

(Model.)

S. H. LOGAN.  
PERMUTATION PADLOCK.

No. 415,046.

Patented Nov. 12, 1889.

Fig. 1.

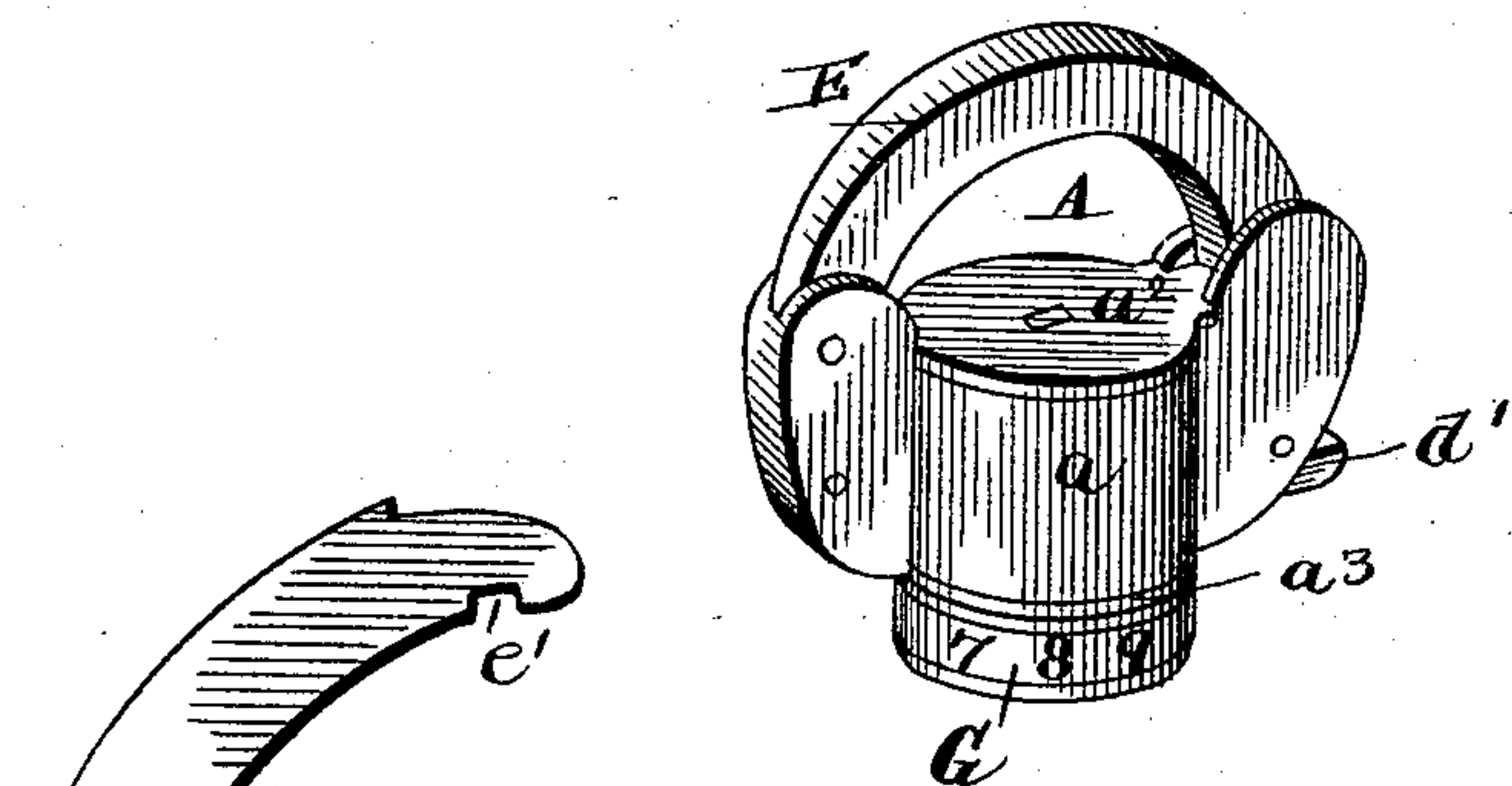


Fig. 2.

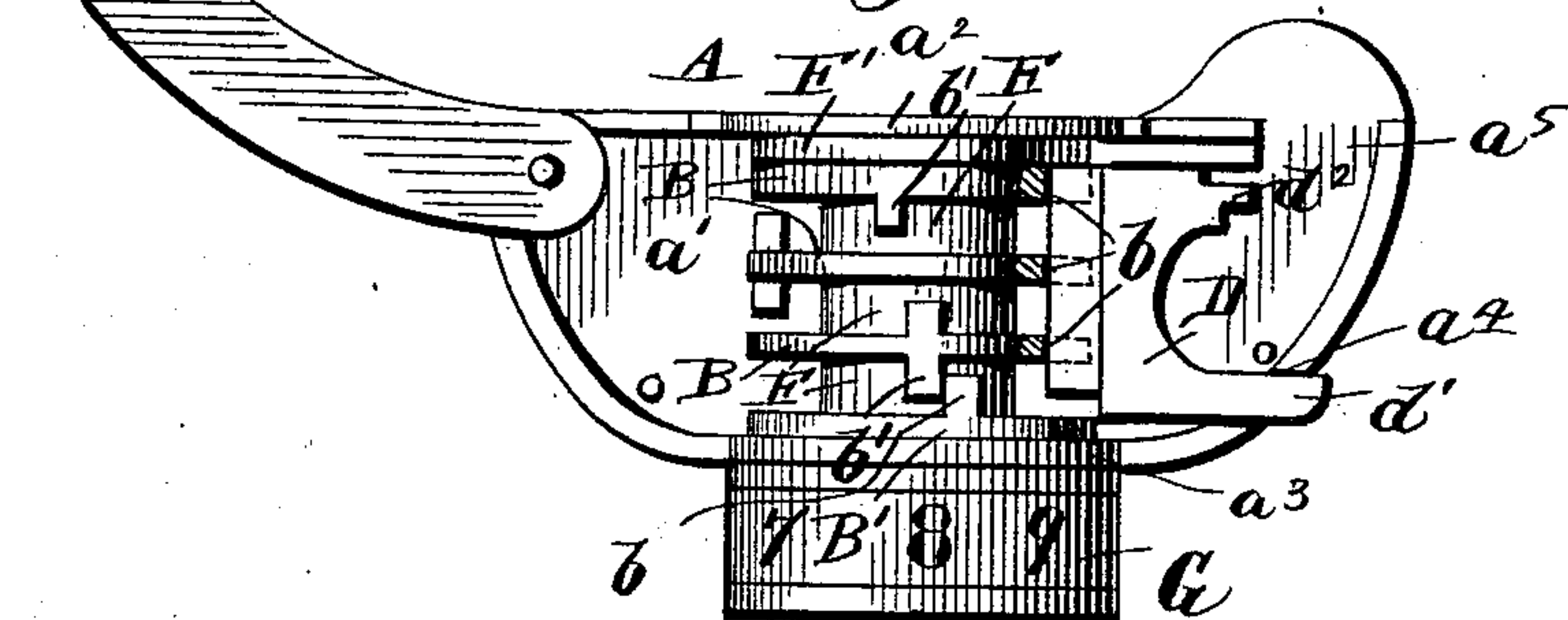
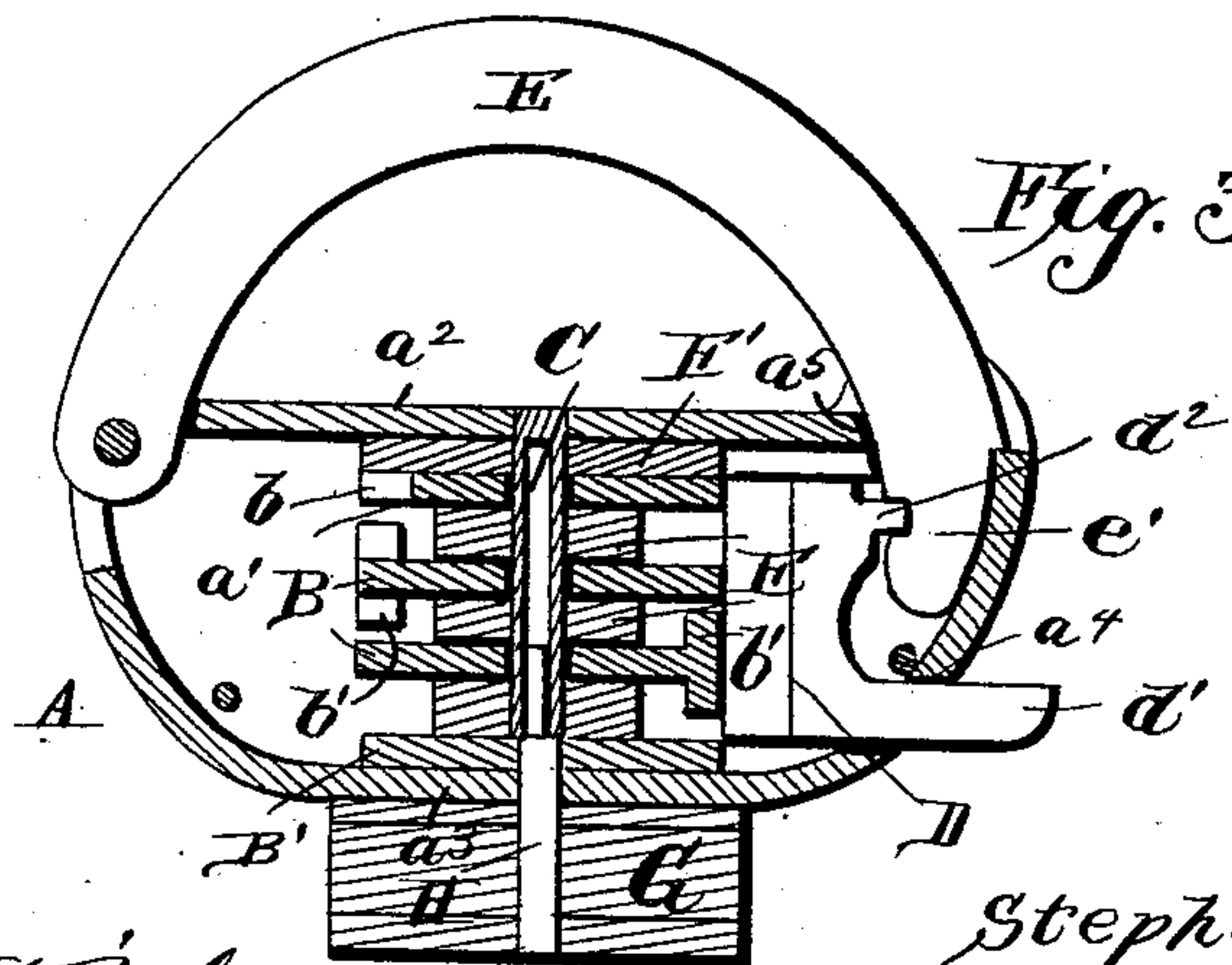


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

STEPHEN H. LOGAN, OF COAL HILL, ARKANSAS.

## PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 415,046, dated November 12, 1889.

Application filed April 17, 1889. Serial No. 307,597. (Model.)

*To all whom it may concern:*

Be it known that I, STEPHEN H. LOGAN, a citizen of the United States, residing at Coal Hill, in the county of Johnson and State of Arkansas, have invented a new and useful Permutation-Padlock, of which the following is a specification.

The invention relates to improvements in permutation-padlocks.

10 The object of the present invention is to simplify and improve the construction of permutation-padlocks, and enable them to afford a greater degree of security against picking.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of the improved padlock. Fig. 2 is a side elevation on an enlarged scale, the front of the casing being removed to show the interior construction. Fig. 3 is a central vertical sectional view on an enlarged scale.

25 Referring to the accompanying drawings, A designates the casing, which is composed of the sides  $a$   $a'$  and the top and bottom pieces  $a^2$  and  $a^3$ , and has a cylindrical middle portion adapted to receive a series of slotted disks B, which rotate upon a hollow cylindrical post C, to bring the slots  $b$  in a line, in order that a locking-bolt D may be retracted to release a shackle E, that is pivoted between the two sides  $a$  and  $a'$  at one of the upper corners thereof. The disks B are separated from each other by rings F, and from the top  $a^2$  by a disk  $F'$ , and are provided upon their faces with pins  $b'$ , which are in a line with each other, whereby when one of the disks B is rotated its pin  $b'$  will engage the similar pin of the adjacent disk and cause that disk to move also. Thus when the lowest one of said disks B is rotated it will engage with and produce a similar movement of the middle disk, and this latter will similarly carry the upper disk with it, so that if the relative positions of the several pins are known it is possible by rotation and counter rotation of lowest disk to arrange the slots in a line.

50 A knob or index plate G is arranged at the bottom  $a^3$ , which is formed integral with the side  $a$ , and the said knob is mounted upon a spindle H, whose upper end projects

into the bottom of the cylindrical post C, and it is provided with a disk  $B'$ , which is fixed rigidly thereto above the bottom  $a^3$ , and swivels the knobs F to the bottom  $a^3$ , and the said disk  $B'$  is provided with a pin  $b$  on its upper face to engage the pin on the adjacent disk B and transmit the motion from the knob thereto. The knob G has its periphery graduated, which graduations are preferably numbered, by means of which and a suitable point upon the plate the disks B can be manipulated in the ordinary manner.

The L-shaped sliding bolt D, which locks the shackle E, has its inner edge  $d$  reduced in thickness and forming a vertical ridge or flange in order to adapt that portion to enter the slots  $b$ , when the latter are aligned, to enable the bolt to be withdrawn from engagement with the shackle; and the said bolt is provided with a laterally-extending arm  $d'$ , which projects through an opening  $a^4$ , in the side of the casing, whereby the bolt D may be pushed out of engagement with the shackle and into said slot when the latter are aligned. The free end  $e$  of the shackle is reduced and provided with a recess  $e'$ , and enters the casing A through an opening  $a^5$ , in order to allow the recess  $a'$  to be engaged by a dog  $d^2$ , which is formed on the side of the bolt near the top.

85 From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will readily be understood, and it will be seen that by arranging the pins upon the disk any number of combinations may be obtained.

What I claim is—

In a padlock, the combination of the cylindrical casing, the series of slotted disks, the shackle hinged to one side of the casing, and having its free end arranged to enter the other side of the casing, and the L-shaped bolt having on one side a vertical ridge or flange to enter the slots of the disks and provided with a dog on the other side to engage the shackle, and having its arm protruding through the casing, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

STEPHEN H. LOGAN.

Witnesses:

H. D. WORST,

JAMES PHILPOTT.