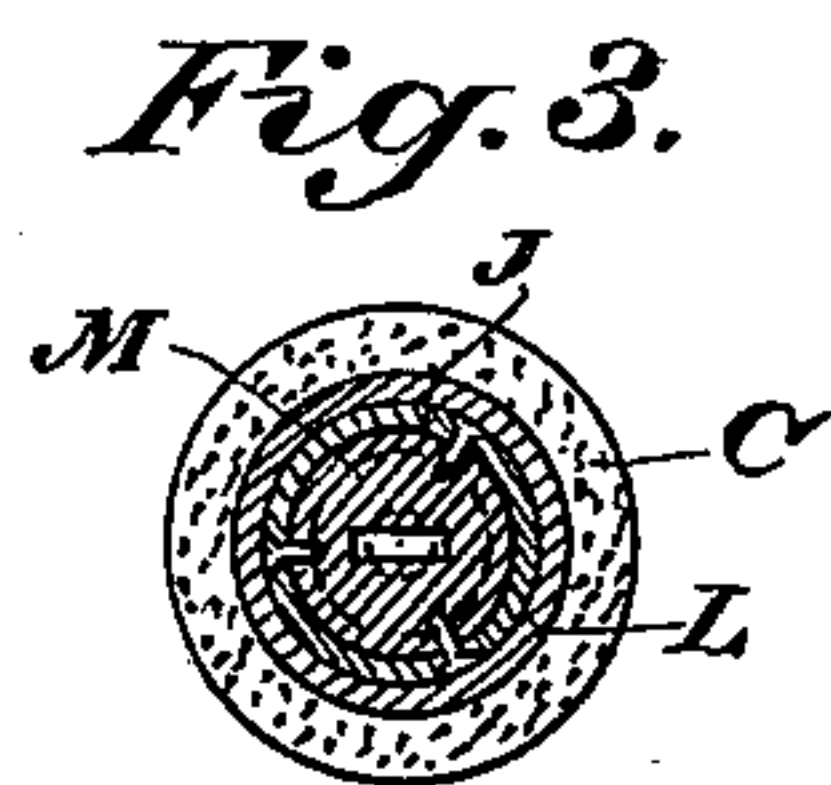
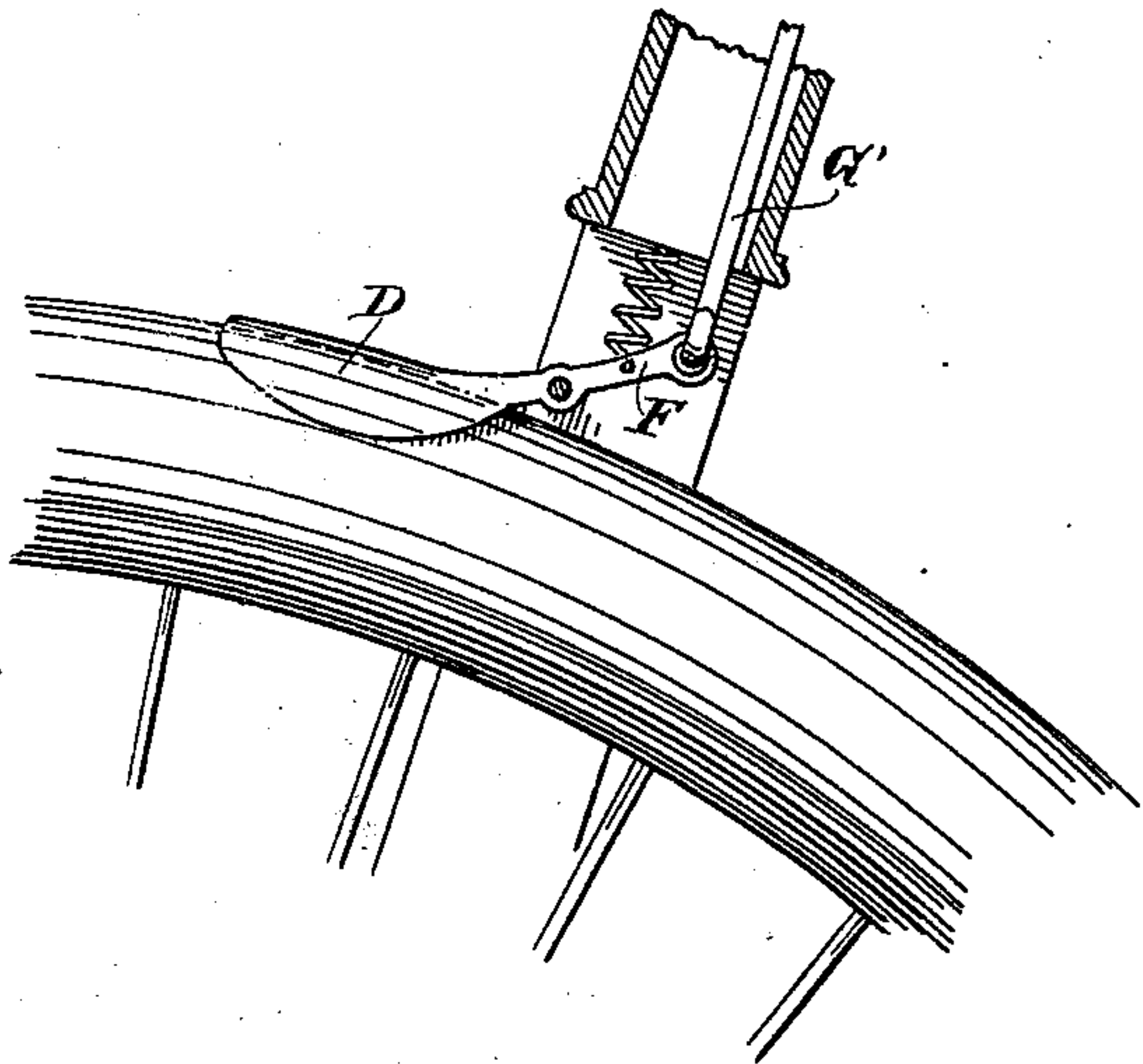
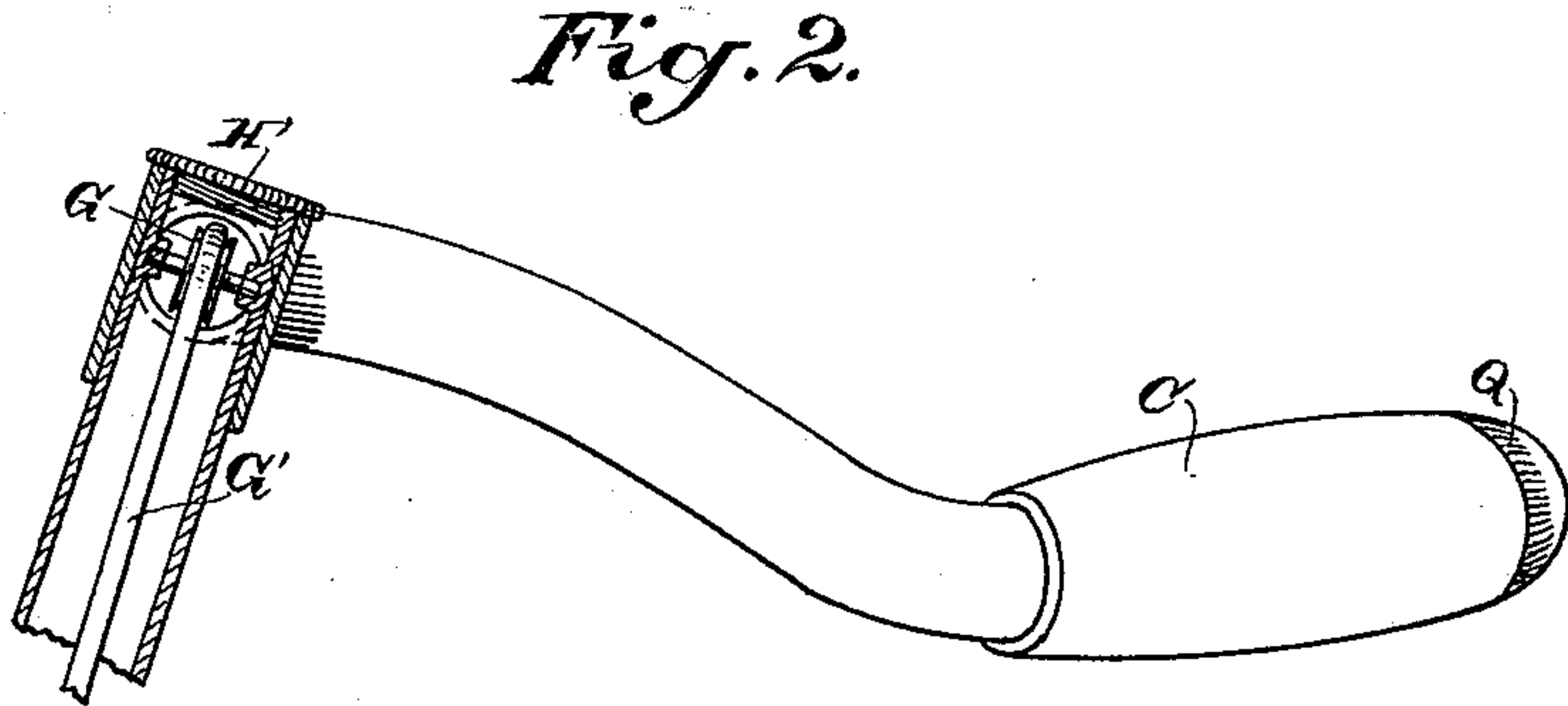
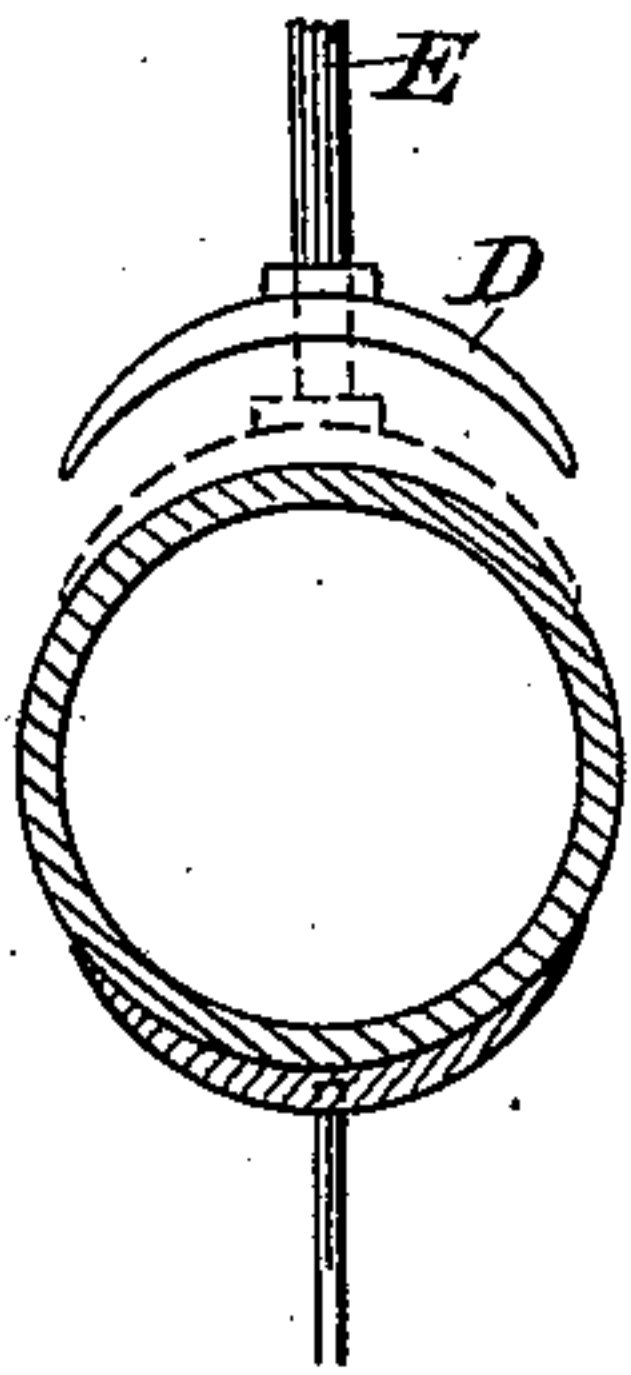
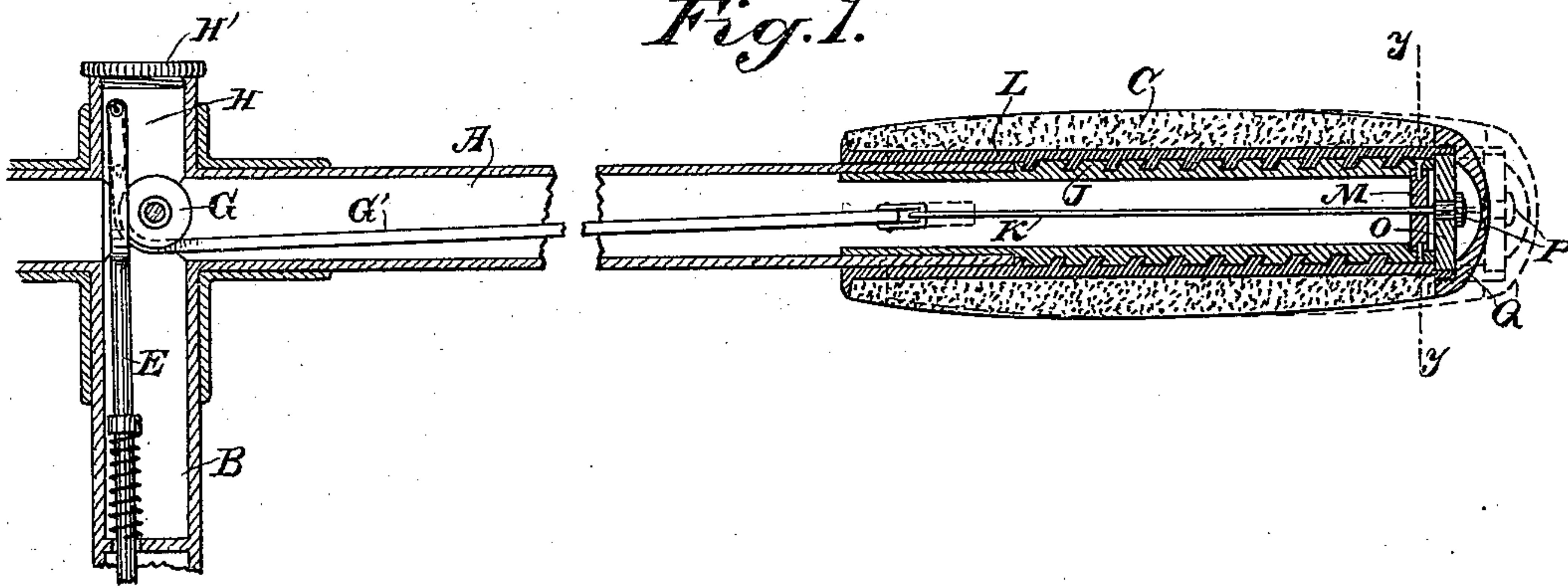


(No Model.)

J. W. LITTLE.
BICYCLE BRAKE.

No. 561,007.

Patented May 26, 1896.



Witnesses,
J. H. Morse
J. F. Ascheck

Inventor,
John W. Little
By Dewey & Co.
Attys

UNITED STATES PATENT OFFICE.

JOHN W. LITTLE, OF SAN FRANCISCO, CALIFORNIA.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 561,007, dated May 26, 1896.

Application filed August 28, 1895. Serial No. 560,787. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. LITTLE, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Bicycle-Brakes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a brake which is especially adapted for use upon bicycles.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a vertical section showing the interior construction. Fig. 2 is a modification of the manner of connecting the operating parts with the brake. Fig. 3 is a section on line *y y* of Fig. 1.

The object of my invention is to provide an effective brake mechanism to be operated directly from the handle of the machine without the use of exterior levers and exposed parts.

A is the handle-bar of a bicycle, which may be made tubular or any suitable or desired form.

B is the central tubular post extending from the bar downwardly into the steering-head, where it is locked in the usual manner.

C are the handles, which are usually fixed upon the outer ends of the handle-bar.

In Fig. 1 I have shown the brake-shoe D having a rod E extending up within the tubular handle-bar post and suitably guided, so that a reciprocating movement may be imparted to it to either force it down and apply the brake to the wheel rim or tire or other surface to which it is applicable or to withdraw it when the brake is to be removed.

In Fig. 2 I have shown the brake-shoe fixed to a lever-arm F, suitably fulcrumed in the fork of the machine, and in this case the lever-arm is connected with the operating mechanism, so as to be reciprocated in the same manner as when the direct rod is used, but in the opposite direction.

G is a pulley journaled at the intersection of the handle-bar post with the bar itself, and around this pulley passes a flexible strap G' of any suitable material. In Fig. 1 this strap passes below the pulley and turning at

right angles is connected with the upper end of the rod E, which extends above the pulley into a chamber H, which in this case would be formed to project above the top of the central portion of the handle-bar to make room for the movements of the rod E. This chamber is provided with a suitable closing-cap H', which may be removed at any time to obtain access to this portion of the device.

In this construction whenever the flexible connecting-cord is pulled outwardly by the mechanism to be hereinafter described it will act to force the rod E downward, so that the brake-shoe will be forced into contact with the tire of the wheel with any desired pressure. When the operating mechanism is moved to release the tension upon the cord, the brake will be lifted from the wheel by means of a spring suitably connected with it. The upper end of the rod or shank E may be made single, or it may be forked, so that the cord lies within the forked portion.

When the brake-shoe is mounted upon a lever, as shown in Fig. 2, the cord will pass over the top of the pulley and extending down through the handle-bar post and steering-head it will be connected with the rear end of the brake-shoe lever, so that the operation of pulling upon the cord will raise the rear end of the lever and correspondingly force the brake-shoe into contact with the wheel rim or tire. The means for operating this mechanism consists of a screw J, fixed to one end of the handle-bar projecting outwardly therefrom into the interior of the handle C. The interior of the handle is provided with a lining or sleeve L, having the female threads of the screw adapted to engage the threads of the male portion J. These screw-threads have a sufficiently rapid pitch, so that by turning the handle in one direction upon the threaded portion it will be moved outwardly and by turning it in the opposite direction it will be returned. The flexible strap or connection G' extends from the pulley G through one arm of the handle-bar, following its curvatures, and its outer end is connected with a short rigid plate or bar K. Upon the end of the threaded portion J is fixed a plate or disk M, and through the center of this plate or disk is made an opening corresponding in shape with the transverse section of the plate or bar

K, which is polygonal, so that it passes through this opening and will slide in it easily, but will be prevented by it from turning. Upon the end of the screw-threaded lining L is fixed
5 another disk O, which turns with the lining and the handle. In the center of this disk is made a round opening and within this opening is fitted a head P, into which the end of the bar K is secured. This head turns freely
10 in the opening, so that when the handle is turned around the disk through which the bar passes will prevent its turning, holding it and the head P so that they do not revolve, while the handle and the disk O are allowed
15 to turn freely.

The operation will then be as follows: The screw-threads may be cut to either right or left hand pitch, as may be most convenient for the operator, and when the handle is
20 turned so as to force it outwardly the disk O, acting upon the head P, draws upon its connected bar K and the flexible strap G', and thus actuates the brake, as previously described. When turned in the opposite direc-
25 tion, it releases the flexible strap, and the spring, acting as previously described, moves the brake out of contact with the tire. The end of the handle-bar is provided with a removable cap Q, through which access may be
30 obtained to the interior of the handle for the purpose of lubricating the head P or other moving parts.

Having thus described my invention, what

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

An improved bicycle-brake consisting of a handle-bar having a screw-threaded extension, a handle having corresponding interior threads fitting and turnable upon said extension, a disk M fixed upon the end of the screw-
40 threaded extension of the handle-bar having a central guide-hole, a bar or plate in the handle and slidable through said disk, a second disk fixed to the revoluble handle having a circular hole in its center, a head fitting and
45 turnable in said circular hole and connected with the bar or plate so that the rotation of the handle acts to draw the bar or plate outwardly or inwardly without turning, an extension at the upper end of the handle-bar
50 post, having a closing-cap, a pulley at the junction of said post and the handle-bar, a slidable rod in the handle-bar post with its upper end to project into the extension thereof, a flexible connection to said rod and thence
55 passed under said pulley and connected to the bar or plate, and a brake-shoe actuated by the movement of the rod, all combined, constructed and arranged to operate, as herein described.

In witness whereof I have hereunto set my hand.

JOHN W. LITTLE.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.