

(No Model.)

M. H. LUTZ & M. MOORE.  
PADLOCK.

No. 584,727.

Patented June 15, 1897.

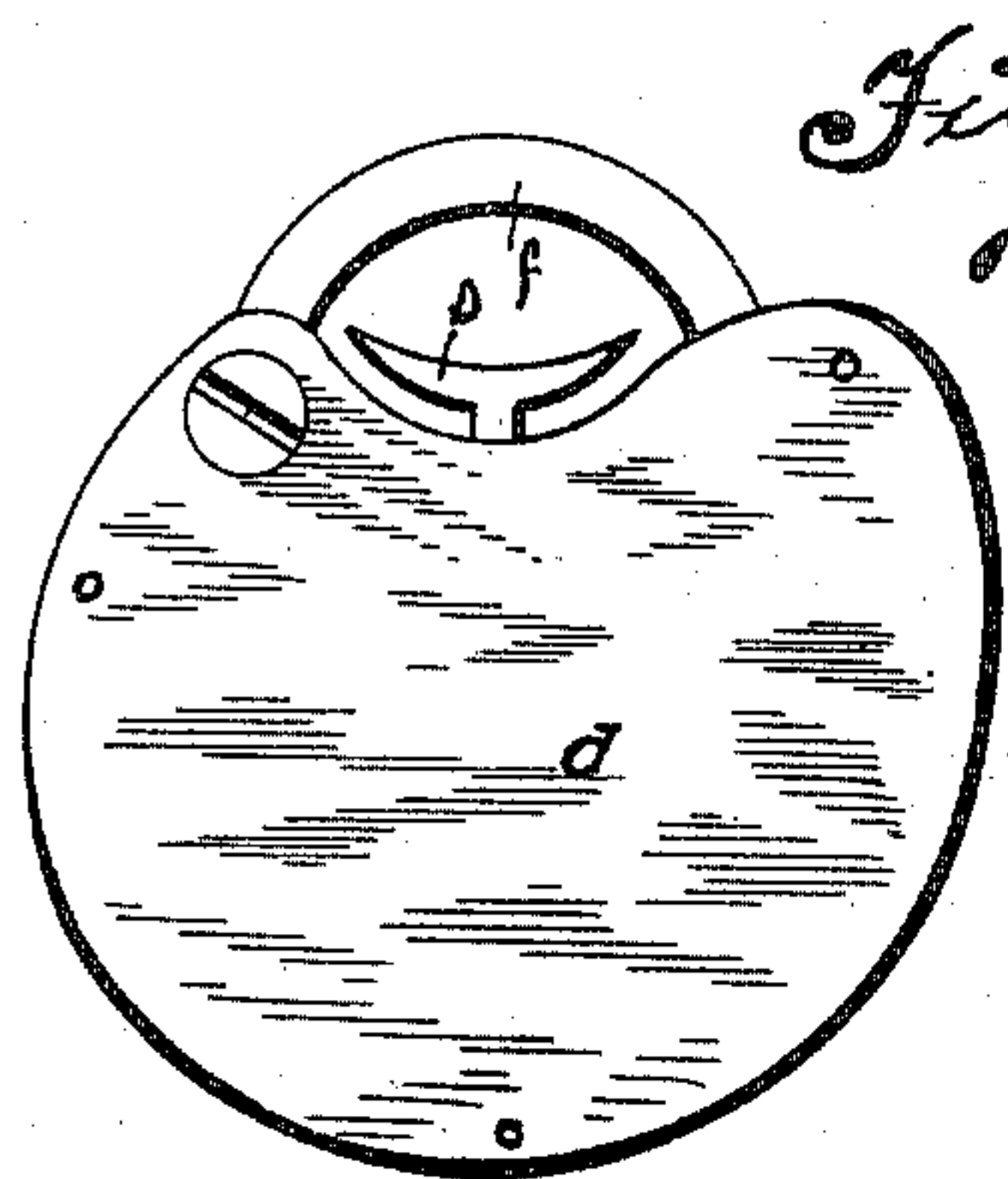


Fig. 1.

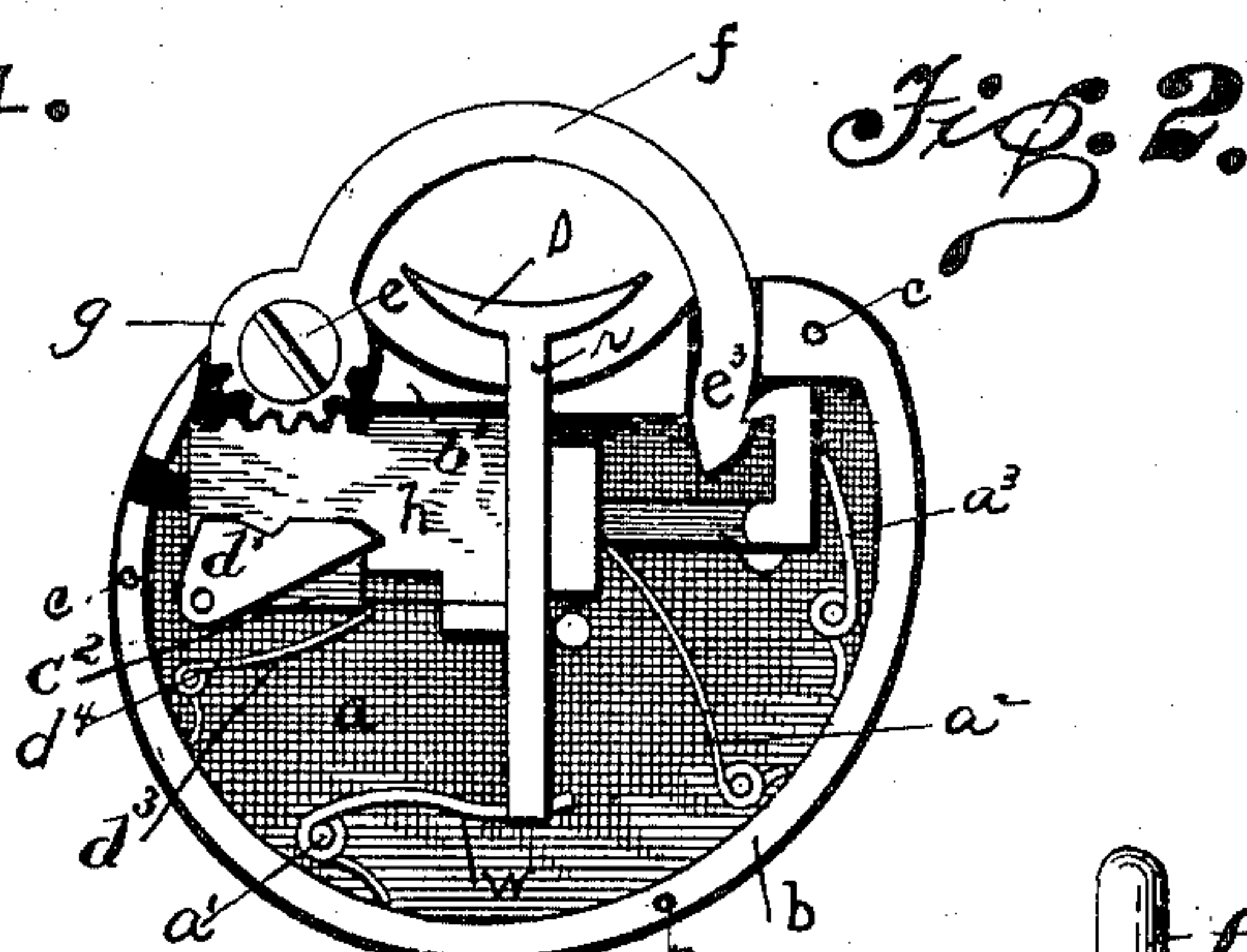


Fig. 2.

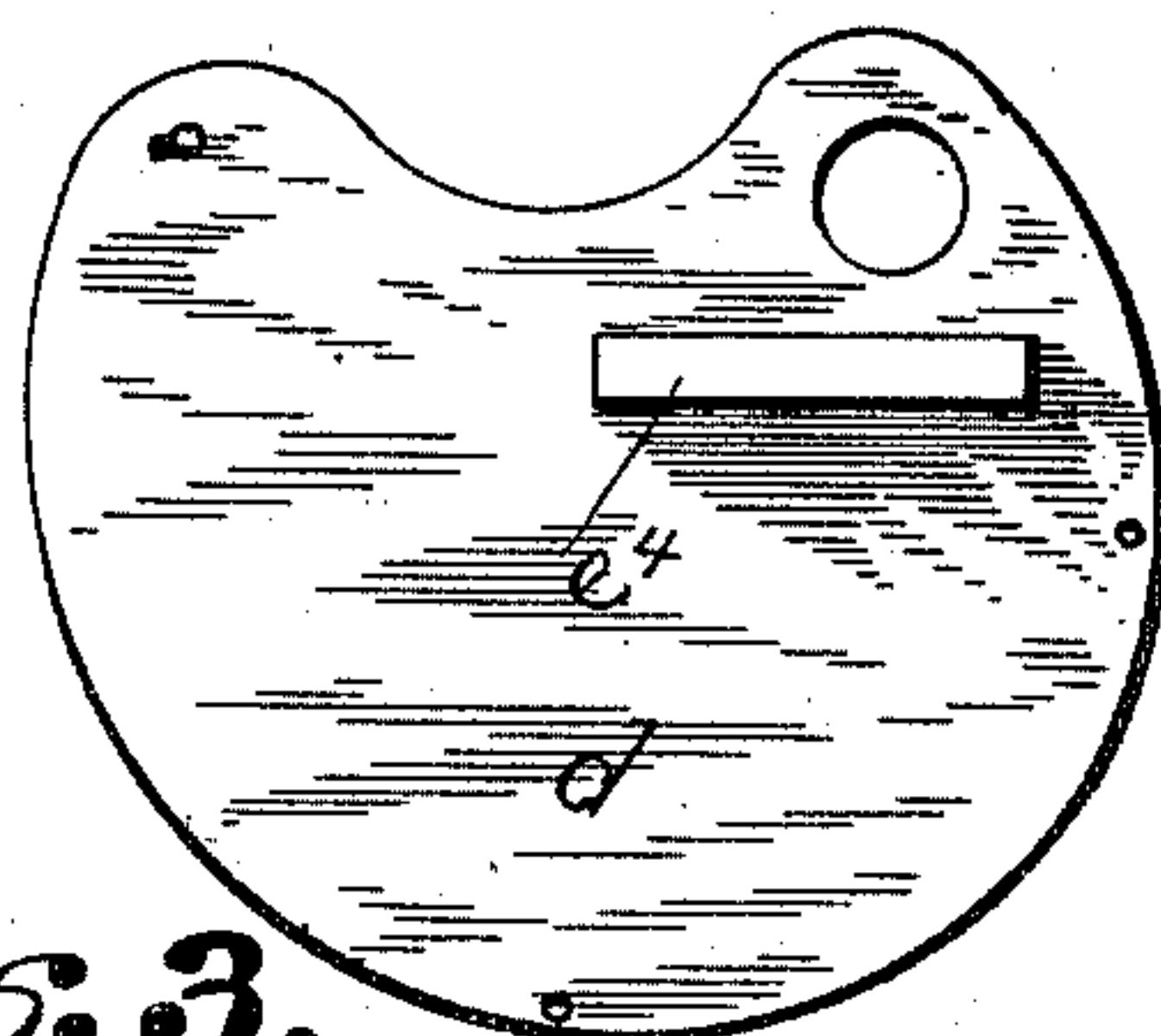


Fig. 3.

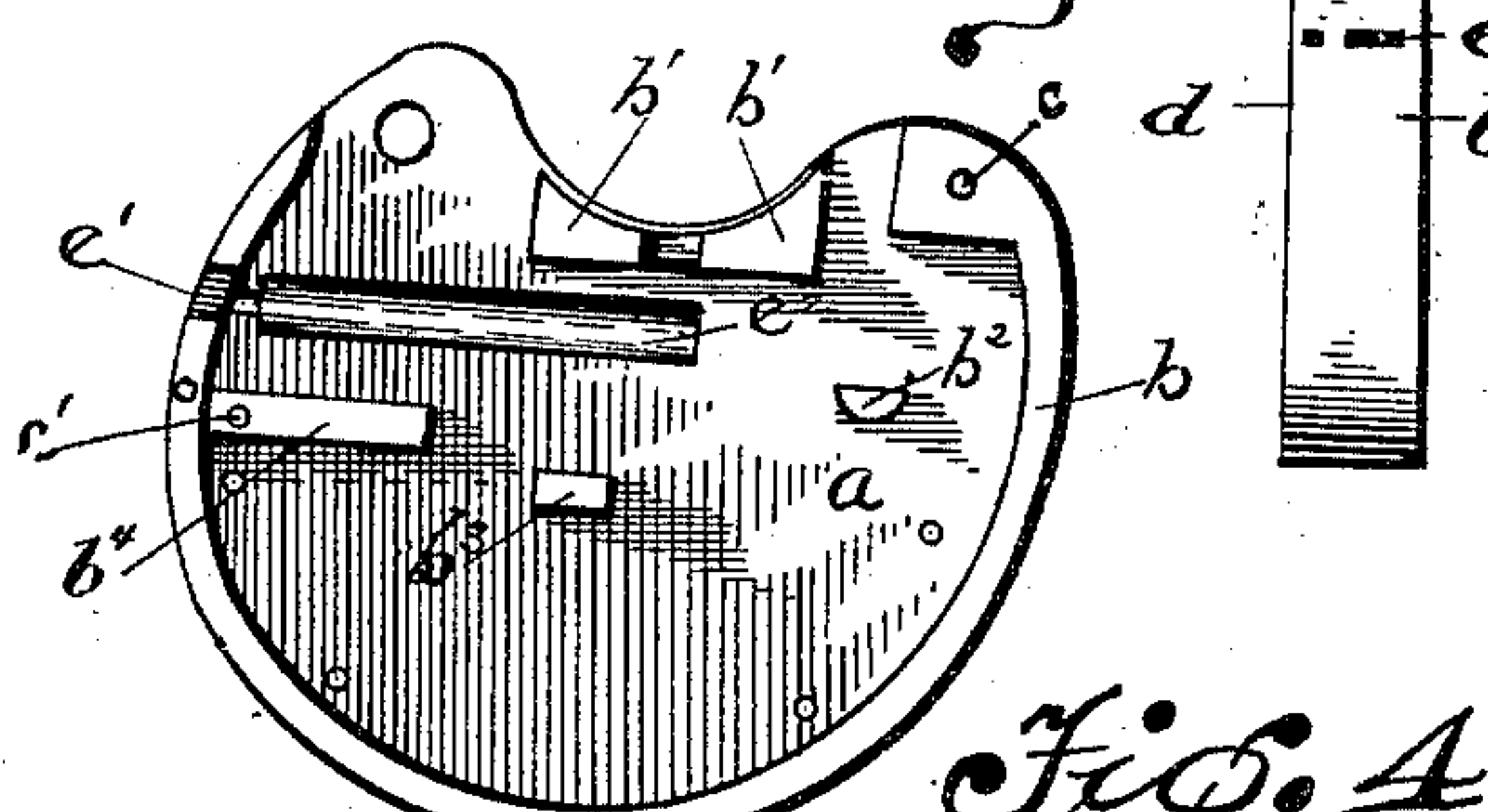


Fig. 4.

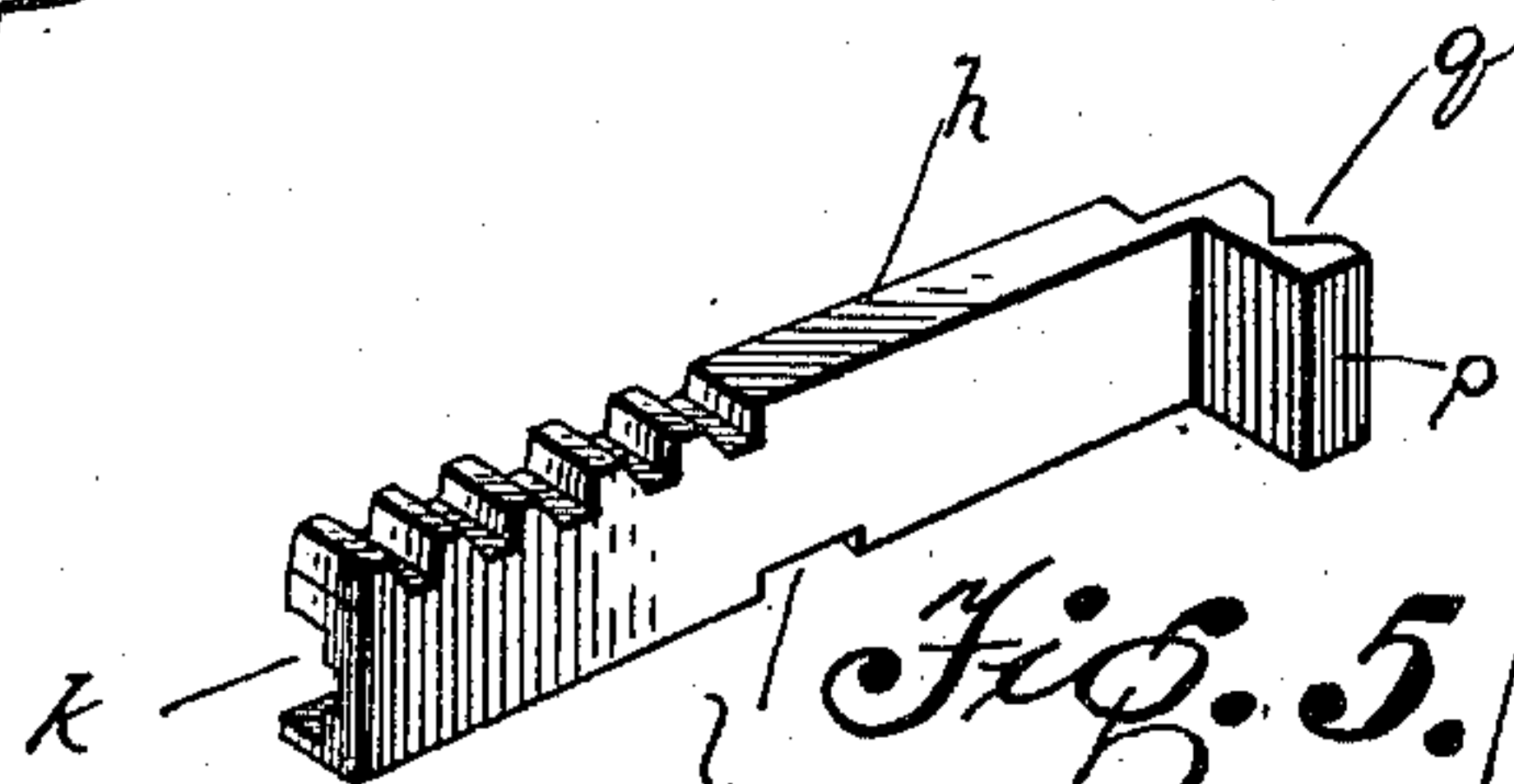


Fig. 5.



Fig. 10.

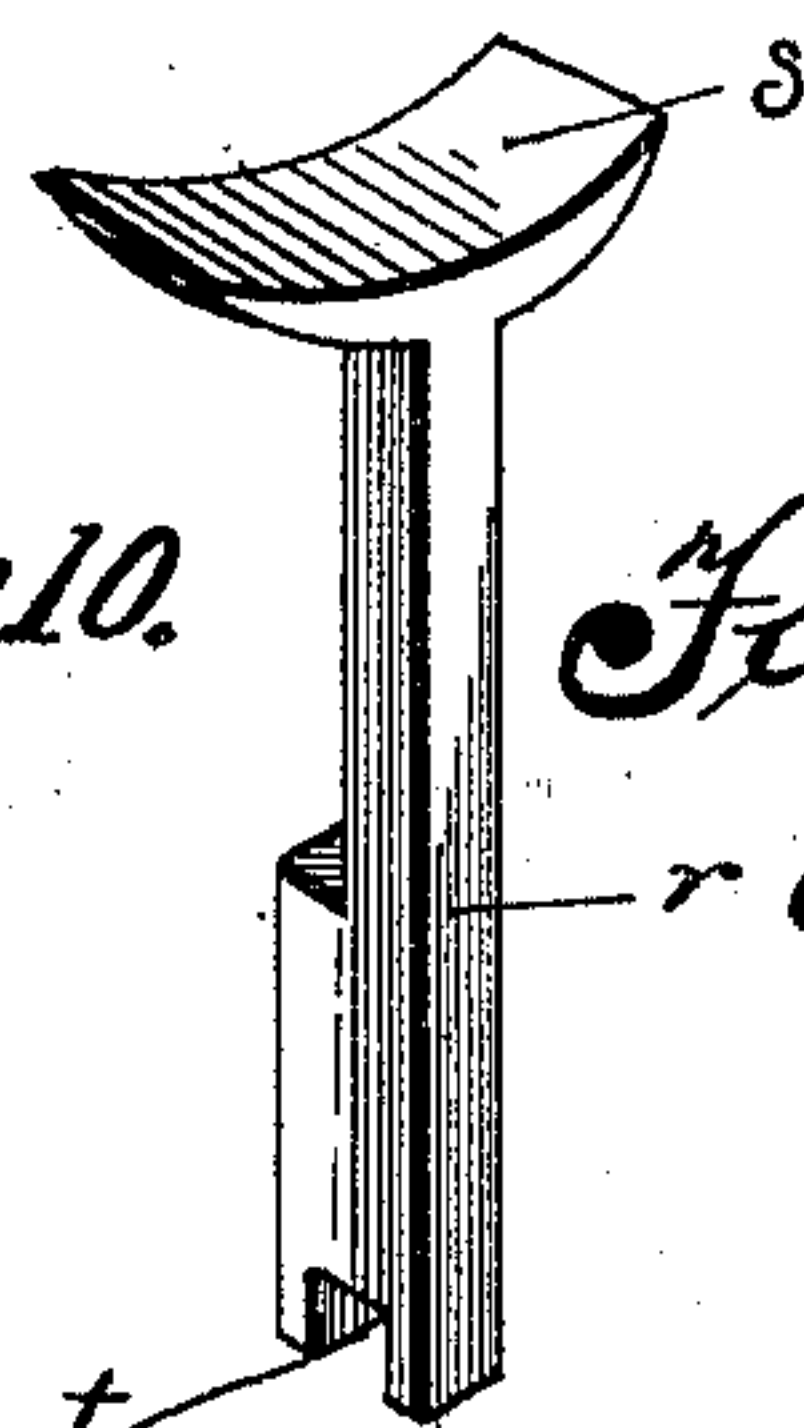


Fig. 6.



Fig. 7.

Fig. 8.

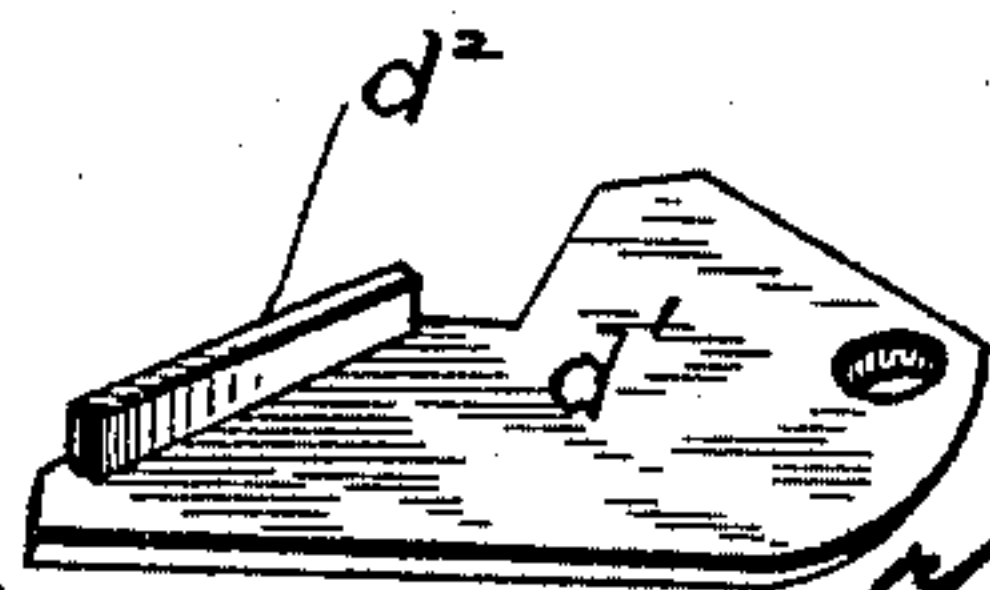
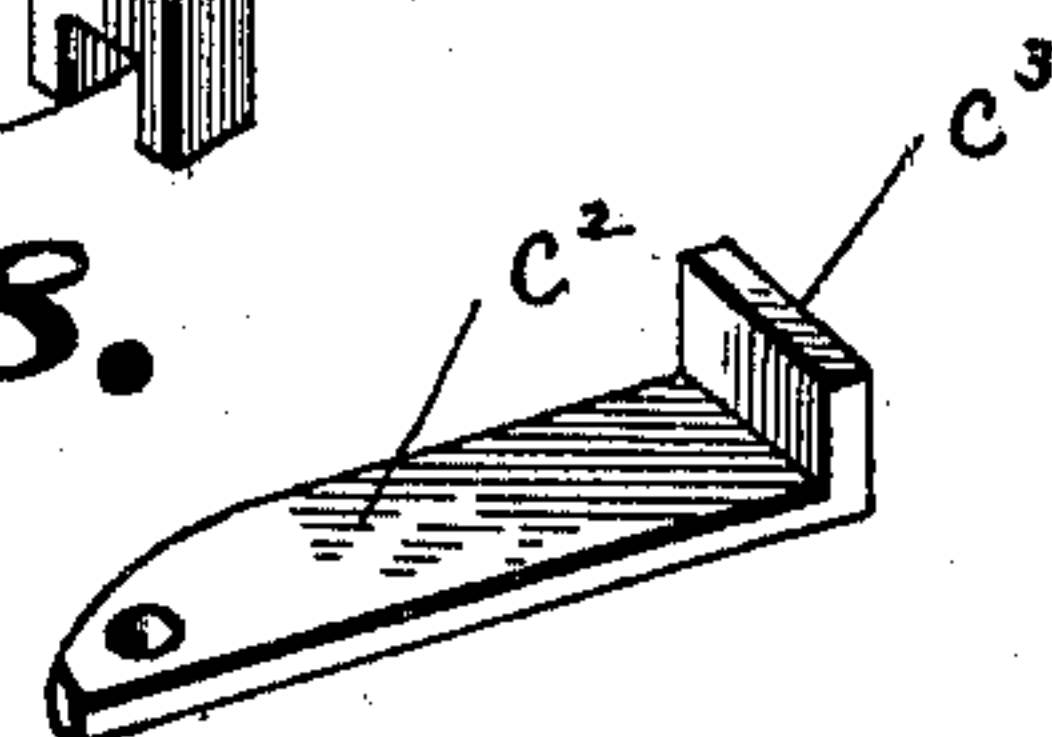


Fig. 9.

Witnesses:-  
A. R. Appleman  
A. M. Wilson

Inventors:  
Martin H. Lutz  
Morrow Moore  
By Henry C. Evert, Atty.



# UNITED STATES PATENT OFFICE.

MARTIN H. LUTZ AND MORROW MOORE, OF WEST NEWTON,  
PENNSYLVANIA.

## PADLOCK.

SPECIFICATION forming part of Letters Patent No. 584,727, dated June 15, 1897.

Application filed August 3, 1896. Serial No. 601,460. (No model.)

*To all whom it may concern:*

Be it known that we, MARTIN H. LUTZ and MORROW MOORE, citizens of the United States of America, residing at West Newton, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in locks, and may be more particularly referred to as belonging to that class known as "padlocks."

The invention has for its object to construct a lock of the above-described class that it will be practically impossible to "pick" and to the uninitiated will be difficult to open with the key, thereby making the lock a safety one that may be employed in various connections requiring a lock of this description, and particularly on mail-sacks and the like.

A further object of the invention is to construct a lock as above referred to that will be extremely simple in its construction, strong, durable, effectual in its operation, and comparatively inexpensive to manufacture.

Still further objects of our invention reside in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

Figure 1 is a side elevation of our improved lock. Fig. 2 is a similar view with one side of the casing removed to show the arrangement of the different parts. Fig. 3 is a plan view showing the inner face of the removable part of the casing. Fig. 4 is a view of the casing with the plate and all detachable parts removed. Fig. 5 is a perspective view of the rack-bar. Fig. 6 is a similar view of the saddle and supporting post or bar. Fig. 7 is a side view of the catch-bar. Figs. 8 and 9 are

perspective views of operating-plates forming a part of the mechanism. Fig. 10 is a view of the key. Fig. 11 is a detail view showing the partition in the keyhole.

In the drawings, *a* represents one plate of the casing, carrying a rim *b*, provided at suitable intervals with rivets *c c* for securing the plate *d*, which completes the casing. This plate *d* is secured also to the balance of the casing by means of a screw *e*, said screw also fastening the hasp *f*, which swings on this screw. At this pivotal point the hasp is provided on its underneath face with a segment-rack *g*, adapted to engage the toothed bar *h*, provided with a groove *k* on its underneath face to receive the catch-bar *m*, carrying a hook *n* and having arranged thereon a spring *o*. Said bar *h* is also provided on its lower edge with a cut-away portion *l* and with a block *p*, having a transverse slot *q*, said block engaging on the supporting-bar *r*, carrying on its upper end a saddle *s*, arranged beneath the hasp. This bar *r* is slotted at *t* in the lower end to receive one end of a spring *w*, coiled on a pin *a'*, secured in the casing. Springs *a<sup>2</sup>* and *a<sup>3</sup>* are secured in a similar manner and engage in the slot *q* and against the hook *n*, respectively.

The casing is provided at the upper portion with a projection *b'*, slotted to receive the bar *r*, and also carries supporting-lugs *b<sup>2</sup>* and *b<sup>3</sup>*, which support the bar *m* and bar *h*, respectively. A pin *c'* is secured in the outer end of a lug *b<sup>4</sup>* and carries the dog *c<sup>2</sup>*, having at its inner end a flange *c<sup>3</sup>*, engaging between the lugs *b<sup>3</sup>* and *b<sup>4</sup>* and in the cut-away portion *l* of the bar *h*. On the top of the dog *c<sup>2</sup>* is secured on the pin *c'* a lever *d'*, having a flange *d<sup>2</sup>*, which engages on the upper edge of the dog *c<sup>2</sup>*. A spring *d<sup>3</sup>* presses against the dog *c<sup>2</sup>* in a similar manner to the springs *w*, *a<sup>2</sup>*, and *a<sup>3</sup>*. A keyhole *e'* is provided in the rim *b* opposite the outer end of the bar *h*, said hole having a partition which engages in the slot *f<sup>4</sup>* of the key.

The plate *a* is grooved, as shown at *e<sup>2</sup>*, to receive the spring *o* and bar *m*, and the hasp is provided with a catch *e<sup>3</sup>* to engage the catch *n*. On the inner face of the plate *d* is a lug



$e^4$ , which lies between the segment  $g$  and lever  $d'$  when all parts are in position and holds said plate in place.

In Fig. 10 we have shown the key  $f'$ , having slots  $f^3$  and  $f^4$  in its engaging end, for purposes to be hereinafter more specifically described.

The parts are assembled as follows: The catch-bar  $m$  is placed in the groove  $e^2$  of the casing  $a$ , with the spring  $a^3$  engaging the hook  $n$ . The toothed bar  $h$  is placed on the bar  $m$ , with the rack engaging the segment  $g$ . The plate  $c$  is placed on the pin  $c'$ , with the flange  $c^3$  downward, and the plate  $d'$  placed on the top of the plate  $c^2$ . The supporting-bar  $r$  is then placed in its position and the plate  $d$  fastened to the rim  $b$  of the plate  $a$  to hold the respective parts in their position.

The operation of our improved lock is as follows: The key  $f'$  is inserted in the keyhole  $e'$ , with the partition in the keyhole engaging in the slot  $f^4$  of the key. The slotted portion of the key (designated in the drawings by the letter  $f^4$ ) is then engaging on the end of the bar  $m$ . If this key is inserted in the keyhole in a perfectly straight position, it will not unlock the hasp by reason of the flange  $c^3$  of the dog  $c^2$  engaging in the cut-away portion  $l$  of the bar  $h$ , and to force this projection out of engagement with the bar  $h$  it is necessary to slightly incline the key, or, in other words, insert the same in the keyhole with the engaging end toward the bottom of the lock. This will bring the end of the key in engagement with the projecting portion of the lever  $d'$ , and when the key is pressed inwardly, which is preferably done by a quick push on the same, it will cause the flange  $d^2$  of the lever  $d'$  to force the flange  $c^3$  out of engagement with the lock-bar  $h$ , thus permitting the said locking-bar to be forced inwardly in the casing, and by reason of the toothed portion of the said bar engaging in the segmental rack  $c$  of the hasp  $f$  raising the same. Simultaneously with this operation the bar  $m$  is forced in the same direction by reason of the engagement of the key on same and releases the catch  $n$  from engagement with the end of the hasp, and the hasp is free to be removed from the staple.

When the limit of the throw of the bar  $h$  has been reached, the projection on the bar  $r$  will engage in the cut-away portion of the bar  $h$  and hold the hasp in the open position. To relock the same, when the staple on which the lock is secured comes in contact with the sad-

dle it depresses the bar, releasing same from the lock-bar, which carries the hasp back into the closed position.

We desire to call particular attention to the fact that by our improved construction the hasp cannot be loosened by the straight insertion of the key, it requiring, as heretofore stated, a slight incline downward in order to bring the end of the key in engagement with the lever  $d'$ , and through the medium of this lever releasing the dog  $c^2$ , and thus allow the bar  $h$  to move.

It will be observed that this lock will be particularly difficult to pick, as taking an impression of the keyhole would not assist in having a key made to manipulate the lock. We also desire to call particular attention to the rapidity with which the lock can be operated by one initiated in the manner of manipulating same, as it will be observed that the insertion of the key in the proper manner will throw the hasp out of engagement with its staple, and no key is required to relock. It will also be noted that various changes may be made in the details of construction without departing from the general spirit of our invention.

Having fully described our invention, what we claim as new and novel, and desire to secure by Letters Patent, is—

1. In a safety-lock, the casing having arranged therein a rack-bar engaging a toothed segment on the pivoted end of the hasp, a lock-bar to engage the free end of the hasp, a supporting-bar carrying a saddle to retract the rack-bar and close the hasp, and means for holding said hasp in the locked position substantially as shown and described.

2. In a safety-lock, a casing, a hasp pivotally secured in the casing, said hasp having a toothed segment, a rack-bar engaging said segment, a lock-bar having a hook end to engage the hasp, a supporting-bar carrying a saddle, a lever and dog engaging said rack-bar, and springs engaging the said plates, lock-bar and supporting-bar to hold same in their normal position, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

MARTIN H. LUTZ.  
MORROW MOORE.

Witnesses:

J. E. KREPPS,  
GEO. L. CROUSHORE.