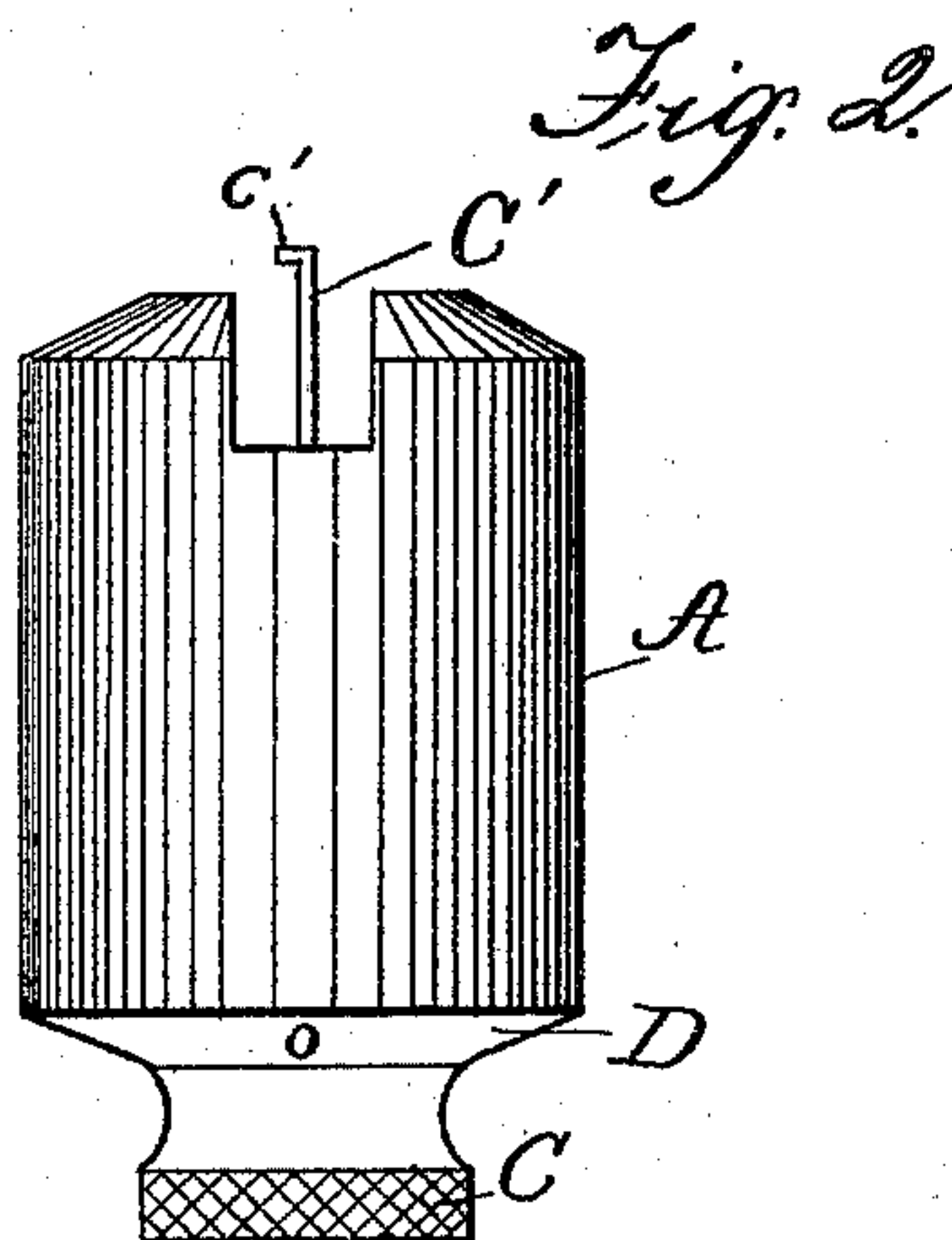
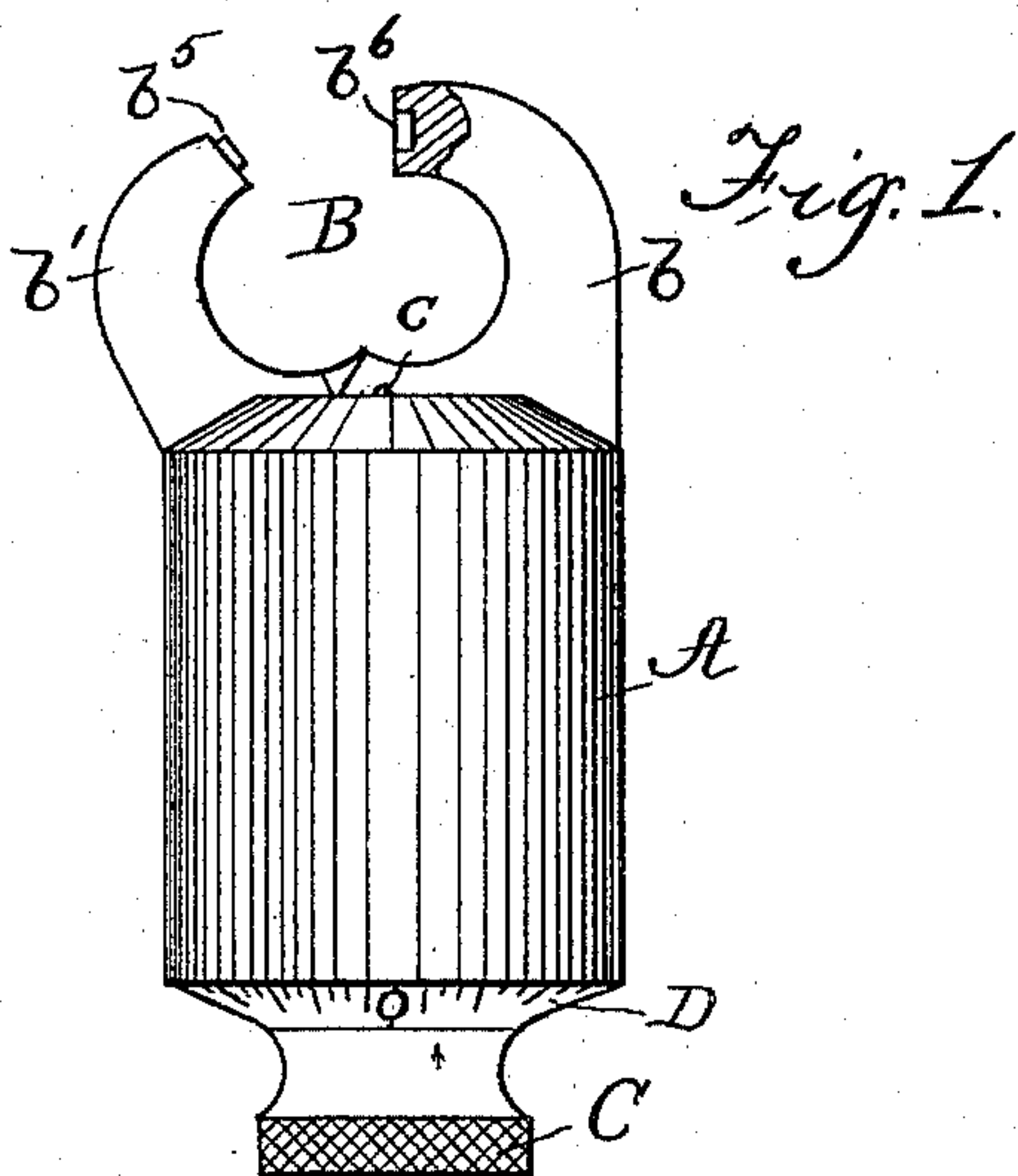


(No Model.)

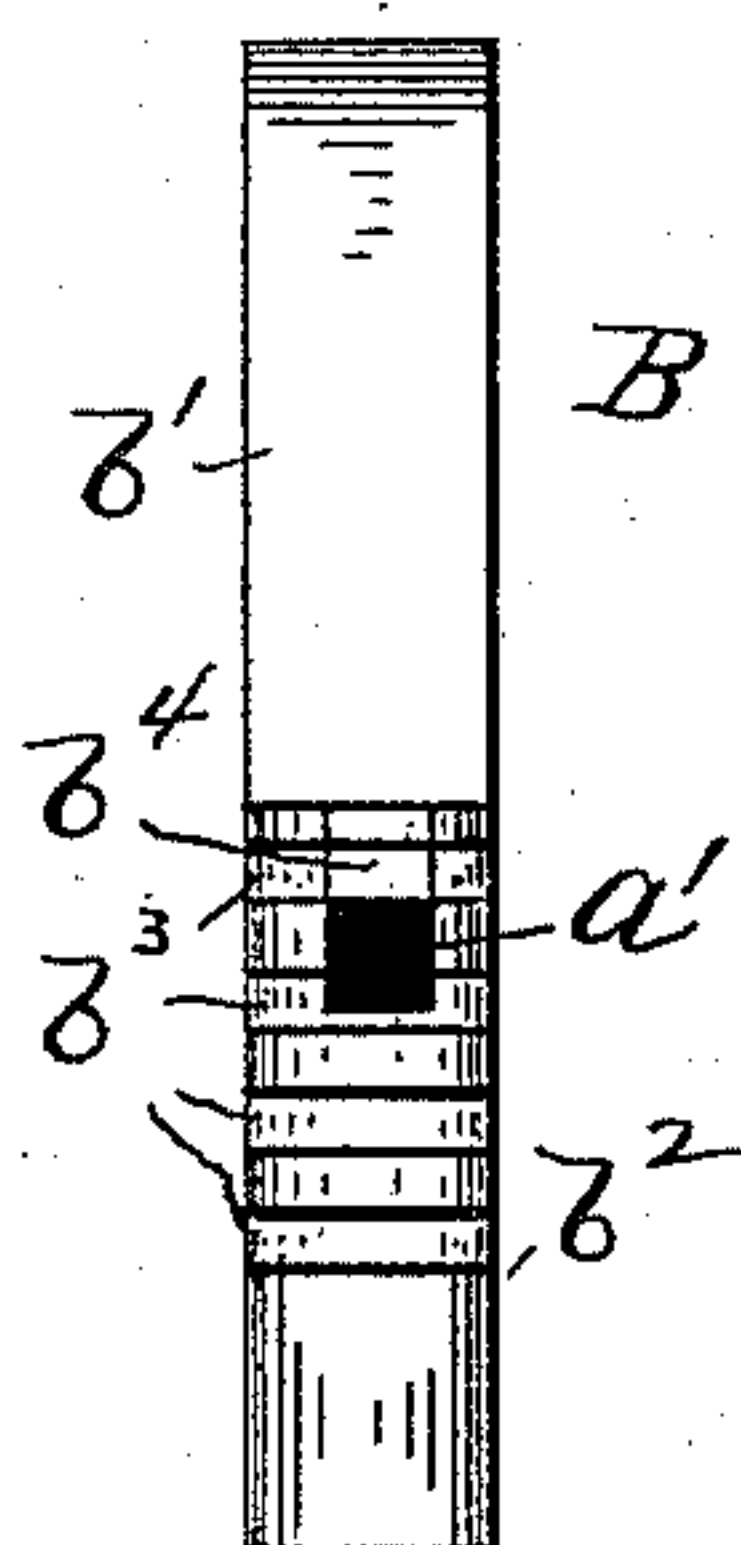
W. H. BOLTHOFF.  
PERMUTATION PADLOCK.

No. 488,516.

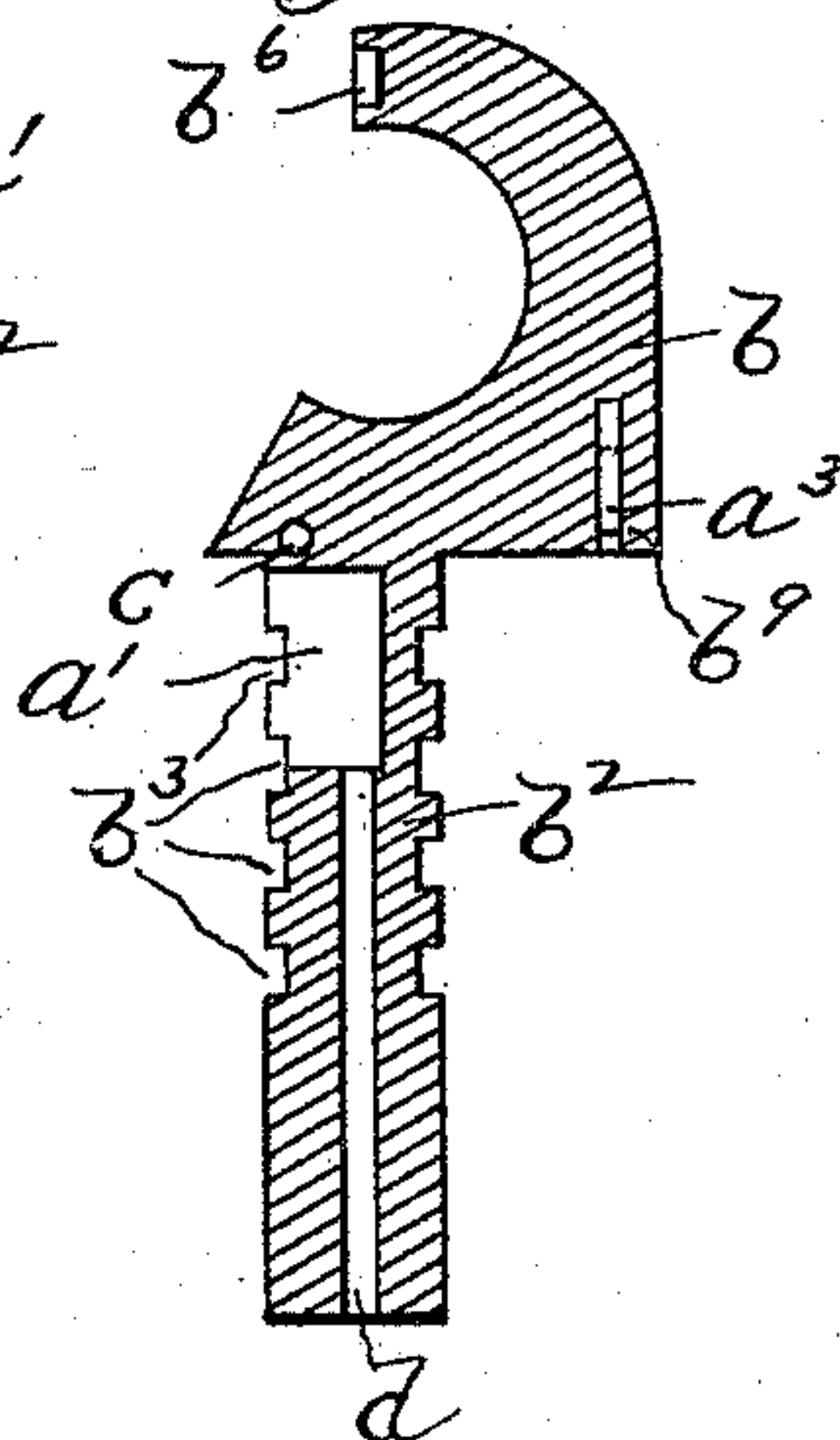
Patented Dec. 20, 1892.



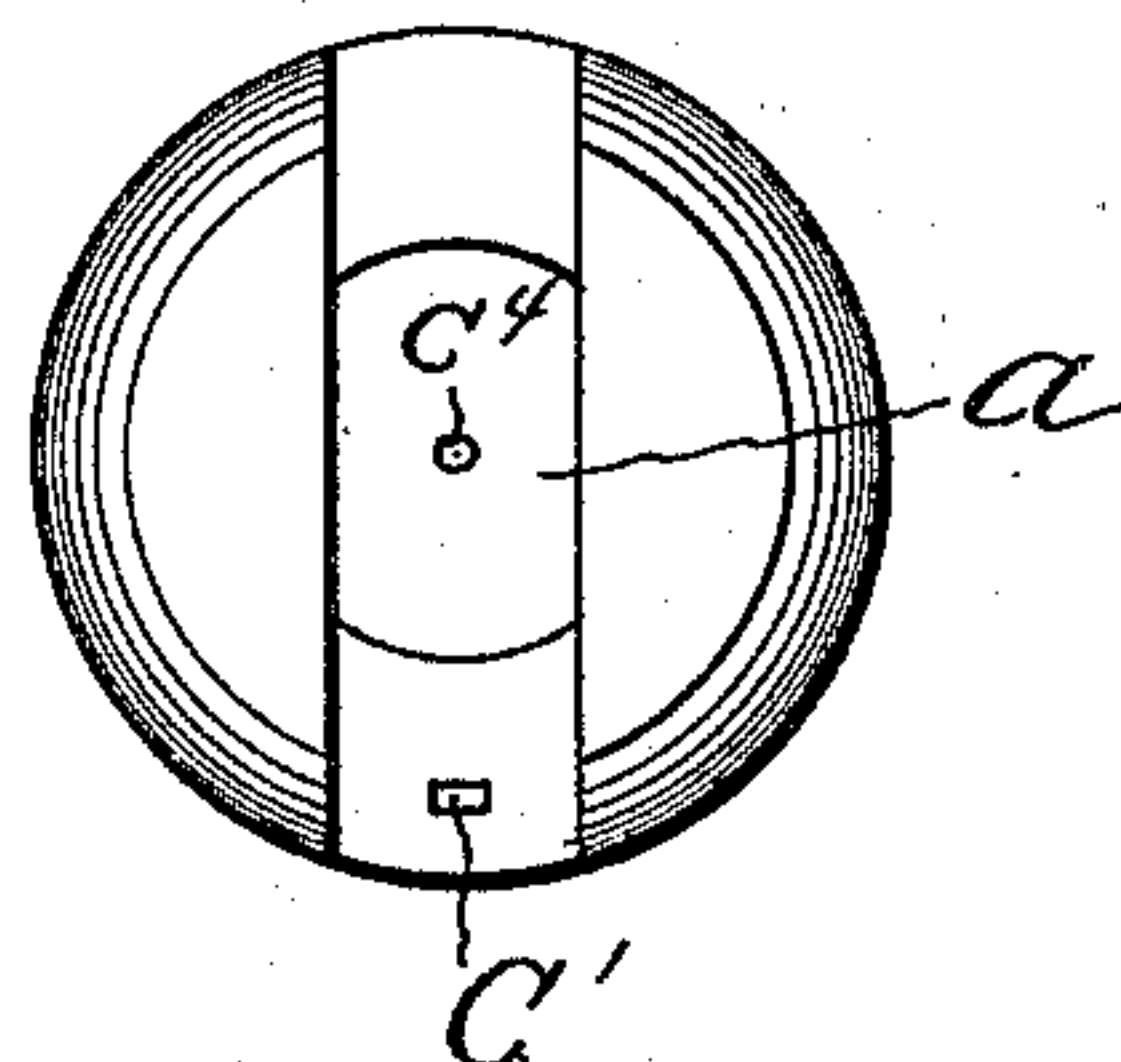
*Fig. 3.*



*Fig. 5.*



*Fig. 4.*



Witnesses  
R. S. Amies.  
Franklin Moore.

Wm H. Bolthoff  
Inventor  
by  
Hallock and Hallock  
Attorneys

# UNITED STATES PATENT OFFICE.

WILLIAM H. BOLTHOFF, OF DENVER, COLORADO, ASSIGNOR TO THE MILNER MANUFACTURING COMPANY.

## PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 488,516, dated December 20, 1892.

Application filed June 18, 1892. Serial No. 437,114. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. BOLTHOFF, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Combination-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.

My invention relates generally to locks and especially to that class known as combination padlocks.

The object of my invention is to provide a strong and durable lock and also one which will be water tight, so that the tumblers and other mechanism will be protected and preserved.

The nature of the invention consists in certain combinations and constructions all as will be fully described in the specification and pointed out in the claim, reference being had to the accompanying drawings wherein:—

Figure 1 is a front elevation showing the lock open. Fig. 2 is a side elevation with the shackle removed. Fig. 3 is a side elevation of the shackle closed. Fig. 4 is a top plan of Fig. 2. Fig. 5 is a longitudinal section of arm  $b$ .

Referring to the drawings, A represents the body or barrel of the lock which may be made any desired size or shape.

B represents the shackle and C the knob which controls the tumblers. The shackle B fits snugly within the passage  $a$  in the top of the barrel and is made of two parts or arms  $b$  and  $b'$  respectively, said arms being pivoted together at  $c$ . Arm  $b$  is made integral with its leg  $b^2$  and is provided with a series of notches  $b^3$  that correspond in number to the tumblers employed. This leg  $b^2$  is recessed at  $a'$  and also has a hole  $a^3$  extending upward as shown. Secured to barrel A and fitting within this hole  $a^3$  is a post C' having a hook shaped head  $c'$  adapted to engage with a pin

$b^9$  extending across the hole  $a^3$ , near its lower end, and thus keep the shackle from being drawn out of the barrel when the lock is opened. The arm  $b'$  has a projection  $b^4$  on its lower end said projection having notches to correspond to those in leg  $b^2$ . Projection  $b^4$  fits in the recess  $a'$  and is flush with the recess when the shackle is closed. The arms  $b$  and  $b'$  are provided on their upper ends with a recess and teat respectively, lettered  $b^6$  and  $b^5$  which fit the latter within the former when the shackle is closed.

D is the dial plate which is provided with the usual characters.  $c^4$  is the guide post which is secured to the knob C and extends up through the hole  $d$  in the leg  $b$  and serves to guide the tumblers.

The operation of the device is as follows:—The lock being closed the combination is operated in the usual manner, when all the tumblers are disengaged from the notches  $b^3$  the shackle is drawn up, or the barrel down as the case may be, the arm  $b$  going up vertically until the hook  $c'$  on post C' engages the pin crossing the hole in said arm. At this point the arm  $b'$  drops taking the position shown in Fig. 1, the projection  $b^4$  entering recess  $a'$  in the leg  $b^3$ .

What I claim as new is

In a padlock the barrel A having the passage  $a$  a post within said passage, the shackle formed of two pivoted arms  $b$  and  $b'$ , arm  $b'$  having the projection  $b^4$  and arm  $b$  having the recess  $a'$  and the hole  $a^3$ , said recess being adapted to receive projection  $b^4$  when the shackle is opened and a post C' secured to the barrel and adapted to extend within hole  $a^3$ , and engage the pin  $b^9$ , substantially as described.

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

WILLIAM H. BOLTHOFF.

Witnesses:

THORNTON WOODBURY,  
JOSEPH MILNER.