

(Model.)

H. W. KAHLKE.  
LATCH.

No. 461,200.

Patented Oct. 13, 1891.

Fig. 1.

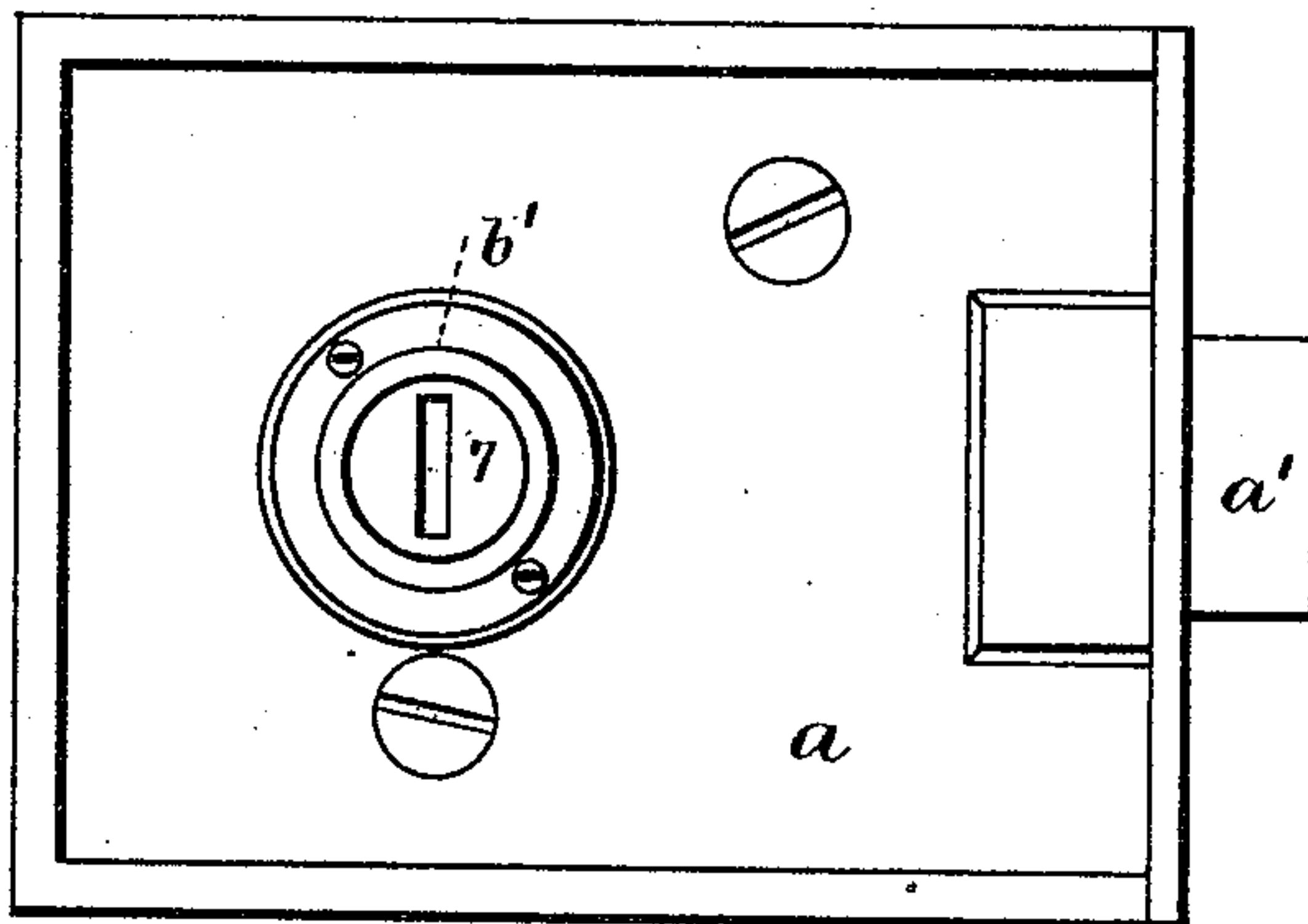


Fig. 6.

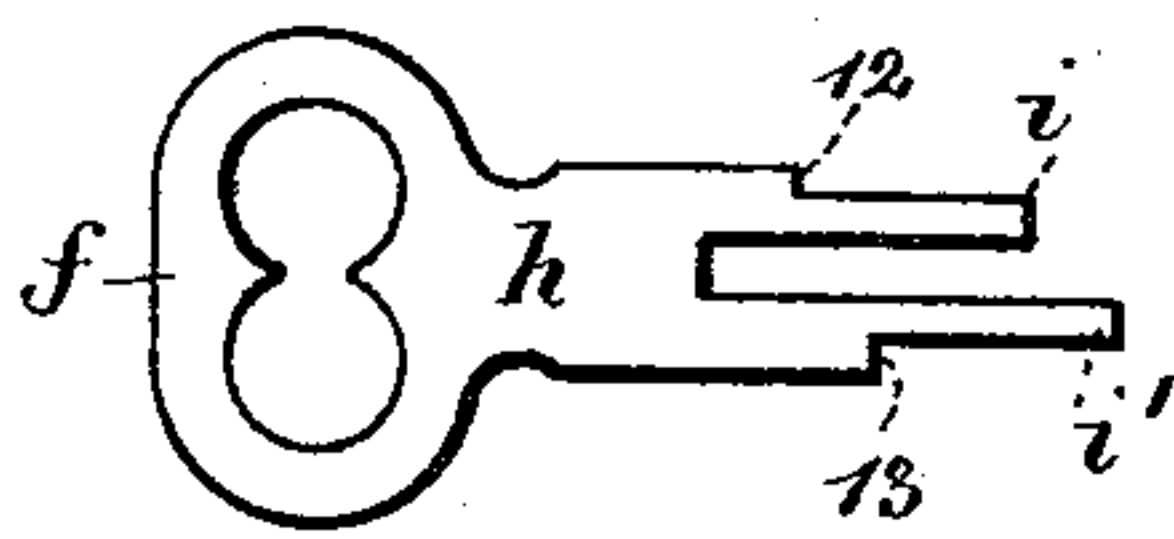


Fig. 3.

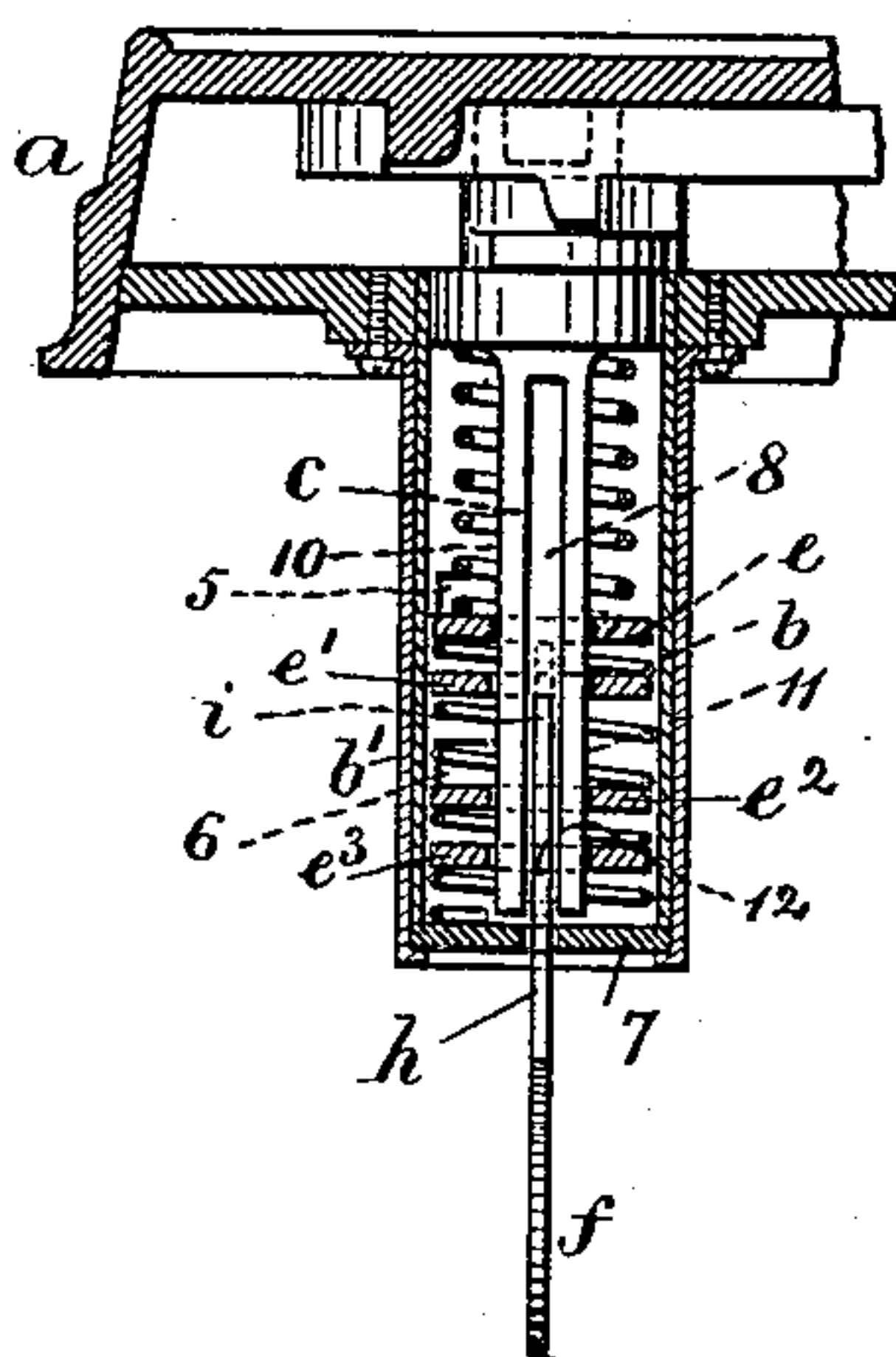


Fig. 2.

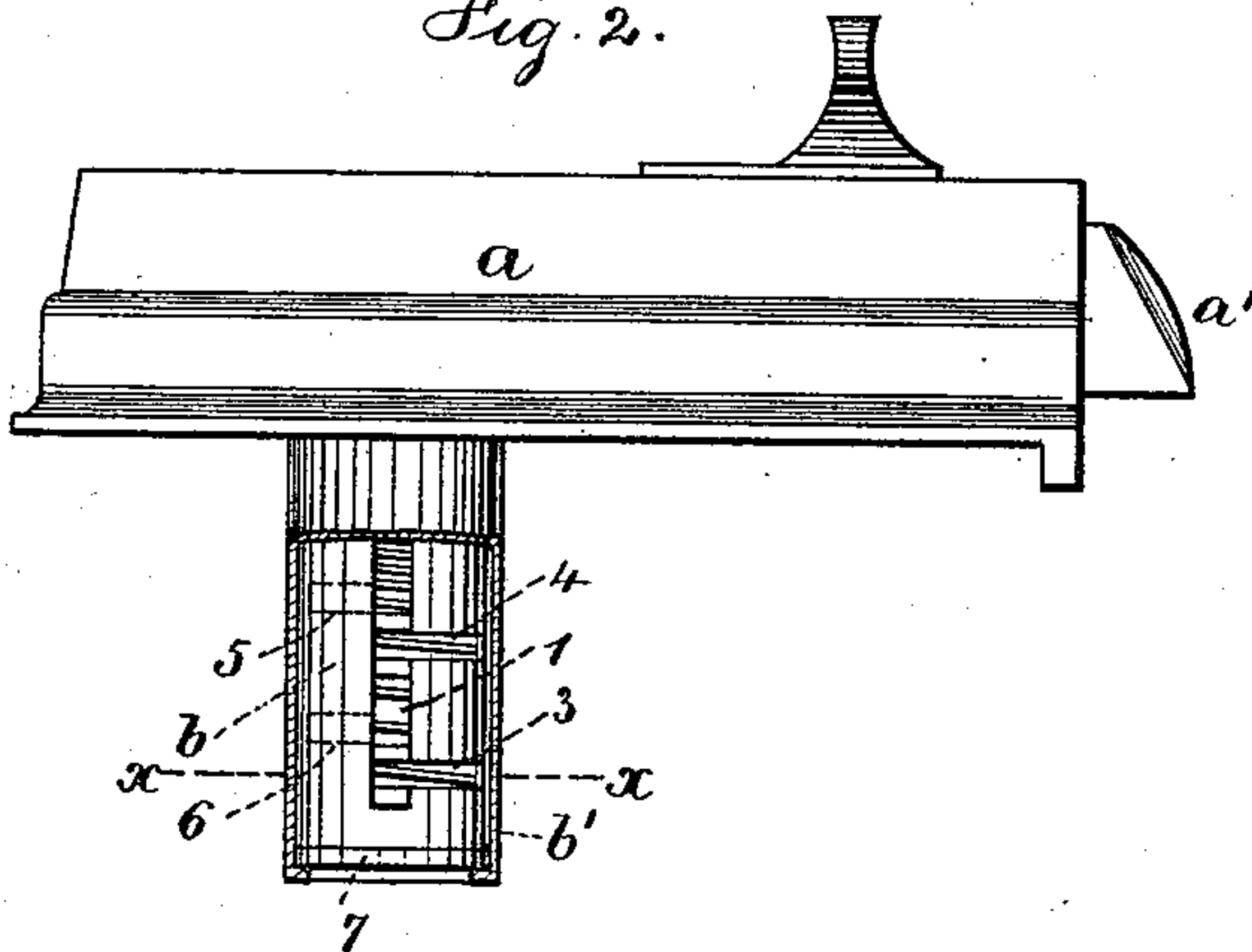


Fig. 4.

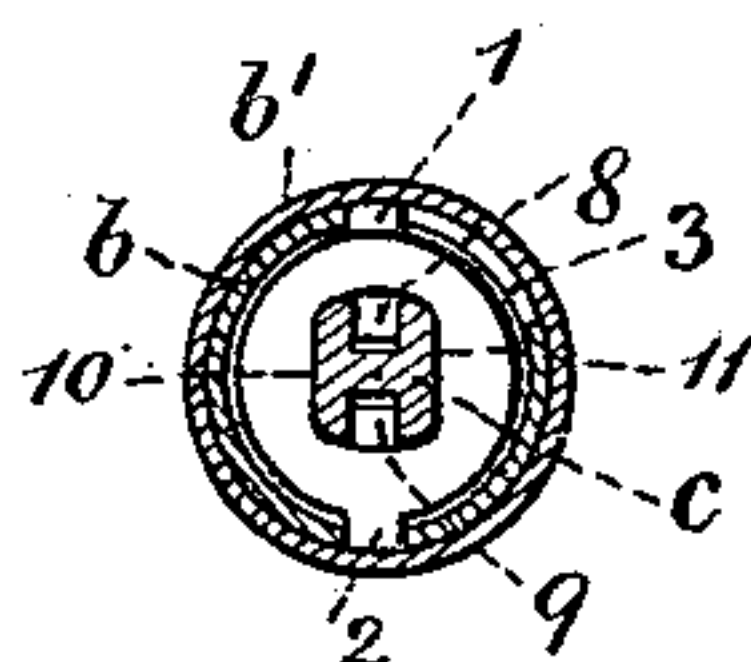
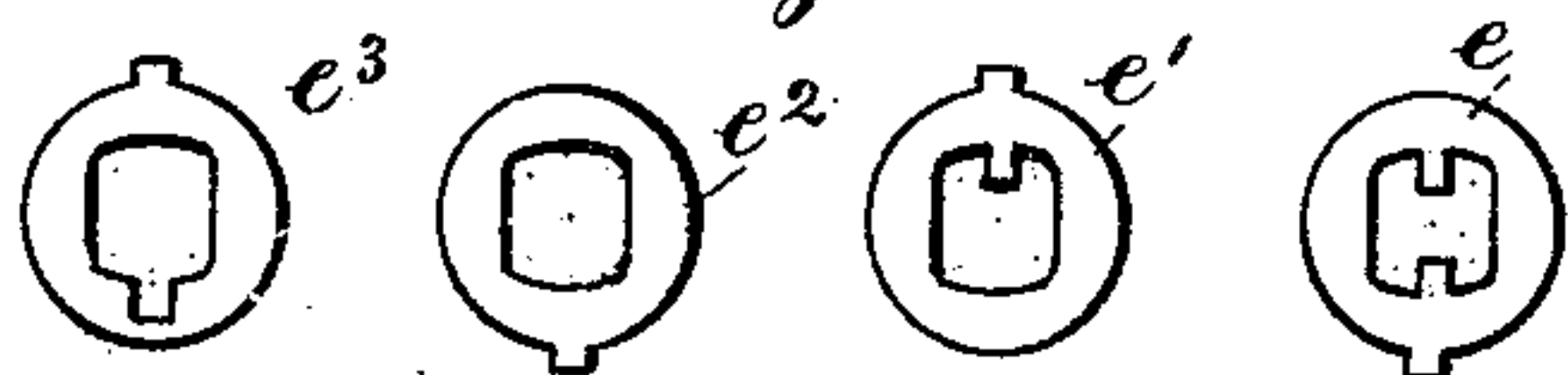


Fig. 5.



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# UNITED STATES PATENT OFFICE.

HENRY W. KAHLKE, OF BROOKLYN, NEW YORK.

## LATCH.

SPECIFICATION forming part of Letters Patent No. 461,200, dated October 13, 1891.

Application filed March 23, 1891. Serial No. 385,996. (Model.)

*To all whom it may concern:*

Be it known that I, HENRY W. KAHLKE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Night Latches and Locks, of which the following is a specification.

The object of my present invention is to construct a night latch and lock that is not easy to pick and which it would be very difficult to make a skeleton key for.

In carrying out my invention I employ a spindle that is grooved longitudinally upon opposite sides and has flat sides intermediate to the grooves, and circular tumblers surround said spindle within a cylindrical case and are divided by helical springs. The cylindrical case is slotted longitudinally and in part circumferentially upon opposite sides, and the key is of peculiar construction, being divided longitudinally into two prongs, with shoulders on each prong. Said key is adapted to fit over or straddle the spindle and its prongs to enter both of the grooves of the spindle together and to act upon the tumblers in alternate sets upon both sides of the spindle simultaneously, moving the tumblers into line with the circumferential grooves, into which projections on the tumblers are turned by the partial rotation of the key and spindle in withdrawing the latch-bolt.

In the drawings, Figure 1 is an elevation of my latch, and Fig. 2 is a plan view of the same with the spindle-case in section. Fig. 3 is a sectional plan through the spindle-case and tumblers. Fig. 4 is a cross-section at  $x$  of Fig. 2. Fig. 5 shows the various tumblers in elevation, and Fig. 6 is an elevation of the key.

$a$  represents the latch-case, and  $a'$  the latch-bolt. These are to be of any well-known character, and do not require further description.

$b$  represents the cylindrical key-tube, forming a lateral extension to the latch-case  $a$ , and  $b'$  is an outer case surrounding the tube  $b$  and removably attached by screws to the case  $a$ . The cylindrical key-spindle tube  $b$  is slotted longitudinally on opposite sides at 1 2, and in part circumferentially at 3 4 and 5 6, and the end of the case  $b'$  is flanged to retain the slotted washer 7.

$c$  represents the spindle, longitudinally grooved on opposite sides at 8 9 and having flat intermediate sides 10 11, and said spindle is central of the cases  $b b'$ , and the circular tumblers  $e e' e^2 e^3$  surround said spindle within the tube or case  $b$ , and said tumblers are separated and maintained in place toward the outer end of the tube  $b$  by helical springs. The tumblers  $e e' e^2 e^3$  are all circular and each provided with a central opening conforming to the spindle. The tumblers  $e$  and  $e^2$  have projections to enter the slot 2, and the tumblers  $e'$  and  $e^3$  have projections to enter the slot 1 of the tube  $b$ . The tumbler  $e$  has opposite projections to enter the spindle-grooves 8 9. The tumbler  $e'$  has one projection to enter the groove 8, and the tumbler  $e^3$  has a notch for the key-prong.

The key shown in Fig. 6 may be termed "double-bitted," and consists of a handle  $f$ , a shank  $h$ , divided longitudinally to form the prongs  $i i'$ , and each prong is provided with shoulders or projections, as at 12 13, respectively. The central groove of the key which divides the shank is simply to straddle the spindle, and the shoulders or projections to operate the tumblers are all upon the outer edges of the prongs. When the key is inserted to place, the prongs straddle the spindle and fit the grooves 8 9 thereof, the end of the prong  $i$  and shoulder 12 coming against the tumblers  $e' e^3$  on one side of the spindle and the end of the prong  $i'$  and shoulder 13 coming against the tumblers  $e e^2$ . The tumblers are all moved simultaneously by the further movement of the key, and their projections are moved along the slots at 1 2 until they come opposite the circumferential slots 3 4 and 5 6. At this point a partial rotary movement of the key turns the spindle and tumblers and withdraws the latch-bolt  $a'$ , the projections on the tumblers passing into the circumferential slots. Upon the release of the key the latch-spring turns the key back with the spindle to a normal position, and the springs between the tumblers return them to their position as in Fig. 2.

Any number of tumblers may be employed, and the prongs of the key may be of any desired length, with one or more shoulders on the outer edges of the prongs, without departing from the points of my invention.



I claim as my invention—

1. The combination, with the latch-case, of  
a longitudinally-grooved spindle, circular  
tumblers surrounding said spindle, helical  
5 springs between said tumblers, a surrounding  
key-spindle tube slotted longitudinally and  
in part circumferentially on opposite sides,  
and a key divided longitudinally into prongs  
with shoulders, substantially as specified.
- 10 2. The combination, with the latch-case, of  
a spindle grooved longitudinally on opposite  
sides and having flat intermediate sides, a  
key-spindle tube slotted longitudinally and  
in part circumferentially on opposite sides,  
15 circular tumblers having projections moving  
in the slots of the tube, intermediate heli-  
cal springs, and a key divided longitudinally  
into prongs with shoulders, substantially as  
set forth.
- 20 3. The combination, with the latch-case, of  
a spindle grooved longitudinally on opposite  
sides and having flat intermediate sides, a  
spindle-tube slotted longitudinally and in  
part circumferentially on opposite sides, an  
external removable case *b'*, slotted disk 7, 25  
circular tumblers having projections and ar-  
ranged in alternate pairs with their projec-  
tions moving in the slots of the tube, inter-  
mediate helical springs, and a key divided  
longitudinally into prongs with shoulders, 30  
substantially as set forth.
4. The combination, in a latch or lock, with  
the tumblers, of a spindle grooved longitu-  
dinally on opposite sides, and a key divided  
longitudinally into prongs adapted to strad- 35  
dle the spindle and enter its grooves to turn  
the same and the tumblers, substantially as  
set forth.

Signed by me this 18th day of March, A. D.  
1891.

HENRY W. KAHLKE.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.