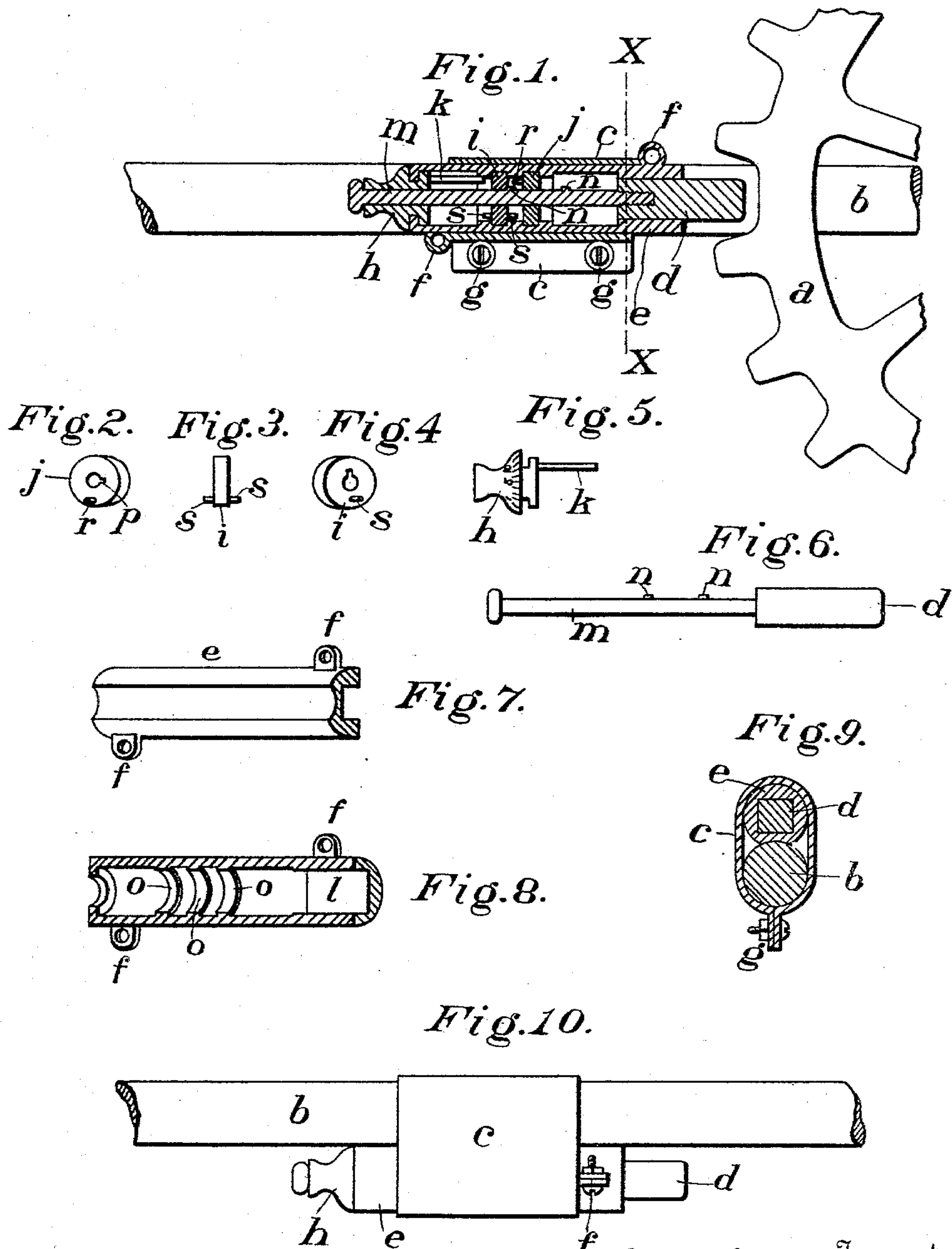


(No Model.)

E. C. BAILEY & W. S. POND.
BICYCLE LOCK.

No. 562,880.

Patented June 30, 1896.



Witnesses

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BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 562,880, dated June 30, 1896.

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To all whom it may concern:

Be it known that we, EDWIN CARL BAILEY and WILLIAM SAMUEL POND, citizens of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Velocipede-Locks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to velocipede-locks, and has for its object the construction of a simple combination sprocket-wheel lock that may be detachably fixed upon the frame of a machine; that may be easily and rapidly operated; that can be manufactured and sold at the lowest price, and that will in all respects and fully perform the duties of the padlock, key, and chain now very generally used, and obviate the necessity for the rider to carry any part of the locking apparatus.

Our invention consists, essentially, of a suitable casing and connections for fixing the same upon the frame of a velocipede, a bolt so arranged that it may be projected from and withdrawn into the casing when certain slotted disks, also inclosed by the casing, are moved into predetermined positions by a graduated, revoluble dial-head, as hereinafter described in detail.

In the accompanying drawings, wherein the same letters designate the same parts throughout, Figure 1 represents a vertical longitudinal sectional view of the lock, showing the portion of the frame upon which it is placed, the position of the sprocket-wheel, and the bolt in engagement with the wheel. Fig. 2 represents a perspective view of the right-hand slotted disk shown in the first figure; Fig. 3, a side view, and Fig. 4 a perspective of the left-hand disk. Fig. 5 represents a side view of the graduated revoluble head. Fig. 6 represents a side view of the bolt, showing the lugs thereupon. Figs. 7 and 8 represent the exterior of the upper half of the casing and the interior of the lower half, showing the pierced ears through which rivets or screws

pass to hold the halves together. Fig. 9 represents a cross-section view, upon the line X X of Fig. 1, showing lock, rod of the frame, and the band binding them in contact. Fig. 10 represents a side view of the lock, band, and portion of the frame.

Referring to Fig. 1, *a* represents a sprocket-wheel; *b*, a portion of the frame; *c*, the band (see Figs. 9 and 10) surrounding lock and frame; *d*, the bolt, (see Fig. 6;) *e e*, the upper and lower halves of the casing, interiorly identical, and each provided with ears *f f*, all alike, and so situated as to exactly meet in couples when the halves of the casing are properly combined. As the halves *e e* have corresponding interiors, a description of one will answer for both.

In Fig. 8, *l* marks a rectangular depression forming one-half of the slideway for the bolt-head *d*. The shape of the slideway, it will be noticed, prevents the bolt from rotating. *o o o* represent interior ribs between which the slotted disks *i* and *j* fit closely. We may conclude to construct the disks less in thickness than shown in the drawings and to introduce washers of suitable material in order that the friction-resisting rotation of the disks may be set at any desired amount. Returning to the casing, an inspection of Fig. 8 will show that the remaining ends of the two halves are partly closed, leaving, when combined, a central aperture, to be further mentioned. *g* represents the small bolts clamping the ends of the band together. (See Figs. 1 and 9.) *h* represents the graduated dial-piece provided with a central orifice movably fitting the stem of the bolt, and having an annular recess, within which the partly-closed ends of the halves *e* fit movably. (See Fig. 1.) This construction, when the casing is integrated about the dial-piece, allows the latter a rotative but not a longitudinal movement, and maintains its relative position. The form of the dial-piece is best shown in Fig. 5, wherein the projecting pin *k* is also represented attached to the inner face of the piece. *m* marks the cylindrical stem of the bolt *d*, and *n n* the lugs upon the stem. (See Fig. 6, wherein a button is shown as terminating the part *m*.) As ordinarily constructed the stem is provided with threads near one end, intended to

engage a threaded aperture in the bolt *d*. (See Fig. 1.) Neither thread is essential.

Referring to Fig. 2, the disk *j* is shown to possess a central orifice, an interior groove *p*, directly along the orifice, and the pin *r*, projecting at right angles from one side of the disk.

Referring to Figs. 3 and 4, the disk *i* appears similarly provided with a central orifice and contiguous groove, but having perpendicular pins *s s* projecting from both sides. The disks are disposed as shown in Fig. 1, *j* upon the right-hand side, *i* upon the left and nearer the dial-piece.

The various elements of our invention may be assembled and its operation described as follows: The stem *m* is passed through the central orifice of the dial-piece *h*, through the central orifices and grooves of the disks, then inserted into the bolt *d*. The parts so combined are now laid in one of the halves *e*, the bolt *d* occupying the depression *l*, the disks being placed in proper order between the ribs *o o o*, and the annular recess of the dial-piece arranged to engage the partly-closed end of the half-casing, as already explained. It will be seen that the grooves in the disks may now be each differently alined with respect to the lugs upon the stem of the bolt, the degree-marks upon the dial-piece, and a point set upon the casing or either of the two lines indicating the junction of the halves. A turn of the stem to right or left changes the location of the lugs and leads to a new combination. When the relative positions of the parts are chosen, the stem is securely fastened to bolt *d* and the other half of the casing fixed in place. The lock may now be bound to a selected portion of the frame in proximity to the sprocket-wheel, (see Figs. 1 and 9,) the exterior groove of the casing (see Fig. 7) aiding the operation, as shown. As usually constructed and arranged, a movement of the dial-piece in one direction alines the disk *i*, and when the bolt has been partly retracted and one lug *n* has passed

through the groove until just free of the disk *i* the dial-piece must be turned in the opposite direction to place the groove *p* in disk *j*, opposite the adjacent lug, whereupon the withdrawal of the bolt may be completed. The arrangement outlined adds to the effectiveness of the combination, although a combination could be arranged permitting the dial-piece to be turned in one direction only. A reversal of the movements set out immediately above enables the bolt to be again advanced between the teeth of the sprocket-wheel. After a short acquaintance with any given combination the operator can lock and release his machine with considerable rapidity.

We are aware that locks have been contrived to render velocipedes inoperative by limiting the rotation of the sprocket-wheel, and we do not claim that feature broadly.

Having thus fully described our invention, what we do claim, and desire to protect by Letters Patent, is—

In a lock for velocipedes, the combination of a divided casing consisting of interiorly-identical parts, means for attaching said parts to the frame of a velocipede and to each other, a non-revoluble bolt having a cylindrical, detachable stem provided with lugs, the said stem passing centrally through the casing, disks having central orifices permitting the passage of the stem, said disks having grooves adjoining said orifices adapted to permit the passage of the lugs, the said disks being provided with projecting pins and arranged to be rotated within said casing but held against lateral motion, a graduated dial-piece surrounding the said stem and revolvably attached to the casing, said dial-piece provided with a projecting pin, substantially as set forth.

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