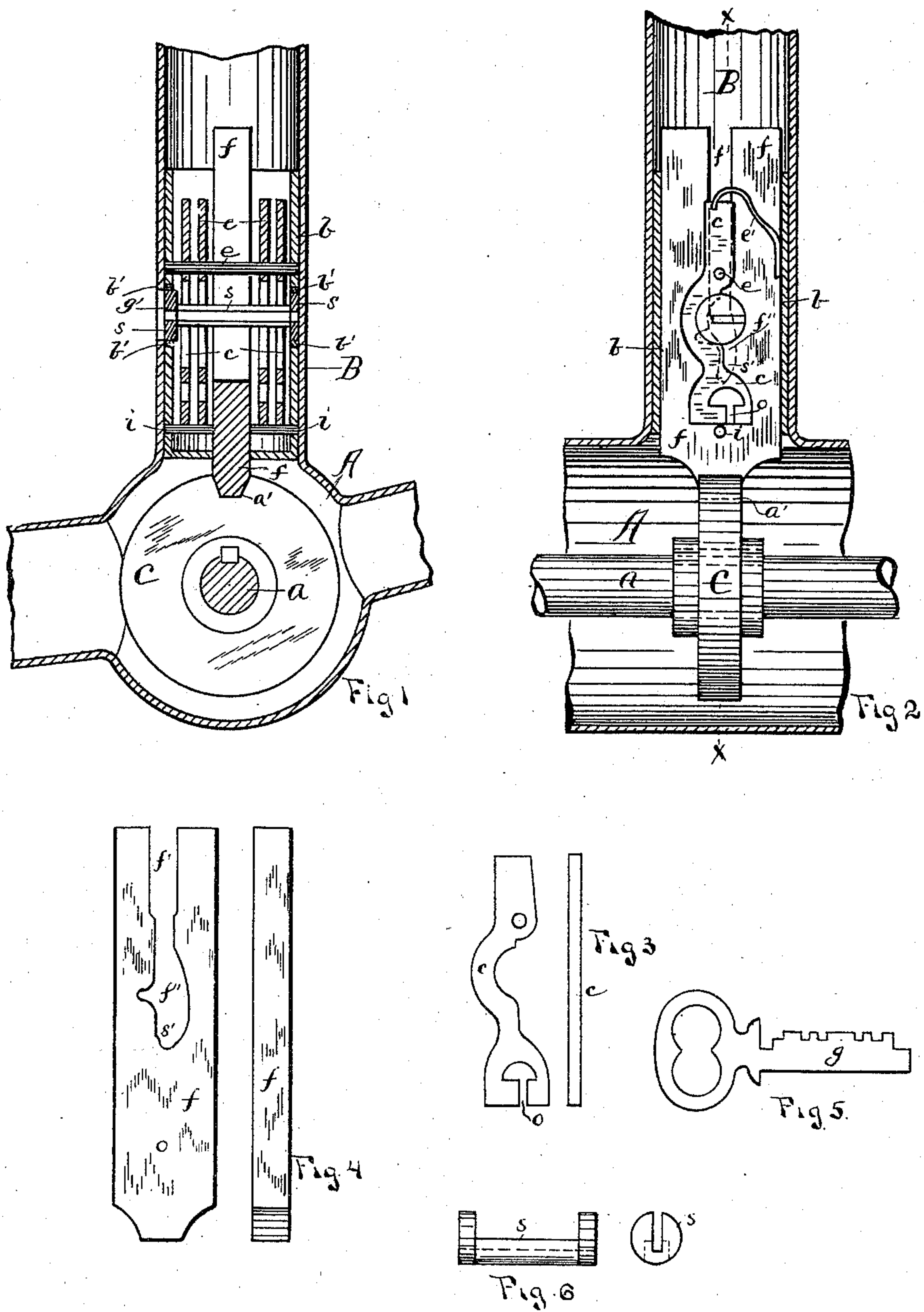


(No Model.)

T. CARROLL.
BICYCLE LOCK.

No. 567,807.

Patented Sept. 15, 1896.



Witnesses
C. D. Longenecker
A. J. Fournier

Inventor
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UNITED STATES PATENT OFFICE.

THOMAS CARROLL, OF DAYTON, OHIO, ASSIGNOR TO SECURITY LOCK AND MANUFACTURING CO., OF SAME PLACE.

BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 567,807, dated September 15, 1896.

Application filed August 8, 1895. Serial No. 558,613. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CARROLL, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement 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 new and useful improvements in bicycle-locks.

The object of the invention is to provide an effective means for locking a bicycle after the rider has dismounted and to locate said means in a manner to conceal it from view.

Referring to the annexed drawings, upon which similar letters of reference indicate corresponding parts, Figure 1 is a vertical section through the hub and crank-shaft, showing the interlocking disk in side elevation. This view is taken on the line xx of Fig. 2. Fig. 2 is a front elevation of the lock mechanism, showing the tubing comprising the hub and saddle-post in section; Fig. 3, detached detail views of one of the lock-tumblers; Fig. 4, similar views of the lock-bolt. Fig. 5 is a view of the key; Fig. 6, detail detached views of the key-guide.

The letter A designates the hub-casing, in which the crank-shaft a and the usual adjunctive devices are inclosed.

B designates the part of the frame usually termed the "saddle-post," constructed of tubular metal. Within this tube the lock mechanism is placed, the case b thereof being secured to the interior of the tube in any suitable manner and adjacent to the hub, as shown in the drawings. By thus securing the lock-casing b to the tube B the joint between said tube and the hub A is reinforced and very materially strengthened without adding any perceptible weight to the bicycle. The interior of the case b is provided with an annular flange or bushing b' , surrounding the opening for the key and adapted to form a bearing for the key-guide s .

The lock consists of a plurality of tumblers

c , pivotally mounted in the case b by a transverse pivot-pin e . f designates the bolt, which, together with said tumblers, is thrown by the key g , which is inserted in the key-hole g' in the usual manner. The bolt f has a vertical slot f' , which, in view of the pin e , enables it to be moved vertically. Each of the tumblers c is provided with a spring e' , which is secured against the interior of the lock-case b and presses each tumbler to the normal position shown in Fig. 2. The pin i on the bolt f passes through the slots o in the lower ends of the tumblers when said tumblers are thrown in position by turning the key. The bolt f operates in conjunction with a device for locking the crank-shaft a . This device consists of an annular disk C, which is keyed to the crank-shaft within the hub A in a central position. The periphery of this disk is provided with one or more seats or cavities a' on a line with the bolt f , and into which the lower end of said bolt may be inserted to lock the shaft.

Several of the devices comprising the lock mechanism will be recognized by those skilled in the art as old and well-known features, to wit, the tumblers, bolt, &c. The bolt, however, has a special constructed slot f'' , one side of which terminates in a cycloidal slot or recess, in which the key and guide s are supported and the key thereby prevented from withdrawal when the bolt is thrown up, thereby obviating the necessity of carrying the key about the person when using the machine. In other words, the key is maintained in position in the lock when the bicycle is not locked. This is obtained by the key-guide s and key being in the lower part s' of the slot f'' . Said key is detachable only when the mechanism is interlocked. This is a valuable feature of the invention, as the chance of losing the key is greatly lessened.

While I have shown in the drawings the lock mechanism inclosed in the tube that extends to the saddle, it is obvious that it may be inclosed in any tube that permits of said mechanism being located adjacent to the cranks. The preferred location, however, is that illustrated in the accompanying drawings.

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

5 In a bicycle, the combination with a tubular saddle-post, and a toothed disk rigidly mounted on the crank-shaft in a line with said tubular post, of a sliding locking-bolt constructed essentially in one part having a vertical slot *f'* the lower terminal of which is
10 enlarged and one side thereof terminates in a cycloidal slot or recess which is adapted to

support the key when the bolt is thrown up, a series of slotted tumblers pivoted on each side of said bolt, and means for actuating the said tumblers and bolt, substantially as and 15 for the purposes specified.

In testimony whereof I have hereunto set my hand this 3d day of August, 1895.

THOMAS CARROLL.

Witnesses:

HOWARD ABBOTT,
JAMES DALE.