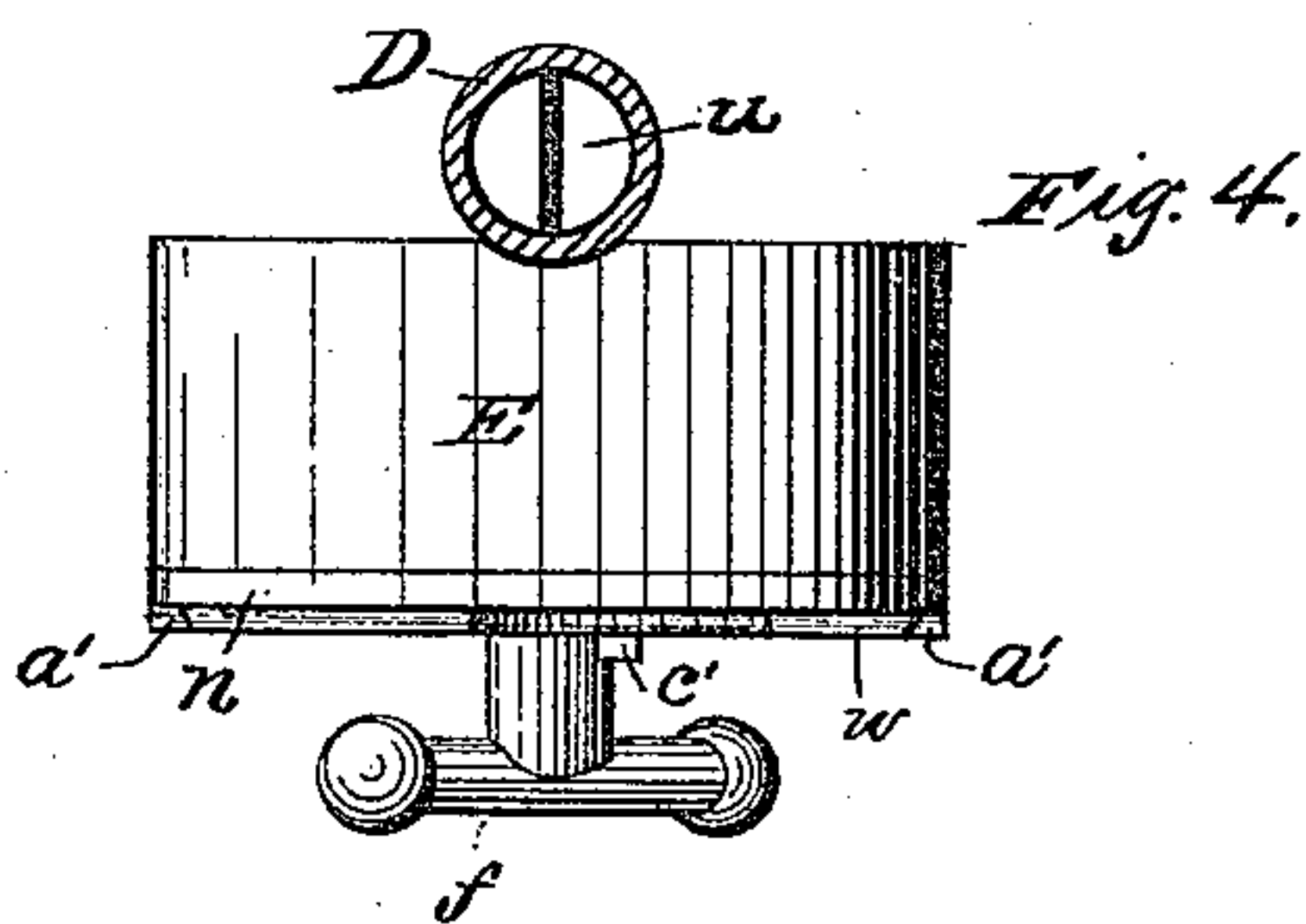
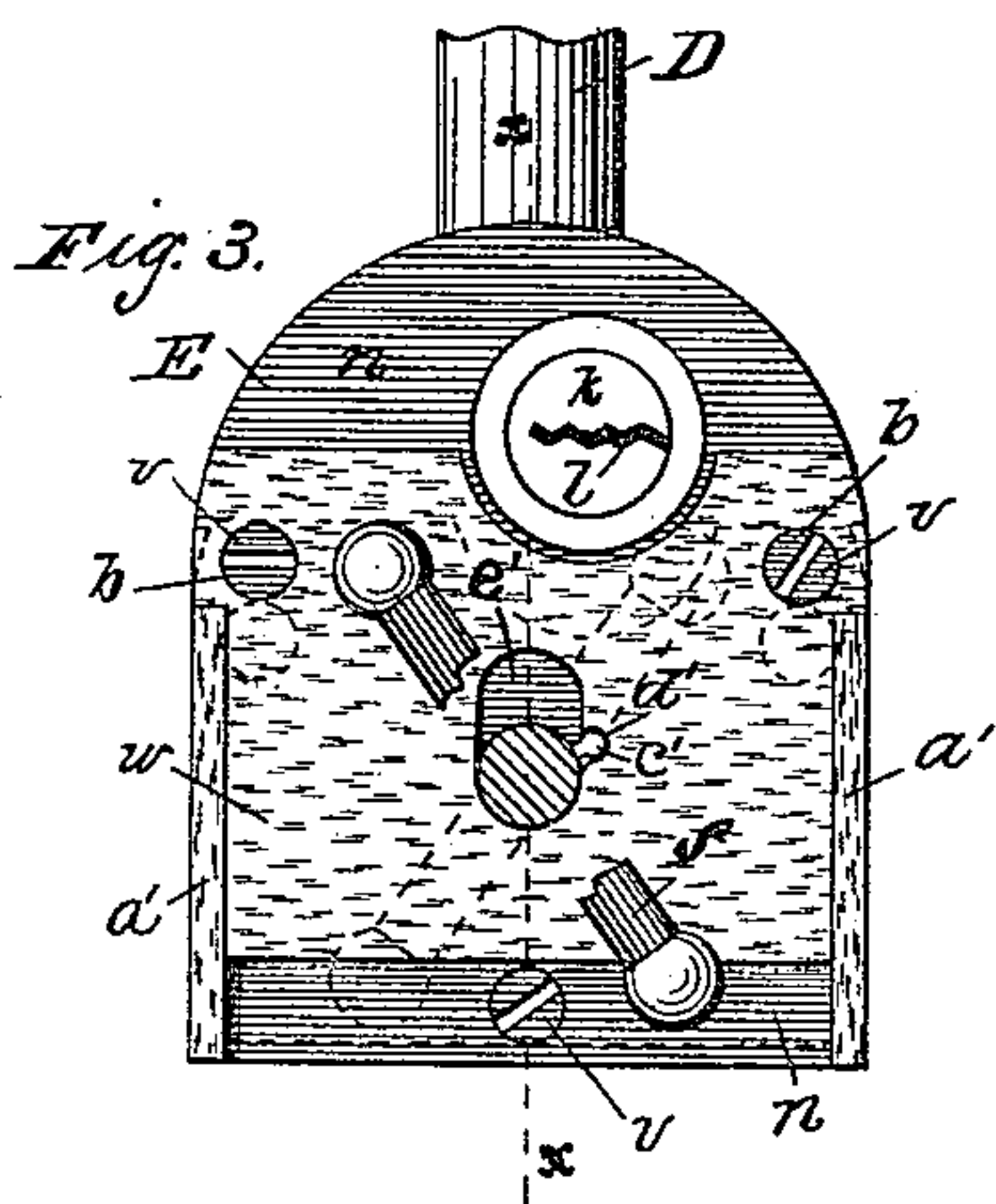
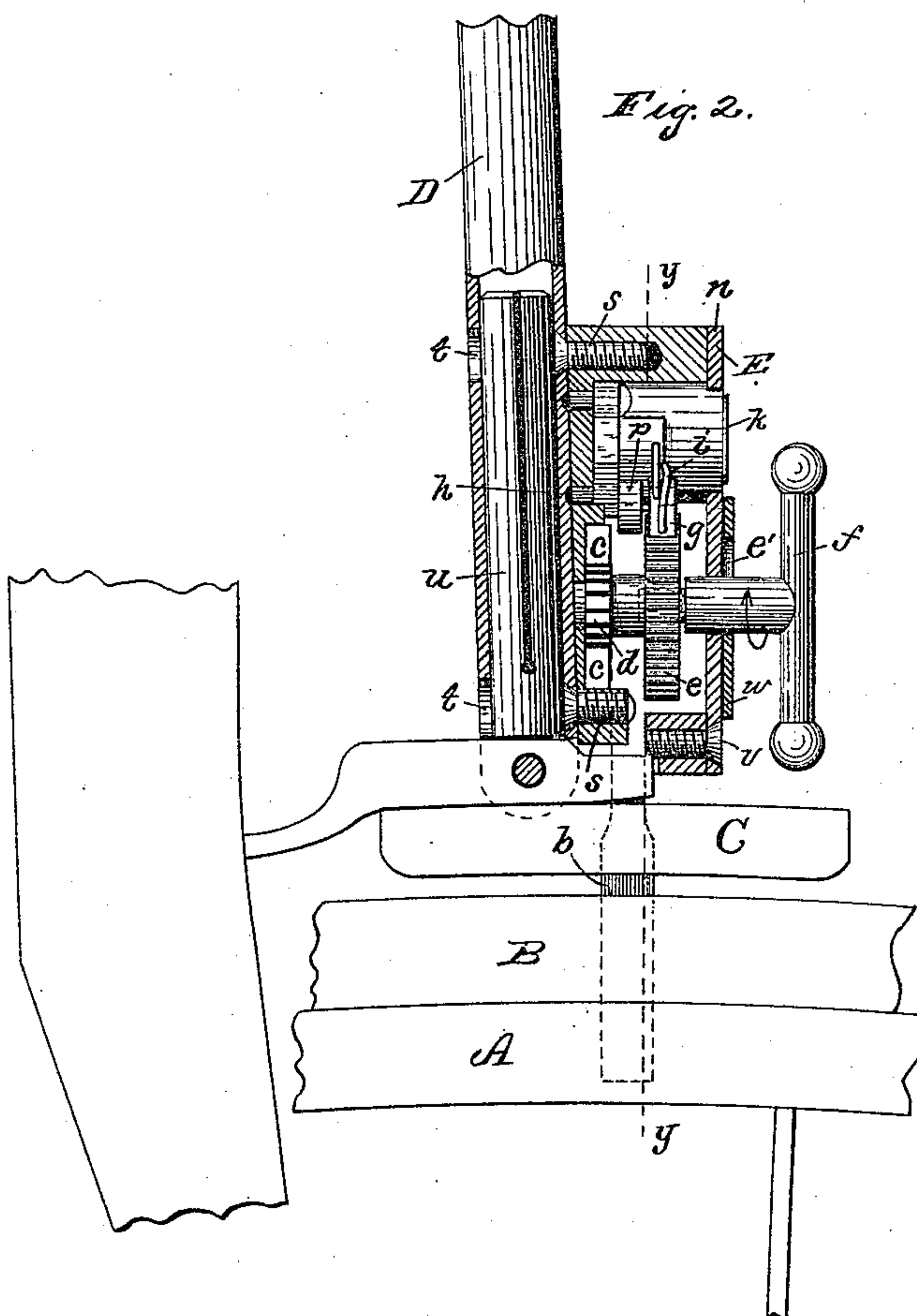
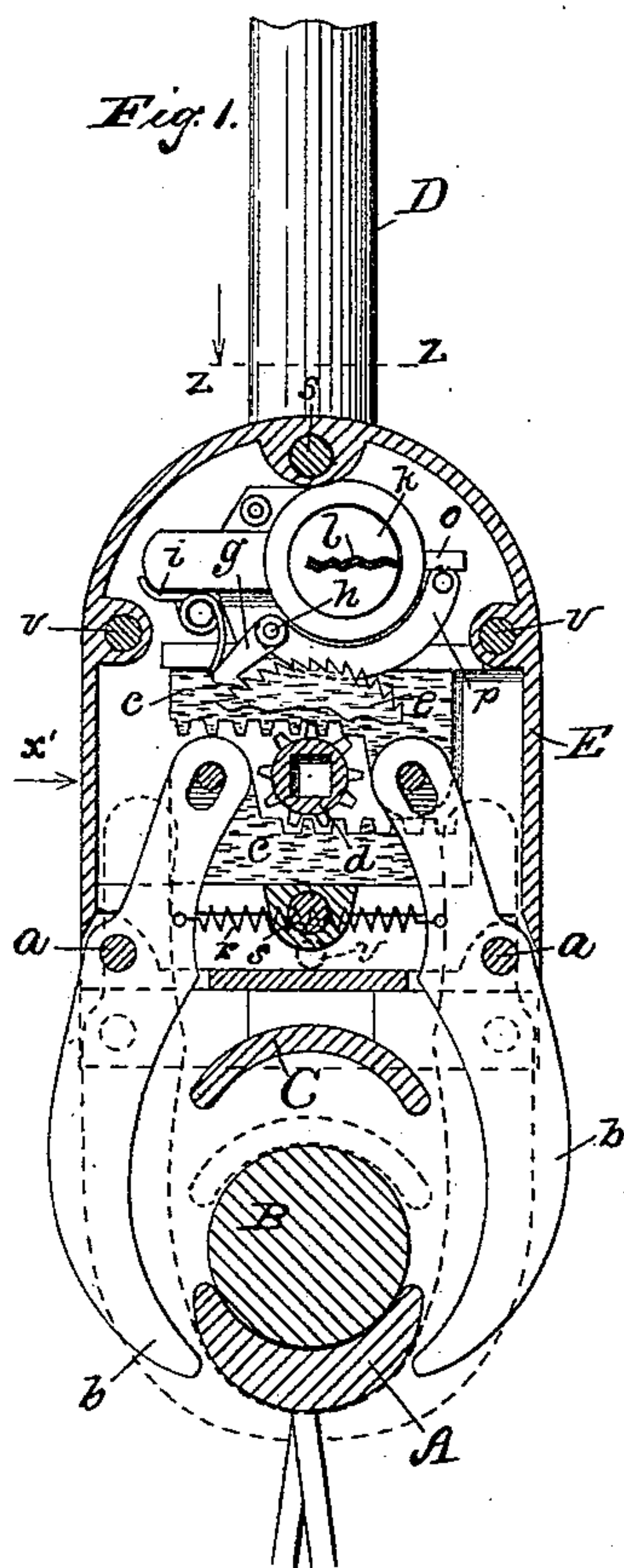


(No Model.)

G. R. FULLER.
LOCK FOR VELOCIPEDES.

No. 440,949.

Patented Nov. 18, 1890.



Attest:
M. L. McDevitt.
J. Sheehan.

Inventor:
George R. Fuller,
By E. B. Whitmore, Atty

UNITED STATES PATENT OFFICE.

GEORGE R. FULLER, OF ROCHESTER, NEW YORK.

LOCK FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 440,949, dated November 18, 1890.

Application filed May 29, 1890. Serial No. 353,595. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. FULLER, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Locks for Velocipedes, which improvement is fully set forth in the following specification, and shown in the accompanying drawings.

My invention is a locking device for bicycles or velocipedes; and it consists in providing clamps or oppositely-acting levers and means for setting them firmly upon the wheel, the device being such that the clamps cannot be released or caused to let go their hold upon the wheel without the use of a key or similar instrument carried by the rider of the vehicle.

The invention is hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of my improved locking device sectioned on the dotted line *y y* in Fig. 2, with parts of the wheel; Fig. 2, a side elevation of the same sectioned on the line *x x* in Fig. 3, viewed as indicated by arrow *x'* in Fig. 1; Fig. 3, a front elevation of the device, drawn to better show the manner of covering the heads of the screws; and Fig. 4, a view on top of the device, the brake-rod being transversely sectioned, as on the dotted line *z z* in Fig. 1.

Referring to the parts shown, A is the wheel of a bicycle or velocipede; B, the tire; C, the brake-shoe, and D the brake-rod, all substantially of common construction.

E is my improved lock, shown as being secured to the brake-rod of the machine.

b b, Fig. 1, are clamps formed to pinch between their lower ends the felly of the wheel, these clamps being in the form of levers fulcrumed, respectively, upon pins *a a* in the inclosure of the lock. At their upper ends the clamps are connected, respectively, with toothed racks *c c*, between which is a pinion *d*, turned by a wrench or handle *f*, without the inclosure. (See Fig. 2.) Now, by turning the handle, which is preferably made rigid with the pinion, to the right, or in the direction indicated by the curved arrow in Fig. 2, the clamps will be thrown toward each other at their lower ends, as shown in dotted lines in Fig. 1. A toothed wheel *e* is provided

rigid with the pinion, and engaged by a pawl *g*, the latter held to turn upon a stud or pin *h*, rigid with the lock. A slender spring *i* presses the pawl and tends to keep it in contact with the ratchet. When the handle is turned, as stated, to throw the clamps against the wheel, the pawl will enter a notch of the ratchet and prevent the clamps from being released from the wheel until the pawl is raised. The wheel *e*, with the pawl, thus becomes a detent for the clamps.

k is a part of a tumbler-lock—for instance, of some style or make operated by a key inserted in the key-hole *l*. This is placed in the inclosure of the locking device, as shown, so that the key-hole is exposed through an opening in the front plate *n* of the inclosure. This part *k* is provided with a rigid stud *o*, projecting at one side in position to bear upon an extended part *p* of the pawl. By inserting the key in the key-hole and turning the stud *o* downward (referring to Fig. 1) the pawl will be disengaged from the ratchet and allow the clamps to be freed from the wheel. A spring *r*, connecting the clamps above the pivots *a*, serves to draw their upper ends toward each other and release the wheel, as stated. The lock E is secured to the brake-rod, which is shown as being tubular, by means of screws *s s*, having their heads on the inside of the tube, these screws being passed through openings *t t* in the opposite side of the tube. A plug *u* is inserted in the tube so as to cover the heads of the screws *s s* to prevent the lock being taken off by designing persons. The plug is shown as being split, so that it may be sprung together when inserted in the tube and held to place by friction. The front plate *n* of the lock is held to place by screws *v v v*.

w is an outer sliding plate designed to cover the heads of these screws when the vehicle is locked, said plates moving in slides *a'*, rigid with the plate *n*. The plate *w* is formed with holes *b' b'* to expose the heads of the upper two screws *v v*, the lower screw *v* being below the plate.

c' is a pin rigid with the horizontal portion of the handle *f* in position to enter a niche or cavity *d'* in the plate *w*. Now, when the handle is turned to clamp the wheel—that is to say, turned from the position shown by full

lines in Fig. 3 to the position shown by dotted lines—the pin c' will shift the plate w or move it downward so as to cover the heads of all three of the screws v . An elongated opening e' in the plate w permits this vertical motion of said plate.

In using the lock the brake-shoe is brought down upon the wheel by the rider in the usual manner. The handle f is then given a twist, as above described, to clamp the wheel when the vehicle is locked. When it is wished to unlock the wheel, the key is inserted in the part k of the lock and turned to lift the pawl, as stated. The spring r immediately draws the clamps away from the wheel and the brake-shoe is lifted, as usual.

On account of the inclination of the bearing of the clamps upon the inner surface of the felly when set thereon, the brake-shoe is drawn more firmly against the tire. This inclination of the surfaces of contact between the clamps and the felly causes the lock as a whole, with the brake-rod and brake-shoe, to be drawn downward when the clamps are firmly set. Thus the brake-shoe itself becomes an essential part of the locking device. The felly of the wheel and the tire are firmly compressed between three independent and movable parts—that is to say, the brake-shoe at the top and the two clamps at the sides and beneath these parts moving toward one another or in a manner to reduce the space within them.

What I claim as my invention is—

1. A lock for velocipedes, formed with an inclosure E , clamps to grip the wheel held by the inclosure, and a handle connected with the clamps to operate them, in combination with a hollow brake-rod, and fastening-screws for said inclosure and brake-rod, having their

heads at the inside of the brake-rod, and a plug or core in the brake-rod to cover the heads of said screws, substantially as and for the purpose set forth.

2. A bicycle-lock having clamps or levers held to grip the wheel, in combination with an operating-handle connected to move said clamps or levers, a detent for said clamps or levers, and a stud or part operated by a key to relieve said detent, substantially as shown and described.

3. A lock for velocipedes having clamps or levers held to grip the wheel, in combination with a detent for said clamps or levers, a stud or part operated by a key to relieve said detent, and a handle to operate said clamps or levers, said detent, and said releasing-stud being inclosed, substantially as shown.

4. A lock for a bicycle having opposing clamps to grip the wheel of the bicycle, in combination with an operating-handle connected with said clamps to move them against the wheel, and a plate or part operated by said handle to cover or uncover parts of the device, substantially as and for the purpose set forth.

5. A lock for velocipedes having opposing clamps or levers to grip the wheel of the velocipede, in combination with toothed racks connected with the respective clamps or levers, a pinion to operate the racks, a ratchet rigid with the pinion, a pawl for the ratchet, and a handle to turn the pinion, substantially as shown.

GEORGE R. FULLER.

Witnesses:

E. B. WHITMORE,
M. L. McDERMOTT.