

(No Model.)

W. F. PETERS.
PERMUTATION LOCK.

No. 384,468.

Fig. 1. Patented June 12, 1888.

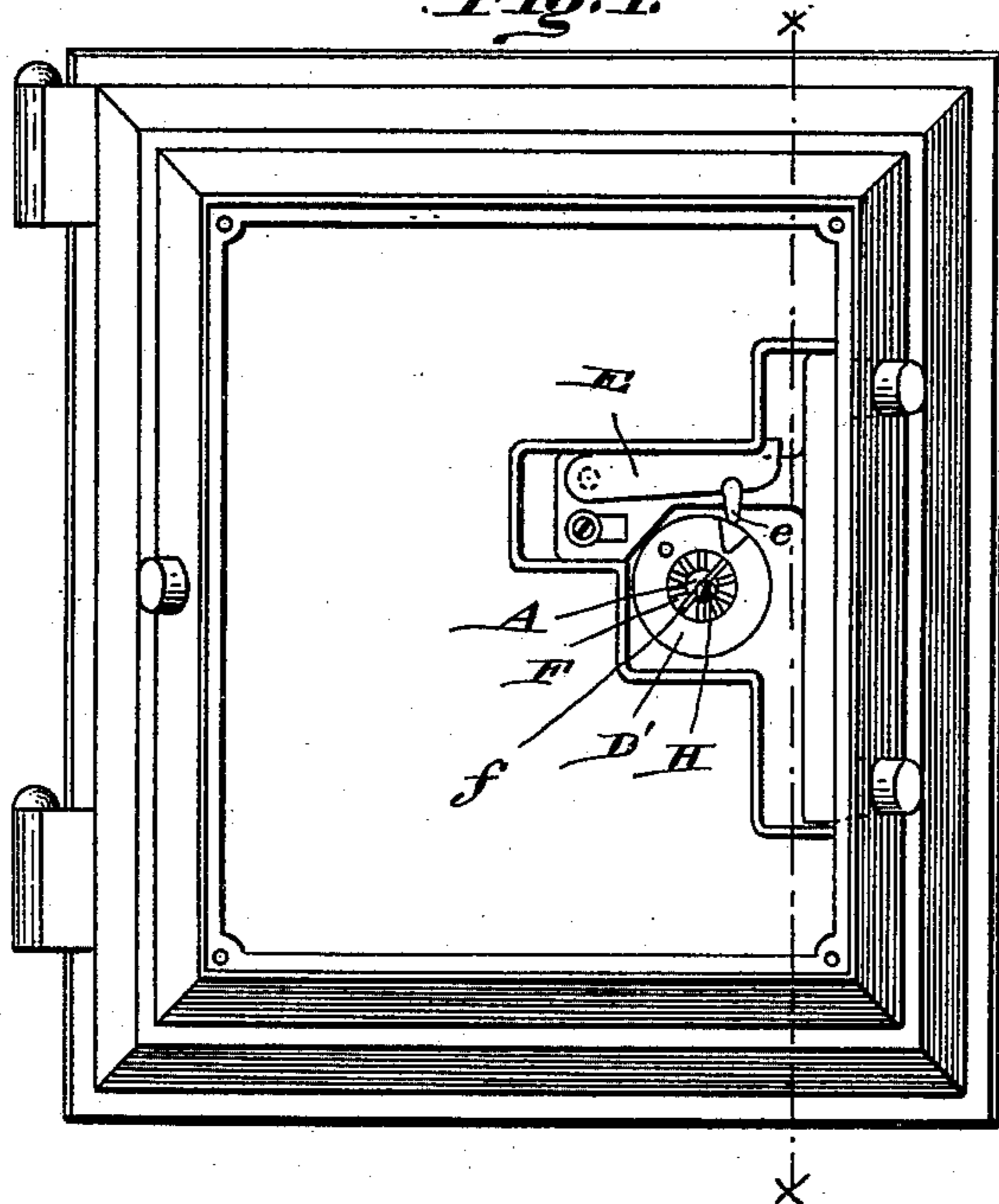


Fig. 2.

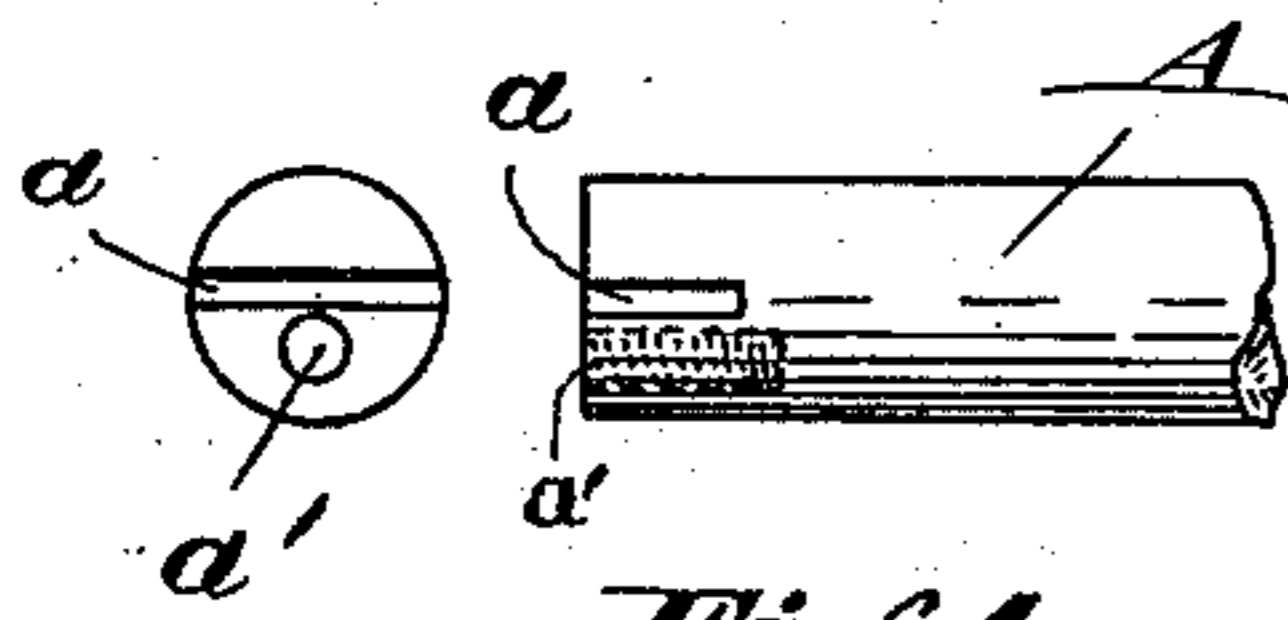
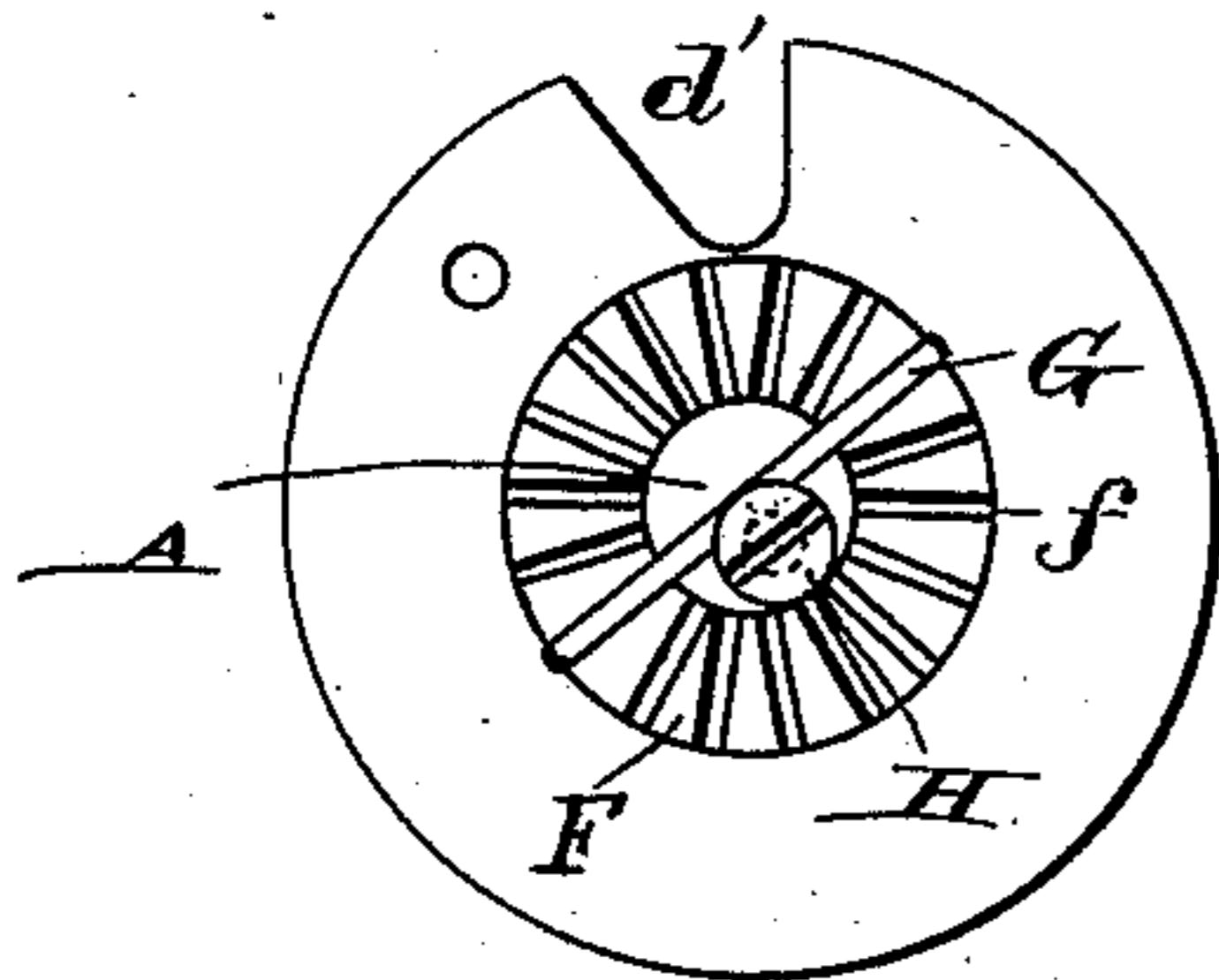


Fig. 4.

Fig. 3.

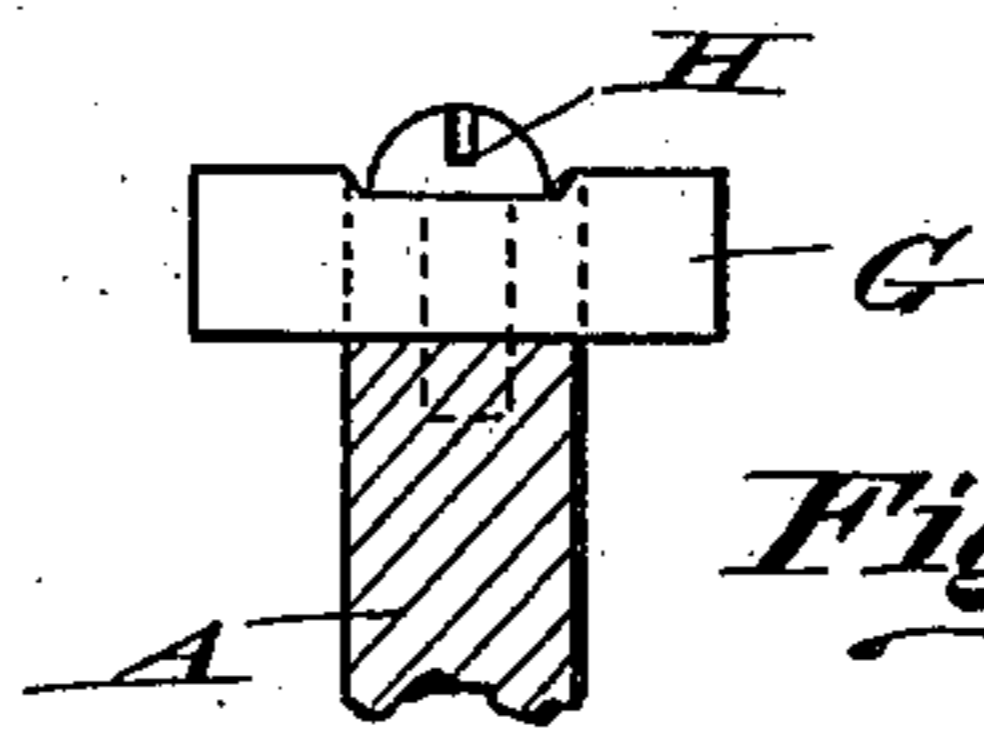
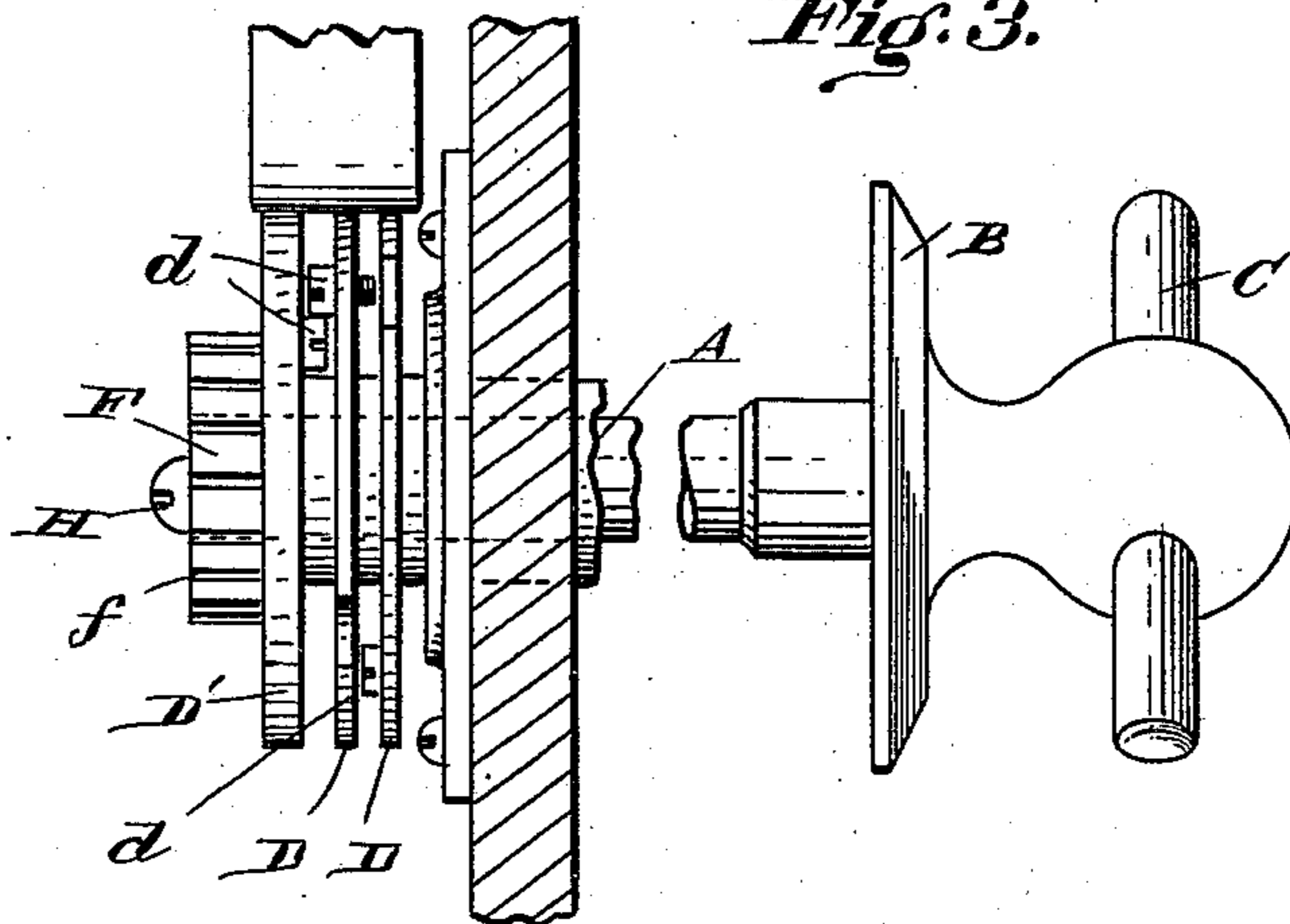


Fig. 5.

Attest.
N. Smith.
G. W. Parer.

Inventor.
William F. Peters.
per Wm. Hubbell Fisher
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. PETERS, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
THE ALPINE SAFE COMPANY, OF SAME PLACE.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 384,468, dated June 12, 1888.

Application filed January 23, 1888. Serial No. 261,572. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. PETERS, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Permutation-Locks, of which the following is a specification.

The several features of my invention and the advantages arising from their use, conjointly or otherwise, will be apparent from the following description.

In the accompanying drawings, forming part of this specification, Figure 1 shows the inside of a safe-door, the lock-case cover being removed. Fig. 2 is an enlarged view of the inmost tumbler and the end of the tumbler-arbor. Fig. 3 is a section taken at the line *x x*, Fig. 1, and is on a larger scale than Fig. 1. Fig. 4 shows an end elevation of the end of the tumbler-arbor, and also a side elevation of the end portion of the said arbor. Fig. 5 is a sectional view of the end of the tumbler-arbor, and showing in elevation the side of the plate which locks the arbor to the tumblers.

The tumbler-arbor A passes through the door of the safe in the usual way. It is provided outside the safe with a setting-dial, B, and a handle, C. Any desired number of tumblers D may be employed, each of which is provided with a tappet, *d*, adapted to strike against a similar tappet *d* on the adjoining tumbler or tumblers. The intermediate tumblers are each provided with tappets, one on each face, while the outer tumbler has a tappet on its inner face only, thus resembling the tumblers in the ordinary combination-lock. The tappets on the intermediate tumblers are preferably made by putting a short rod through each tumbler, in such position that it projects from each face.

In my lock, as shown, there is no provision made for changing the positions of the tappets on their respective tumblers, but other means are provided for changing the combination. Each tumbler has the usual notch, *d'*, in its edge, which receives the dog *e* of the latch-

lever E when all the notches are properly aligned.

The inmost tumbler D' is provided with the hub F, which projects from its outside face. The hub F is provided with a series of diametric slots, *f*, which receive the flat pin G. The end of the arbor A also has a transverse diametric slot, *a*, in which the pin or plate G is received. Besides the slot *a* in the arbor, A is a screw-threaded socket, *a'*, into which the screw H fits. The arbor A is attached to the tumbler D' by the pin G, and the latter is held in its place by the screw H, whose head fits over the pin G when screwed into the socket *a'*. With the parts in this position a given combination will unlock the safe. To change this combination it is only necessary to put the pin G into other slots *f* than it previously occupied. This changes the relation of the dial to the inmost tumbler D', and in this way changes every number of the combination. It will be observed that this change can readily be effected without removing the tumblers from the arbor, as the hub is upon the outside face of the inmost tumbler, and it is only necessary to loosen the screw which holds the pin G and place it in the desired notch and secure it again.

In this lock the device for changing the combination is especially advantageous, because it effects this object without changing any of the tumbler-tappets. This is especially desirable, because it enables a mere novice to make the desired change. Furthermore it is unnecessary to provide a number of sockets for each tumbler-tappet, one only being entirely sufficient. This reduces the price of the lock very considerably, and conduces to its simplicity and durability.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the arbor A, tumblers provided with tappets, the inmost tumbler being also provided on its outside face with a hub, F, and an adjustable connection between the hub and arbor, substantially as and for the purpose set forth.

2. The combination of arbor A, provided with slot *a*, tumblers provided with tappets, the inmost tumbler being also provided with hub F, having slots *f*, pin G, and means for holding pin G in place, substantially as and for the purposes specified.
3. The combination of arbor A, provided with slot *a* and socket *a'*, tumblers provided with tappets, the inmost tumbler being also provided with hub F, having radial slots *f*, pin G, and screw H, substantially as and for the purposes specified.

WILLIAM F. PETERS.

Attest:

A. S. LUDLOW,

G. A. W. PAVER.