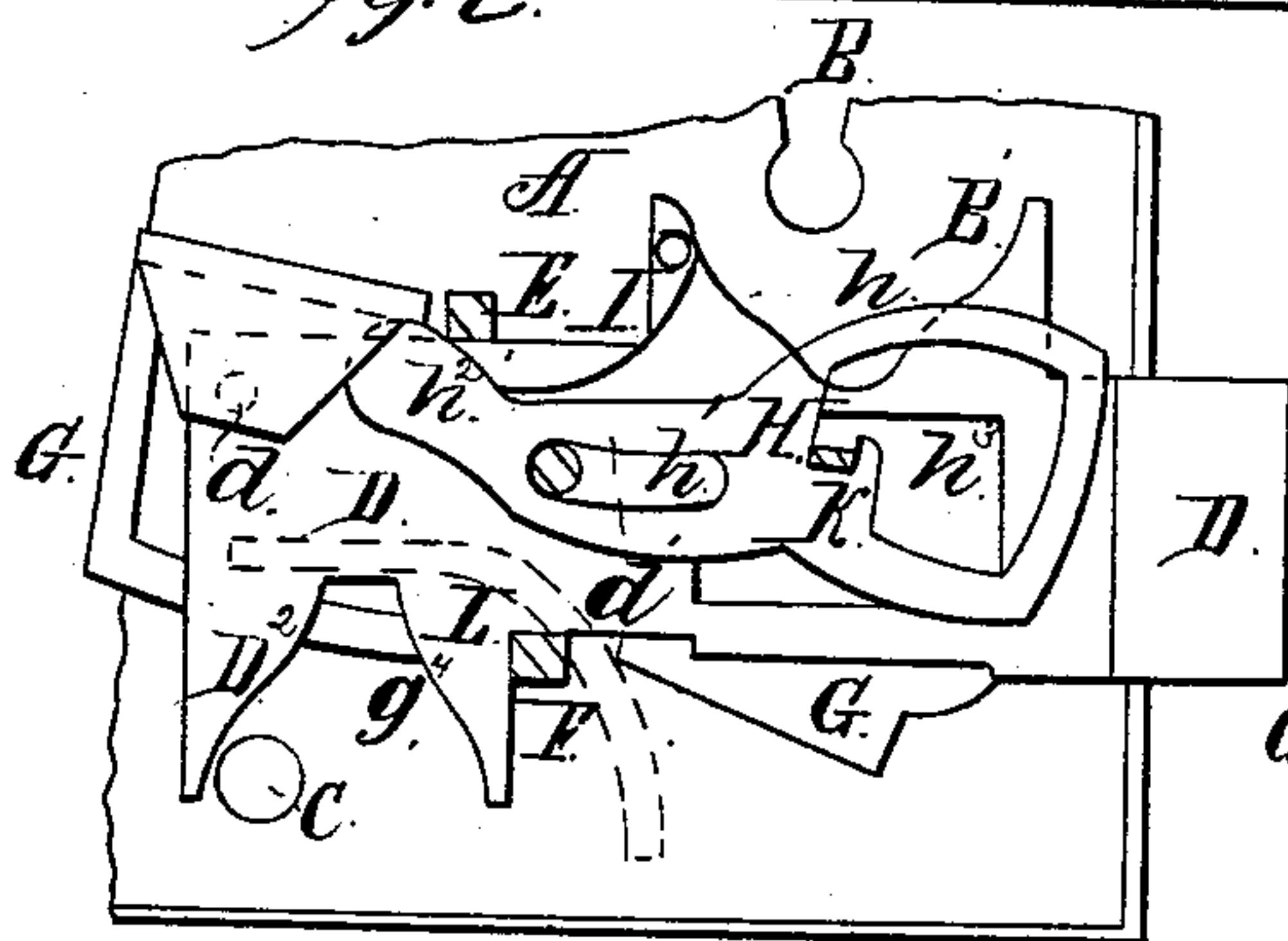


Fig. 3.

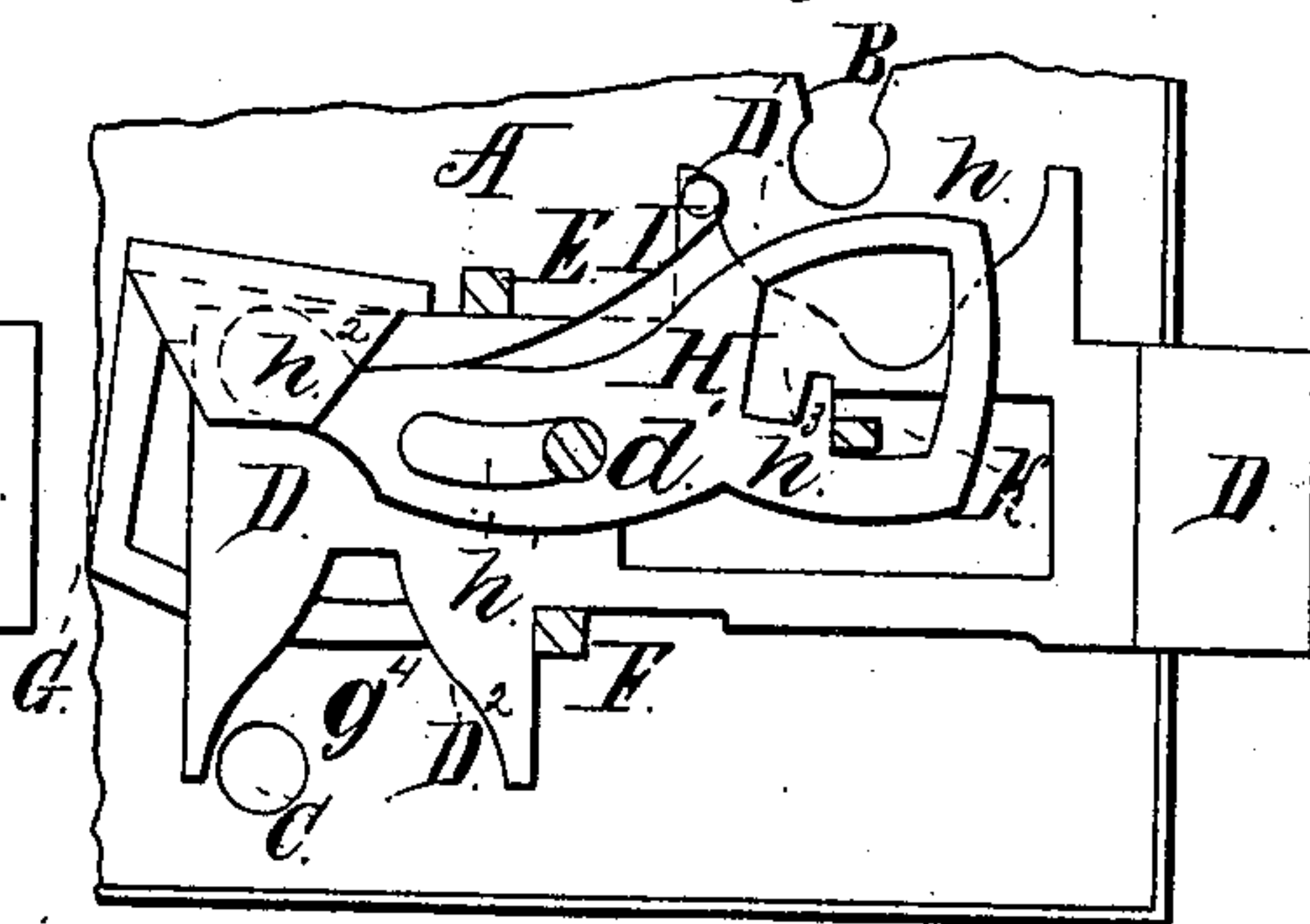


Fig. 5.

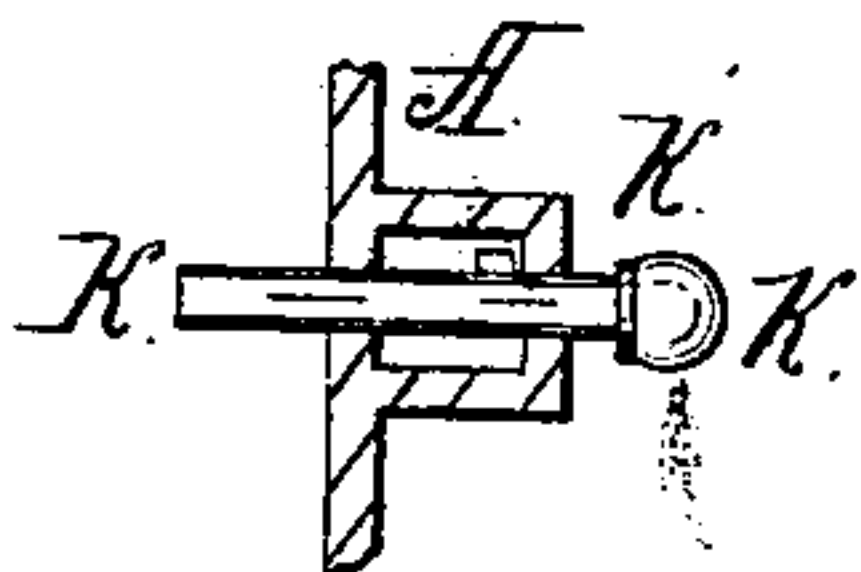
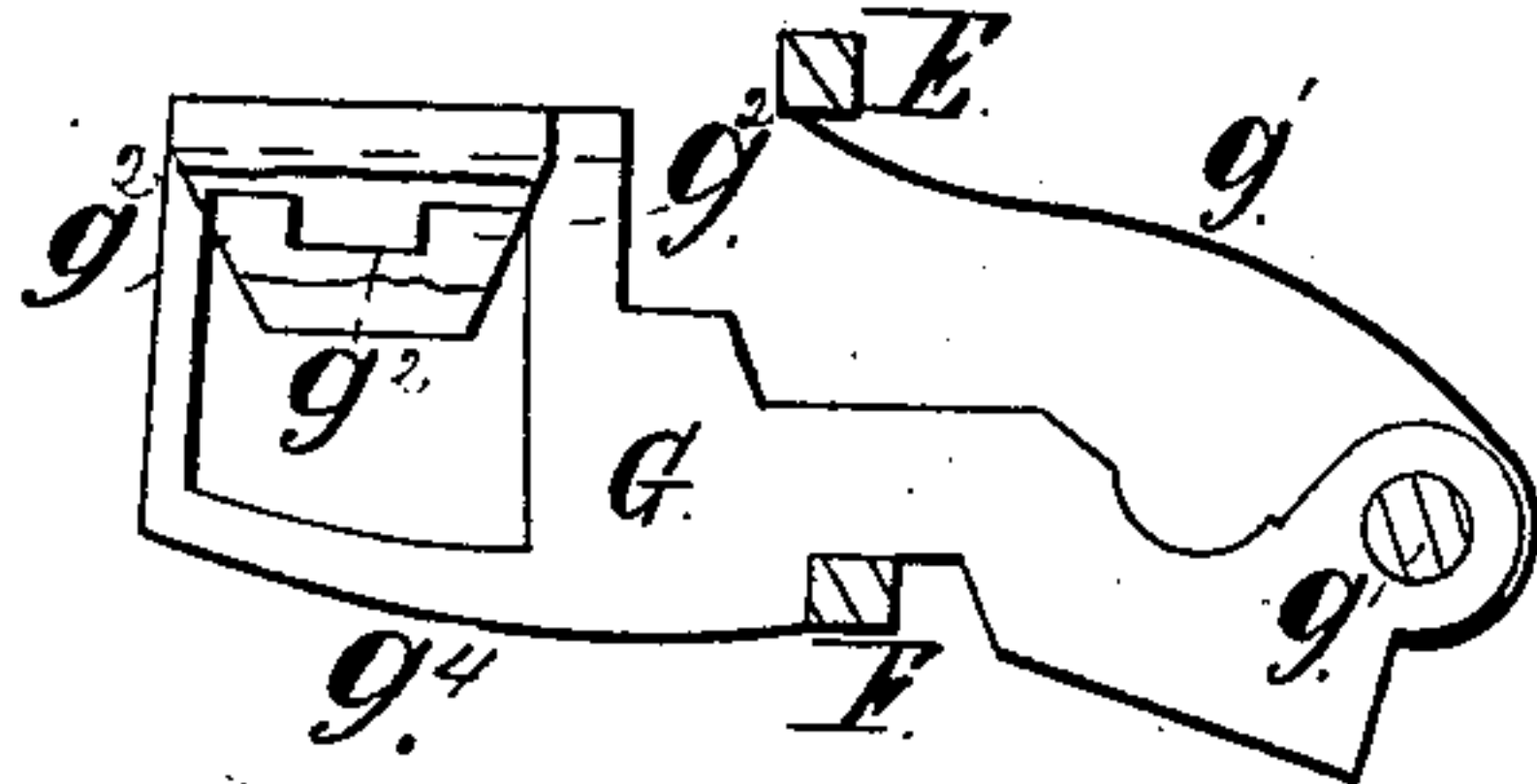


Fig. 4.



Witnesses
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Wm. W. Herthel

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United States Patent Office.

JOHN F. MILLIGAN, OF ST. LOUIS, MISSOURI.

Letters Patent No. 90,864, dated June 1, 1869.

IMPROVEMENT IN DOOR-LOCKS.

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, JOHN F. MILLIGAN, of St. Louis, in the county of St. Louis, and State of Missouri, have made certain new and useful Improvements in Door-Locks; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to form a lock giving greater security, by such construction thereof, that by locking the same from one side, (usually the side in-doors, and hereinafter called the "side within,") the bolt may not be withdrawn by unlocking from the reverse side, (usually the side out-doors, and hereinafter called the "side without,") either by the usual key or any counterpart thereto, said lock being, however, arranged so that when locked from without, it may be unbolted in the ordinary manner by the key from within.

It will be seen, then, that the occupants of a dwelling may freely pass out, each unlocking from within and locking from without, as ordinarily, but that when all occupants are within, and it is intended to bar effectually further ingress, that this is accomplished by simply locking from the side within, it being thereupon impossible, in accordance with the construction of my said lock, to unlock from without.

To effect the object aforesaid, the nature of this invention is in the arrangement of a second tumbler, to be operated solely by the key from one side, (usually the side within,) and this in connection with the usual tumbler and bolt of an ordinary door-lock, and in the specific details of construction hereafter to be mentioned.

To enable those herein skilled to make and use my said invention, I will now fully describe the same in its construction and operation, referring to

Figure 1 as an elevation showing the interior of the lock, with the locking-plate removed, the parts being shown as in position ready for locking from either side.

Figure 2 shows the parts as locked from the side within.

Figure 3, the same locked from the side without.

Figure 4 is a view of the ordinary tumbler.

In all said figures—

A represents the housing, or lock-casing, as seen from the interior of the lock.

B is the key-hole, for operating the lock from within, or the inside of the door.

To lock from without, the operator passes the key through the key-hole in the door, and through a key-hole which is in the backing-plate of the lock, and not shown, so that the shank of the key may reach the hole C, and the key will then be guided in its position, and may be turned to operate in the ordinary manner.

I arrange the said casing A in any convenient manner to securely hold and protect the devices within.

The bolt D passes out through a proper slot in the front of said casing, and is guided in its reciprocating rectilinear motion, furthermore, by the pins E and F, secured to the casing A.

The bolt D has the key-ways D¹ D² arranged to be operated by the key either from within or without, and the edges of said key-ways form projections which, by contact, respectively, with the pins E and F, limit the stroke of the bolt D.

Under the bolt D lies the tumbler G, hinged to the casing A, at g, by a pin, in the ordinary manner. The spring g¹ keeps the tumbler G to its engagement on the pin F, unless raised therefrom.

The tumbler G has mortises g², arranged with a central projection, g³.

A pin, d, of the bolt D is held by either one or the other of said mortises g², so that by the detention of said pin d the bolt D may not be moved, until by the operation of the key against the face g⁴ of said tumbler G, the same is raised, whereupon the key, acting against the key-ways D², propels the bolt forward. All of which is in the manner usual in the ordinary door-locks.

In order to operate the bolt D from the key-hole B, and to raise the tumbler G preparatory thereto, and for the other purposes specified as in the nature of this invention, I arrange the tumbler H, so that its face-edge h shall be in the same relative position to the key at the hole B that the face g⁴ of G was to the key at the key-hole for opening the lock from without.

The said tumbler engages upon the pin d' of the bolt D, being arranged for proper engagement with the slot h¹, and said tumbler has the bearing-edge h² pressing against the rear end of the lower tumbler G.

It will be seen, then, that in operating by key from within, through the key-hole B, the tumbler H is depressed, and its rear end h² being elevated, comes in contact with tumbler G, which is also lifted, so that when the key engages upon the key-ways D¹, the bolt is propelled forward.

But by the engagement of the pin d' at the rear end of the slot h¹, in the forward motion of the bolt D, the tumbler H is also moved forward; and as soon as the key releases the edge h of the said tumbler, this tumbler is caused to move up, under the impulse of the spring I, whereupon the detent K, which is secured in the casing A, engages in the mortise h³ of said tumbler H, thus preventing any forward or backward motion thereof, and owing to the engagement of the pin d in the rear end of the slot h¹, preventing any return of the bolt D.

The parts are now in the position indicated in fig. 2, from which it is apparent that a return of the bolt, or an unlocking, is impossible, except by release of the detent of the tumbler H, at the pin K. Hence, as a key from without cannot reach said tumbler, it is impossible to unlock from without, as heretofore stated to be in the nature of this invention.

By applying the key at B to unlock, the edge *h* of the tumbler H being depressed against the spring I, the detent K escapes from the mortise *h*³, and thereupon the key, acting upon the key-way D', returns the bolt and tumbler H to the first position indicated in fig. 1, unlocking the lock.

It is furthermore plain, that in operating said lock from without, as the key in nowise reaches the tumbler H, and as the bolt D, in its forward motion, carries the pin *d'* forward, in the slot *h*¹, without moving the tumbler H, the parts therefore remain as indicated in fig. 3, and the tumbler H takes no action for restraint upon the bolt D or the tumbler G, and thus the key operating thereupon from without to unlock, accomplishes the purpose in the ordinary manner, as heretofore indicated.

As it may be advantageous to arrange the said lock so that whether locked from within or from without, it may be opened from without, I have arranged the detent K adjustably in the casing A, as indicated in fig. 5. At its outer end is the knob *k*. The operator grasps this, and draws out the said detent, thus releasing the tumbler H from any possible engagement therewith, whereupon the check upon the backward or return motion of the tumbler H and bolt D, in case of

locking from within, is abandoned. A stop, *k'*, may be used to prevent the withdrawal of the detent altogether.

In order that experts may not, by wires or similar devices, open said lock, I arrange on the backing-plate a rib, L, indicated by red lines in fig. 2, said rib depending close down upon the bolt D, and thus preventing a wire from passing from the outer key-hole toward the tumbler H.

Having thus fully described my invention, What I claim, is—

1. The detent K, arranged to be moved out of engagement with the tumbler H, substantially as set forth.

2. The tumbler H, pivoted at *d'*, and arranged with the end *h*² operating to unlatch the tumbler G, when combined with the bolt D, detent K, and spring I, substantially as and for the purposes set forth.

In witness of said invention, I have hereunto set my hand, in the presence of—

JOHN F. MILLIGAN.

Witnesses:

GEO. P. HERTHEL, Jr.

WM. W. HERTHEL.