

(No Model.)

2 Sheets—Sheet 1.

J. P. DANIELS.
ALARM LOCK FOR BICYCLES.

No. 571,083.

Patented Nov. 10, 1896.

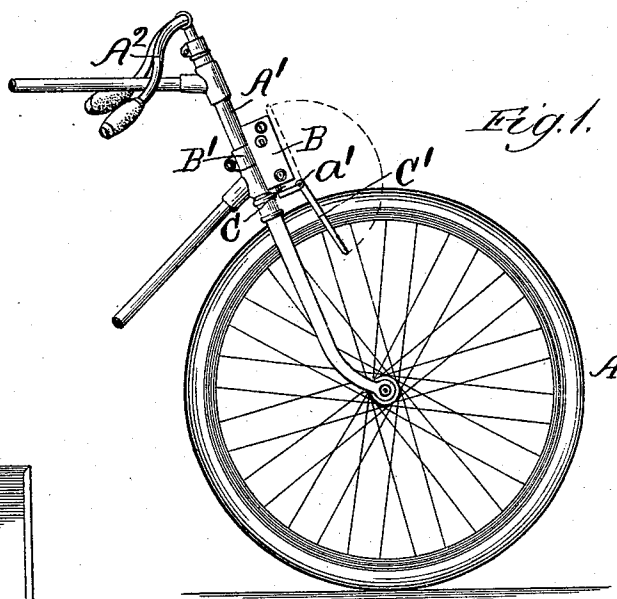
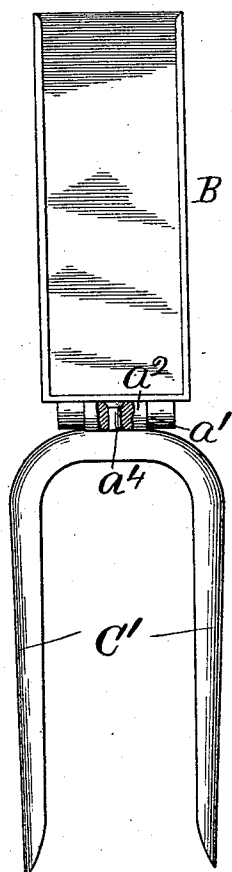
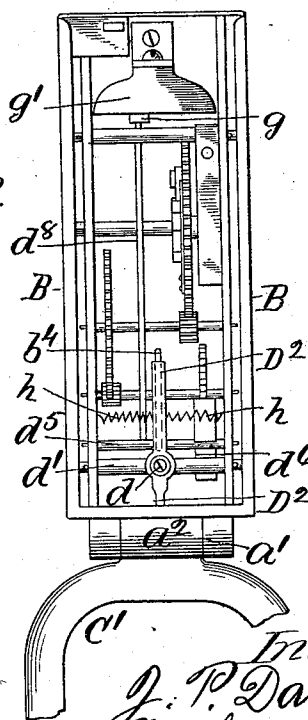


Fig. 2.



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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN P. DANIELS, OF CHICAGO, ILLINOIS, ASSIGNOR TO FLORA BELLE MECK, OF DAVENPORT, IOWA.

ALARM-LOCK FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 571,083, dated November 10, 1896.

Application filed August 14, 1895. Serial No. 559,213. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. DANIELS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Alarm-Locks for Bicycles; and I do hereby 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.

The riders of bicycles are subject to a great annoyance and loss by frequently having their wheels stolen when left temporarily in public places.

The object, therefore, of this invention is to provide a device to be attached to bicycles and similar vehicles to guard against the same being stolen during the temporary absence of the rider.

In the drawings, Figure 1 is a broken-away elevation of the front part of a bicycle embodying the improvement; Fig. 2, a front elevation of the device proper; Fig. 3, a plan of the clockwork mechanism for sounding the alarm; Fig. 4, a vertical longitudinal section showing the clockwork mechanism in elevation; Fig. 5, a transverse section and part elevation on line 5, Fig. 4, looking in the direction indicated by the arrow; Fig. 6, a detached face view of a tumbler-disk; Fig. 7, a transverse section on line 7, Fig. 4; and Fig. 8, a broken-away enlarged longitudinal section on line 8, Fig. 4.

A may represent the front wheel of a bicycle, and A' the standard or frame part mounting the usual handle-bar A².

A case B is provided with a clip B' for the purpose of securing the same to standard A' in a convenient position with reference to the wheel. The case B incloses a clockwork movement or train, which is of the ordinary well-known arrangement, and need not, therefore, be described in detail.

A swiveling chambered cap C is loosely attached to one end of the case B by a bolt a, Figs. 4 and 8. A fork member C' is hinged to this cap, as a a', and is adapted to fold up against the front of the case, or turned downwardly astride of the wheel, as shown in Fig. 1.

The knuckle a² of the hinged joint is retained in place by pintle a³, the fork being

secured to the knuckle by a pivot-pin a⁴, as shown in Fig. 2. This adapts the fork to turn laterally in either direction and have a swiveling action in addition to the folding and unfolding movement. The necessity for this will be explained farther along.

The knuckle member of the fork-hinge is provided with a groove a⁵, Figs. 4 and 5, for the engagement of one end of a locking-bolt D, having an endwise movement in cap C. A spring a⁶, Fig. 5, connects with the opposite end of the locking-bolt and holds the same in contact with knuckle a², and automatically forces the bolt into groove a⁵ when the knuckle is rotated to bring the groove into line with the end of the bolt. A slot a⁷, Fig. 5, in the locking-bolt provides for its endwise movement with reference to bolt a, which passes through the same.

A rotatable tumbler-disk D', Figs. 4, 6, and 8, is loosely mounted on bolt a inside of case B. This disk is provided with a notch a⁸, which has a loose engagement with a post b, fixed in a toothed segment b', Figs. 5 and 8, formed on locking-bolt D. This post projects into case B through a curved slot b² in the end, as shown in Figs. 7 and 8. This curved slot allows for the turning of cap C in either direction, either in accordance with or independently of the swiveling movement of the fork attachment.

The disk D' is provided with a number of pins b³. When the key b⁴ is inserted through the guide-cylinder b⁵, secured to the inside of the case, the end will terminate even or approximately so, with the inner side of one of the pins b³ fixed in the disk D'. Now by turning the key the edge thereof is brought in contact with the pin adjacent thereto, which has the effect of turning the disk D' just far enough to retract the locking-bolt D, through the medium of post b in engagement with notch a⁸ in said disk, and unlock the fork. But a very slight turn of the key is necessary to impart the required endwise movement to disengage the locking-bolt from the hinge-knuckle, when the fork may be turned upwardly and laid flatly against the top of the case, as indicated by dotted lines in Fig. 1.

A lever D² is located inside of the case and pivoted, as at d, to a rigid cross-bar d', Figs.

3 and 4. One end of this lever extends through a slot d^2 , Figs. 4 and 7, in the end of the case into cap C, and has a pin d^3 , Fig. 5, fixed in the end thereof, and has a tripping contact 5 with the toothed segment b' . The opposite end of this lever, when in its normal central position, as shown in Fig. 3, bears loosely on the disengaged end, Figs. 3 and 4, of a spring-arm b^4 . The opposite end of this arm is fixed 10 in a rock-shaft d^5 . A double pawl or detent d^6 is secured to and rocks with shaft d^5 in alternately throwing the respective ends of the pawl into and out of engagement with ratchet-pinion d^7 . One end of a spring-rod 15 d^8 is also secured in this rock-shaft, and has a clapper g , mounted on the opposite end thereof, which is adapted to strike the bell or gong g' in sounding the alarm.

The companion springs h retain the lever 20 D^2 in its central position and permit of a movement on its pivot.

The toothed segment b' on locking-bolt D, Fig. 5, is adapted to have a tripping contact with pin d^3 , fixed in the end of lever D^2 , and 25 imparts the required lateral movement thereto by the turning of cap C in relieving the pressure of the lever on the spring-arm d^4 and spring the alarm.

The locking-fork will normally be in the 30 opposite position from that shown in Figs. 1, 2, 3, and 4.

When the rider has occasion to leave his bicycle, the fork is thrown down into its locking position, straddling the wheel, as shown 35 in Fig. 1. When the fork is turned down to this position, the bolt in the cap C engages with the groove in the knuckle, so that the fork cannot be disengaged from the wheel without first being unlocked by the use of 40 the proper key. If an attempt is made to use the wheel or even carry it away when locked the slightest lateral movement of the wheel will impart a corresponding movement to the swiveling fork and cap, and through the me- 45 dium of the mechanism described will move the inner end of lever D^2 to one side or the other of arm b^4 and release its pressure on the same, which will allow the pawl to be disengaged from its ratchet-wheel and the alarm-

bell sounded by means of the clock mechanism. 50

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

1. The combination with a bicycle-frame, of 55 a case, secured thereto, the clockwork-movement, inclosed thereby, a chambered cap, pivotally attached to said case, a fork member, having both a hinged and pivotal connection with reference to said cap, and means 60 for retaining said fork in a locked engagement, substantially as described.

2. The combination with a bicycle-frame, of a case, secured thereto, a chambered cap, pivotally secured to said case, a fork member, 65 hinged to said cap, a locking-bolt, adapted to engage with a groove in the hinge-knuckle and lock said fork in engagement with a bicycle-wheel, and means for retracting said bolt, substantially as described. 70

3. The combination with a case, secured to a bicycle-frame and provided with a curved slot, a chambered cap, pivoted to said case, a locking-bolt, a spring for retaining said bolt in its normal position, a post, projecting through 75 said curved slot, a rotatable disk, loosely mounted on the pivot-bolt of the chambered cap and provided with a notch with which said post loosely engages, and the series of pins, fixed in said disk for the engagement of 80 the unlocking-key, substantially as described.

4. The combination with a bicycle-frame, of a case, secured thereto, a chambered cap, pivoted to said case, a fork member, having 85 both a hinged and pivotal connection with said cap, a locking-bolt, seated in said cap and provided with a toothed segment, the alarm mechanism, located in said case, and means for connecting said toothed segment 90 with the alarm mechanism, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN P. DANIELS.

Witnesses:

L. M. FREEMAN,
L. B. COUPLAND.