

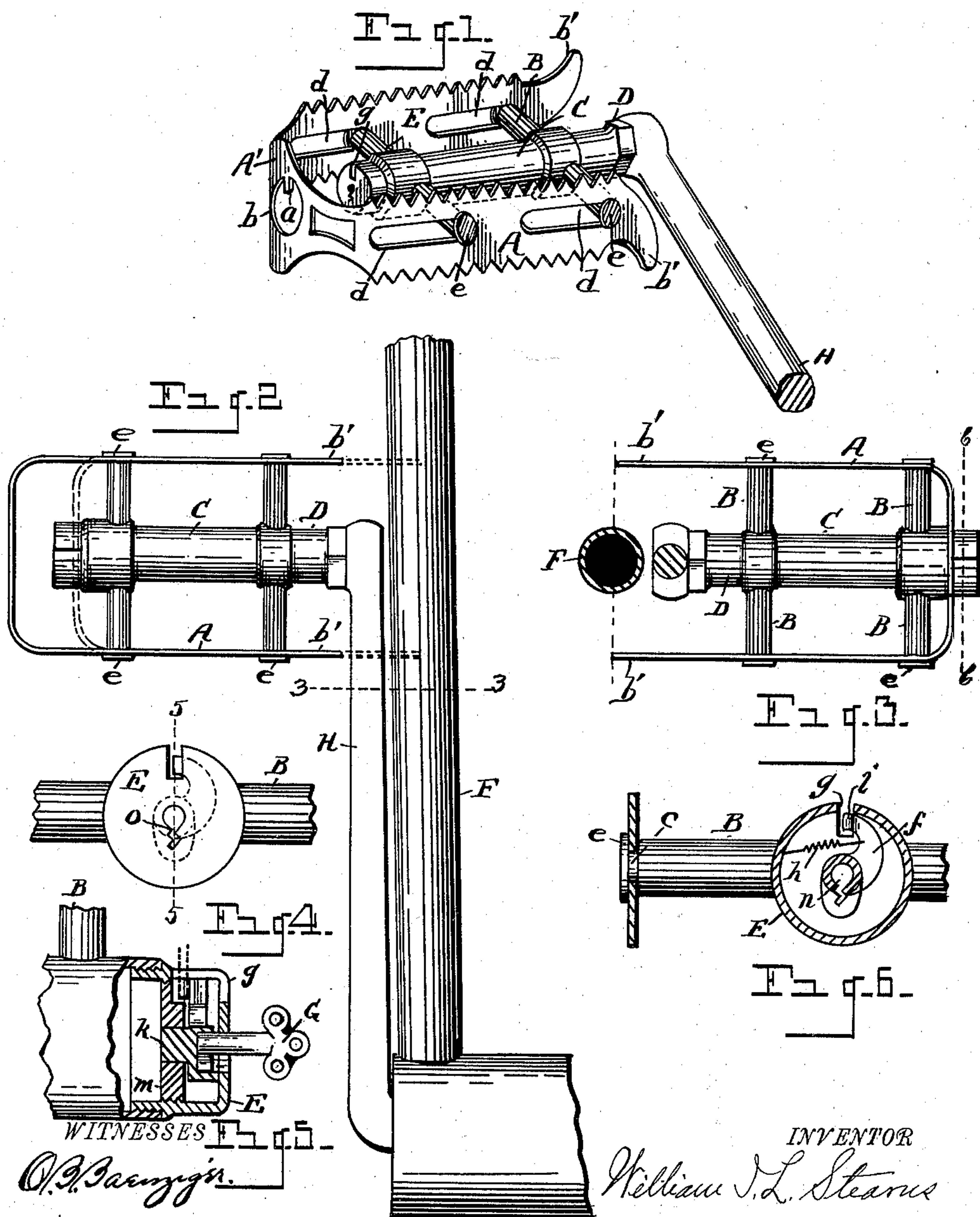
**No. 609,127.**

**Patented Aug. 16, 1898.**

**W. I. L. STEARNS.**  
**BICYCLE LOCK.**

(Application filed Sept. 4, 1897.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 609,127, dated August 16, 1898.

Application filed September 4, 1897. Serial No. 650,583. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM I. L. STEARNS, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Bicycle-Locks; and I 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.

This invention relates to bicycle-locks; and it consists in providing means for locking bicycles so as to prevent the rotation of the cranks and driving-wheel through the medium of the pedal, as hereinafter more fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and effective means for locking a bicycle without adding to the parts of the bicycle as ordinarily constructed and in which the arrangement is such as to enable the bicycle to be securely locked and readily unlocked when desired.

This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a pedal and a portion of a crank, said pedal being provided with my improved locking means. Fig. 2 is an enlarged plan view of a portion of the bicycle-frame and a crank and pedal, showing by dotted lines the movement of the pedal-frame for the purpose of locking the machine. Fig. 3 is a sectional view as on line 3 3 of Fig. 2, showing by solid lines the pedal-frame in a locked position. Fig. 4 is an end elevation of the case inclosing the outer end of the pedal-spindle, showing the keyhole therein and by dotted lines the locking-bolt. Fig. 5 is a sectional view on line 5 5 of Fig. 4. Fig. 6 is an enlarged sectional view as on line 6 6 of Fig. 3, showing the interior of the lock-case.

Referring to the letters of reference, A designates the pedal-frame, which is made integral, the two sides being connected by the

curved end portion A'. Formed in the end of said pedal-frame is an opening *b*, and projecting into said opening is an integral tongue *a*.

The pedal-frame is supported upon the cross-arms B, which are secured at their inner ends to a suitable sleeve C, in which is journaled the pedal-spindle D. The outer ends of said arms are provided with reduced tenons *c*, (see Fig. 6,) which are adapted to lie freely in the slots *d* in the sides of the pedal-frame, the ends of said tenons projecting through said slots and being provided with an enlarged head *e*, by which arrangement the pedal-frame is adapted to slide longitudinally upon said supporting-arms, as clearly shown by dotted lines in Fig. 2.

On the outer end of the sleeve C, which embraces the spindle of the pedal, is a case E of any suitable construction, which is of such diameter as to enter the aperture *b* in the end of the pedal-frame. Located in said case E is a curved locking-bolt *f*, the beveled end *i* of which normally stands in line with the slotted opening *g* in said case, being maintained in said position by the spring *h*.

The curved locking-bolt *f* is provided upon its inner face with a boss or trunnion *k* concentric with its axis of rotation, which is journaled in a suitable bearing-plate *m* in said case. In the outer face of said locking-bolt is a recess *n*, adapted to receive a key, and which stands in line with the keyhole-opening *o* in the outer face of the case E.

The extent of the longitudinal movement of the pedal-frame A is equal to the length of the slots *d* in the sides of said frame, which slots are of such length as to permit said frame to be moved inward sufficiently to carry the open opposed ends *b'* thereof astride of the lower horizontal tube F of the bicycle-frame, as shown in Fig. 3 and by dotted lines in Fig. 2. In this position of said parts the rotation of the cranks is impossible, owing to the fact that the extended ends of the pedal-frame will engage said tube F and prevent a movement of the crank in either direction, as will be well understood.

To provide for securing the pedal-frame in this position, a lock is provided, as above described, the arrangement of the parts be-



ing such that the tongue *a*, projecting from the end of the pedal-frame, registers with the open slot *g* in the case E on the end of the sleeve C, whereby as the pedal-frame is moved  
 5 inward said tongue enters said slot and, engaging the beveled face *i* of the bolt *f*, forces said bolt backward sufficiently to pass the end thereof, when the spring *h* returns said bolt to its normal position, preventing the  
 10 withdrawal of said tongue from said slot, thereby locking the pedal-frame with its inner ends *b'* astride of the lower tube F of the bicycle-frame, in which position said parts are held until the locking end of said bolt is  
 15 withdrawn from the path of said tongue by means of a suitable key G, which is inserted in the recess *n* in said bolt, as shown in Fig. 5. When the locking-bolt shall have been withdrawn from the path of the tongue *a*, the  
 20 pedal-frame is free to be drawn outward to its normal position, as shown in Figs. 1 and 2.

In order to lock the bicycle with this improved pedal-lock, it is of course necessary to first swing the crank H, to which the pedal  
 25 is attached, so that it shall stand nearly in alinement with the lower tube F of the bicycle-frame when the pedal-frame A is turned so that its opposite inner ends *b'* stand diametrically of said tube, in which position said  
 30 frame is moved inward until the projecting tongue *a* thereof is engaged by the locking-bolt *f*, causing the inner ends of said pedal-frame to move astride of said tube, whereby the cranks of the bicycle are locked from  
 35 turning until said pedal-frame is unlocked and again drawn outward.

I do not wish to limit myself to this particular lock for securing the pedal-frame, as other than the means shown may be employed  
 40 for locking said frame without departing from the spirit of my invention.

From the drawings and foregoing description it will now be understood that by means of this improved arrangement a bicycle-lock  
 45 is provided which is simple and efficient and which does not involve the addition of any parts not commonly comprised in a bicycle, being always present and ever ready for use.

The carrying by the rider of a lock or any additional parts is obviated. 50

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

1. A bicycle-lock comprising a pedal mounted on a crank and having a movable frame 55 the free ends of which are adapted to stand astride of a tube in the bicycle-frame, substantially as specified.

2. In a bicycle-lock, the combination with a member of the bicycle-frame, a crank, a 60 pedal carried by said crank, the pedal-frame, said frame being movable longitudinally to carry its opposed ends into line with said member of said frame on opposite sides thereof, and means for locking said pedal-frame. 65

3. In a bicycle-lock, the combination with a member of the bicycle-frame, a crank, a pedal carried by said crank, the frame of said pedal being movable longitudinally into engagement with said member of the bicycle-frame, and means for locking said pedal-frame 70 against longitudinal movement.

4. In a bicycle-lock, the combination with a member of the bicycle-frame, a crank, a pedal carried by said crank, the arms on the 75 pedal, the pedal-frame having longitudinal slots which receive the ends of said arms to permit of the longitudinal movement of said pedal-frame, the inner ends of which are adapted to move to a position astride of said 80 member of the bicycle-frame, and means for locking said pedal-frame in this position.

5. In a bicycle-lock, the combination with a member of the bicycle-frame, a crank, a pedal carried by said crank, the frame of said 85 pedal mounted to slide longitudinally and engage the bicycle-frame, a lock carried by the body of the pedal, and a projecting tongue on the pedal-frame adapted to be engaged by said lock. 90

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

WILLIAM I. L. STEARNS.

Witnesses:

E. S. WHEELER,  
 M. A. MARTIN.