

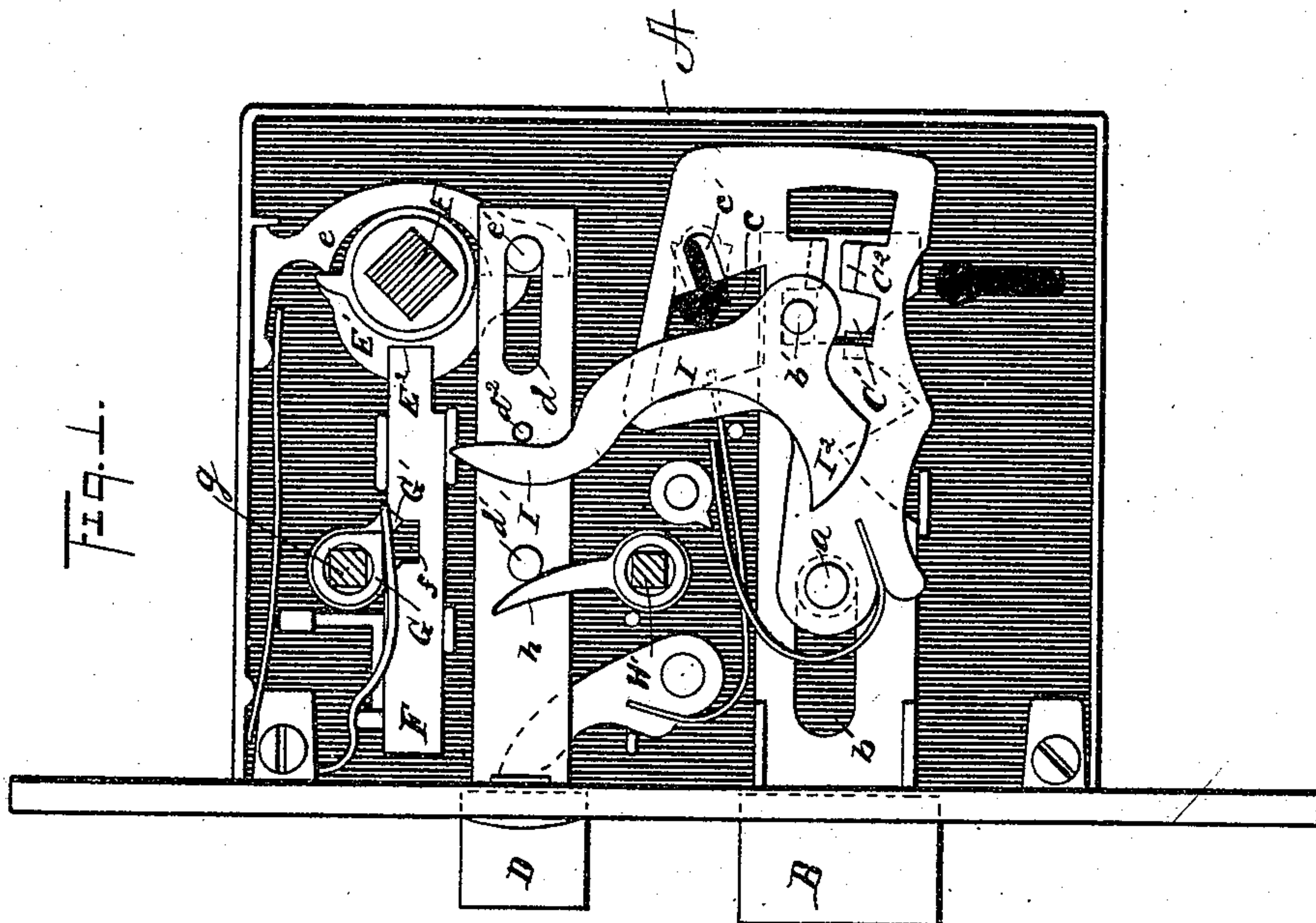
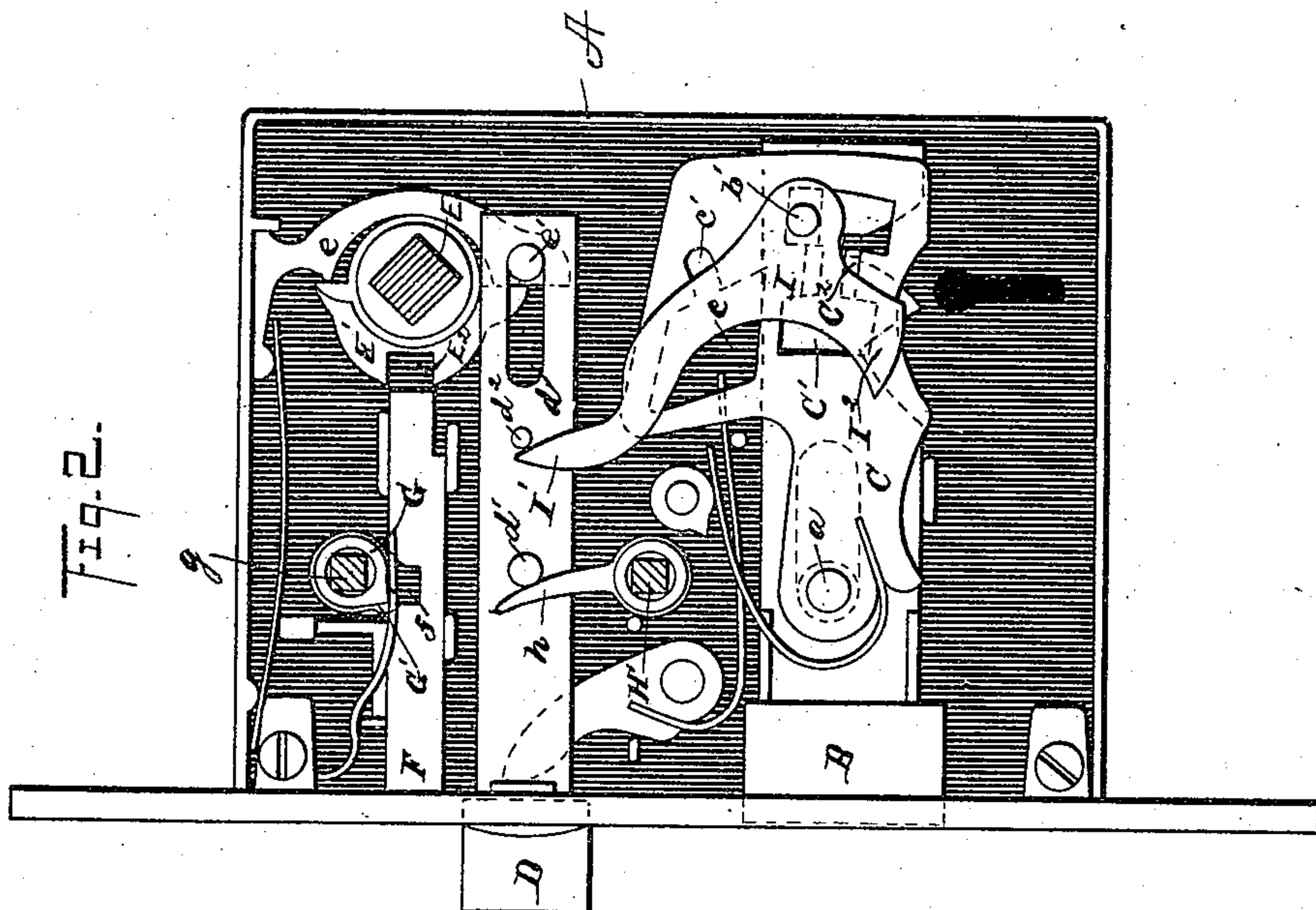
(No Model.)

2 Sheets—Sheet 1.

F. W. FORKEL & A. B. HUNN.  
LOCK.

No. 438,803.

Patented Oct. 21, 1890.



Witnesses.

Bill S. Lewis.  
*[Signature]*

Inventors.

Albert B. Hunn.  
and  
Frederick Forkel.  
Leggett and Leggett.  
Attorneys.

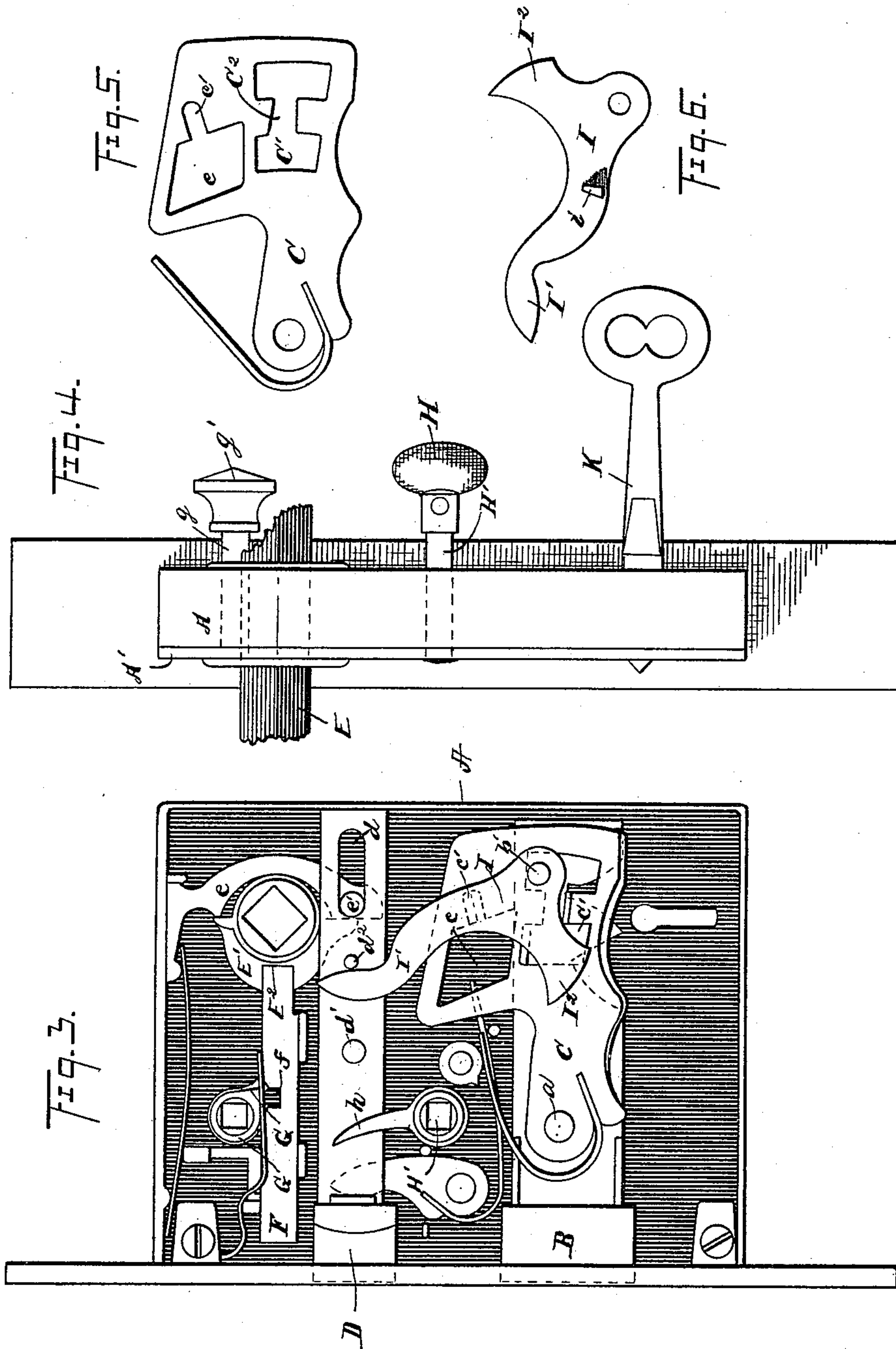
(No Model.)

2 Sheets—Sheet 2.

F. W. FORKEL & A. B. HUNN.  
LOCK.

No. 438,803.

Patented Oct. 21, 1890.



Witnesses.

Bill S. Lounis.

*[Signature]*

Inventors.

Albert B. Hunn.

and  
Frederick Forkel.

Leggett and Leggett.

Attorneys.



# UNITED STATES PATENT OFFICE.

FREDERICK W. FORKEL AND ALBERT B. HUNN, OF CLEVELAND, OHIO, ASSIGNORS TO THE PERKINS LOCK MANUFACTURING COMPANY, OF SAME PLACE.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 438,803, dated October 21, 1890.

Application filed March 13, 1890. Serial No. 343,764. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK W. FORKEL and ALBERT B. HUNN, of Cleveland, in the county of Cuyahoga and State of Ohio, have  
5 invented certain new and useful Improvements in Locks; and we do hereby 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 pertains to make  
10 and use the same.

Our invention relates to improvements in locks in which a lever of the bell-crank variety is fulcrumed on the racking-stump of the bolt, the one arm of such lever being  
15 adapted to engage and withdraw the latch, and the other arm of the lever being adapted to engage the key after the bolt shall have been withdrawn by turning the key still farther in the same direction that withdrew the  
20 bolt.

In the accompanying drawings, Figures 1, 2, and 3 are side elevations of the lock with the cover removed, showing different working positions of the parts. Fig. 4 is an end  
25 elevation of the lock. Figs. 5 and 6 are plans in detail, respectively, of one of the tumblers and of the bell-crank lever, showing the reverse side of the latter.

A represents the casing of the lock, and A' the removable cover thereof.

B represents the bolt; C, a tumbler, of which there may be any desired number, and D the latch.

E is the knob-spindle, provided in the usual  
35 manner with cam-hub E', that actuates hub-lever e. The latter has a lug e', operating in a slot d of the latch, and by turning the knob-spindle in either direction lug e', by engaging the inner end wall of slot d, withdraws the  
40 latch. Hub E' is provided with a recess E<sup>2</sup> for receiving the inner end of the locking-slide F, by means of which hub E' may be locked so that the latch cannot be withdrawn by operating the knob-spindle.

45 G is a hub, having an arm G' adapted to operate in notch f of locking-slide F. Hub G connects with spindle g, the latter being provided on the inside of the door with thumb-turn g', by manipulating which the slide is  
50 shifted, whereby the knob-spindle and attach-

ments are locked or unlocked; also, on the inside of the door is a thumb wheel or knob or thumb-turn H, as the case may be, mounted on spindle H'. This spindle inside the lock is provided with an arm h, adapted to engage  
55 lug d' of the latch, and by manipulating knob H the latch may be withdrawn after the bolt-spindle hub shall have been locked by the slide. The tumbler or tumblers, as the case may be, are pivoted on lugs a of the casing,  
60 this lug operating in a slot b of the bolt, lug a, by engaging the end walls of slot b, serving as a stop to limit the movement of the bolt in either direction. The tumblers are provided with openings C', known as "racks," in  
65 which operates lug b' of the bolt, this lug being known as the "racking-stump." The tumblers lock the bolt, except the tumblers be raised by the key so that slots C<sup>2</sup> of the tumblers are opposite the stump of the bolt. Upon  
70 the racking-stump b' is fulcrumed lever I, of the bell-crank variety, the long arm I' thereof being adapted to engage lug d<sup>2</sup> of the latch, whereby the latch may be withdrawn by actuating the lever. The short arm I<sup>2</sup> of the bell-  
75 crank lever is out of the way of key K in shooting or withdrawing bolt B; but the bolt having been withdrawn and the parts being in the position shown in Fig. 2, arm I<sup>2</sup> is in position to engage the key if the latter be turned  
80 far enough in the same direction that withdrew the bolt. The tumblers are provided with spaces or racks c, in which operates lug i of the bell-crank lever, and connecting with  
85 rack c is a notch c', into which lug i may retire when the tumblers, by engagement with the key, shall have been elevated so as to bring notches c' opposite lug i. With the position of parts shown in Fig. 2, the bolt having  
90 been withdrawn by turning the key, the latter is turned still farther in the same direction, whereupon the wards of the key first engage the tumblers and elevate the latter so that notches c' are opposite lug i, and a further movement of the key in the same direc-  
95 tion actuates lever I in the direction to withdraw the latch. It will be seen, therefore, that the knob-spindle having been locked the party having the key can from the outside of the door not only withdraw the bolt, but by 100

a farther movement of the key in the same direction can also withdraw the latch and open the door.

Many of the minor details of the lock are  
5 omitted in the description because of their being so well known.

What I claim is—

1. In a lock, the combination, with a latch  
10 and a bolt provided with tumblers, of a lever mounted on the racking-stump of the bolt, the one arm of the lever being adapted to engage the latch, and the other arm of the lever being adapted to engage the key, the arrangement being such that the latch is withdrawn  
15 by a further movement of the key in the same direction that withdrew the bolt, substantially as set forth.

2. The combination, with a latch and a bolt and tumblers, of a bell-crank lever mounted on the racking-stump of the bolt in position  
20 to engage the latch and to engage the key after the bolt shall have been withdrawn, such lever having a lug or projecting member adapted to operate in a rack of the tumblers, substantially as set forth.  
25

In testimony whereof we sign this specification, in the presence of two witnesses, this 26th day of February, 1890.

FREDERICK W. FORKEL.  
ALBERT B. HUNN.

Witnesses:

C. H. DORER,  
G. H. ROBBINS.