

(No Model.)

J. B. PRICE.
PADLOCK.

No. 483,866.

Patented Oct. 4, 1892.

Fig. 1.

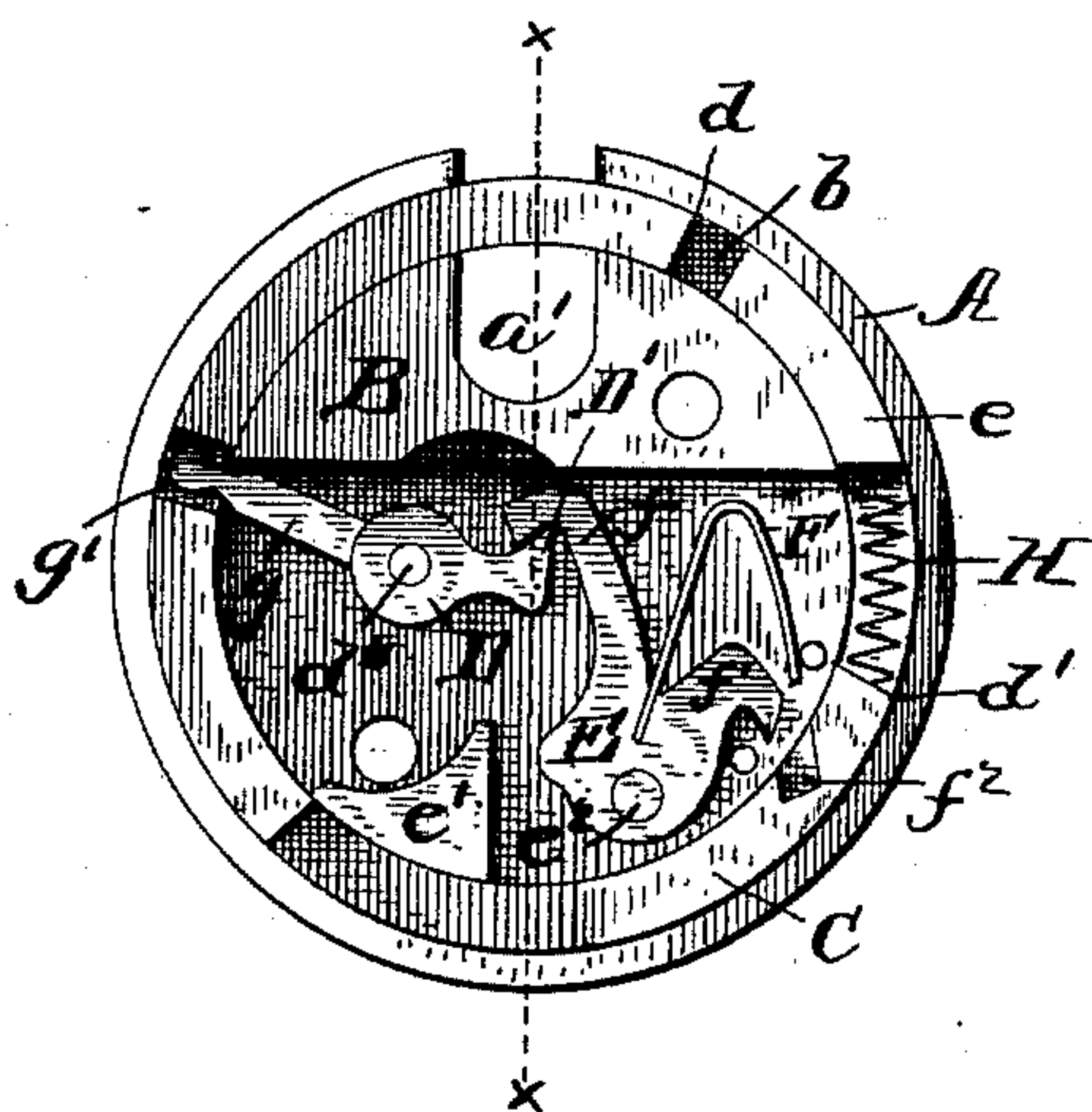


Fig. 2.

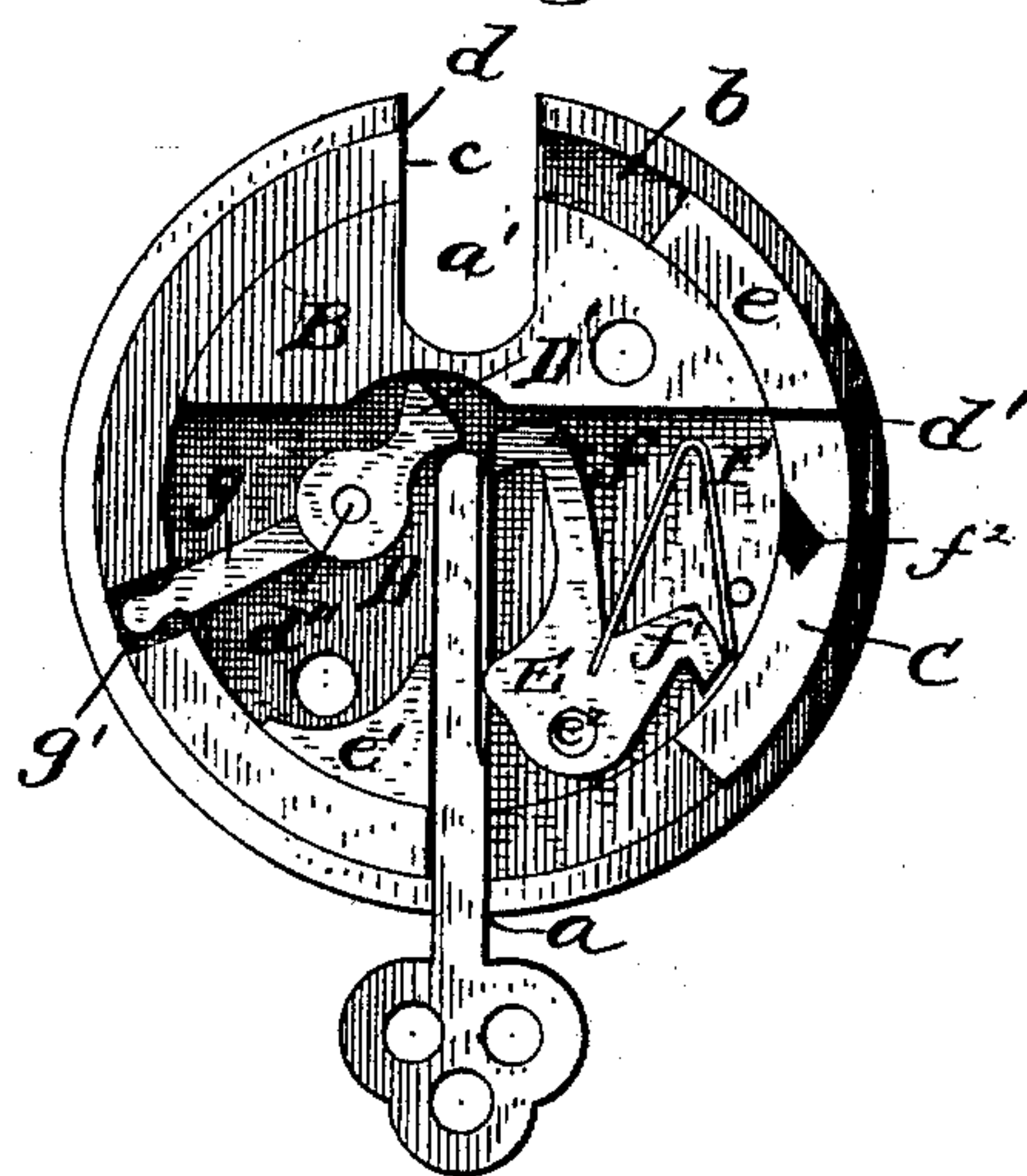


Fig. 3.

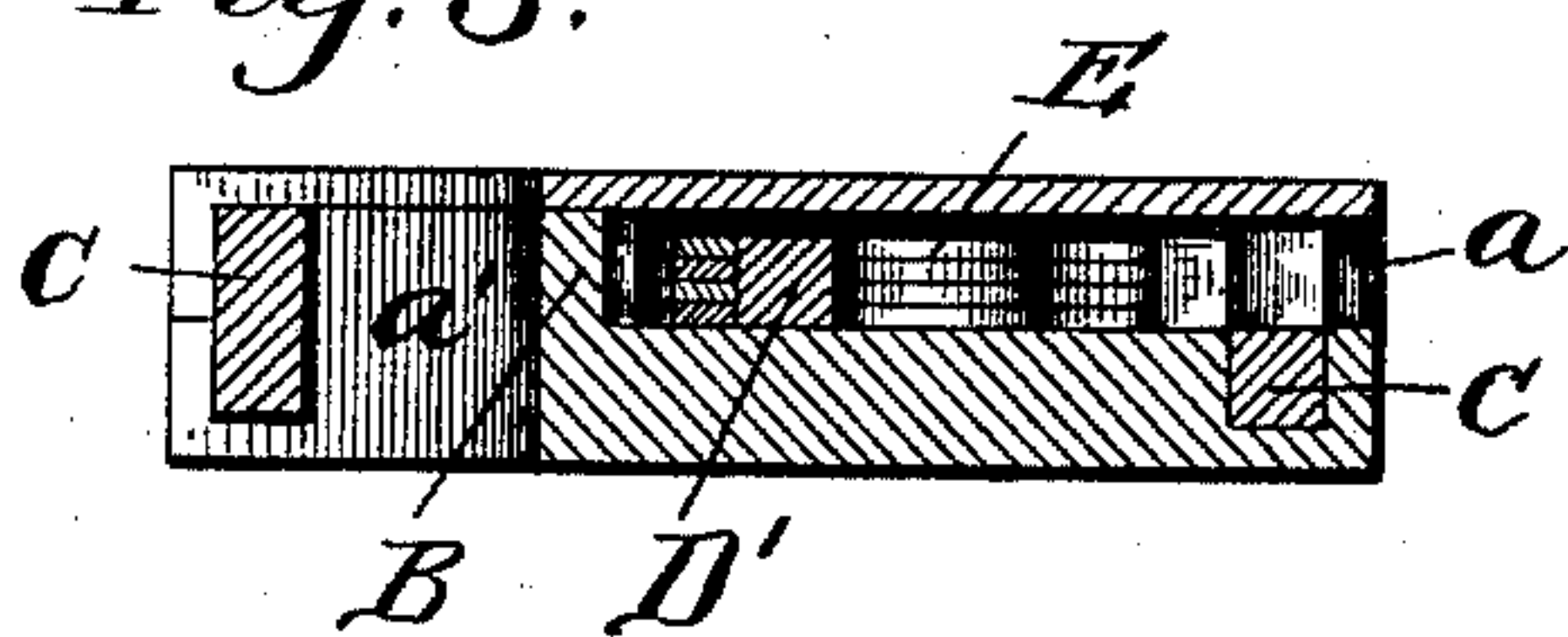


Fig. 5.

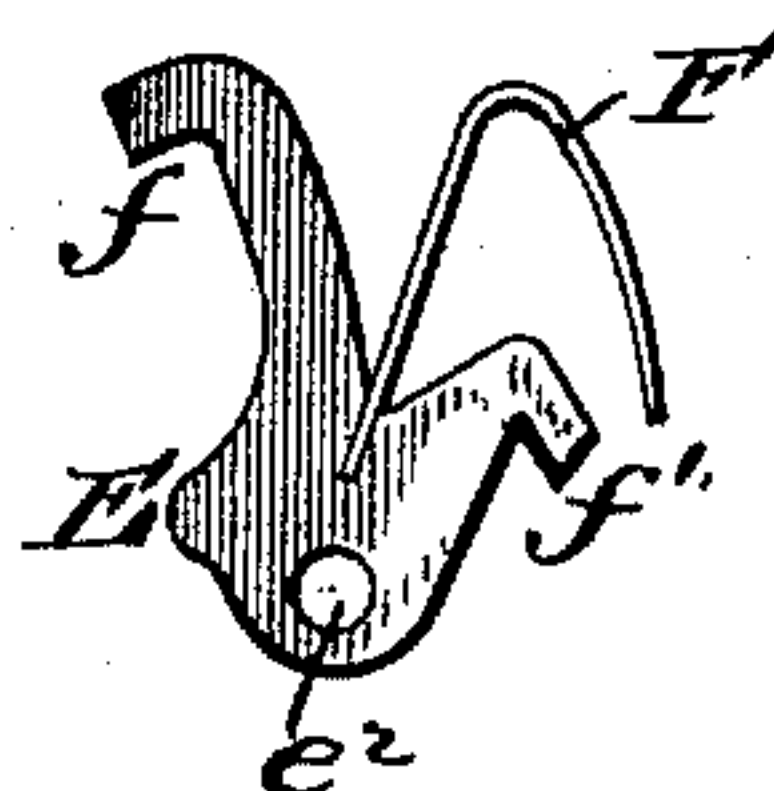


Fig. 4.

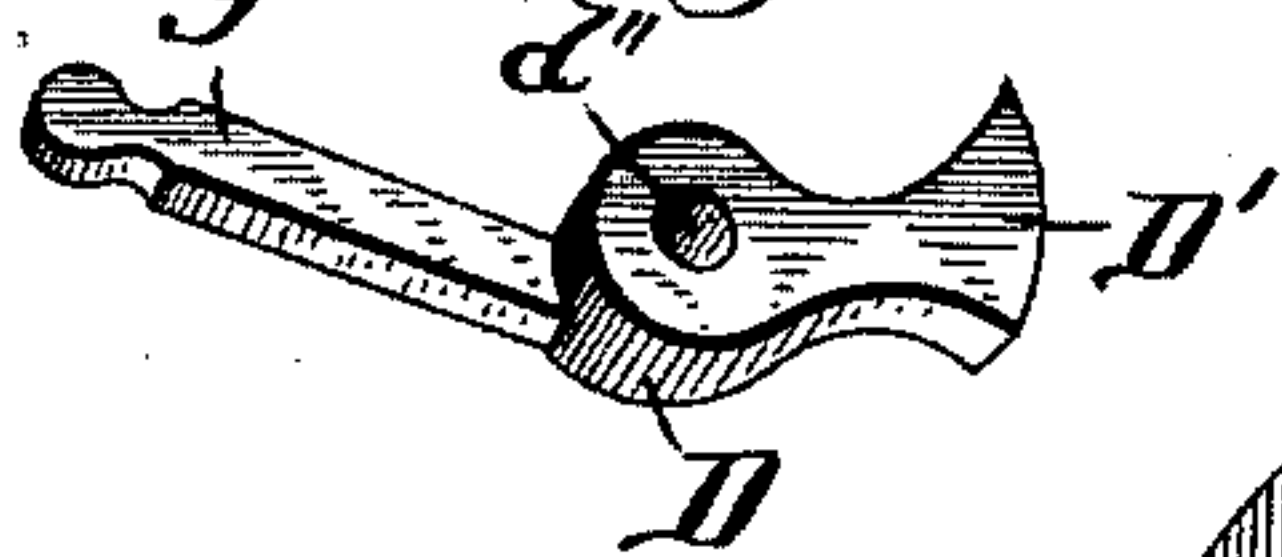
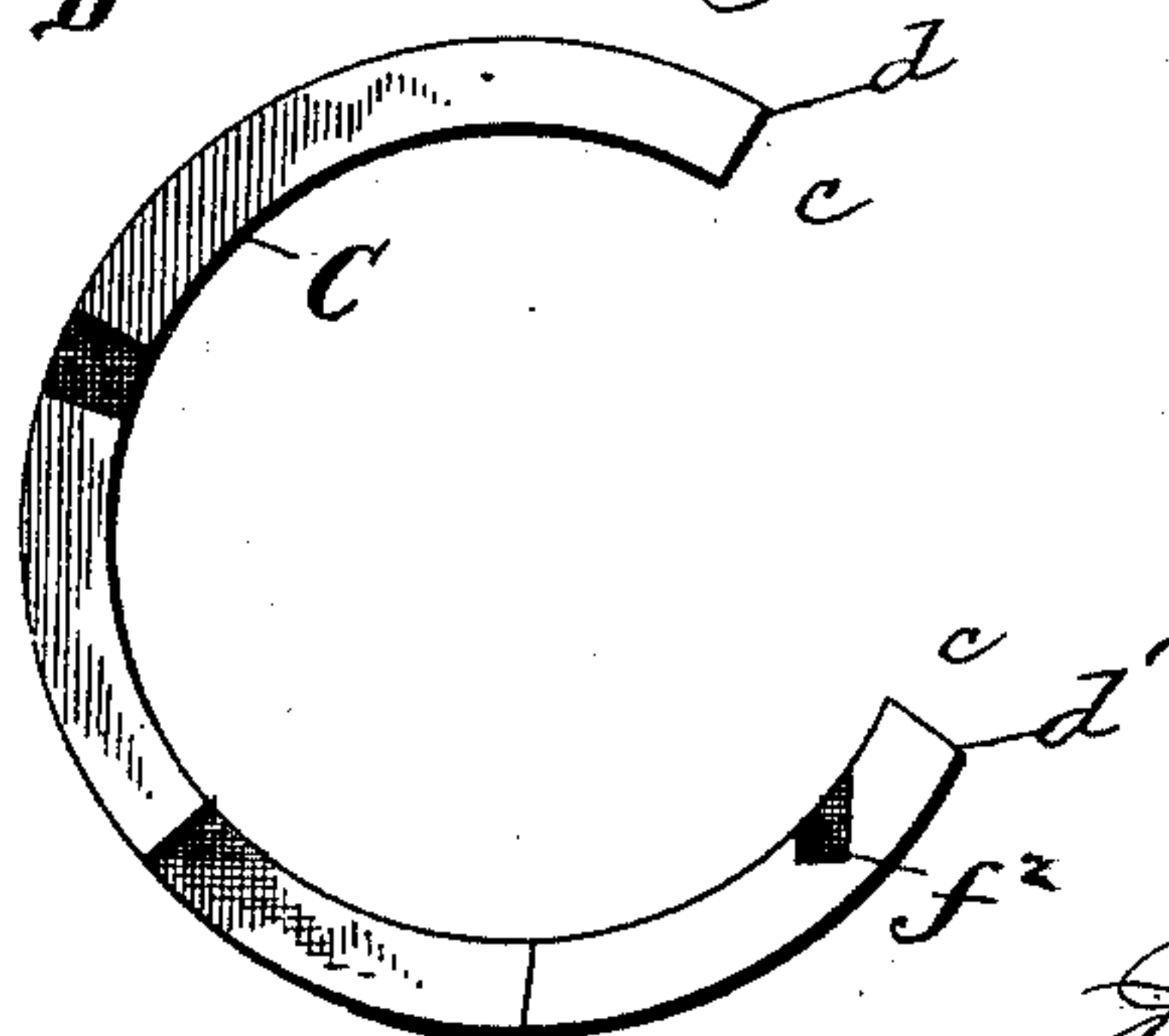


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN B. PRICE, OF WOLLASTON, MASSACHUSETTS.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 483,866, dated October 4, 1892.

Application filed March 30, 1892. Serial No. 427,109. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. PRICE, a citizen of the United States, residing at Wollaston, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Padlocks; and I 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 appertains to make and use the same.

This invention relates to improvements in padlocks having a circularly-moving annular bolt which is divided to adapt one end of the bolt to enter a hook or staple.

One of the objects of my invention is to provide greater security for the lock against surreptitious opening of the same by a pick or implement other than the proper key, and, further, to arrange and combine the parts in a compact simple form.

With these ends in view the invention consists of a suitable casing, an annular divided bolt normally pressed or held by a spring in position across the hasp or staple receiving opening of the lock-casing, a pivoted hub having an arm connected to the bolt to shift the same and another arm arranged in the path of a key and adapted to be operated by the same when the tumblers are disengaged from the same by the wards of the key, said tumblers being pivoted to engage with the pivoted hub when the bolt is projected and each having a spur or hook which is adapted to be engaged with the annular divided bolt should the tumbler (one or more of the same) be moved by a pick or other implement to a position beyond the one which it assumes when operated by the key.

The invention further consists in the peculiar construction and arrangement of parts, which will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a face view of the lock with one of the plates or covers removed, showing the normal position of the annular divided bolt. Fig. 2 is a similar view with the parts in position when the annular bolt is retracted. Fig. 3 is a sectional view on the line $x x$ of Fig. 1. Fig. 4 is a detail view of the pivoted operating-hub. Fig. 5 is a detail view of one of the tumblers, and Fig. 6 is a similar view of the bolt.

Like letters of reference denote corresponding parts in the several figures of the drawings.

A is the lock-casing, which is made, preferably, circular in outline, and in its lower side the casing has a key-opening a , while in the opposite upper side a hasp or staple receiving slot a' is formed, which extends radially from the perimeter of the casing for a suitable distance into the same to adapt the hasp or staple to properly fit into the lock-casing, so that the bolt can suitably engage therewith. Within the locking-casing and rigid with one part thereof is a pillar-plate B, which is of less diameter than the casing itself and is arranged concentric with the same, so that an annular groove or way b is provided between the opposing faces of the pillar-plate and the lock-casing, and in this annular groove is fitted an annular circularly-moving bolt C, which is adapted to move freely in said groove or way around the pillar-plate as a center. The bolt is divided at c to form an opening therein, and the two ends $d d'$, one of which d is adapted to be projected across the hasp or staple opening a' , and in the path of the other end d' of the bolt is projected an abutment e , which lies in the groove or way b and is rigid with the pillar-plate or the lock-casing, as most preferred. The radial slot a' for the hasp or bolt also extends into the pillar-plate for a suitable distance, as shown. One face of the pillar-plate is recessed or cut away to provide a space or chamber for the tumblers and the key-operated hub.

The hub D is pivoted at d'' to the pillar-plate, so that the pivot lies out of the path of the key when it is thrust into the lock between the guide e' and the tumblers, and rigid with the hub is a tongue D' , which is projected into the path of the key, so that the end thereof can engage with the tongue at one side of the pivot of the operating-hub after said key has operated the tumblers to free them from engagement with the tongue. The lower face of the tongue is hollowed out or curved to provide a seat for the end of the key, and the upper side of the tongue is beveled or inclined to form a sharp edge, over which take the ends of the tumblers E. A suitable number of these tumblers are employed, being laid flat one upon the other and pivoted to a common pivot e^2 , which is fas-

tened in the pillar-plate, and each tumbler has two hooks or spurs $f f'$, one of which hooks f is forced over the tongue D' by the tumbler-spring F when the bolt is projected, and the other hook f' is adapted to be forced into a recess or notch f^2 in the inner edge of the bolt should the tumbler be moved by a pick or other implement beyond the position to which it is moved by the proper ward of the key, whereby the hooks f' on the tumblers are adapted to engage with the bolt and prevent its retraction when an attempt is made to open the lock by any implement other than the proper key. The key-operated hub is further provided with a radial arm g , which extends to the bolt and fits in a socket g' , formed therein for its reception, and when the hub is turned by the inward push of the key this arm g serves to retract the bolt against the tension of the projecting spring H . This spring is preferably of the coiled pattern and is fitted in the space between the abutment e and the shoulder or end d' of the bolt, the tension of the spring being sufficient to throw or project the bolt across the slot a' when the key is withdrawn.

This being the construction of my improved padlock, the operation may be described as follows: Normally the spring H impels the end d of the bolt across the slot a' , and the tumbler-springs cause the tumblers to take over the tongue of the operating-hub, thus locking the bolt in its projected position. When the proper key is inserted, the wards act on the parts E of the tumblers and force the same rearward to disengage the hooks f from the tongue, thus releasing the hub from the operating-piece, and the continued inward movement of the key causes the end thereof to move the tongue D' upward, thereby turning the hub on its pivot and throwing the arm g to retract the bolt against the tension of the spring H . The lock can now be detached, and when it is desired to again fasten the door it is only necessary to insert the staple or hasp into the slot a' and withdraw the key, whereupon the spring H instantly projects the bolt and the tumblers are forced into engagement with the tongue D' , locking the bolt against retrograde movement. If a pick or implement is inserted in the lock to open the same, one or more of the tumblers are forced backward far enough to bring the hook or hooks f' into the notch f^2 , and thereby hold the bolt from being retracted.

I am aware that changes and alterations can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such modifications and alterations as fairly fall within the scope of my invention.

What I claim as new is—

1. In a padlock, the combination, with the slotted casing, of an annular divided bolt guided within said casing to have circular movement therein, a pivoted key-operated hub connected to the bolt, and a tongue arranged in the path of a key, and the tumblers E , pivoted within the casing and having the hooks f , which take over the tongue of the key-operated piece, said tumblers having projections between their pivots and the hooks f , which are adapted to be operated by a key to force the tumblers away from the key-operated piece, as and for the purpose described.
2. In a padlock, the combination, with a suitable casing, of a divided annular bolt guided within the casing to have circular movement therein, a pivoted operating-piece having an arm connected to said bolt and a tongue arranged in the key-path, and the tumblers engaging with said tongue of the operating-piece, substantially as described.
3. In a padlock, the combination of a suitable casing, an annular divided bolt having the notch f^2 , the key-operated piece connected with the bolt and having a tongue, and the pivoted tumblers, each having two hooks or projections, one projection being normally in engagement with said tongue and the other projection adapted to engage with the notch in the bolt, for the purpose described, substantially as set forth.
4. In a padlock, the combination of a casing having a key-opening and a radial slot, the pillar-plate forming an annular groove within the casing, the divided bolt fitted in said groove and having the notch f^2 , the pivoted hub provided with an arm which is connected to the bolt, and a tongue arranged in a key-path, the pivoted double-hooked tumblers, and a spring for projecting the bolt across the radial slot in the casing, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. PRICE.

Witnesses:

CHAS. F. THAYER,
HENRY J. THAYER.