

(No Model.)

W. M. BROOKE.
PERMUTATION LOCK.

No. 435,915.

Patented Sept. 9, 1890.

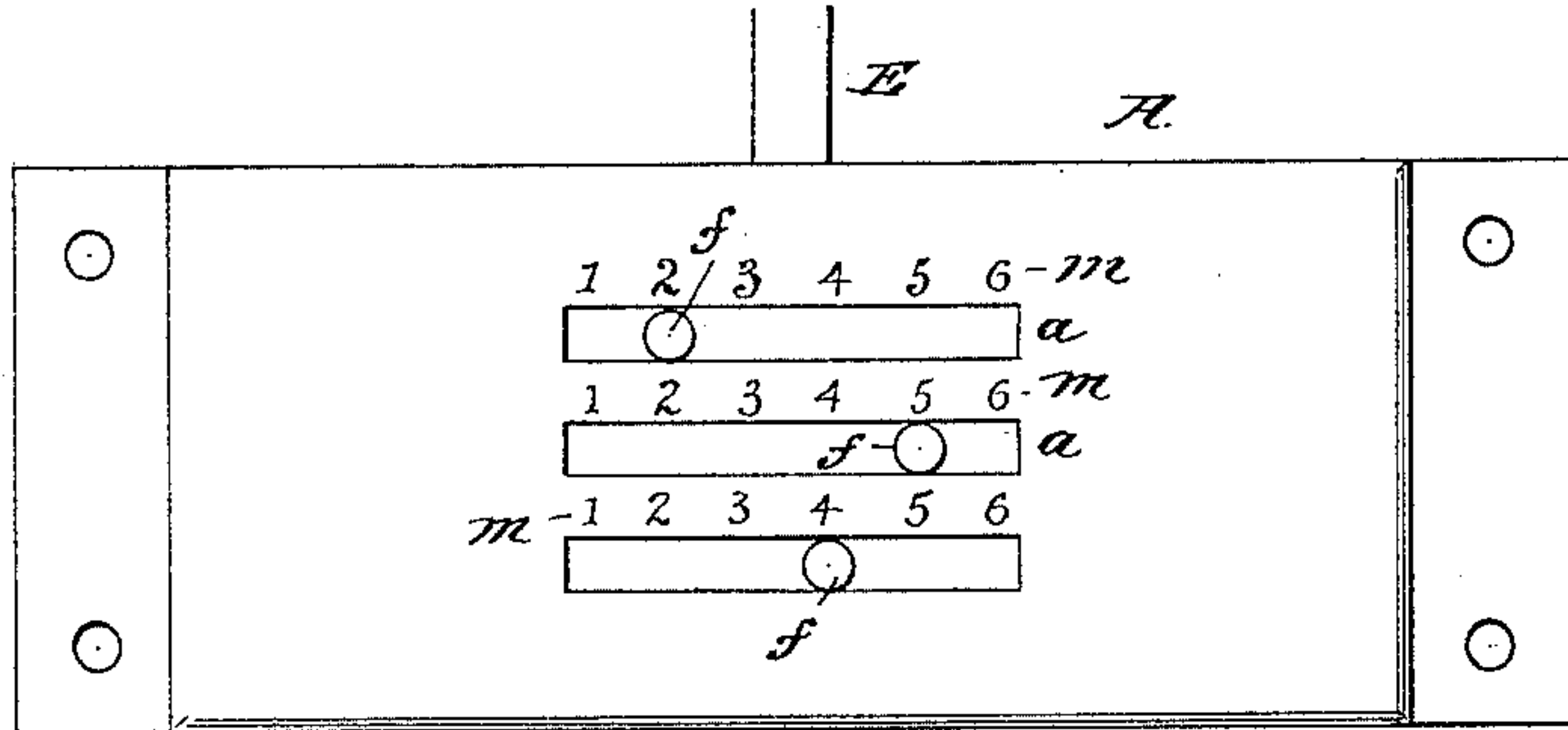


Fig. 1

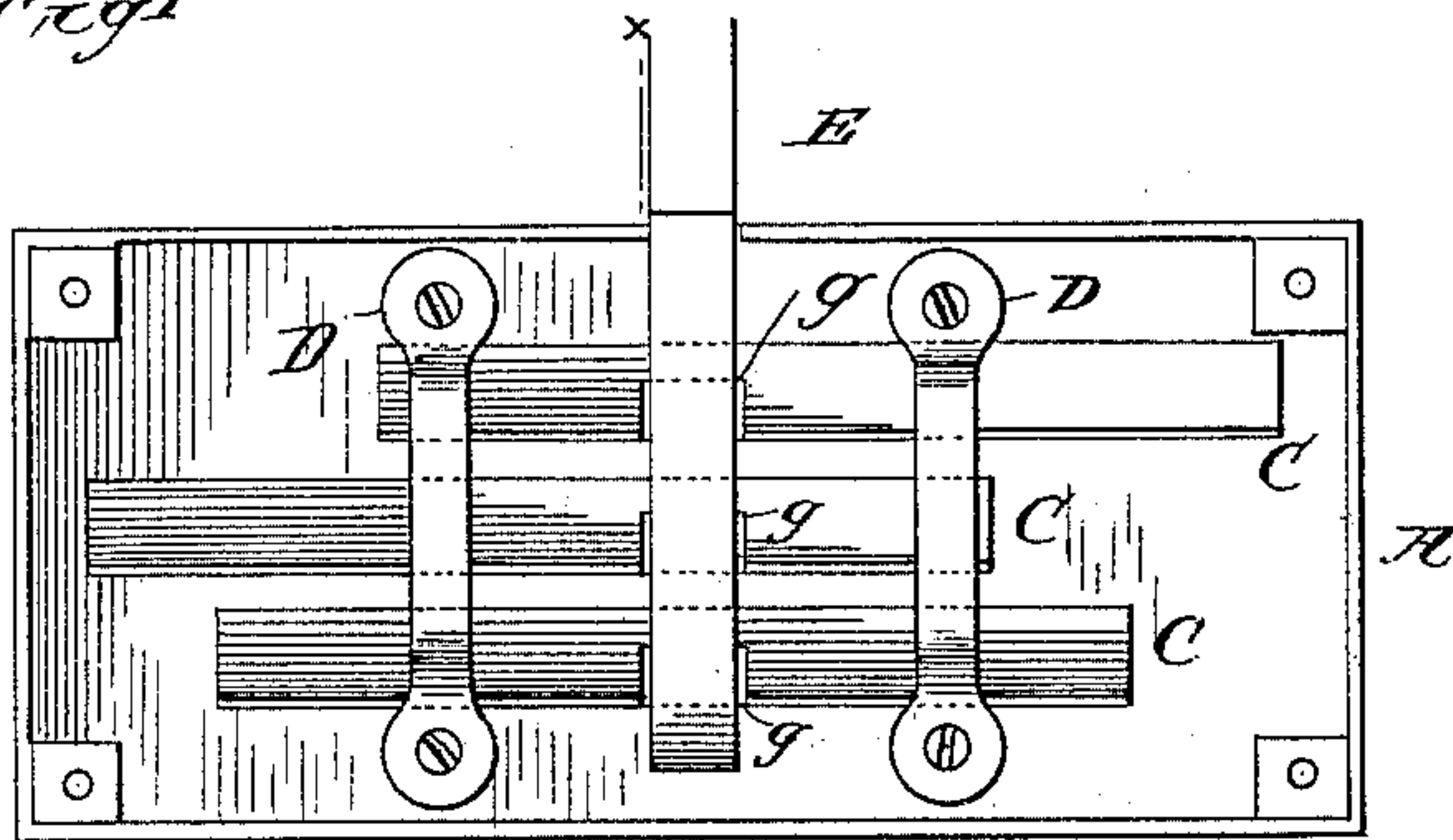


Fig. 2.

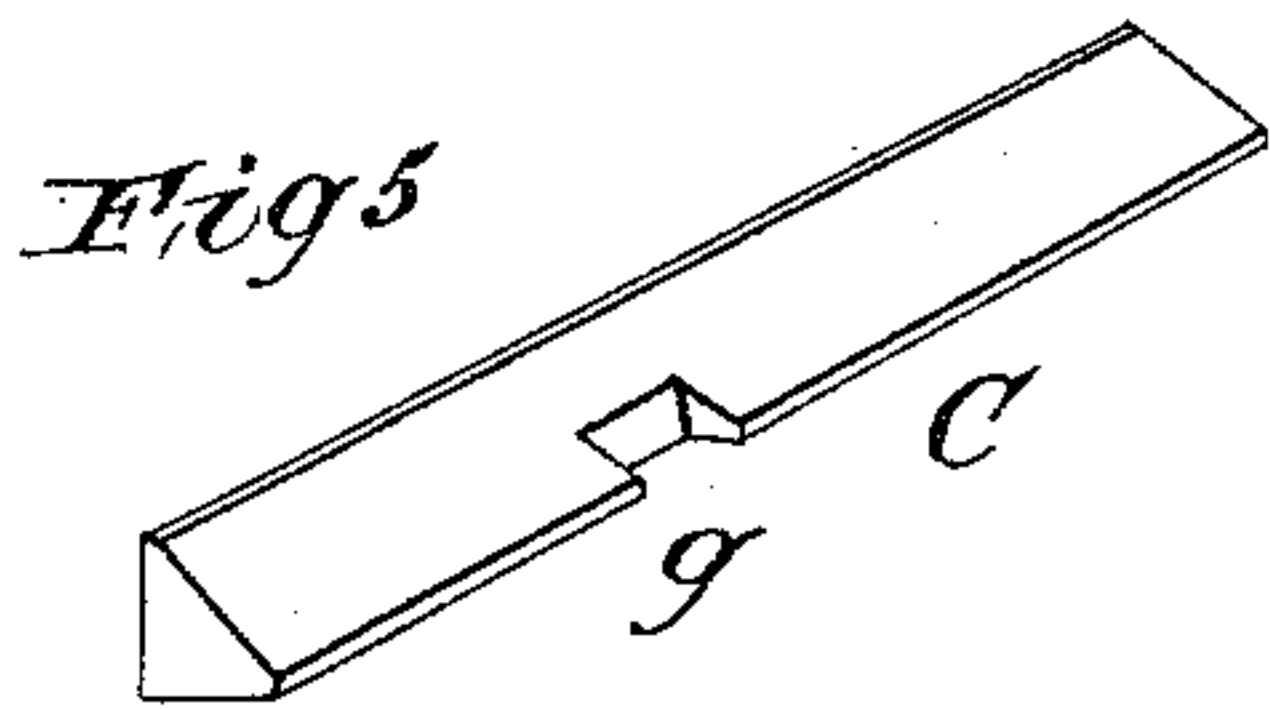


Fig. 5

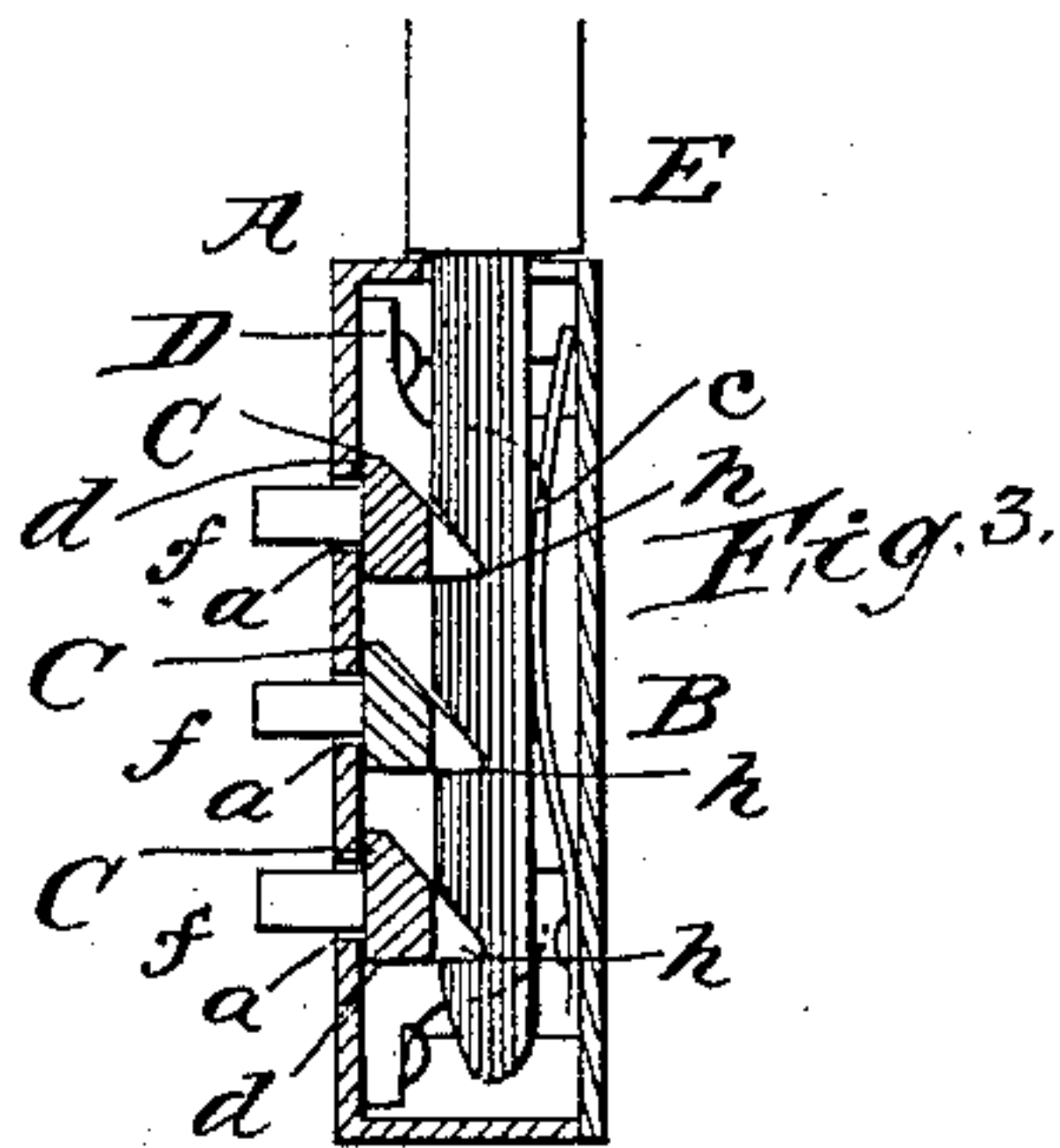
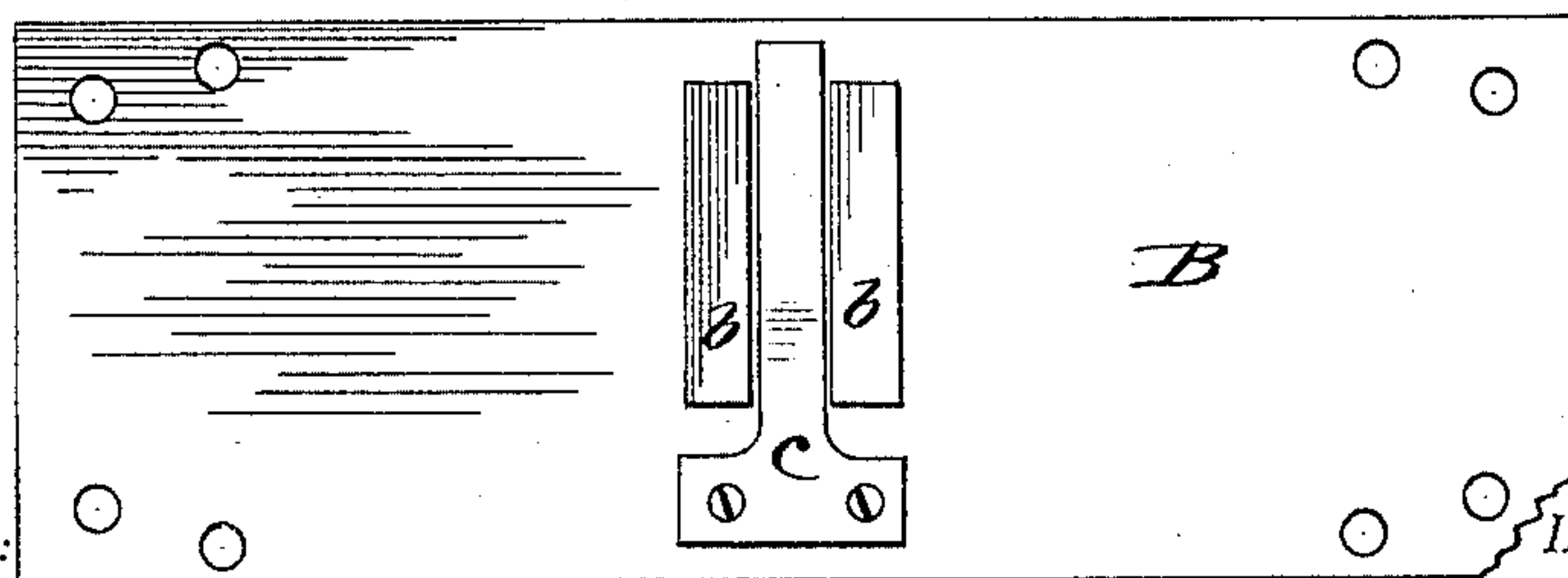


Fig. 3.

Fig. 4.



WITNESSES:

E. Q. Baldwin

INVENTOR

William M. Brooke,
BY
Isaac J. Storer.
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM M. BROOKE, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN H. BARTON, OF SAME PLACE, AND JAMES J. EBERT, OF NEW YORK, N. Y.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 435,915, dated September 9, 1890.

Application filed August 22, 1889. Serial No. 321,633. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BROOKE, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to provide an improved permutation-lock especially adapted for desks, trunks, &c.

Reference is to be had to the accompanying drawings, forming part of the specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improved lock. Fig. 2 is a rear elevation of the same with back plate removed. Fig. 3 is a sectional elevation of the same on line *x x*, Fig. 2. Fig. 4 is an elevation of the inner face of the back plate. Fig. 5 is a perspective view of one of the tumblers.

In the drawings, A represents the main portion of the lock-case, in whose front are two or more (in this case three) longitudinal slots *a a*, and B is the back plate, having secured about centrally on its inner face two guides *b b*, between which extends a flat spring *c*, that is also secured at one end on the said inner face of said back plate.

Within the lock-case two or more (in this case three) tumblers C are arranged lengthwise and parallel to each other and are held apart in place against the case-slots *a a* by holders D, secured on the inner face of the case-front, said holders being provided with transverse grooves *d d*, in which the said tumblers are longitudinally movable, and said tumblers C are provided with studs *f f*, that project through the slots *a a*, convenient to the hand of the operator. Each tumbler C has one or more (in this case one) transverse grooves *g g* made in it, and the bolt E has formed in its shank transverse grooves *h h*, (in this instance three,) corresponding in number to the number of said tumblers.

The bolt E is designed to have its head firmly secured in the top of the desk or trunk to which the lock is applied, so that its shank only shall enter the lock-case.

In the drawings the tumblers C are shown to be triangular in cross-section; but tumblers of other forms in cross-section may be used if the grooves in the bolt and holders be made to correspond.

When the parts of the lock are assembled, as indicated in Figs. 2 and 3, the guides *b b* hold the bolt straight and the spring *c* keeps the bolt-shank in contact with the tumblers C. When the tumbler-grooves *g g* are brought in line beneath the bolt-shank, as shown in Figs. 2 and 3, by the operators moving of the tumblers into such positions by means of the studs *f f*, the bolt may be easily withdrawn, because the bolt-grooves and tumbler grooves are of like depth; but if any one of the tumbler-grooves is out of line with the others beneath the bolt that tumbler will prevent the withdrawal of the bolt. It is evident then that each tumbler may have a number of grooves *g g*, and consequently many locking and unlocking combinations may be made, which combinations will be indicated by the positions of the studs *f f* relatively to certain of the figures *m m* on the face of the lock.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a keyless lock, the combination, with the case-front provided with two or more longitudinal slots *a a*, of back plate B, provided with guides *b b*, secured on its inner face, spring *c*, tumblers C, having transverse grooves *g g* and provided with studs *f f*, that project through the slots *a a*, holders D, provided with transverse grooves, and bolt E, having transverse grooves, all constructed, arranged, and operated substantially as herein shown and described.

2. The combination, with the lock-case and bolt and spring *c*, of the guides *b b*, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand, in the presence of two witnesses, this 21st day of June, 1889.

WILLIAM M. BROOKE.

Witnesses:

JACOB I. STOVER,

HERBERT VALENTINE.