

No. 639,458.

Patented Dec. 19, 1899.

J. F. STAUFFER.
BICYCLE PEDAL.

(Application filed July 22, 1898.)

(No Model.)

Fig. 5.



Fig. 1.

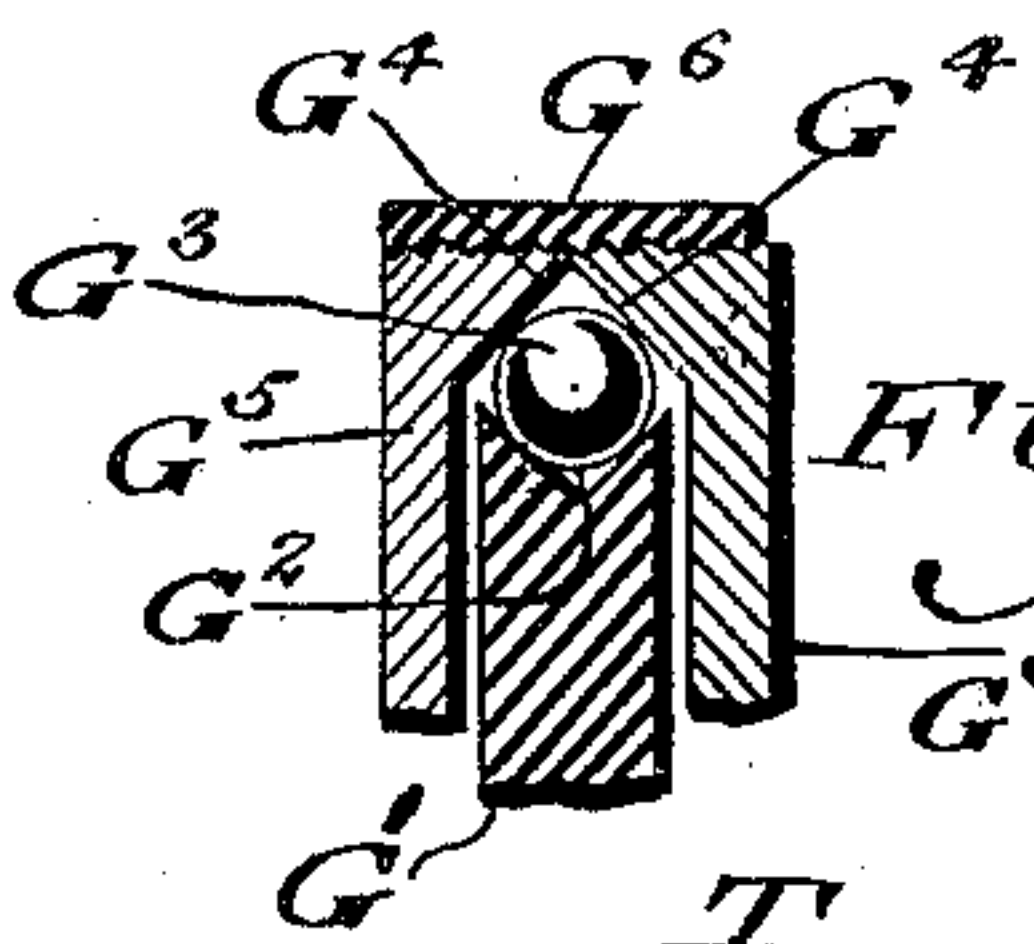


Fig. 7.

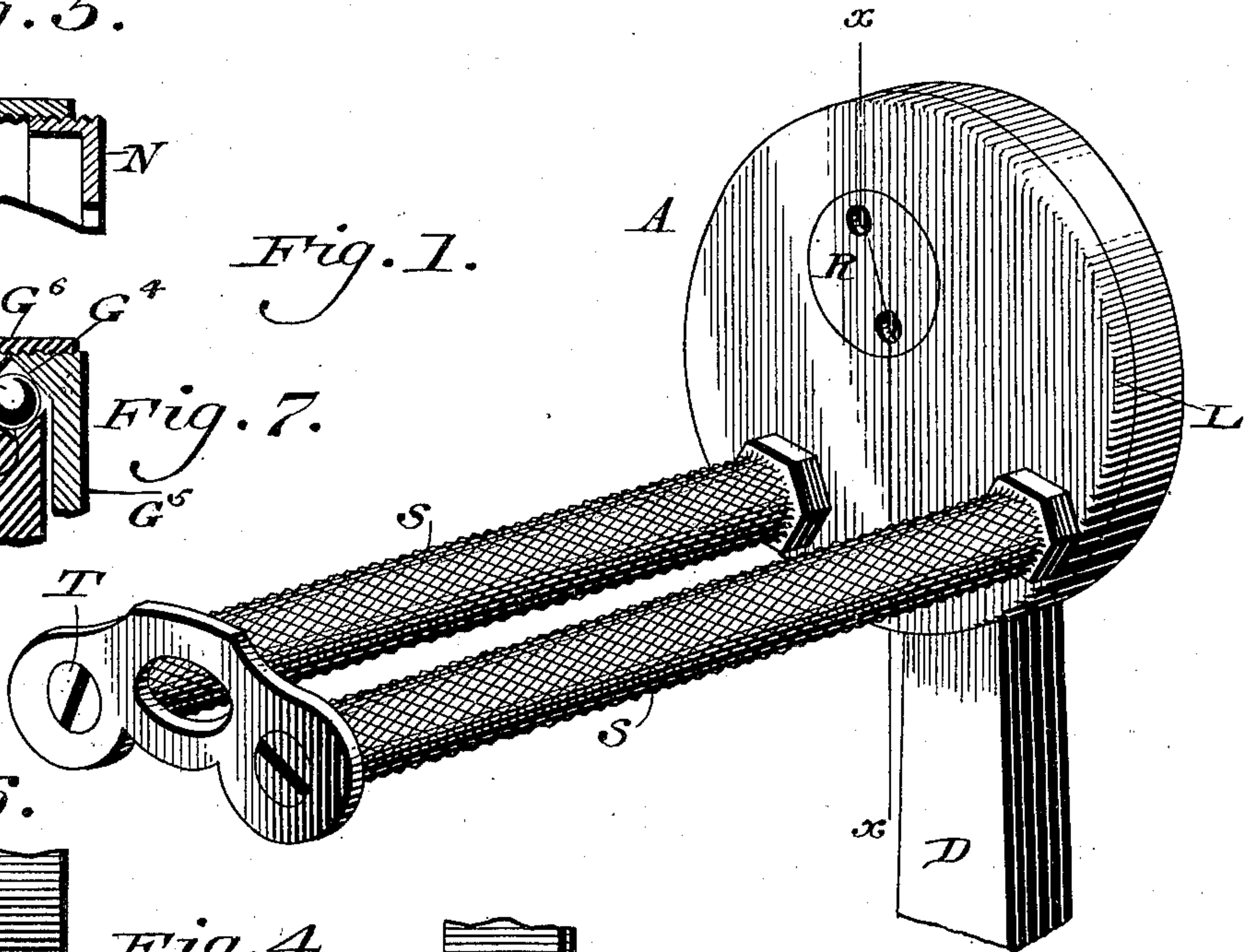


Fig. 6.

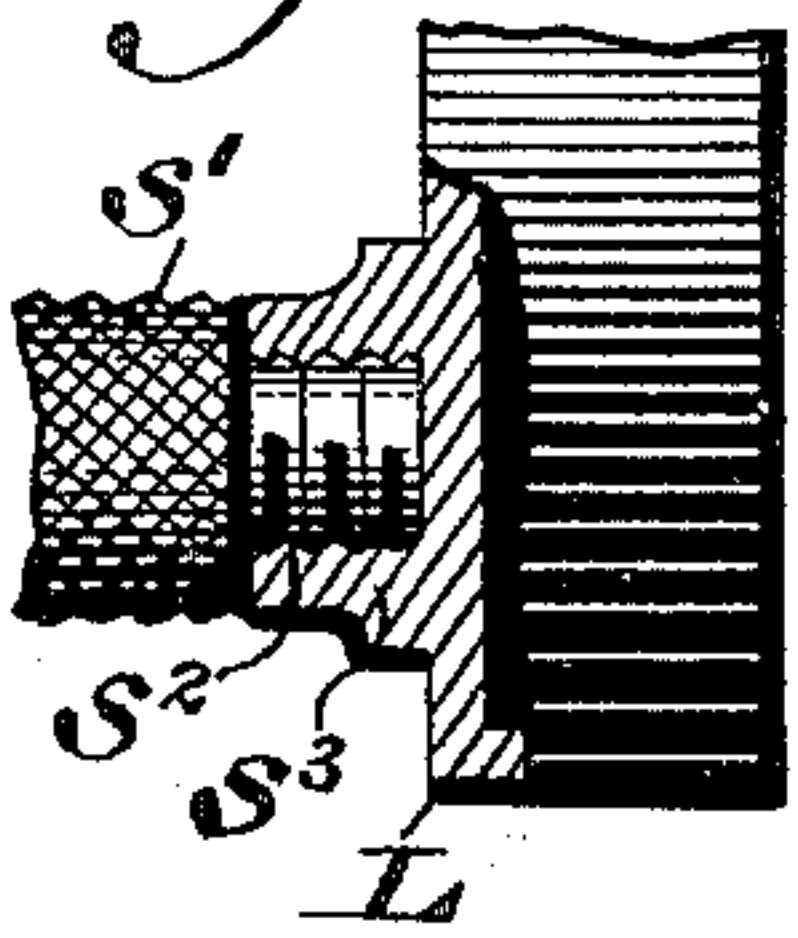


Fig. 4.

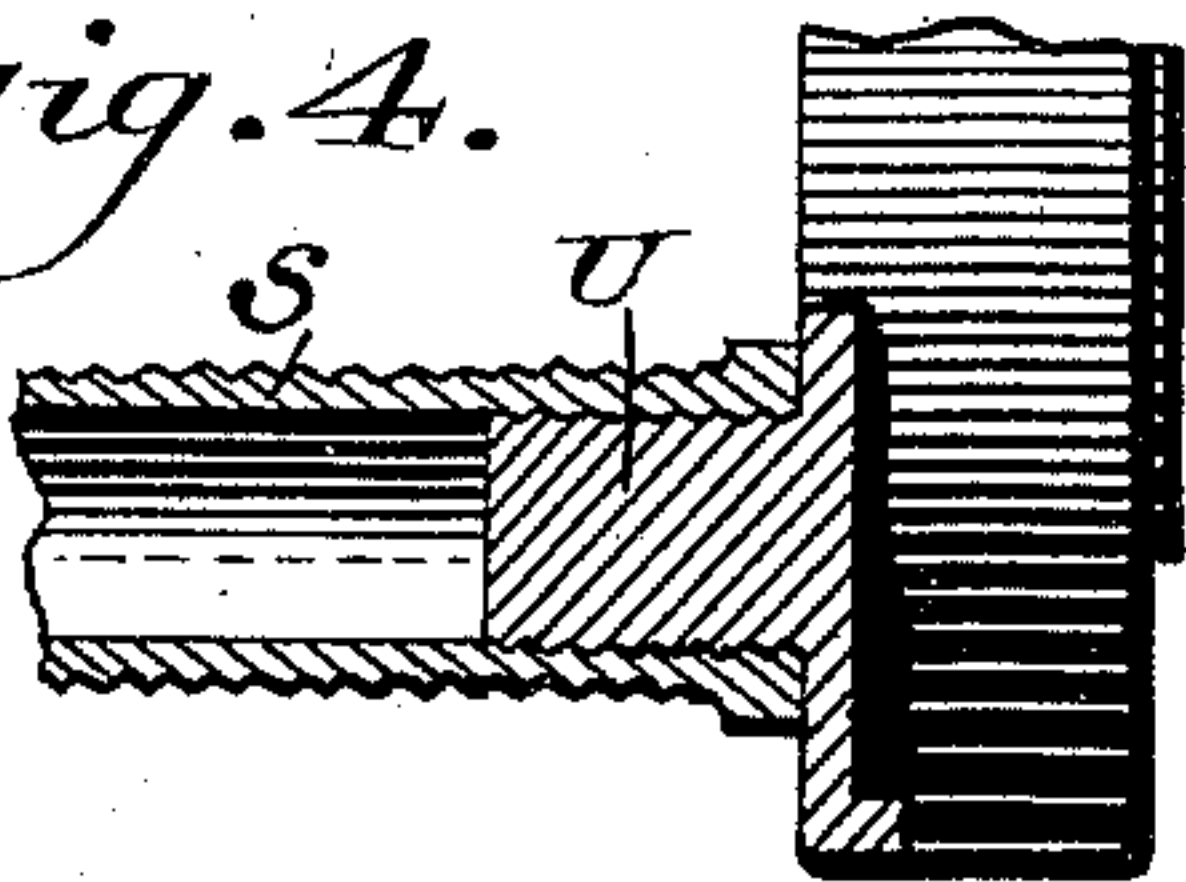


Fig. 3.

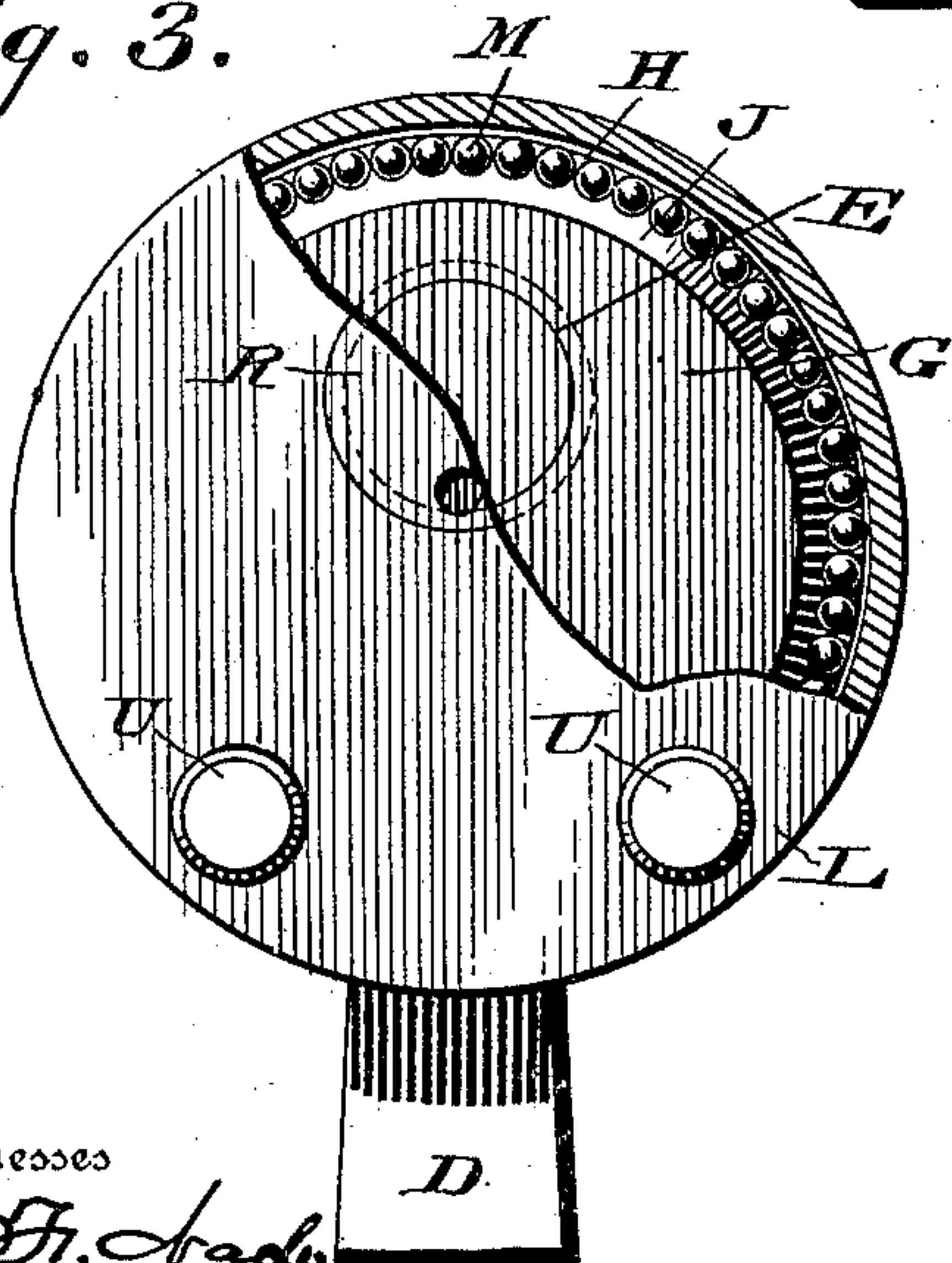
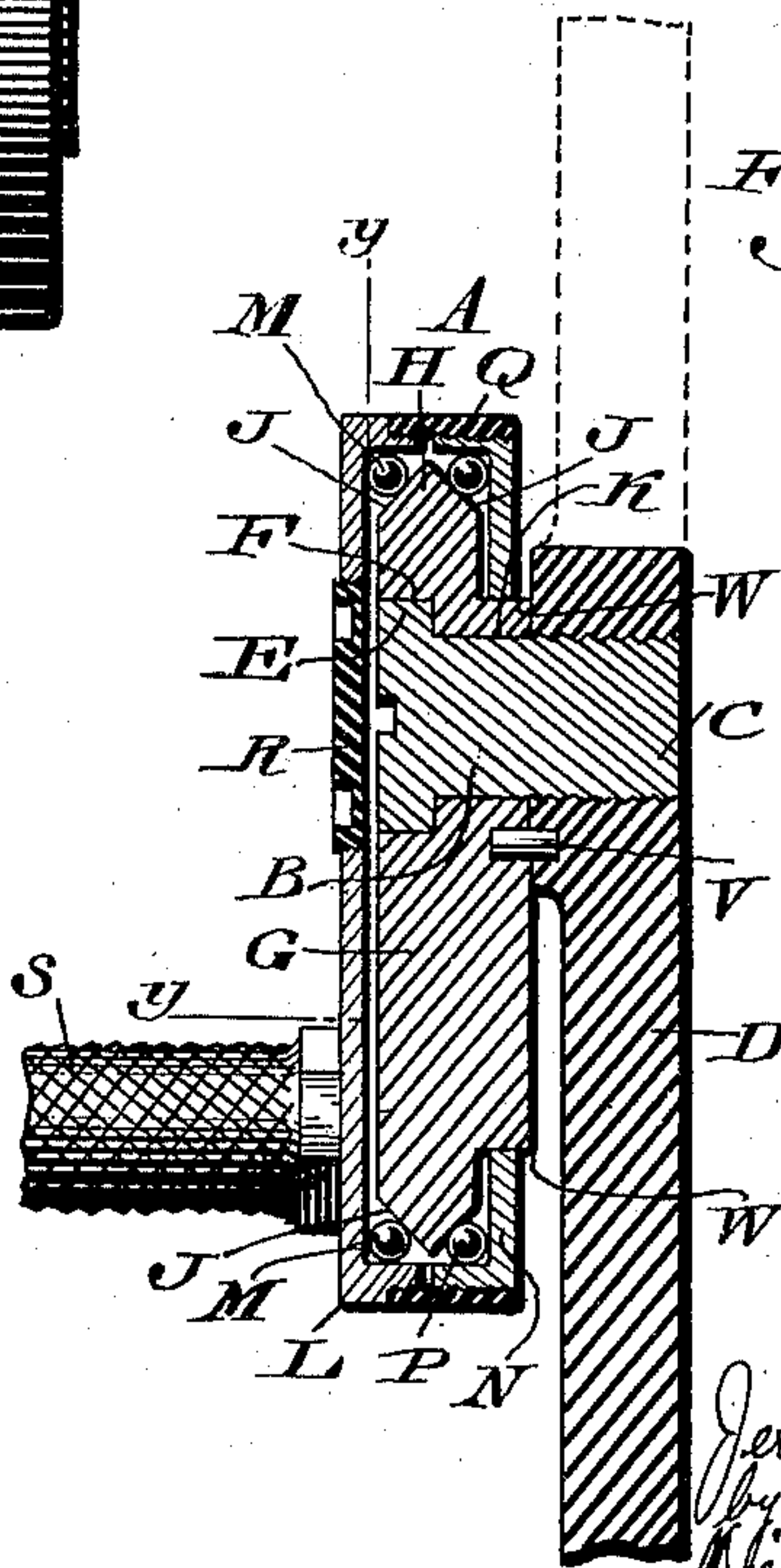


Fig. 2.



Witnesses

Q. H. Taylor.
John A. Rennie

Inventor

Jeremiah F. Stauffer
by
Widerheim & Fairbanks.

Attorneys

UNITED STATES PATENT OFFICE.

JEREMIAH F. STAUFFER, OF PHILADELPHIA, PENNSYLVANIA.

BICYCLE-PEDAL.

SPECIFICATION forming part of Letters Patent No. 639,458, dated December 19, 1899.

Application filed July 22, 1898. Serial No. 686,569. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH F. STAUFFER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Bicycle-Pedals, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an improved construction of bicycle-pedal; and it consists of a disk which is attached to the crank or pedal arms so as to rotate in unison therewith, but to be incapable of independent rotation with respect thereto, the peripheries of said disk being beveled or chamfered so as to form wedge-shaped or inclined bearing-surfaces, said disks being inclosed by a suitable casing or sections which fit over or inclose each disk, said casing being provided with a laterally-projecting foot-tread.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claim.

Figure 1 represents a perspective view of a bicycle-pedal embodying my invention. Fig. 2 represents a section on line $x x$, Fig. 1. Fig. 3 represents a section on line $y y$, Fig. 2. Fig. 4 represents a side elevation showing the manner of securing the foot-treads. Fig. 5 represents a sectional view of a portion of the casing inclosing the disk. Figs. 6 and 7 represent sectional views of modifications.

Similar letters of reference indicate corresponding parts in the drawings.

Referring to the drawings, A designates a bicycle-pedal, the same consisting of a bolt B, having the threaded portion C, which engages the crank D, said bolt having a head E, which is countersunk in the recess F in the disk G, the latter having a chamfered or wedge-shaped periphery H, formed by the converging walls J. K designates the unthreaded portion of the bolt B, which is seated in an opening in said disk.

L designates the outer half of the casing which incloses the disk G, the same having the antifriction-balls M interposed between the inner periphery thereof and the adjacent beveled surface J of said disk, the inner portion of the latter being inclosed by the portion N of the casing, between the inner periphery

of which and the adjacent inclined walls of the disk are located antifriction-balls P, the sections L and N of the casing being held together by means of a ring Q, although it will of course be understood that, if desired, the portions L and N of said inclosing casing may be made to engage directly with each other, as indicated in Fig. 5.

R designates a plug or closure for the opening in the outer member L of the casing, whereby the bolt B, which is provided with a suitable recess therein, can be manipulated according to requirements when said closure R is removed.

S designates foot-treads, which are preferably two in number and extend from the lower portion of the section L of the casing when the parts are assembled in position, as seen in Fig. 2, said foot-treads being joined by the strap T at their outer or free ends, whereby it will be apparent that the same are rigidly held and strengthened to a great degree. I preferably construct the foot-treads S as indicated in Fig. 4, in which the same are preferably made hollow in order to reduce the weight to a minimum and are provided at their extremities with internal threads which engage the threaded projections U, which extend from the outer section L of the inclosing casing.

V designates a pin by means of which the disk G is always held in fixed position relative to the crank or pedal arm D when the parts are in assembled position, it being noted that said disk G has the inner laterally-extending bearing W, which is located eccentrically to the bolt B and coincides with the opening in the portion N of the casing, wherefrom it will be seen that the latter revolves freely upon said bearing W.

It will be seen from the foregoing that in propelling a bicycle equipped with my improved pedal the rider exerts the power applied by his feet more naturally, as in walking, while the feet do not have to be raised as high and the power is applied more directly to the pedal than in other constructions now in use.

If desired, the foot-treads may be secured to the portion L of the casing inclosing the disk, as indicated in Fig. 6, said foot-tread being designated as S' and having the threaded

stem S^2 , which engages a threaded seat or socket in the boss S^3 , which projects from the casing L.

I may desire in some instances to employ a single set of antifriction-balls, in which the construction seen in Fig. 7 will be employed, G' designating the disk, which has a groove G^2 therein for the reception of the balls G^3 , the latter being held in position by the coils G^4 of the members G^5 of the casing, which are held in position by the threaded ring G^6 or a similar device.

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

The combination of a disk having a periphery formed of inclined walls, a pedal-arm, a

bolt for uniting said disk and pedal-arm, additional fastening means between said disk and arm and situated to one side of said bolt, a casing composed of two sections which inclose said disk, bearing-balls between the inclined peripheral walls of the disk and the inner periphery of said casing, an opening in the section adjacent the pedal-arm through which a laterally-extending bearing on said disk projects, an opening in the other section of said casing situated opposite said bolt, a closure for said opening, and a foot-tread attached to said casing.

JEREMIAH F. STAUFFER.

Witnesses:

JOHN A. WIEDERSHEIM,
E. HAYWARD FAIRBANKS.