

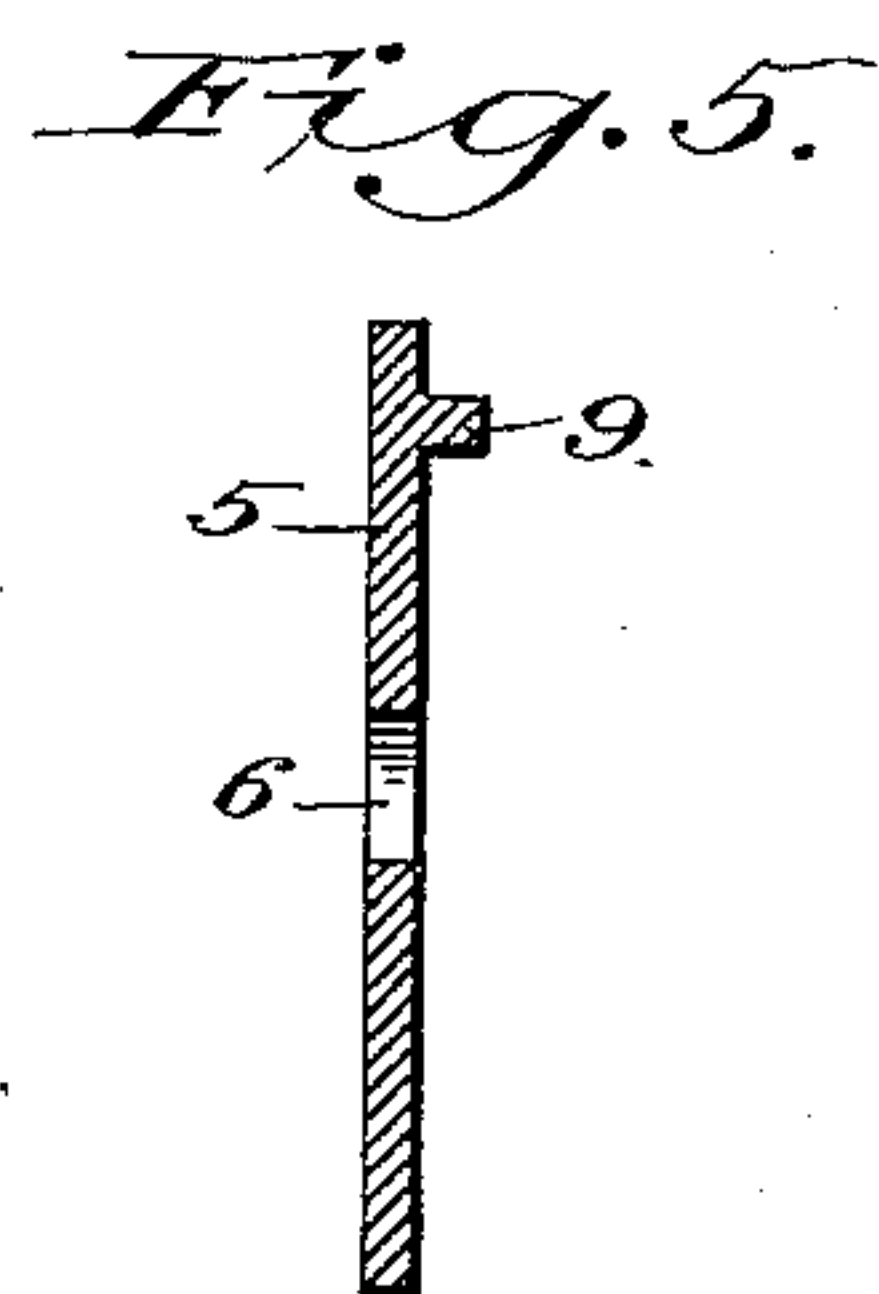
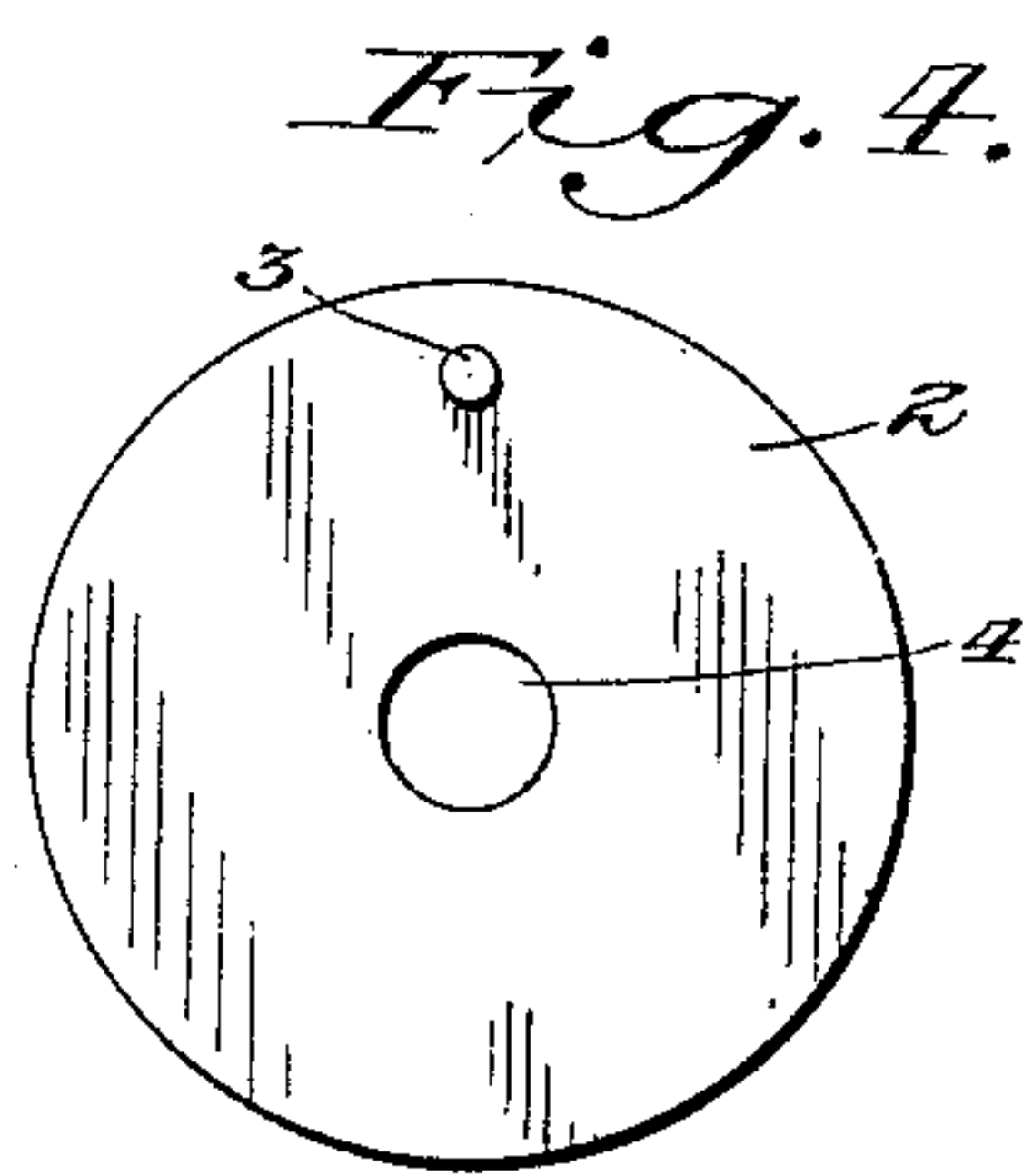
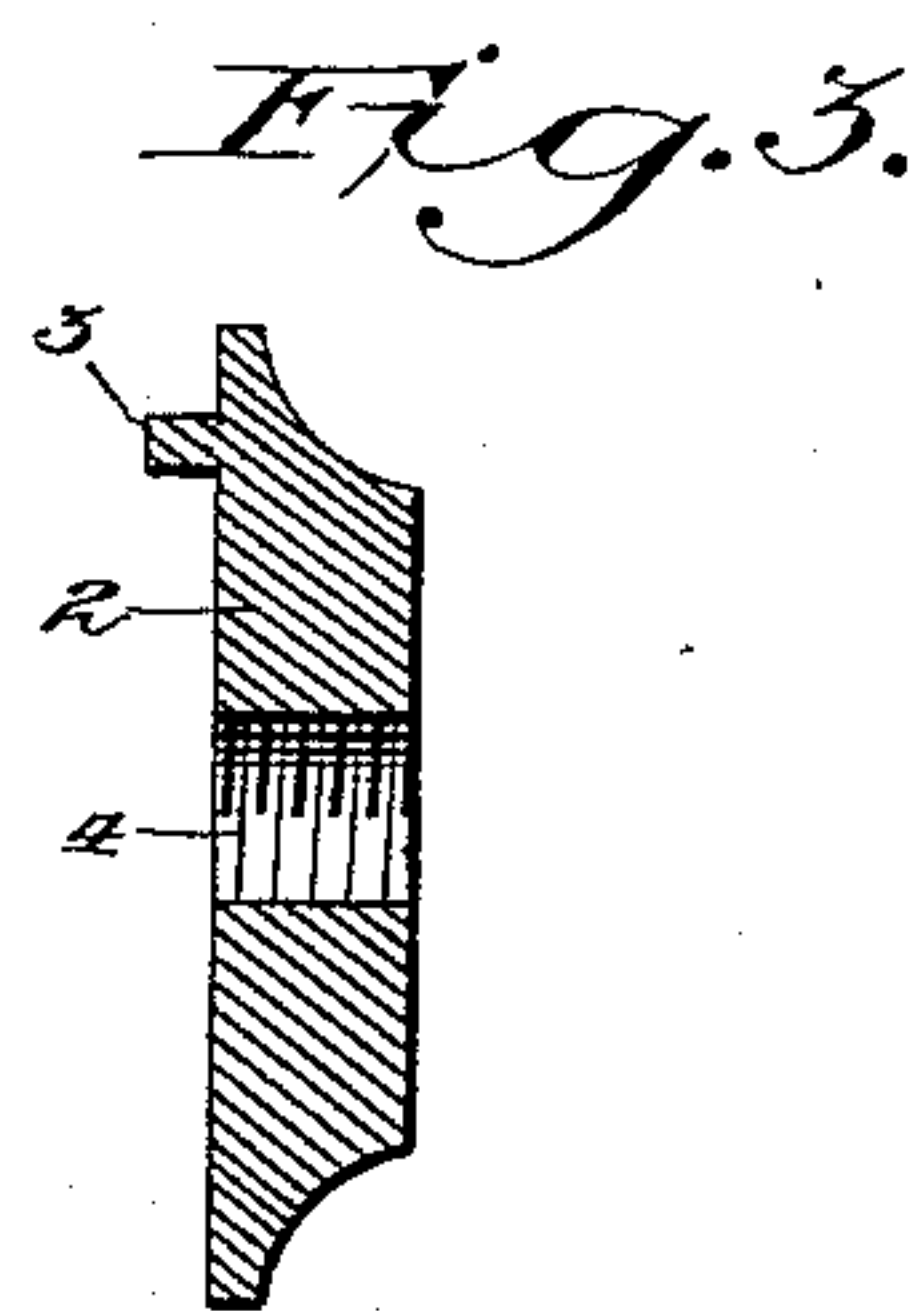
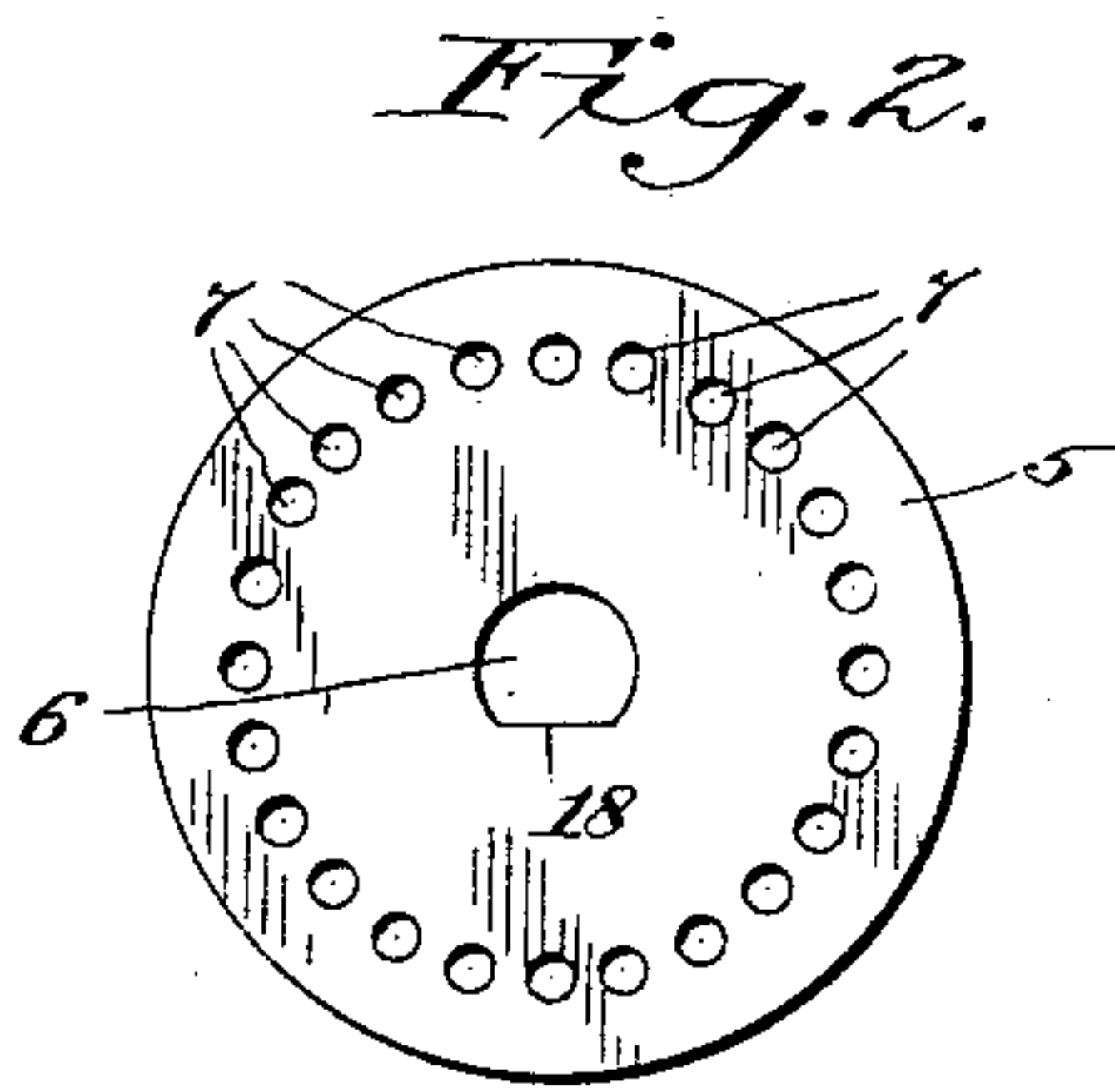
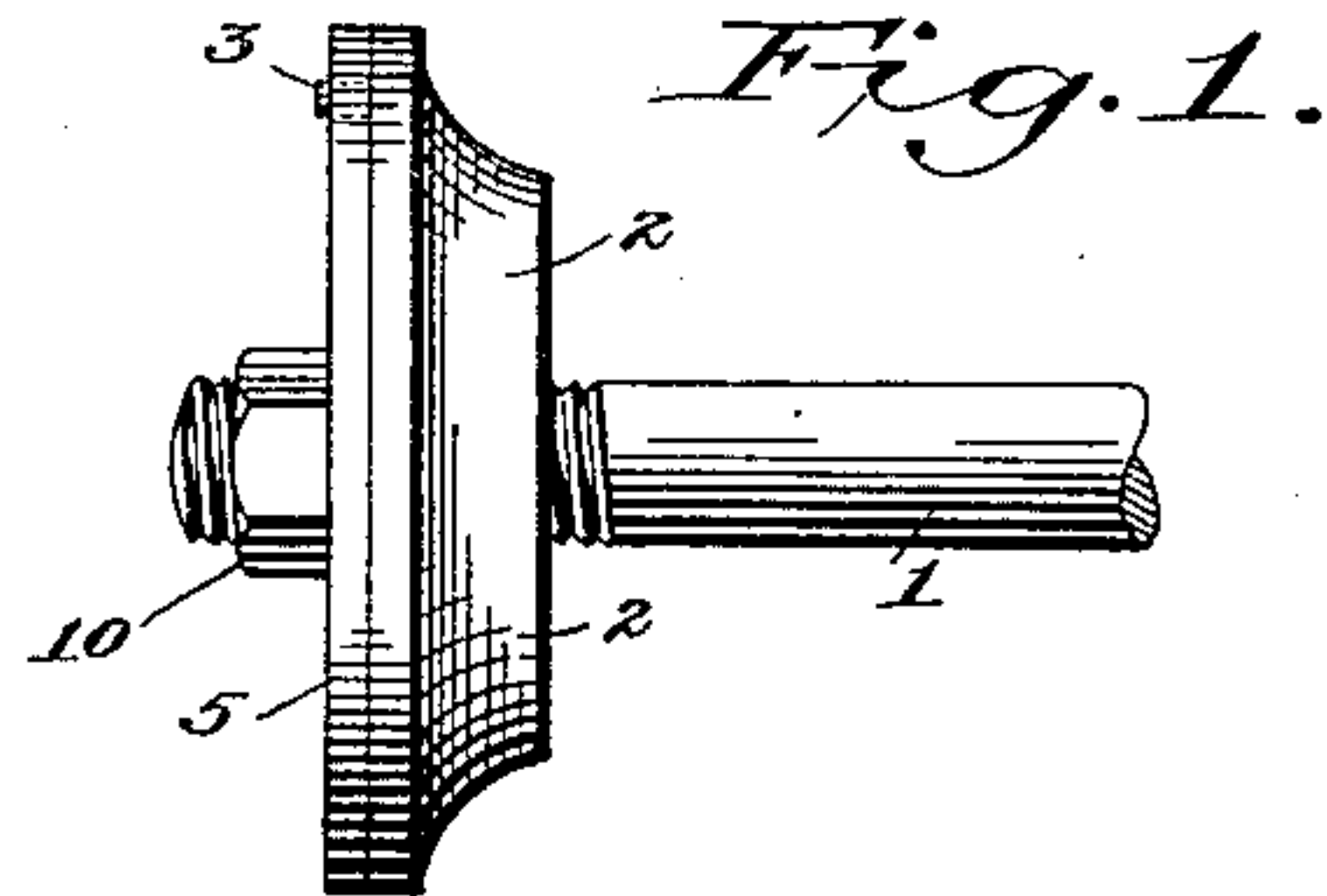
No. 630,913.

Patented Aug. 15, 1899.

F. MYERS.  
CONE LOCK FOR BALL BEARINGS.

(Application filed Apr. 28, 1899.)

(No Model.)



WITNESSES

*A. B. Degges*  
*L. D. Strincher*

INVENTOR

*Frederick Myers*  
by *Emmett P. Brumley*,  
his Attorney.

# UNITED STATES PATENT OFFICE.

FREDERICK MYERS, OF NEW YORK, N. Y.

## CONE-LOCK FOR BALL-BEARINGS.

SPECIFICATION forming part of Letters Patent No. 630,913, dated August 15, 1899.

Application filed April 26, 1899. Serial No. 714,601. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK MYERS, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Cone-Locks for Ball-Bearings; 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 figures of reference marked thereon, which form a part of this specification.

My present invention relates to cone-locks for ball-bearings designed for use on cycles, vehicles, or railway rolling-stock.

One object of my invention is to provide a simple and efficient means for locking the ball-cone on a shaft at any point to which it may have been previously adjusted.

Heretofore much difficulty has been experienced in the use of ball-bearing cones on cycles, particularly as at present constructed, owing to fact that the lock-nuts which clamp the cone in place on the axle and the axle to the fork are liable to work loose at any time and lead to serious breakage or accident.

Another object of my invention is to provide a lock for holding the cone in adjusted position on the axle in a reliable and positive manner and not be dependent entirely upon the uncertainty of screw-threads or joint-nuts.

By the use of my invention the cone may be adjusted to any position on the axle and locked there beyond all possibility of turning, even though the nuts which hold the axle to the fork should become slack.

It is often found necessary to remove a wheel from a bicycle to make repairs, and the removal of the wheel generally disarranges the adjustment of the cones. By the use of my invention this difficulty is obviated, as the removal of the wheel does not change the adjustment of the cones.

Various means may be resorted to for securing the cone to the locking-disk, and I have shown in the accompanying drawings one construction which serves the purpose in a preferable manner.

In the drawings which form a part of this specification, Figure 1 is a side view of a portion of an axle having a cone locked thereon by my cone-lock. Fig. 2 is a face view of my cone-lock. Fig. 3 is a vertical section of the cone. Fig. 4 is a face view thereof. Fig. 5 is a vertical central section through a locking-disk of a modified form. Fig. 6 is a perspective view of the axle, showing the flattened end portion and broken away near said end. Like figures of reference indicate like parts wherever they occur in the various views of the drawings.

An ordinary axle is designated by the numeral 1.

The ball-cone 2 which I use is provided with a pin or stud 3, projecting outward from its front or outer face. This cone may be otherwise of ordinary or well-known construction and may be adjusted upon the axle in the usual manner, as by turning upon the threaded end of the axle, the cone having a threaded bore 4 for such adjustment.

The locking-disk 5 consists of a flat metal plate or disk having a central aperture 6 and a series of perforations 7, extending entirely through the disk near its outer edge or periphery, and these perforations are located as closely together as possible, and the series extends entirely around the disk, as shown in Fig. 2. It will be noticed that the aperture 6 in the center of the disk has a plane portion 8. The axles of bicycles are usually provided with plane or flattened ends in order that they may be secured firmly against revolving in the slotted ends of the fork. The aperture 6 in the locking-disk 5 is correspondingly formed in order that it may slide upon the end of the axle and lie closely up against the cone when the latter has been properly adjusted.

The pin or stud 3 on the outer face of the cone is of a size to nicely fit in any of the perforations 7 of the locking-disk 5 and is located at the requisite distance from the periphery of the cone to register with any one of the perforations 7.

It will be obvious that I may form a stud or pin 9, Fig. 5, on the disk 5 and a series of sockets or perforations in the face of the



cone and my purpose would be equally as well served; but I prefer the construction previously described.

When it is desired to lock the cone 2 in place upon an axle, it is first adjusted relatively to the ball-race by turning it upon the threads of the axle. When proper adjustment has been effected, the locking-disk 5 is slipped on over the axle end and pushed up against the face of the cone 2. The pin 3 on the cone projects through any one of the perforations 7 in the locking-disk 5, and when the nut 10 is tightened the parts are held firmly in place and neither the cone nor lock will be permitted to rotate. Even should the nut 10 become loose the cone and disk would be held in place so long as the pin 3 remained in the perforation.

It will be obvious that the cone and disk may be locked together by means of notches in the periphery of the disk and a pin or projection on the face or edge of the cone, or vice versa.

Without desiring to be limited to the exact construction shown, as I am aware that many

changes may be made in the details of my invention without departing from the spirit and scope of the same,

What I desire to secure by Letters Patent and claim is—

A cone-lock for ball-bearings, consisting of a threaded axle having a flattened end portion, a ball-cone having a threaded bore to fit the axle and adapted to be adjusted thereon, an integral pin projecting from the outer face of said ball-cone, and a locking-disk having a central bore provided with a flattened wall to fit the flattened portion of the axle, said locking-disk having a series of perforations extending entirely around near the outer edge of the disk and designed to register with the integral pin on the face of the cone at any position of adjustment of said cone, substantially as described.

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

FREDERICK MYERS.

Witnesses:

J. C. QUADE,  
E. A. PAUL.