

L. A. MERRIAM.
Lock.

No. 215,649.

Patented May 20, 1879.

Fig. 1.

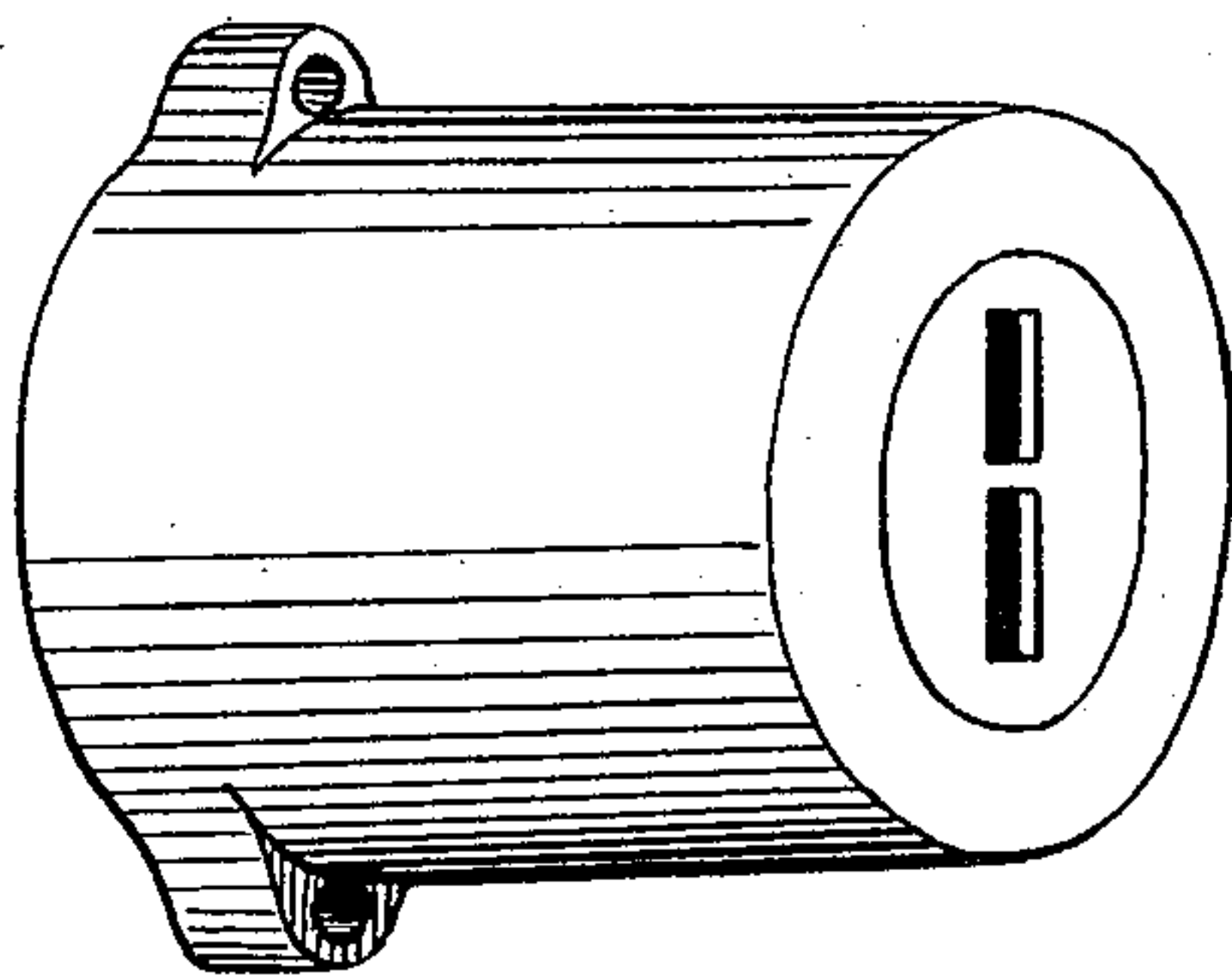


Fig. 2.

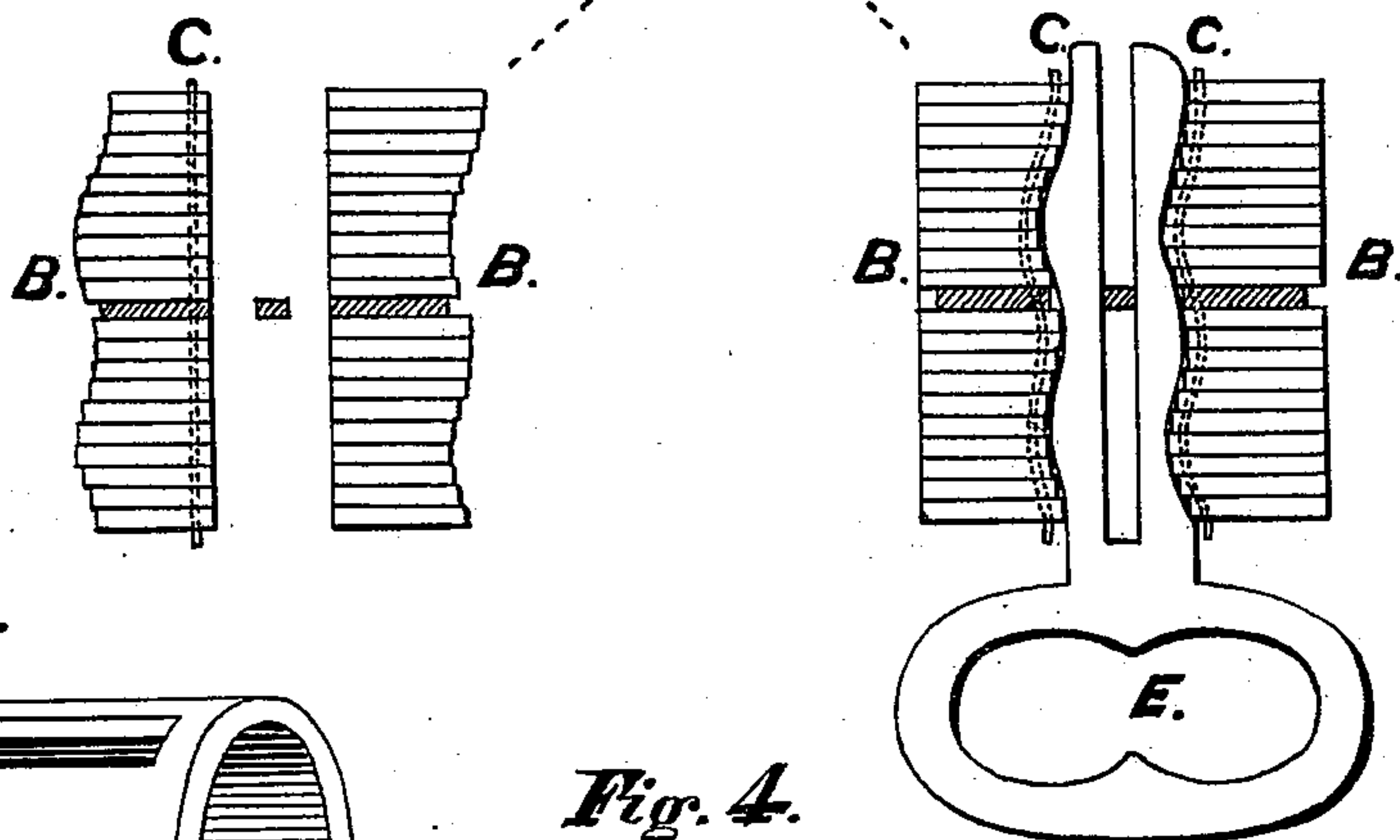


Fig. 3.

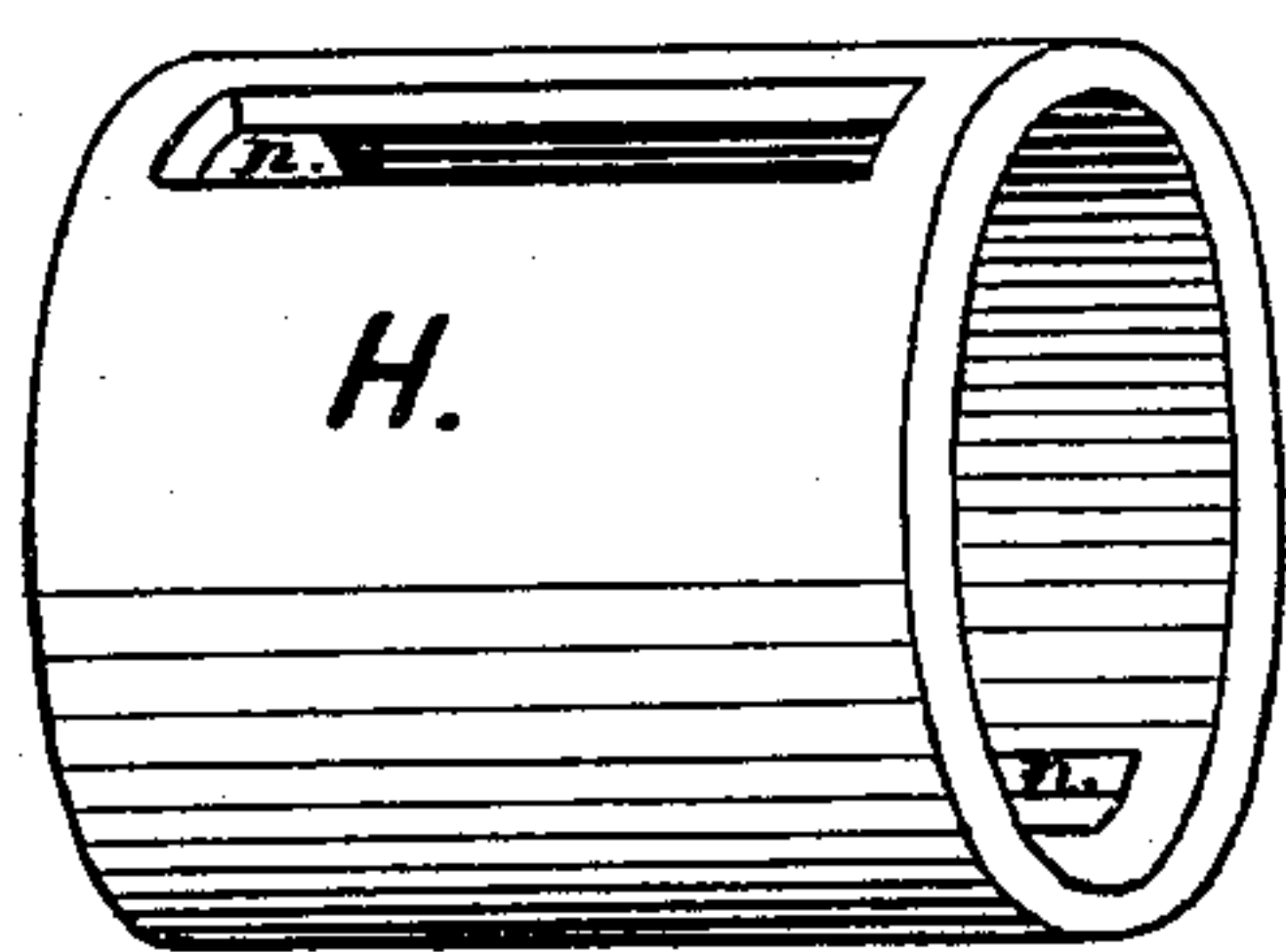


Fig. 4.

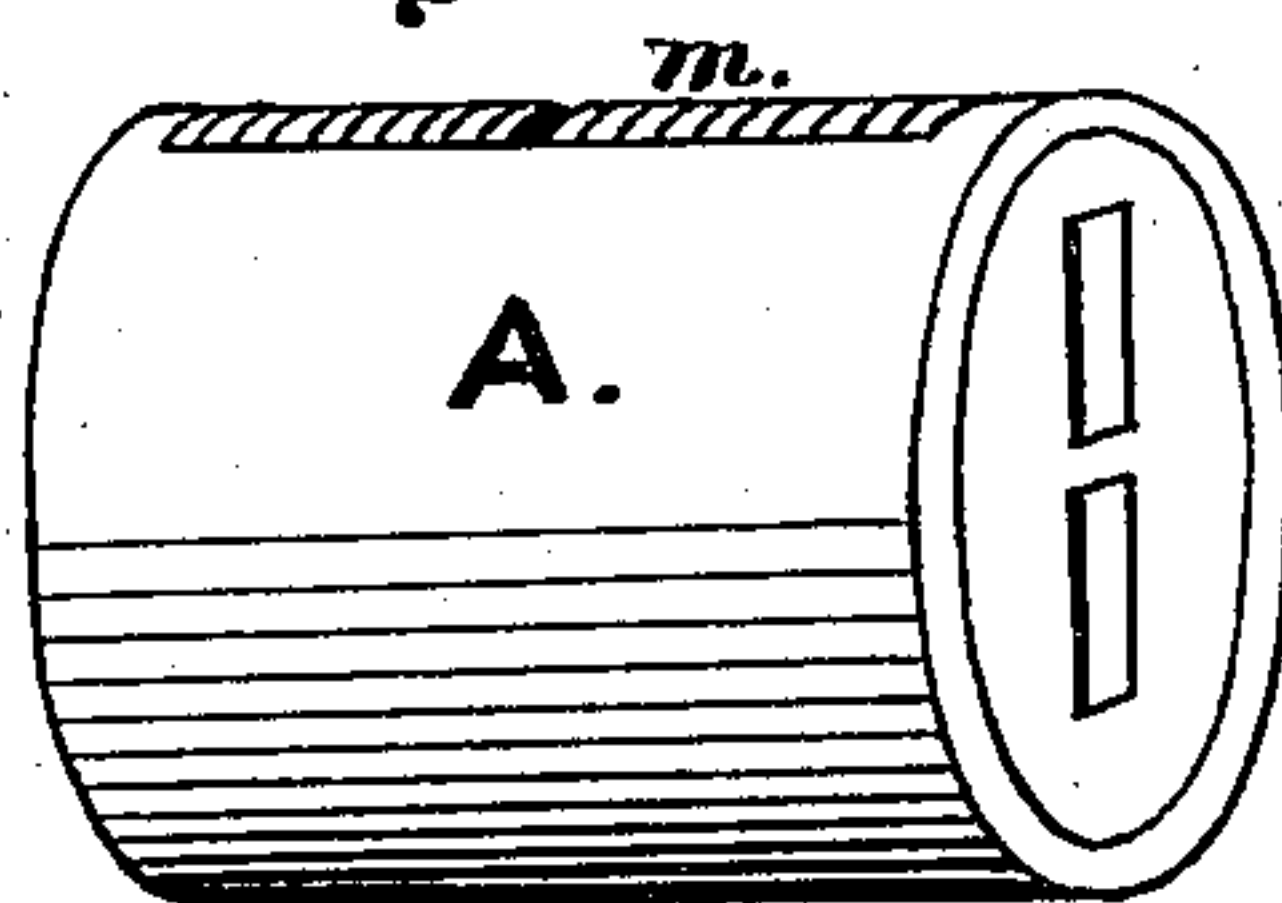
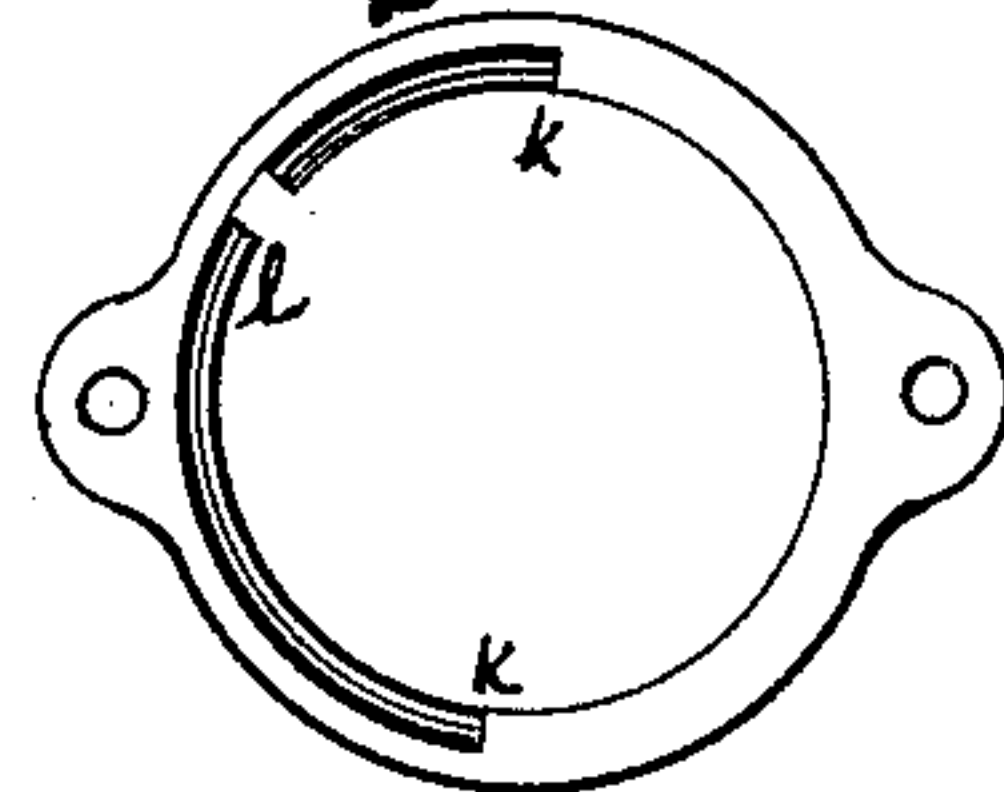


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

LINCOLN A. MERRIAM, OF NEW YORK, N. Y.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **215,649**, dated May 20, 1879; application filed October 14, 1878.

To all whom it may concern:

Be it known that I, LINCOLN A. MERRIAM, of the city, county, and State of New York, have invented new and useful Improvements in Locks and Latches, of which the following is a specification.

Hitherto, with the exception of a few costly locks made for special use, the tumblers, though adjusted at considerable expense, have varied so little that by leaving out of a master-key a few minute and unimportant adjustments it will operate a whole class, and they are so inappropriately designed that a skillful operator, with the rudest instrument, by progressive approaches, can throw the bolt.

The object of my invention is to construct locks and latches with a system of cheaply-adjusted tumblers that shall be mechanically secure against being operated except by its own key or an exact duplicate thereof.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of the escutcheon or case containing the tumblers. Fig. 2 is a view of the tumblers in their natural position under operation of the spring, and their forced position operated by the key, and as they may be differently made. Fig. 3 is a view of that part containing the slot *n*, and in construction is a constituent part of the lock or latch (or its escutcheon) seen in Fig. 1. Fig. 4 is a view of the tumbler rack or cylinder with the tumblers inserted in its slot *m*. Fig. 5 is an end elevation, showing the stop device.

H is a stationary part of a lock, latch, or their escutcheon, in which is the slot or slots *n*, into which the ends of the tumblers enter when the key E is withdrawn, thus securing the rack or cylinder A in position.

The tumbler rack or cylinder A, Fig. 4, is adjusted in or to a lock or latch, and, by means of some suitable connection, in turning operates the bolt or catch, as required. The rack or cylinder A has the slot *m*, in which the tumblers B and the spring or springs C are placed. By turning the rack or cylinder A the slot *m* is brought in line with the slot or slots *n*, made in the frame of the lock or latch (or its escutcheon) at suitable points for shifting the bolt or catch, at which point it is arrested

by the stop made by the point *l* and the shoulder or shoulders *k*, Fig. 5, or their equivalent. The slots *m* and *n* being in the position of one continuous slot, the tumblers B move in them as they are operated by the spring C and the irregular-sided key E. In this lineal position of the slots *m* and *n*, the key may be inserted or withdrawn. The tumblers B, Fig. 2, are notched, drilled, or slotted, to receive the spring or springs C and the curved and irregular-sided key E.

While I regard the use of the one spring passing transversely through and having like bearing upon all the tumblers as its most effective and economic use, I am aware that the spring may be divided at some intermediate point in the tumblers; or the tumblers may be so constructed as to clear a part of them from the action of one spring and leave them to be acted upon by another; or tumblers may be placed in the lock that are not actuated by a spring at all, as after enough tumblers are properly placed and actuated for a secure and efficient lock others should be inserted. By inserting this key to its place the tumblers are wholly withdrawn from the slot or slots *n* into the slot *m* in the tumbler rack or cylinder A allowing the rack or cylinder to turn freely and operate the bolt or catch; and the withdrawal of the key allows the tumblers to cross the joint between the frame or escutcheon of the lock or latch and the tumbler rack or cylinder A, binding the rack or cylinder in position, and thereby securing the bolt or catch.

What I claim is—

1. The spring or springs C, passing transversely through and common to the tumblers of the lock or latch, placed substantially parallel to each other, and operating them in the manner and for the uses set forth.

2. The lock or latch having the tumblers moved in the slots *m* and *n*, as described, the key E, and the spring or springs C, passing transversely through and common to said tumblers, constructed and arranged in the manner and for the uses described.

LINCOLN A. MERRIAM.

Witnesses:

A. MOORE,
WILLIS B. MAGRUDER.