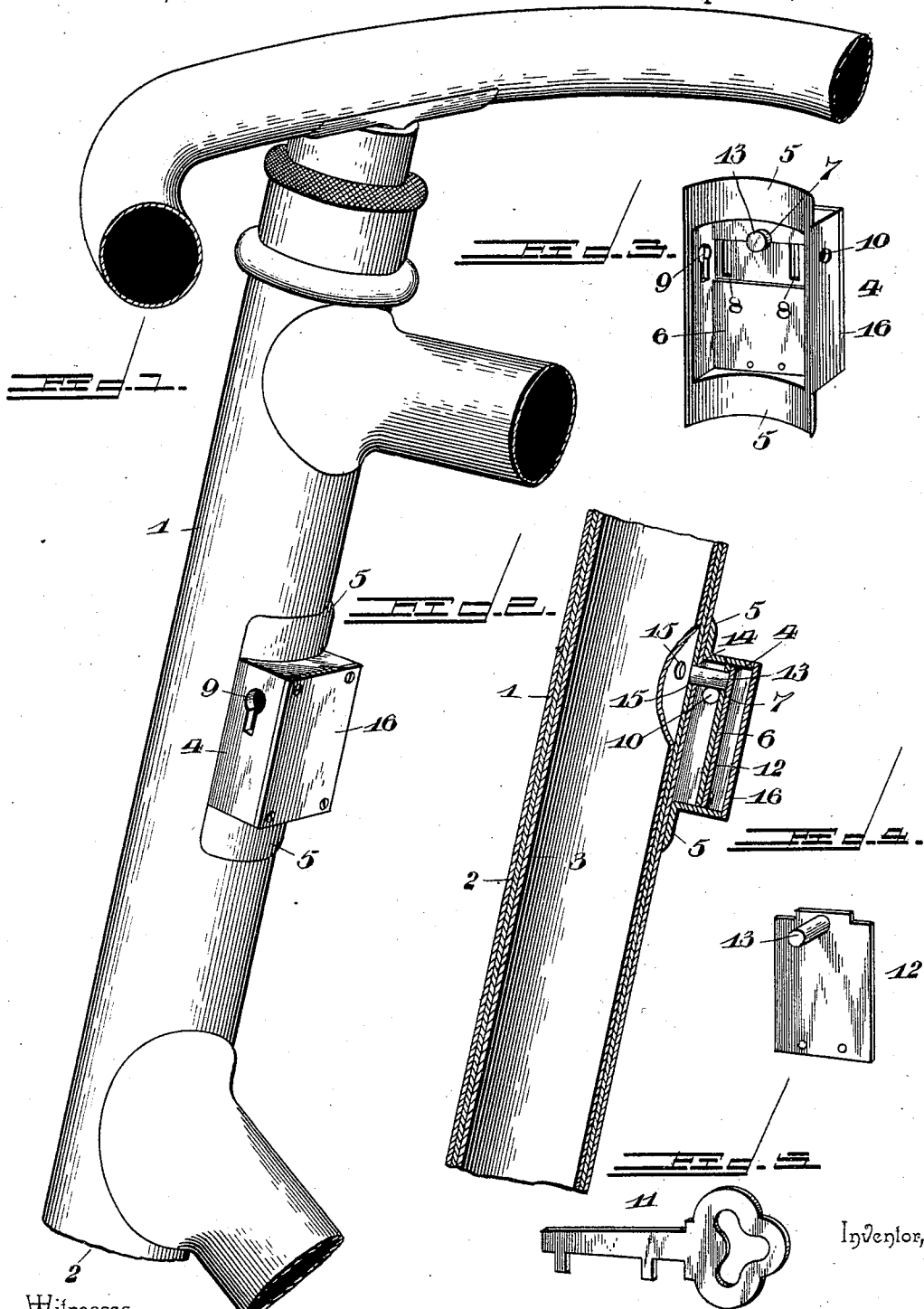


(No Model.)

L. WILLIAMS.
BICYCLE LOCK.

No. 581,384.

Patented Apr. 27, 1897.



Witnesses
H. A. Doyle.
R. M. Smith.

By *his* Attorneys, *Louis Williams,*
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Inventor,

UNITED STATES PATENT OFFICE.

LOUIS WILLIAMS, OF ROME, NEW YORK, ASSIGNOR OF ONE-HALF TO ISAAC J. EVANS, OF SAME PLACE.

BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 581,384, dated April 27, 1897.

Application filed May 20, 1896. Serial No. 592,346. (No model.)

To all whom it may concern:

Be it known that I, LOUIS WILLIAMS, a citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented a new and useful Bicycle-Lock, of which the following is a specification.

This invention relates to bicycle-locks; and the object in view is to provide a small key-lock which is attached permanently to the frame of the machine and forms a part thereof, the lock being constructed and arranged in such manner as that when worked by the key the handle-bar and steering-wheel will be made rigid with the frame of the machine, the key being thereupon removable. When the steering apparatus is unlocked and in operative condition, the key itself is held in the lock and prevented from accidental displacement and also from rattling.

The invention consists in a bicycle-lock embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of a sufficient portion of a bicycle to illustrate the application of the improved lock thereto. Fig. 2 is a vertical longitudinal section through the head of the machine, showing the operation of the lock. Fig. 3 is a detail perspective view of the lock-case detached and looking toward the inside thereof. Fig. 4 is a similar view of the lock-bolt and spring-plate. Fig. 5 is a similar view of the key.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates the head-tube of a bicycle-frame, 2 the fork-stem revolvably mounted therein, and 3 the handle-bar stem mounted in the upper end of the fork-stem.

The lock-case 4 is riveted, brazed, or otherwise secured, preferably, to the rear side of the head-tube 1 at a point intermediate the junction of the upper horizontal bar and the reach-bar therewith, as shown in Fig. 1. The lock-case is for convenience made in the form

of a rectangular box, and the inner wall of the case is curved to conform to the exterior curvature of the head-tube, so as to fit snugly against the same, and the case is also provided with extended flanges 5, by which a long bearing is had against the head-tube and for affording an increased area of freezing-surface or for providing ears by which the lock-case may be conveniently riveted to the head-tube. At a point intermediate the front and rear edges of the lock-case is a cross-web 6, having therein near one end an opening 7 for the lock-bolt and provided with two or more slots 8, through which the bits of the key may work. One of the end walls of the lock-case is provided with a key-slot 9 and the other wall opposite thereto has an opening 10, forming a bearing for the stem of the key. The key (indicated at 11) when inserted in the lock works upon the inside of the web 6 or between said web and the head-tube, while the bits of the key work through the slots 8.

Arranged outside of the web 6 is a spring-plate 12, secured at one end rigidly to the lock-case and provided at its free end with a lock-bolt 13, which reciprocates through the opening 7 and also through an opening 14 in the head-tube and is adapted to enter a socket or opening 15 in the fork-stem for locking the latter against turning. A plate 16 closes the rear end of the lock-case and hides the locking mechanism from view and prevents access thereto.

By inserting the key in the lock and turning the same the bits of the key operate against the spring-plate, moving the same backward and withdrawing the bolt from engagement with the fork-stem, thus allowing the latter to turn freely. In this position the key is held fast in the lock, and the tension of the spring-plate against the key prevents its escape and also prevents it from rattling. When the key is inserted in the lock and turned, the spring 12 is pressed against the plate 16 and the back pressure of the spring serves to bind the key in the lock and prevent its accidental displacement. When the rider desires to lock the machine, he simply turns the key and withdraws it from the lock, when by turning the steering-wheel to the proper point the

lock-bolt will snap into the opening in the fork-stem and prevent the steering-wheel from being turned. While the bicycle is in this condition it will be impossible for any one to ride the machine, and thus the liability of the same being stolen is reduced to a minimum.

It will be apparent that by varying the location and distance apart of the slots 8 and the bits on the key an unlimited number of different keys may be made, no two alike, and a person must have a key of the proper shape before he can unlock the machine.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. The combination with two telescopic bars arranged to rotate one within the other and provided with openings adapted to be brought into alinement, of a spring-plate arranged externally thereof and having a lock-bolt at its free end for entering said openings, an in-

closing case for said spring and bolt having a keyhole arranged to admit the key between the spring and outer bar, and a fixed web or partition within said case between said spring and outer bar, said web having an opening for the key-bit, substantially as described.

2. The combination with a head-tube and fork-stem of a bicycle, of a lock-case having rigid connection with the head-tube, a web located within the lock-case and having apertures for the lock-bolt and key-bits, a spring-plate arranged within the lock-case, and a lock-bolt carried by the free end of the spring-plate and working through openings in the head-tube and fork-stem, the key being insertible between the spring-plate and the head-tube, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LOUIS WILLIAMS.

Witnesses:

FREDERICK LEWIS,
CHARLES R. LEWIS.