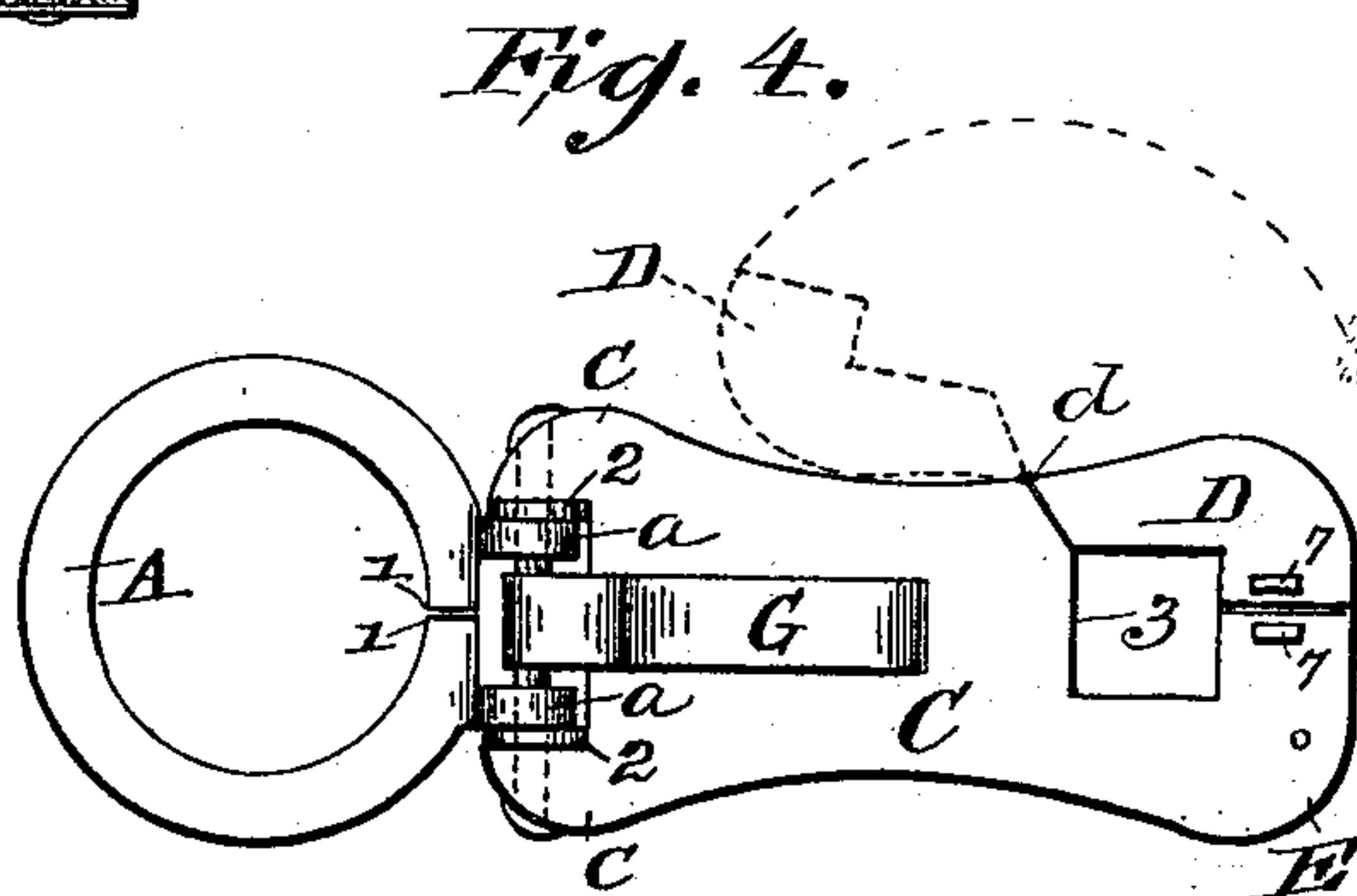
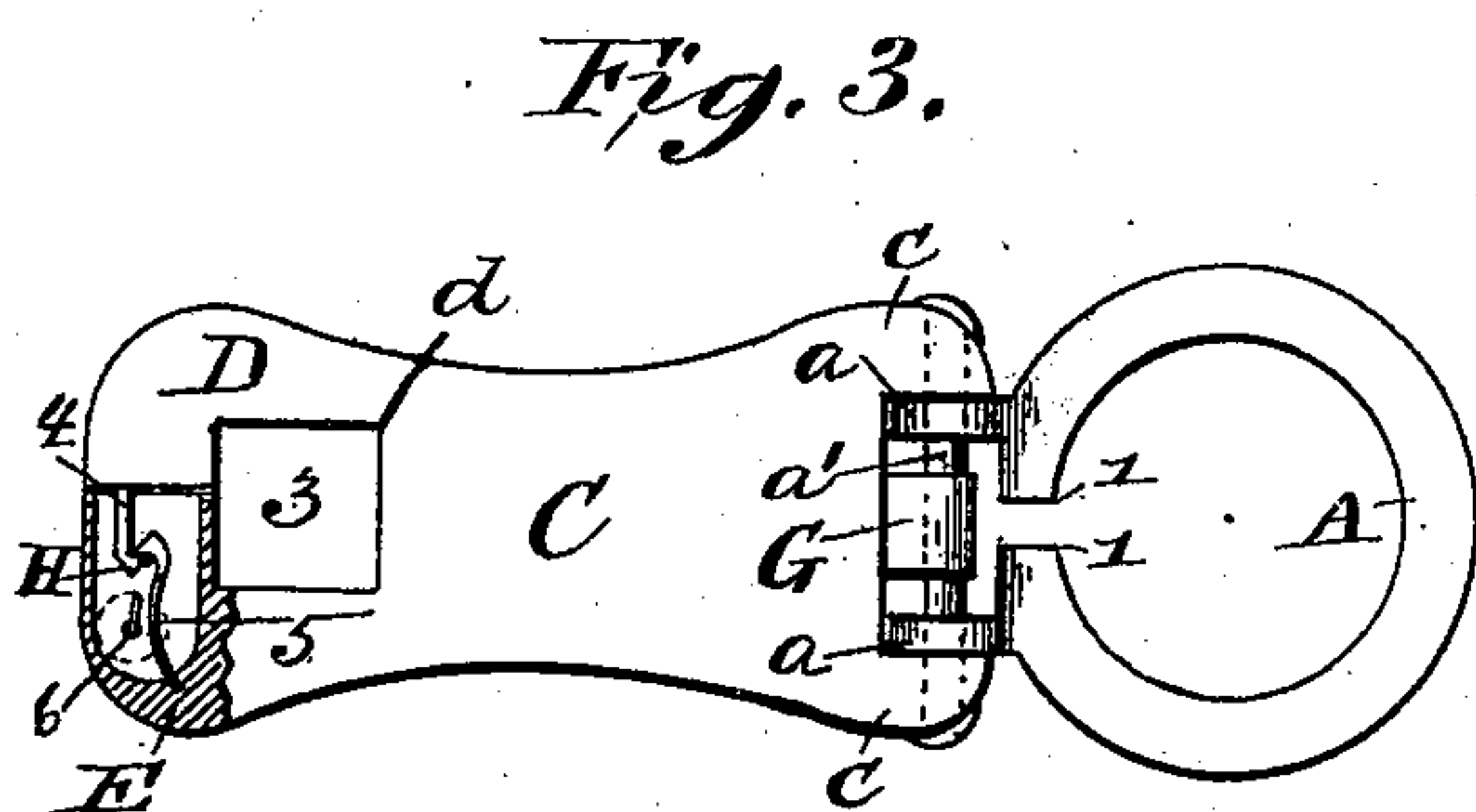
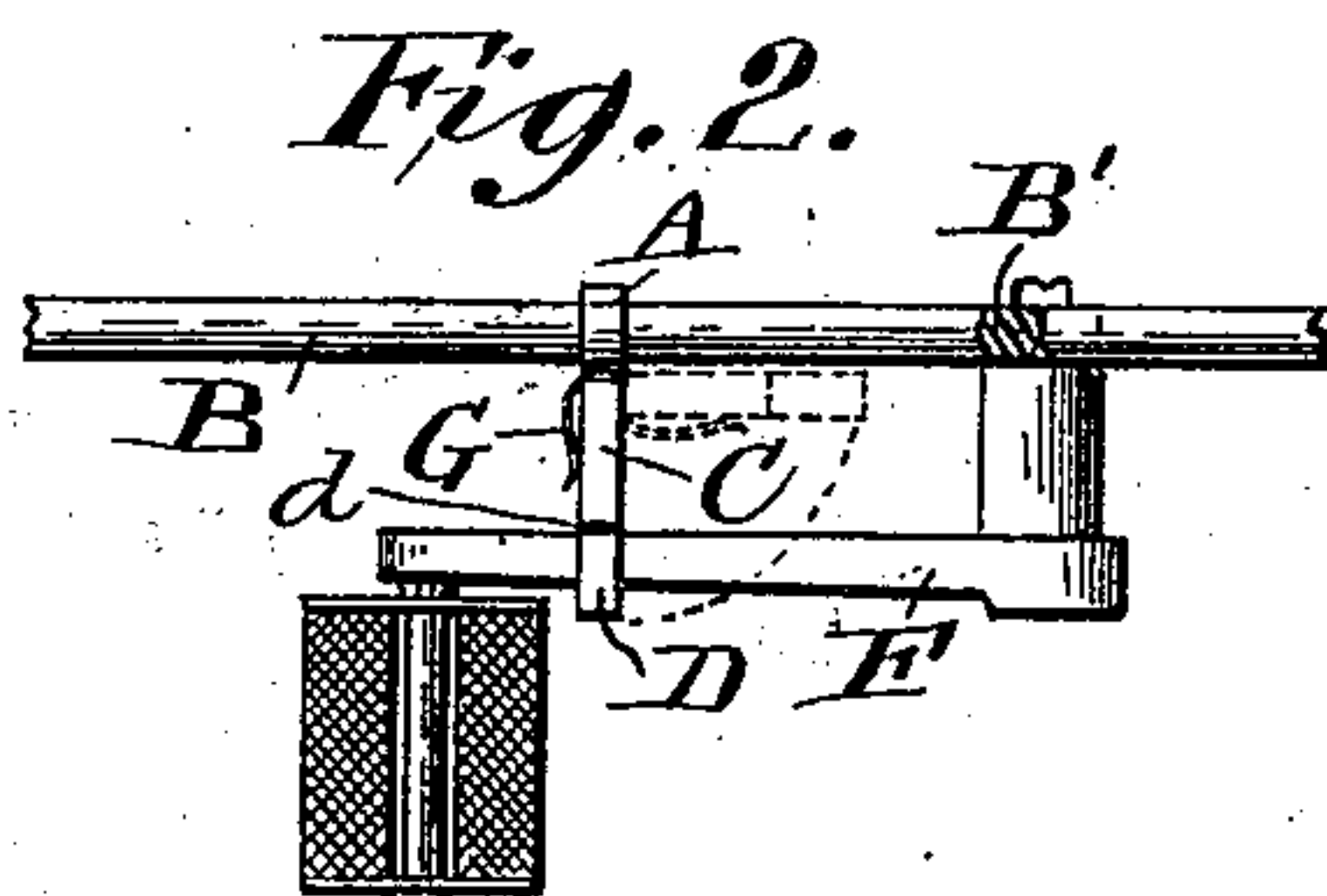
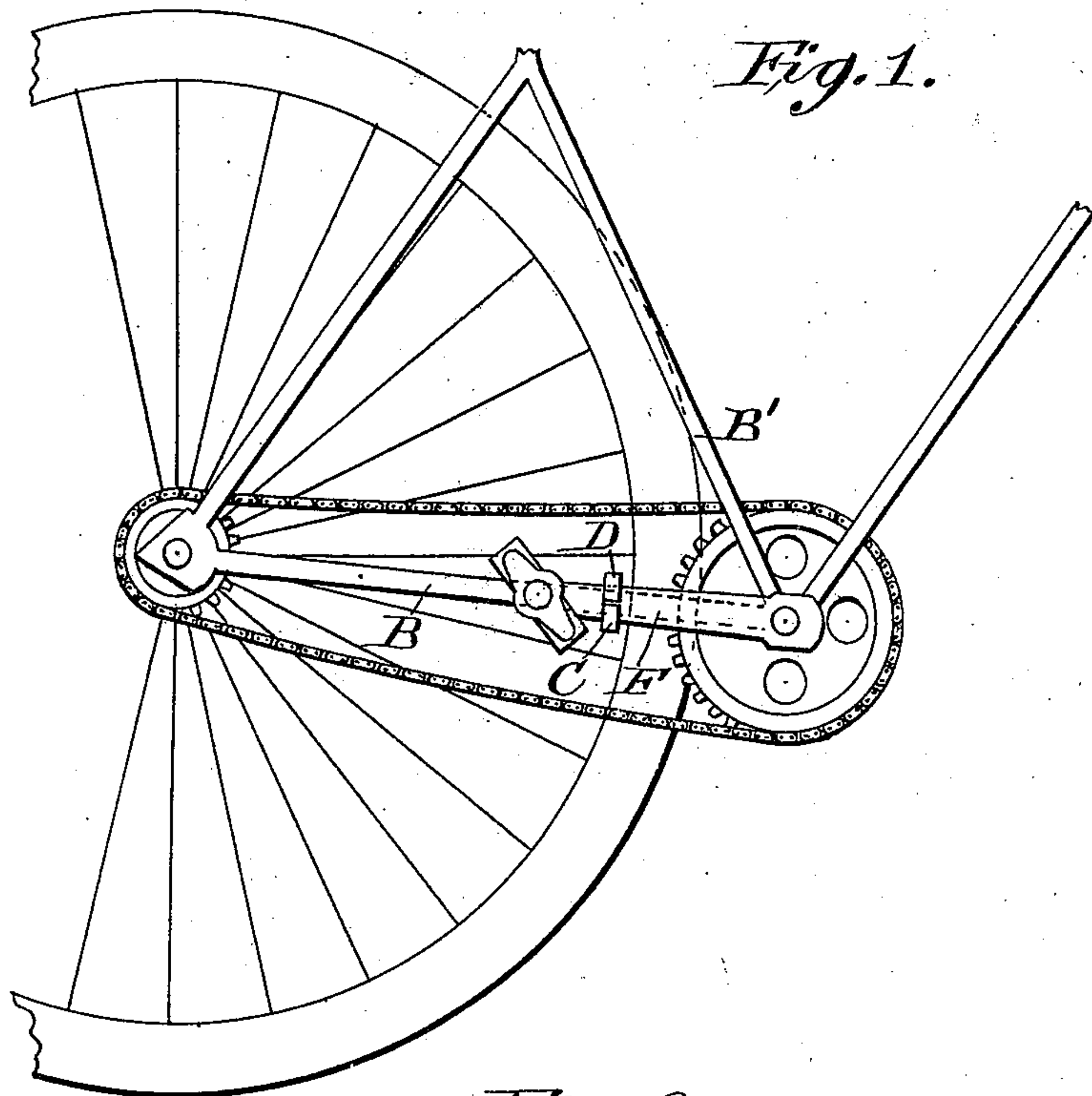


(No Model.)

J. W. CROSS.  
BICYCLE LOCK.

No. 512,868.

Patented Jan. 16, 1894.



Witnesses  
Josh Blackwood  
J. M. Copenhaver.

Inventor  
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Attorney



# UNITED STATES PATENT OFFICE.

JOEL W. CROSS, OF CHATTANOOGA, TENNESSEE, ASSIGNOR OF ONE-THIRD  
TO WILLIS R. RUGGLES, OF IPSWICH, SOUTH DAKOTA.

## BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 512,868, dated January 16, 1894.

Application filed October 18, 1893. Serial No. 488,515. (No model.)

*To all whom it may concern:*

Be it known that I, JOEL W. CROSS, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Bicycle-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in bicycle-locks; and it has for its object to provide a device whereby the pedal-crank can be securely fastened in line with one of the frame-bars of the machine, whereby unauthorized persons are prevented from using the bicycle. The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 is a broken side elevation of so much of a bicycle as is necessary to illustrate the application thereto of the locking device. Fig. 2 is a detail plan view showing my invention applied to one of the frame-bars, the full lines showing the locking device in engagement with the pedal-crank, and the dotted lines showing it folded back into its normal position. Fig. 3 is a front side elevation of the locking device detached, a portion of the lower jaw being broken away to show a means for locking the jaws together. Fig. 4 is a rear side elevation of the locking device detached, showing the clip fully contracted by the use of washers, and also showing the jaws adapted to be secured together by an independent lock.

Referring to the drawings, A is a clip of spring metal, to be secured around the horizontal side frame-bar B of a bicycle; or, if preferred, it may be secured around the vertical rear side frame-bar B'. The clip is open at its front side, its ends 1 being normally some distance apart, as seen in Fig. 3 for a purpose hereinafter stated. Perforated lugs *a* are formed on the clip, near its ends; and in the lugs is securely fixed a hinge-pin *a'*, the ends of which extend outward beyond the lugs *a*.

C is what I term the locking-arm, made of any suitable metal. The rear end of this arm is bifurcated, thus forming lugs *c*, which are perforated to take loosely over the projecting ends of the hinge-pin *a'*, the latter, after the parts are assembled, being headed, as shown.

The object in heading the hinge-pin is to permit of the use of washers 2 between the lugs on the clip and those on the locking-arm, as seen in Fig. 4, whereby the clip may be made to fit frame-bars of different sizes. The front end of the locking-arm C is also bifurcated, forming what will be hereinafter termed the upper jaw D and the lower jaw E, the former being hinged to the arm at *d*, both jaws being recessed so as to form, when the two are together a square opening 3 to receive the pedal-crank F.

G is a leaf-spring, the rear end of which is rigidly secured to the hinge-pin *a'*, its front end bearing against the locking-arm. By this means the arm, when its jaws are unlocked, is automatically returned to its normal position alongside of the frame-bar. It is apparent that other forms of spring may be employed to accomplish this result, and therefore I do not limit myself to the use of the particular kind of spring illustrated and described.

I prefer to provide the jaws of the locking-arm with an integral lock H, a common form of which is seen in Fig. 3, wherein 4 is a hooked shank rigidly fixed to the upper jaw, and 5 is a hooked spring detent carried by the lower jaw, the latter being adapted to engage with the former when the jaws are closed, and to be disengaged therefrom by means of a key inserted in a key-hole 6. In case, however, it may be found expedient to use an independent lock, the jaws may be mortised, as at 7 in Fig. 4, for the reception of the lock-shackle.

When the clip is secured to the frame-bar, all that is necessary to lock the machine is to pull the locking arm forward, raise the upper jaw, press the pedal-crank into the recess in the lower jaw, close the upper jaw over the crank, and lock the jaws together. In unlocking the machine the jaws are unlocked and the crank raised out of contact with the lower jaw, when the locking-bar will automatically return to its normal position.

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

1. In a bicycle-lock, a clip, a locking-arm hinged to said clip and having two jaws adapted to receive the pedal-crank between them,

one of said jaws being hinged, and means for securing the jaws together.

2. In a bicycle-lock, a clip, a locking-arm hinged to the clip and having two jaws adapted to receive the pedal-crank between them, one of said jaws being hinged, means for securing the jaws together, and a spring attached to the clip-hinge and bearing on the locking-arm.

3. In a bicycle-lock, the combination, with a frame-bar and a pedal-crank, of a clip secured on said bar, a locking-arm hinged to the

clip and having two jaws adapted to receive the pedal-crank between them, one of said jaws being hinged, means for securing the jaws together, and a spring for returning the locking-arm to its normal position when disengaged from the pedal-crank.

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

JOEL W. CROSS.

Witnesses:

DAVID W. GOULD,  
JAS. H. BLACKWOOD.