

**No. 669,295.**

**Patented Mar. 5, 1901.**

**E. E. WENDEL.**

# PADLOCK.

(Application filed Oct. 30, 1900.)

**(No Model.)**

FIG. 1.

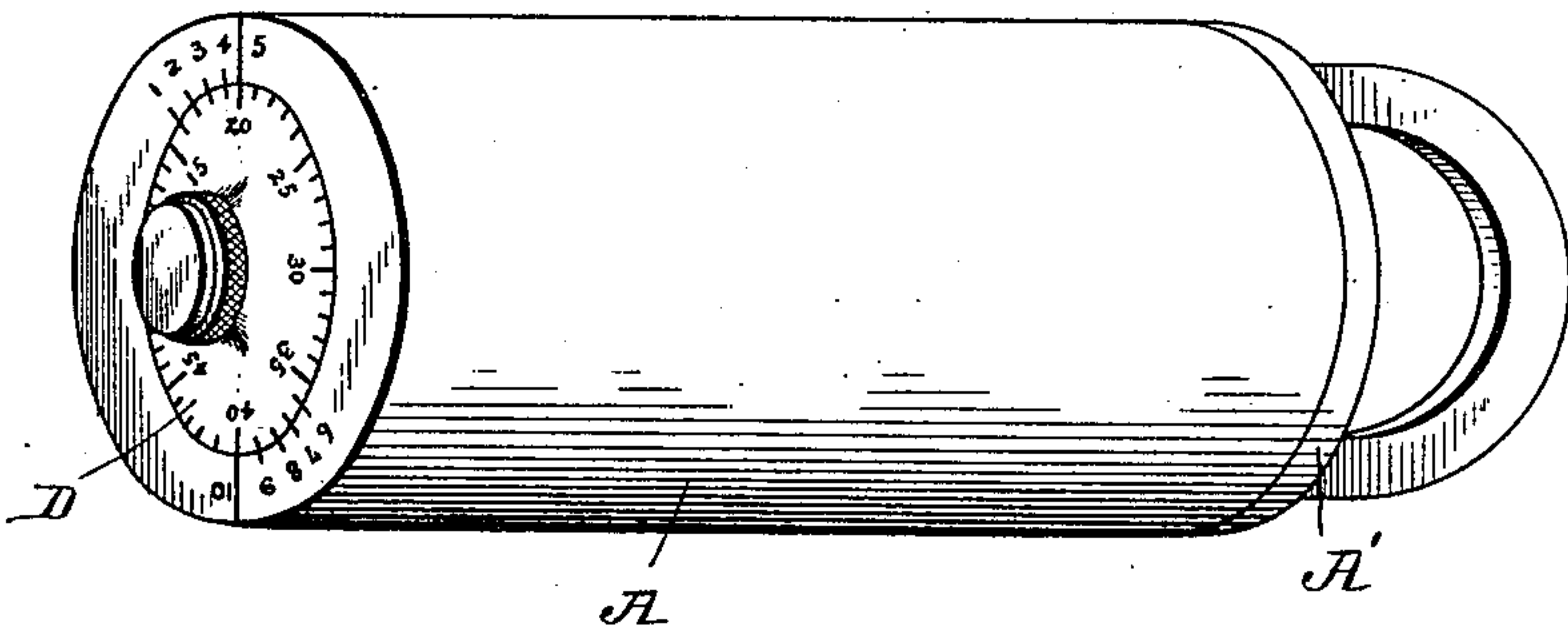
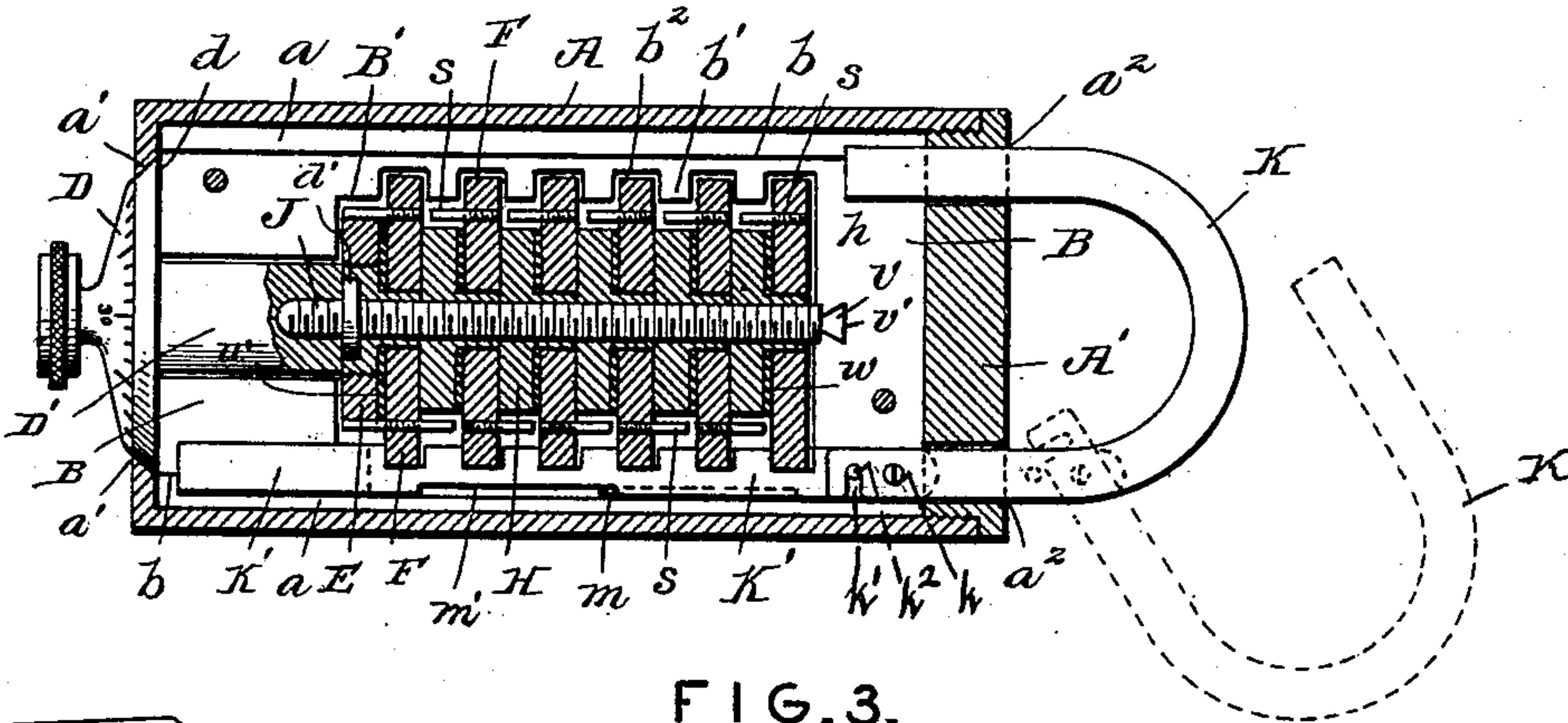


FIG. 2.



**FIG. 3.**

FIG. 6.

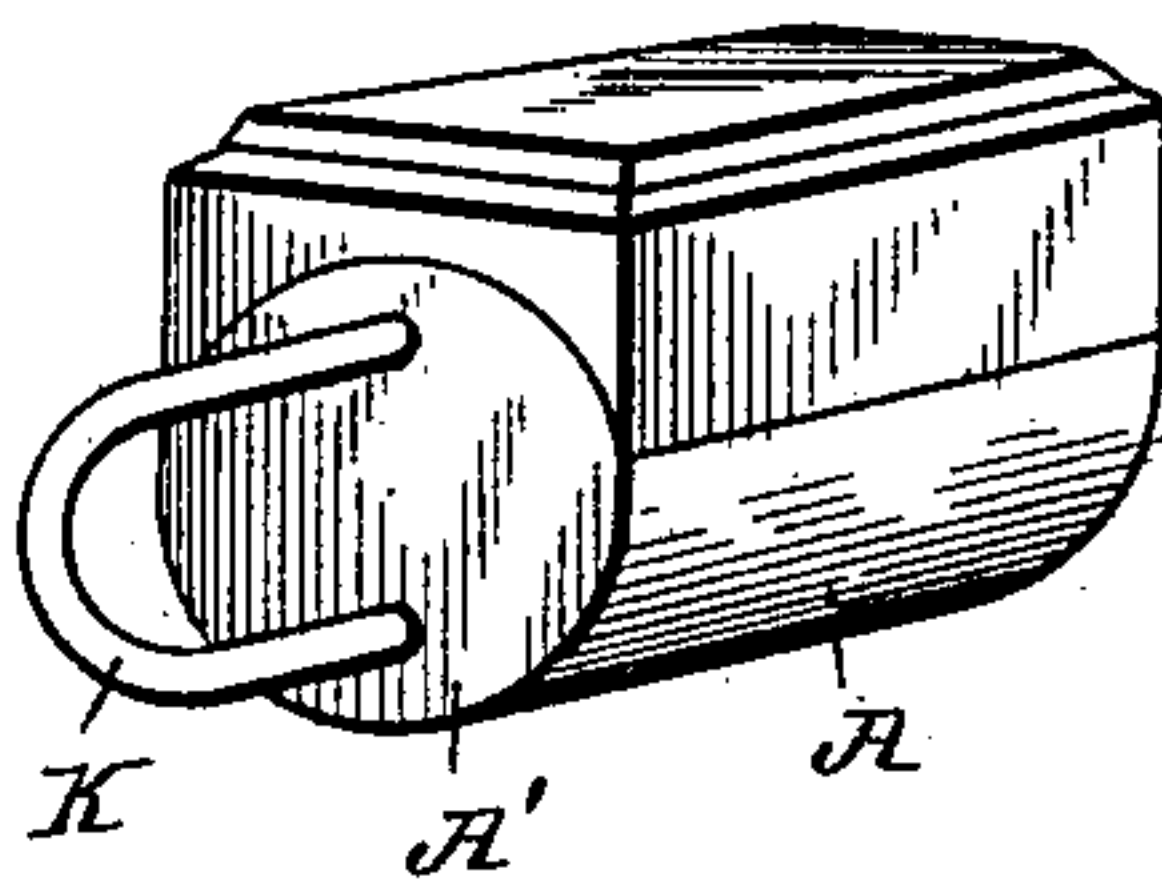
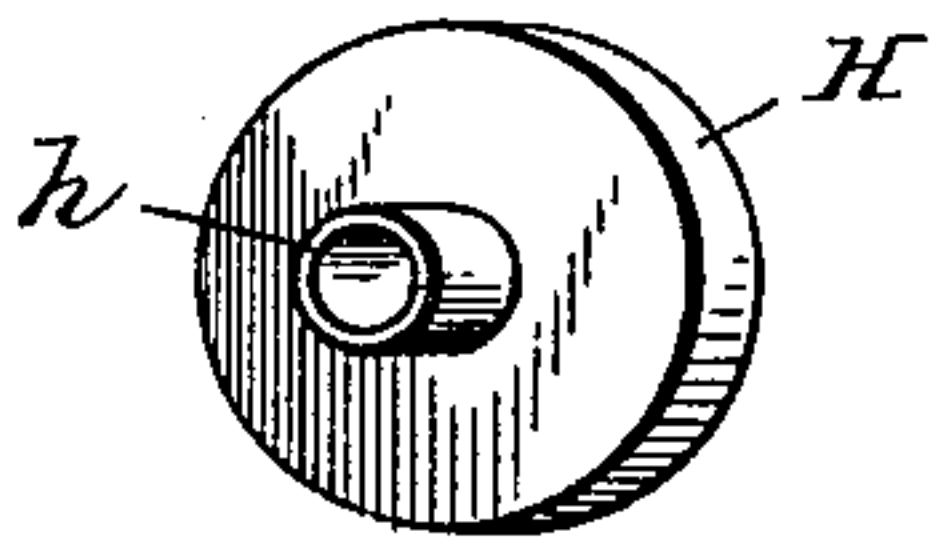
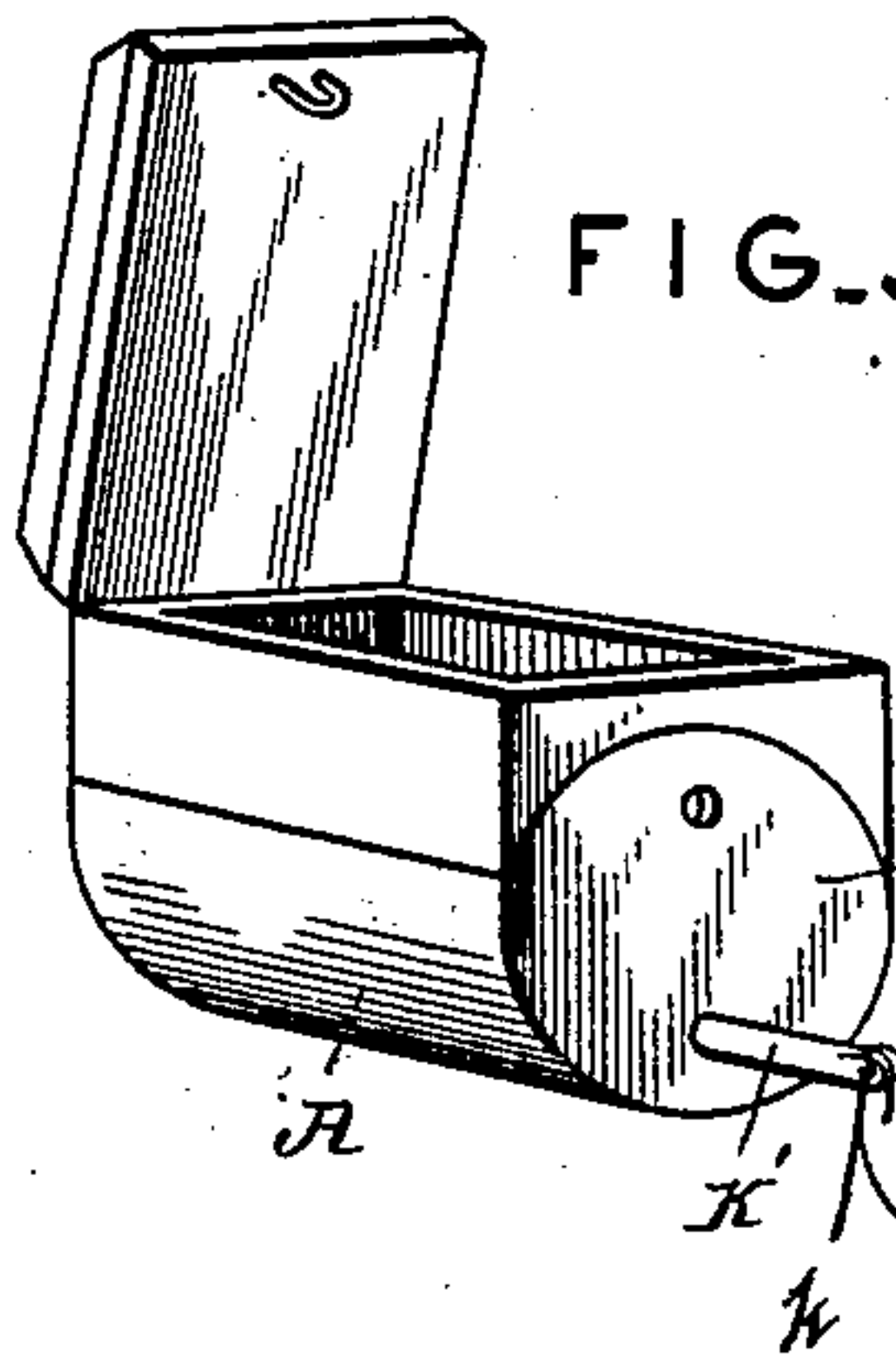
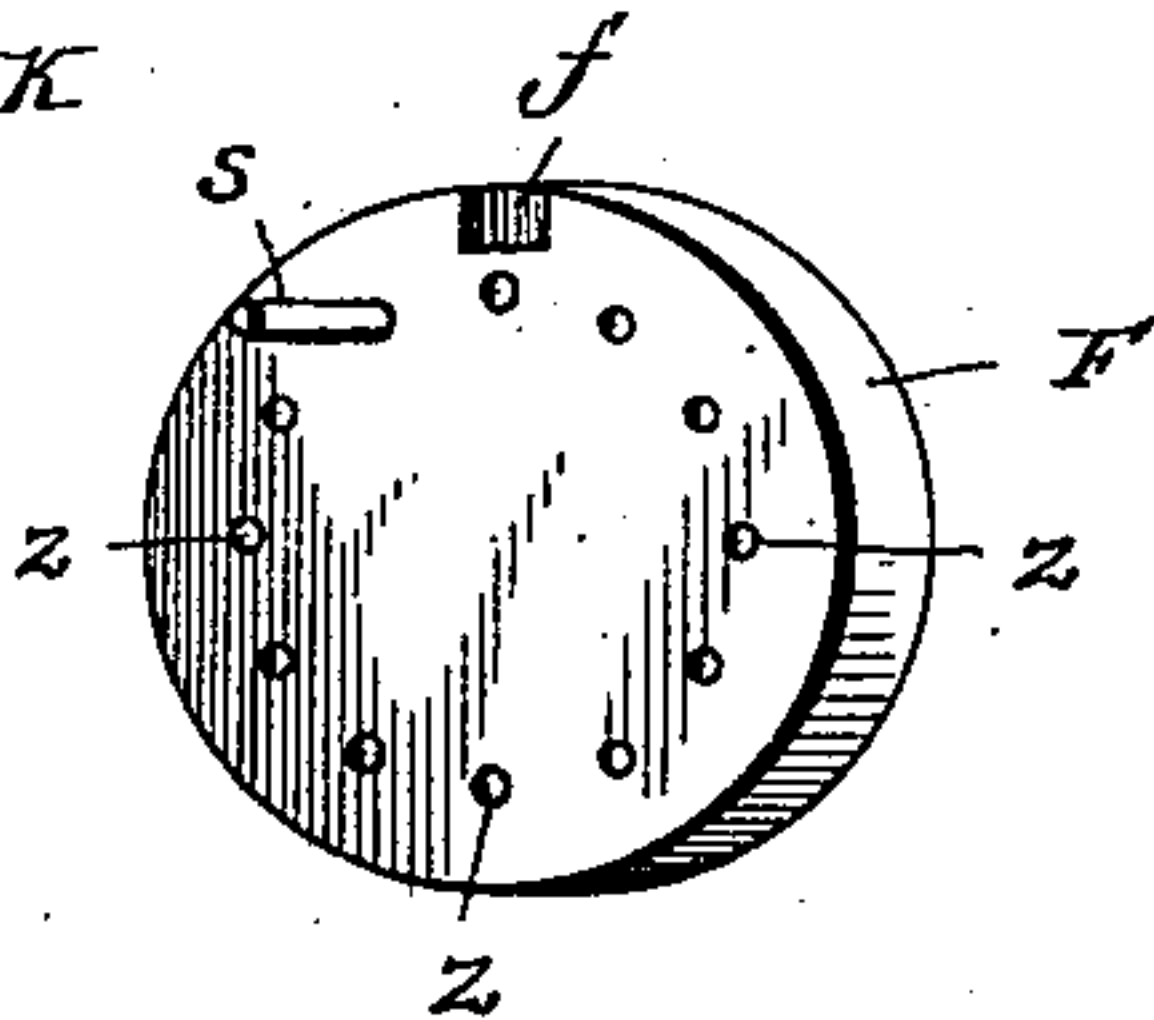


FIG. 4.



ATTEST-

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# UNITED STATES PATENT OFFICE.

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## PADLOCK.

SPECIFICATION forming part of Letters Patent No. 669,295, dated March 5, 1901.

Application filed October 30, 1900. Serial No. 34,925. (No model.)

*To all whom it may concern:*

Be it known that I, ELMER EMET WENDEL, a citizen of the United States, and a resident of Guilford, in the county of Nodaway and State of Missouri, have made a certain new and useful Invention in Padlocks; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of my padlock. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a detail view of one of the cylinders H. Fig. 4 is a detail view of one of the tumblers F. Figs. 5 and 6 illustrate the application of my padlock to a locket. The invention has relation to combination-padlocks; and it consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings the letter A represents the outer casing, which may be of cylindrical form, or the form may be varied in accordance with the application. I have designed to connect it with a small box or locket, in some cases the box forming a part of the casing. The casing A is provided with opposite longitudinal ways or bearings *a* to receive the inner frame B, which extends across the casing, its edges *b* fitting the ways *a*. The casing A is provided with a screw-top A'. The frame B is made in two parts, with an opening B' in its middle portion, and the lateral edges of this opening are formed with series of projections *b'* and intervening ways *b''*, which receive the edges of circular tumblers F, which are provided each with a notch *f* for the passage of the notched locking-bar K' of the bow K, which is pivoted to said locking-bar by means of a removable screw *k*. The two parts of the frame B are fitted to each other flatwise and secured together by a small screw.

HH indicate cylinders, which are located between the tumblers and have projecting bearings *h* around their central threaded openings, on which the tumblers turn. Rubber washers *w* may be placed between the cylinders H and tumblers F.

J represents a central longitudinal screw-threaded shaft, on which the cylinders H are secured in position. This shaft is provided with an angular end projection *v*, small enough to pass through the threaded openings of the cylinders, which engages a notch or bearing *v'* in the frame B and is thereby prevented from turning or pulling away from the frame. A collar-flange *v''* is provided at the other end of the shaft.

E represents the lower cylinder, the opening of which is larger than the openings in the cylinders H and is squared to engage the squared end of the stem D' of the operating knob or disk D, which is formed with a bevel edge *d*, seated in an inversely countersunk opening *a'* in the lower end of the casing A, or the cylinder E may be keyed to the stem D' in order to prevent it from turning thereon. In the end of the stem D' is formed a bearing *d'*, which engages and turns on the end of the shaft J. The opening of the cylinder E is shouldered to receive the collar of the shaft J.

The screw top or cap A' of the casing A is provided with openings *a''* for the passage of the branches of the bow K and locking-bar K'. This locking-bar is provided with a slot or stopway *m'*, into which projects the end of a stop-screw *m*, which is secured to the inner frame B and is designed to prevent the locking-bar from being entirely pulled out of the casing except when said screw is removed.

The several tumblers are provided with series of screw-holes *z z*, circularly arranged and adapted to receive the screw-pegs *s*, whereby the tumblers are operated when the indicator-disk is turned to bring their notches in line to permit the withdrawal of the locking-rod sufficiently to allow the hinged staple to be unclosed. All of the tumblers shown are not always necessary, and sometimes but three are used, the others being removed, but when they are removed the cylinders H should remain in place.

It will be observed that were it not for the cap A' the entire inside frame, including the indicator-disk, could be removed from the casing A; but as the cap is engaged by the legs of the bow K, which is pivoted to the locking-rod K', which engages the frame B, which engages ways or bearings in the casing



A, the cap cannot be unscrewed so long as the staple is in engagement and connected to its locking-bar. In order to remove the frame B when it is desired to change the combination, the pivot-screw  $k$  of the staple, which is guarded by the casing when the staple is in locked position, is taken out and the staple removed from the locking-bar  $K'$ , which is then pushed back into the casing.

10 The cap  $A'$  can now be removed by means of a suitable wrench and the frame B, with its entire working appendages, can be taken out of casing A.

In order to change the combination, the frame B, with its working parts, is removed from the casing A. Then one of the sectional halves of the frame B is lifted off, after which the operating-knob and first tumbler are removed from the shaft. Then the two screw-pegs in this tumbler engaging the lowest or first cylinder E are unscrewed and readjusted to alter the position of the lock-notch  $f$  thereof with reference to the numbers on the graduated disk of the operating-knob. In order to change the second tumbler, its cylinder H should be unscrewed from the shaft. In a similar manner the combination-number of all the tumblers may be changed. The third and fourth or even more of the tumblers may be dispensed with, if an intricate combination is not desired, but their cylinder-bearings should be retained. After the screw-pegs are changed and the parts replaced on the shaft the combination formed is easily ascertained by turning the knob until all the tumblers are caught together and then continuing the turning slowly until the notch of the last tumbler is in unlocking position. Note the graduation-number of the operating-knob in this position. Then turn in the opposite direction until the notch of the next tumbler comes into position and note the number. Continue in the same way, turning in alternate directions until the combination is made out.

The pivoted leg of bow K is provided with

an inner extension beyond its pivot, in which is a slot  $k'$ , arranged to engage a pin  $k^2$  of bar  $K'$ , which pin brings up against the end wall of such slot when the bar and the leg of the bow are in alinement. This pin-and-slot connection also affords a reinforcement to the pivot connection of bar and bow against strain upon such bow.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a combination-padlock, the series of tumblers, the locking-bar, the bow pivoted to said bar, and having an inner extension beyond its pivot, and the stop and reinforcing pin-and-slot connection between said inner bow extension and said bar, substantially as specified.

2. In a combination-padlock, the outer casing open at both ends thereof, and having an annular shoulder at one end thereof, the inner removable frame arranged to be slid into said casing until it brings up against said shoulder, the central shaft secured in said frame, the series of tumblers upon said shaft, the operating-knob upon said shaft and fitting into the opening at one end of said casing, the screw-cover closing the opposite end of said casing and having two openings therein, the locking-bar in register with one of said openings and of such a length as to be out of engagement therewith when retracted within the casing, the bow having one of its arms normally in register with the other of said cover-openings, and of such a length as to be out of engagement therewith when said bar is projected from the casing, and the removable pivot connection for said bow and bar, substantially as specified.

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

ELMER EMET WENDEL.

Witnesses:

C. H. SIDLE,

W. D. McCLANAHAN.