

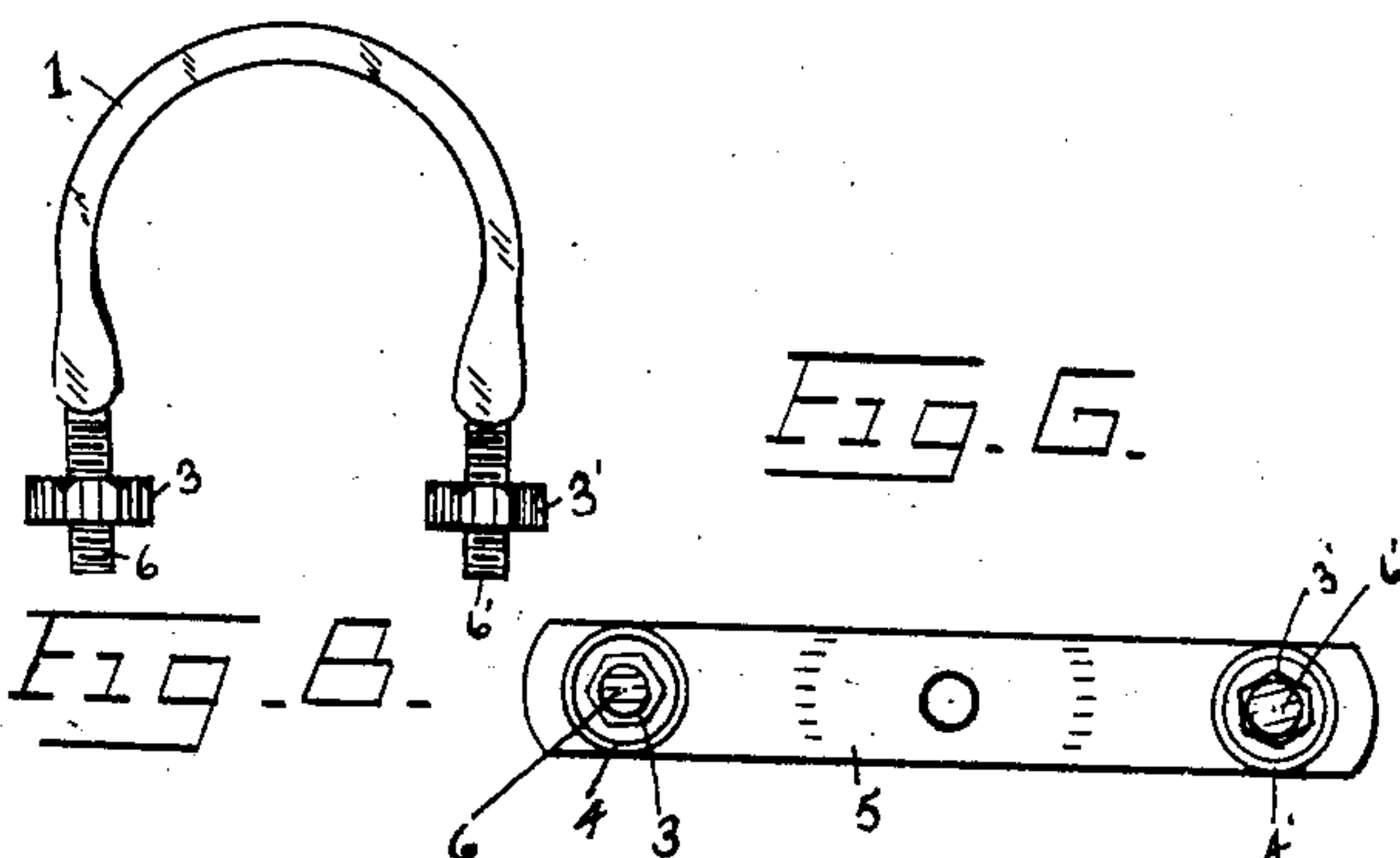
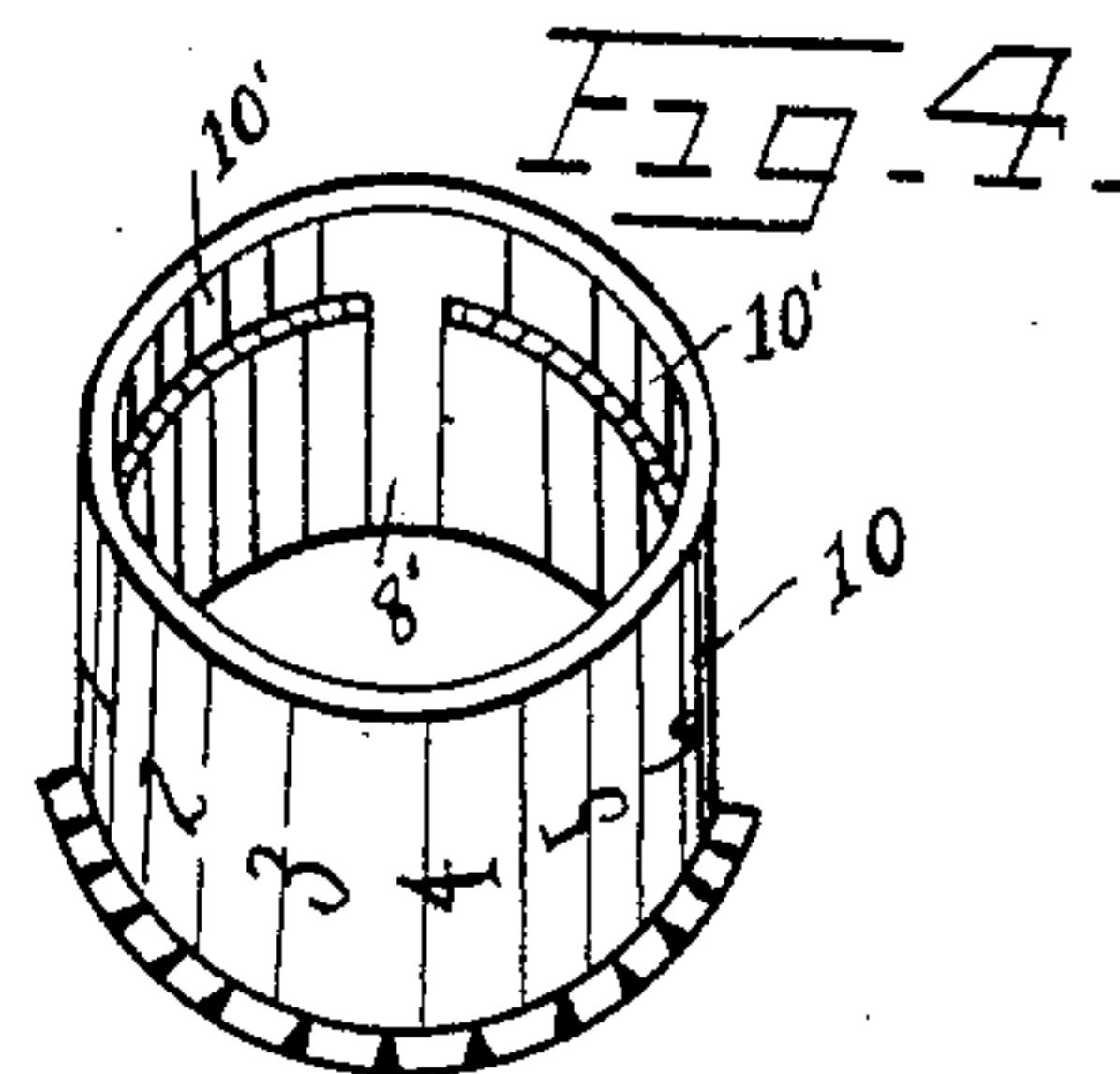
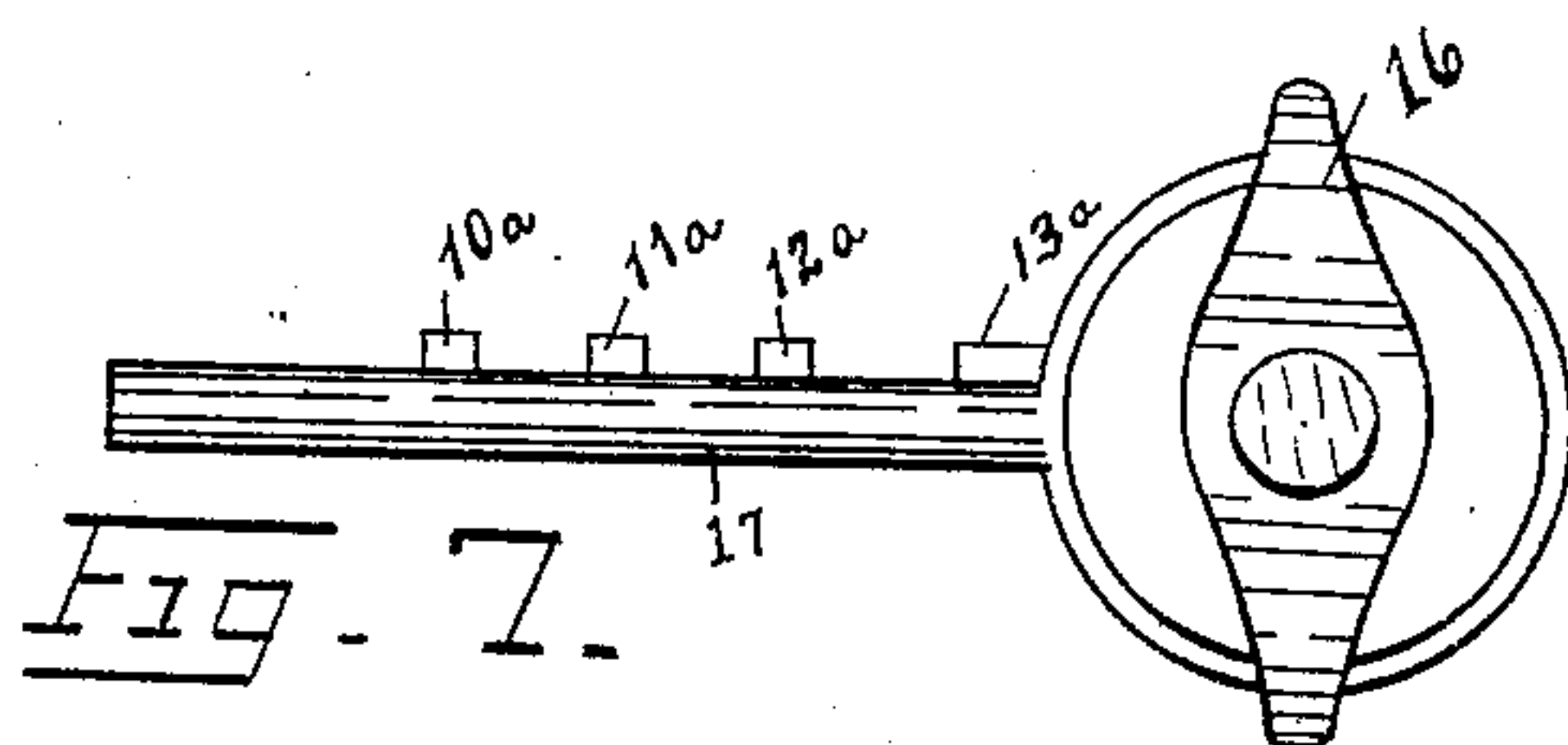
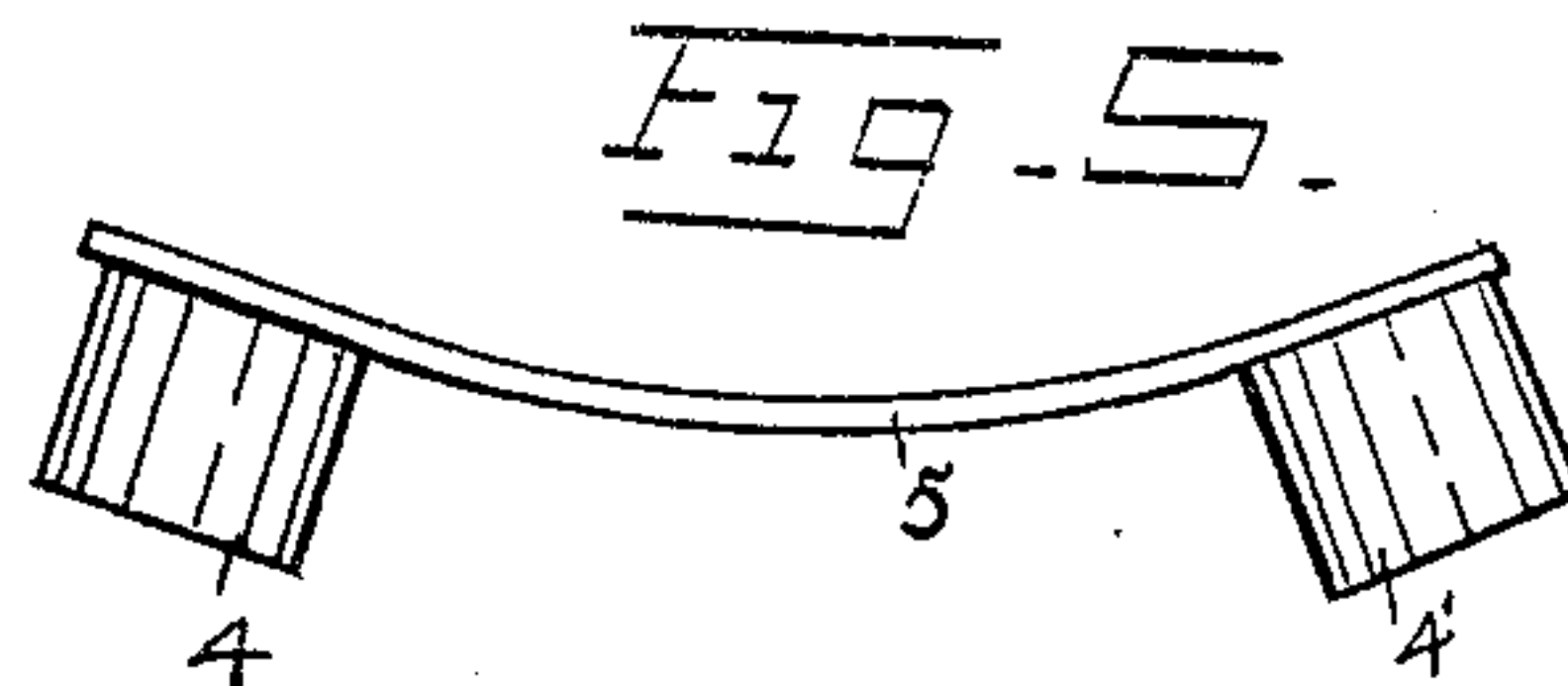
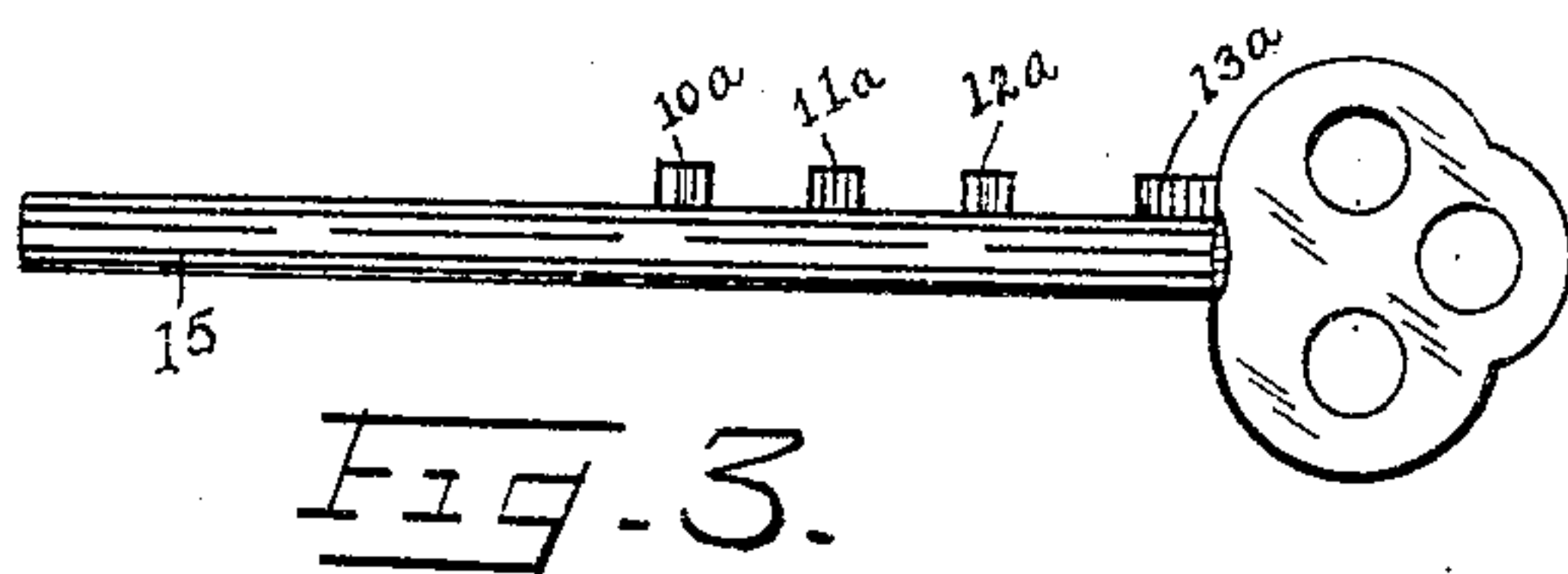
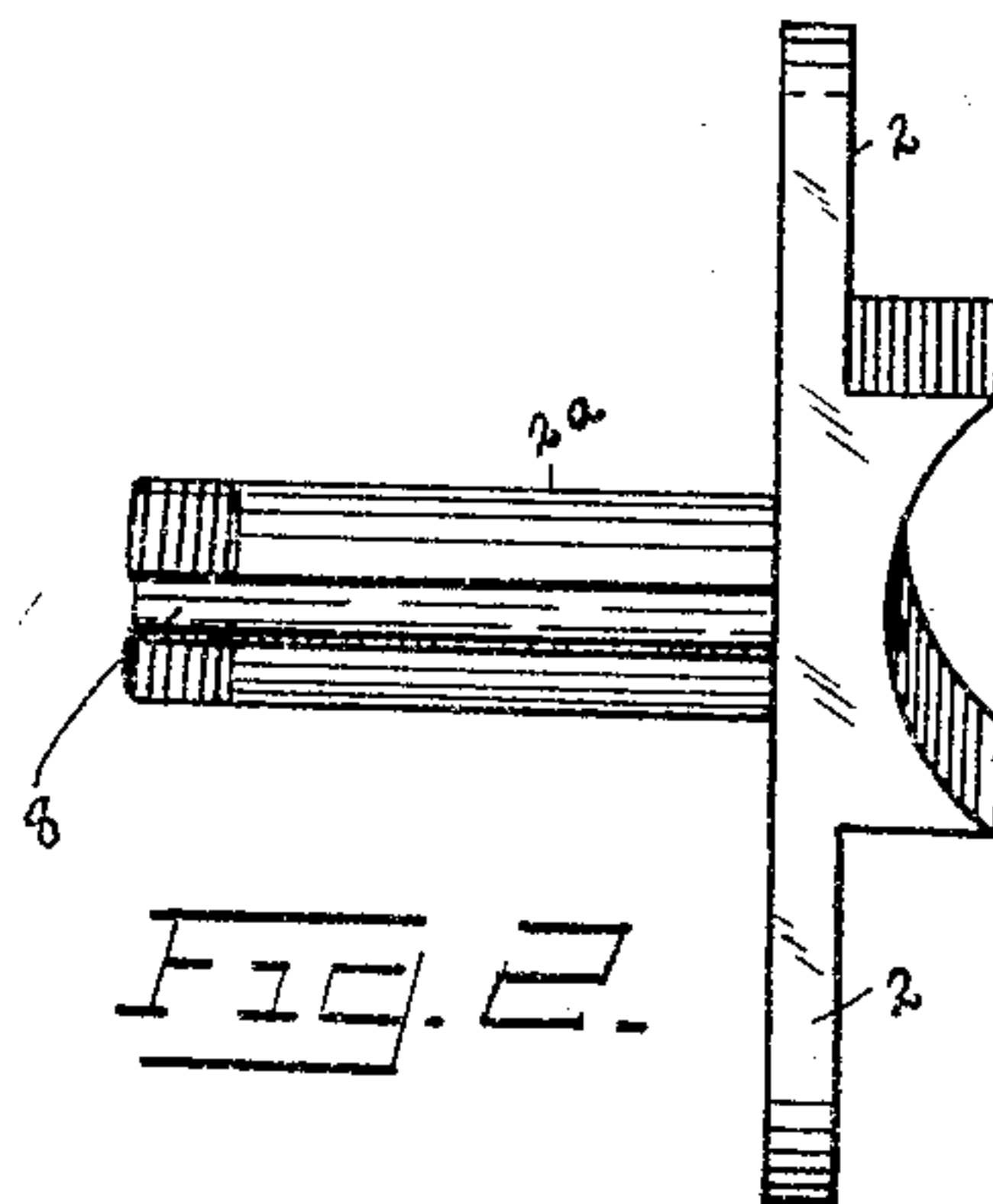
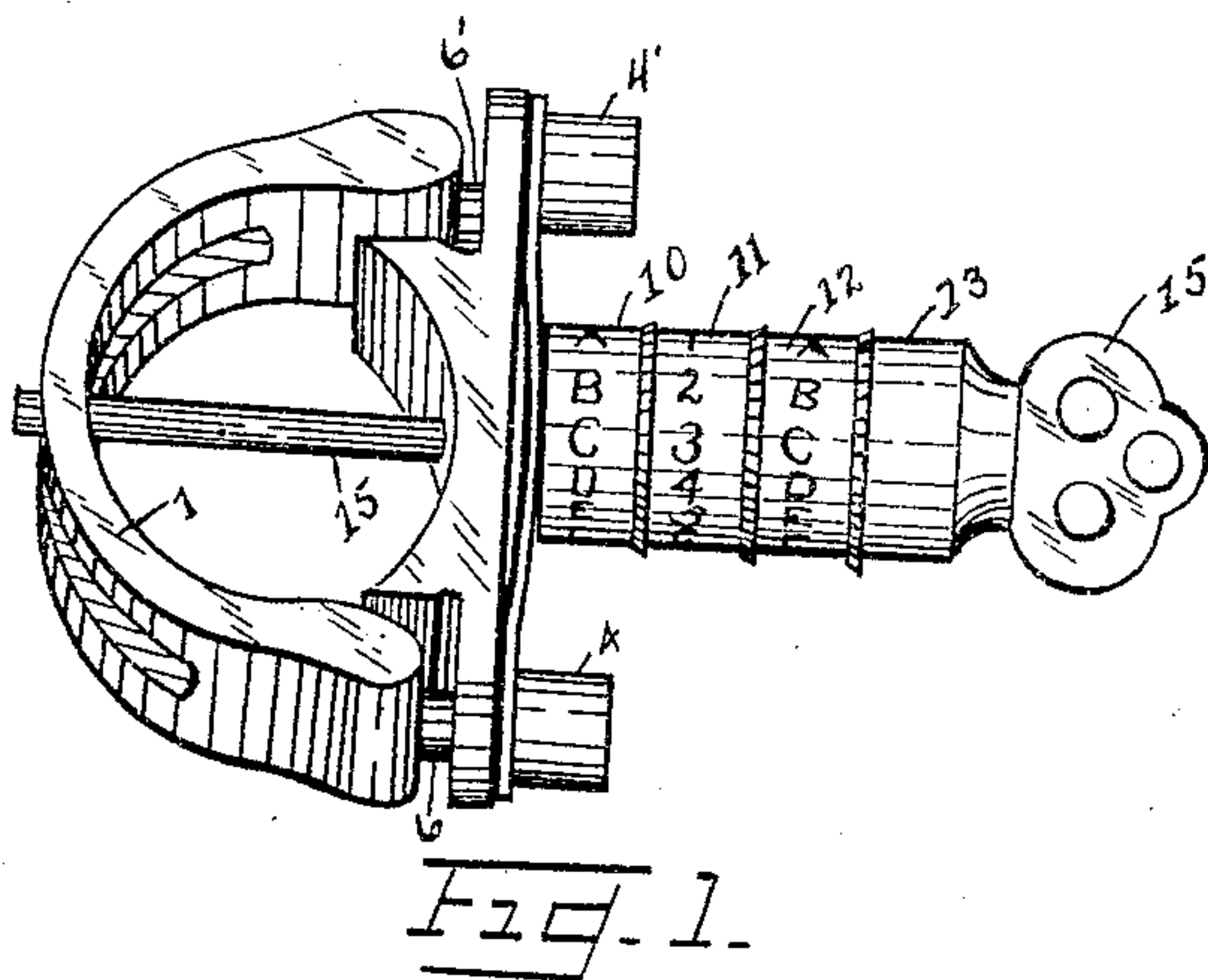
No. 777,854.

PATENTED DEC. 20, 1904.

J. HIRSCHENFELD.
BICYCLE LOCK.

APPLICATION FILED APR. 8, 1904.

NO MODEL.



WITNESSES:

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BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 777,854, dated December 20, 1904.

Application filed April 8, 1904. Serial No. 202,175.

To all whom it may concern:

Be it known that I, JOSEPH HIRSCHENFELD, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Bicycle-Locks, of which the following is a specification.

This invention relates to an improvement in bicycle combination-locks; and the object of it is to provide a lock which may be permanently attached to any bicycle, will be difficult to open without the combination, and which will not require the user to carry a key.

Referring to the accompanying drawings, Figure 1 is a perspective view of the device complete and ready for use as a lock. Fig. 2 is a perspective of front of clamp and cylinder of lock. Fig. 3 is a side view of the key or bar used with the lock. Fig. 4 is a view of one of the tumblers which form the locking combination. Fig. 5 is a side view, and Fig. 6 a top plan view, of the spring-shield. Fig. 7 is a side view of a lock-bar with clamp for bicycle-lamp. Fig. 8 is a top plan view of the clamp which holds lock on head of bicycle-frame.

In all the several views similar characters refer to similar parts.

Referring to the details, 1 is the back of the clamp, with a slot cut in it to allow the end of the key to project through the inner side of the head of the frame. 2 is the front of the clamp, and has on it and forming a part of it the hollow cylinder 2^a. Cut in the top thereof is the slot 8, extending the entire length of such cylinder.

3 and 3' are the nuts which screw on the two ends of the back of the clamp 1.

4 and 4' are the cylindrical casings attached to the flat curved spring 5 and which are used to prevent the nuts being unscrewed and the lock removed while in use. These casings are to be placed over the nuts after they are screwed up tight and before the tumblers are placed in position. The curvature of the spring 5 holds the rings of the lock snugly in place and still permits of enough play to allow them to turn easily.

6 and 6' are the threaded ends of clamp, which engage the nuts 3 and 3'.

10, 11, and 12 are the tumblers of the lock, having on their outer surface numbers or other characters, as shown, and having on their inner surface slots 8' corresponding in size to the slot 8 and intended to allow the passage of the projections 10^a and 11^a and 12^a. The tumblers have also the grooves 10', which allow the tumblers to be turned freely around while the bar is in position without interfering with the said projections and preventing the key from being withdrawn until all of the slots 8' are in line over the slot 8 and over the projections 10^a, 11^a, and 12^a.

13 is a ring similar in construction to the tumblers of the lock, having on the inside thereof a slot 8', but no groove 10'. It has also threads and is intended to be used as a cap to be screwed on the end of the cylinder 2^a after the other tumblers are all in place. It may be removed at any time by simply unscrewing, except when the key is in place, and at that time it is prevented by the shoulder 13^a on the key 15, which shoulder projects above the surface of the cylinder 2^a and engages a slot 8' in the said ring corresponding to the slots 8' in the tumblers of the lock.

17 is a key or bar similar to 15, having like projections and shoulder, but having on one end a clamp 16 to be used for the purpose of attaching a lamp. By using bar 17 the lock is made to serve a variety of purposes. It becomes a lamp-bracket, locks the lamp to the wheel, and, if desired, also locks the wheel, as hereinafter described. It will be observed that the bar 17 is much shorter than the bar 15. The bar 17 never passes through the rear side of the head-casing of the bicycle.

The lock, as shown and described, is intended to be placed on the head of a bicycle-frame, and the key or bar passes through a hole drilled entirely through both sides of the casing and through the steering-post of the bicycle. Before the hole is drilled through the head of the frame and steering-post the handles are to be turned somewhat to one side and kept in that position. When the lock is attached and the pin passes through the holes in the casing and steering-post, the handles cannot be turned either way, and owing to the

fact that the wheel is turned sidewise the wheel cannot be even led away.

When it is desired to use the lock as a lamp-bracket and lock, the key 17 is used. When
5 the wheel is to be ridden, the key 17 is pushed into the lock far enough for the projections 10^a and 11^a to be engaged by the tumblers 11 and 12. The tumblers 11 and 12 are turned so that the slots 8' are not over the slot 8.
10 The projection 12^a is in the slot 8' in the ring 13, and the lock-bar extends just through and flush with the inside of the front of the head of the frame. The steering-post is not interfered with and the wheel may be used. To lock
15 wheel and to lock lamp on wheel, the tumblers 10, 11, and 12 are to be turned so that the slots 8' are over the slot 8, such position to be ascertained by a predetermined arrangement of the characters on the outer surface
20 of the tumblers. The bar 17 is pushed into the lock, so that the projections 10', 11', and 12' and shoulder 13', respectively, are under the tumblers 10 11 12 and ring 13. The bar now passes through a hole previously drilled
25 in the head-casing and into a hole in the steering-fork in such a manner as to prevent the front wheel of the bicycle from being turned from side to side, and if the steering-fork was turned to one side before the hole was
30 drilled then the wheel cannot be brought into alinement with the bicycle-frame and rear wheel. One or more of the three tumblers 10, 11, and 12 are turned and the wheel is locked. For use simply as a lock the key 15
35 is used in the same manner as 17 when 17 is used to lock the wheel.

I am aware of the invention of bicycle-locks

having rings and a lock-bar similar to the one which I use and I do not claim these features broadly.

What I do claim as new, and desire to secure by Letters Patent, is—

1. In a bicycle-lock, the combination of a clamp, 1, having the two threaded ends 6 and 6', the nuts 3 and 3' adapted to be screwed thereon, the clamp-front 2, the hollow slotted cylinder 2^a with the tumblers 10, 11 and 12, the spring 5, the shields 4, 4' on the ends thereof, the ring 13, a lock-bar having the projections 10^a, 11^a, 12^a and the shoulder 13^a, substantially as described, and for the uses and purposes set forth.

2. In a bicycle-lock, the combination of the clamp, the front of clamp, the nuts adapted to be screwed on the threaded ends of the clamp to hold the front of the clamp in place, the flat spring 5, the shields 4 and 4' on the ends of the spring 5, adapted to cover the nuts and prevent the removal of the lock, the tumblers 10, 11 and 12 having the slots 10' and 8' on the inner surfaces, the final ring 13 having a single slot 8' on its inner surface, the lock-bar 17, the projections 10^a, 11^a, 12^a and 13^a on the bar 17, the clamp 16 on the end of the bar 17, all substantially as described and for the uses and purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH HIRSCHENFELD.

Witnesses:

J. E. LITTLE,

CHARLES L. MCKESSON.