

F. S. ELLETT.
BACK PEDALING COASTER BRAKE.
APPLICATION FILED NOV. 16, 1908.

929,663.

Patented Aug. 3, 1909.

FIG. 1.

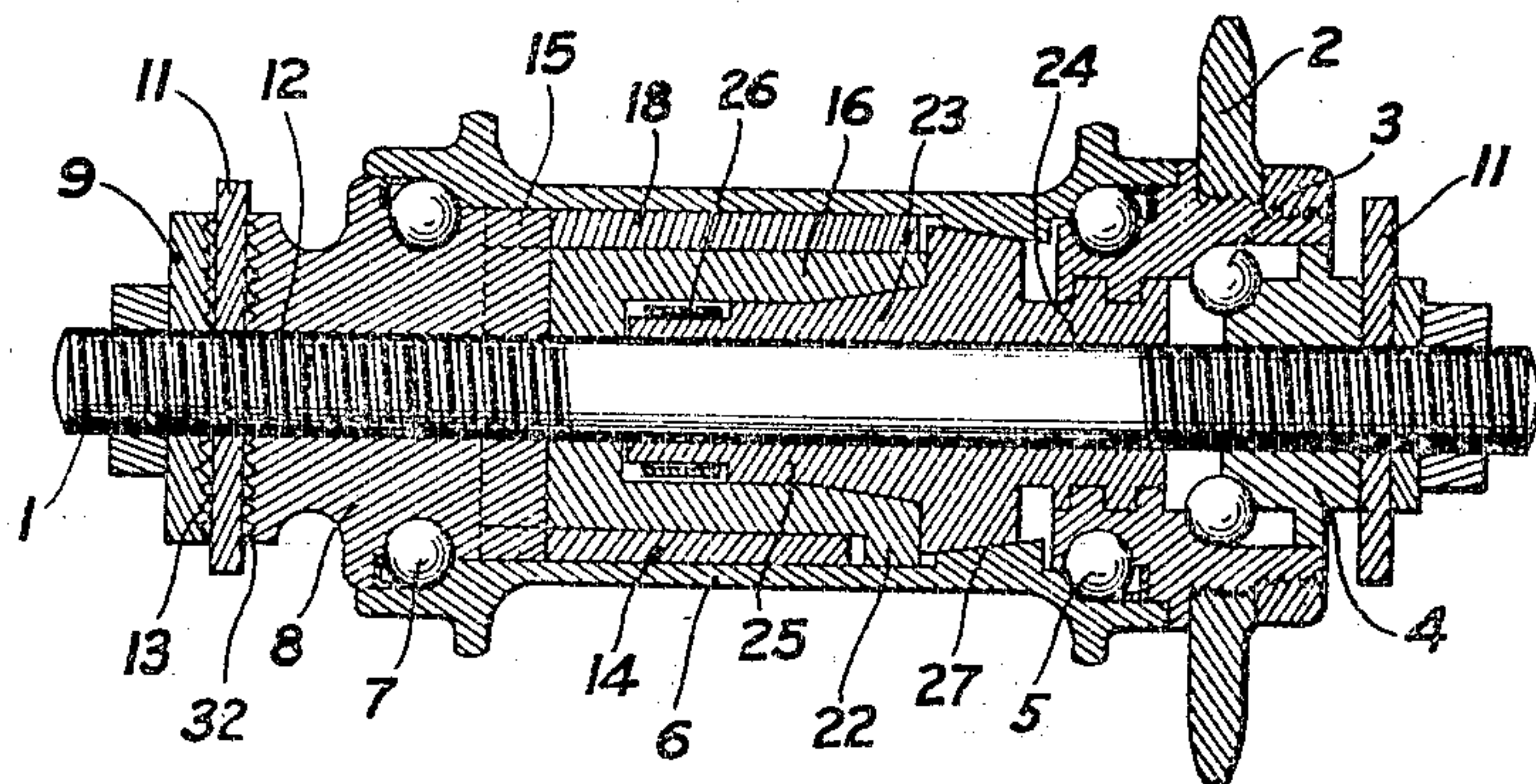


FIG. 2.

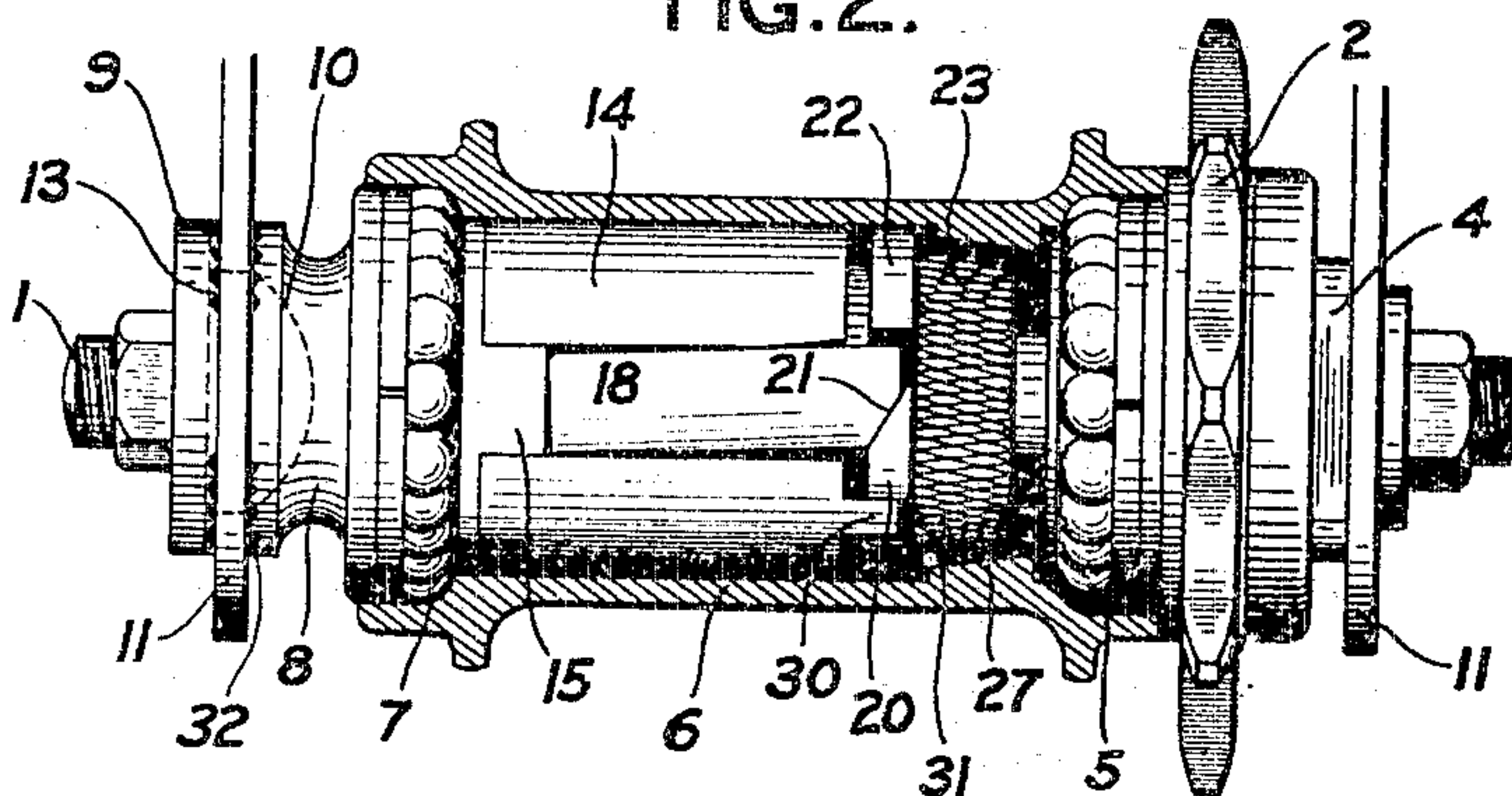


FIG. 3.

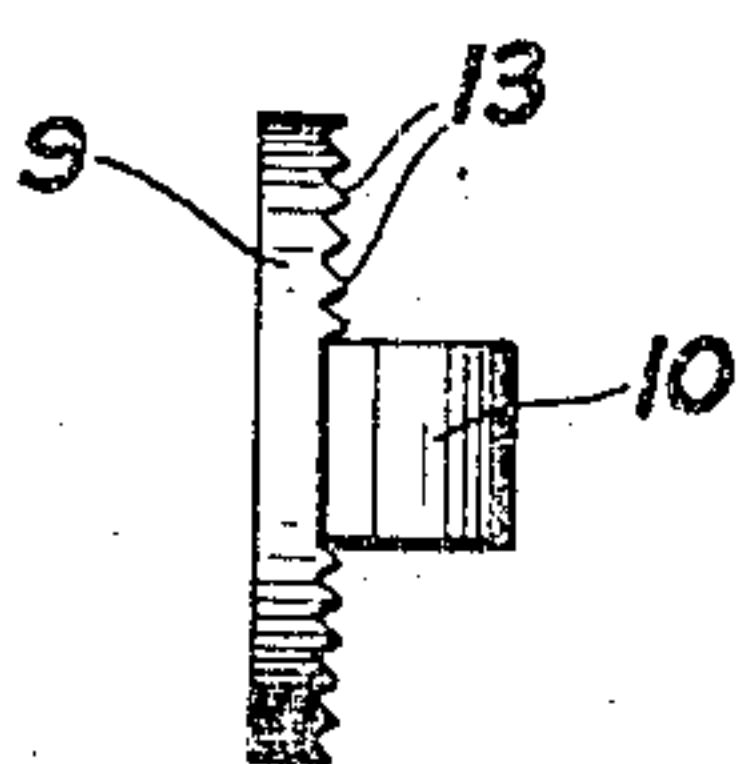


FIG. 4.

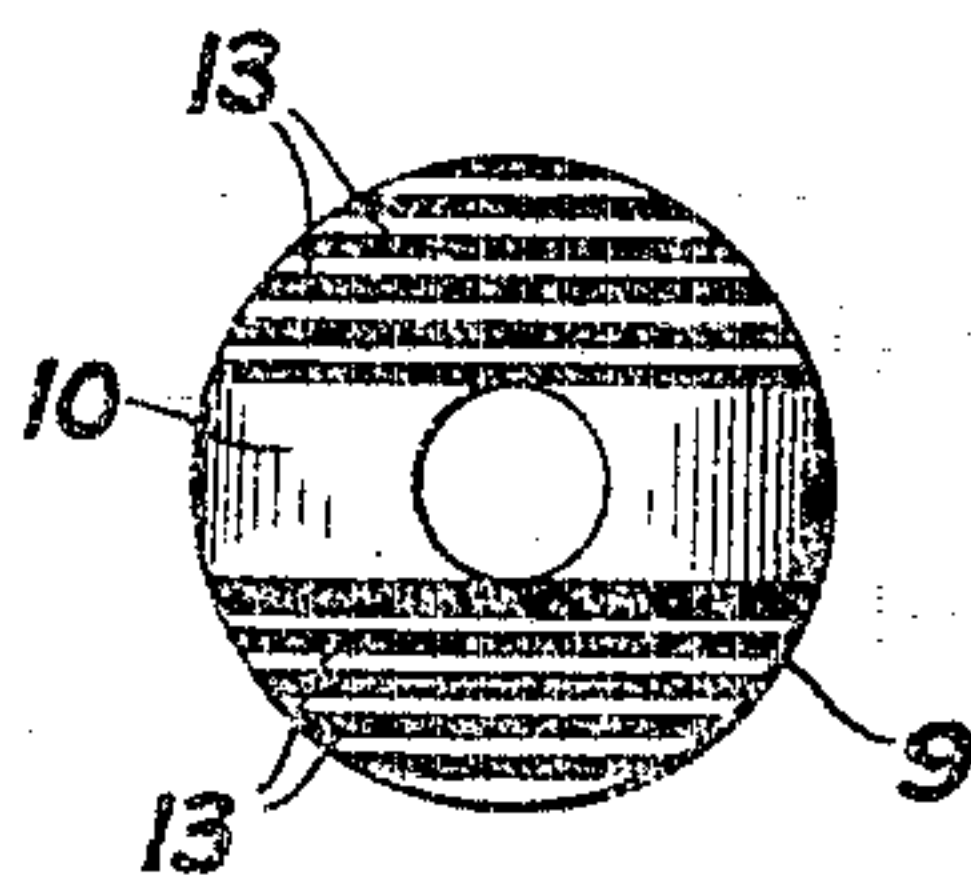
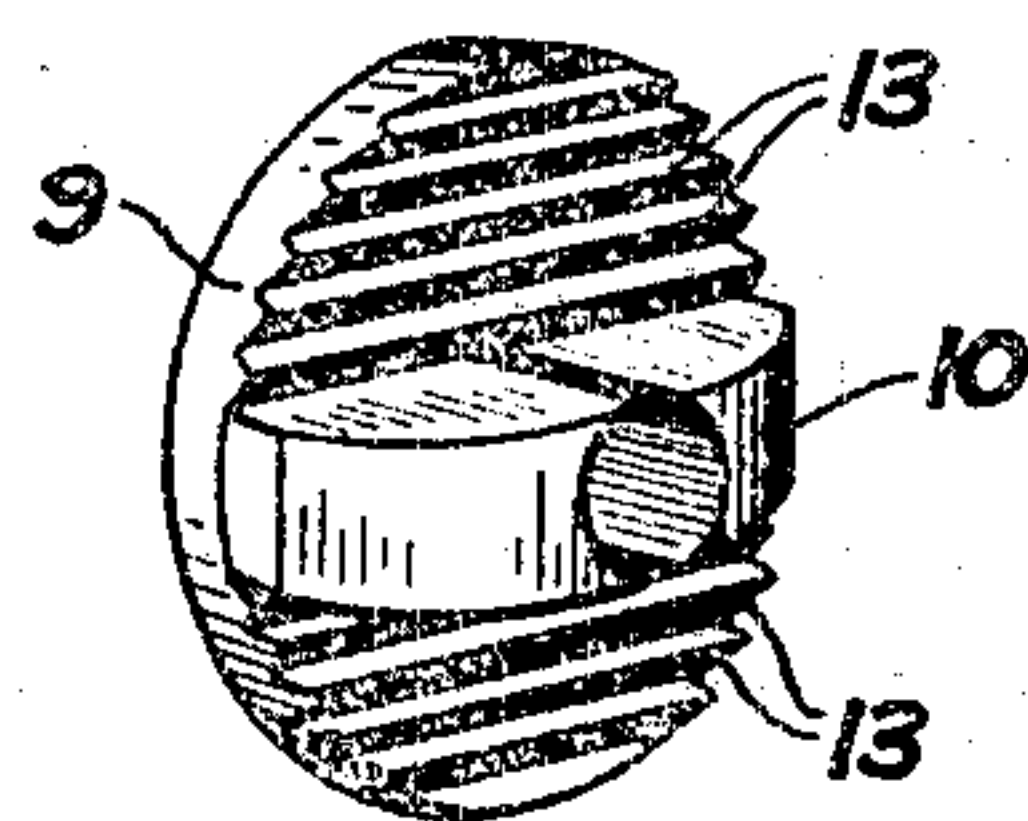


FIG. 5.



WITNESSES:
Clarence W. Carroll.
H. Gurnee.

INVENTOR:
Frederick S. Ellett
by Osgood Davis
his attorney

UNITED STATES PATENT OFFICE.

FREDERICK S. ELLETT, OF ELMIRA, NEW YORK, ASSIGNOR TO ECLIPSE MACHINE COMPANY,
OF ELMIRA, NEW YORK, A CORPORATION OF NEW YORK.

BACK-PEDALING COASTER-BRAKE.

No. 929,663.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed November 16, 1908. Serial No. 462,822.

To all whom it may concern:

Be it known that I, FREDERICK S. ELLETT, a citizen of the United States, and resident of Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Back-Pedaling Coaster-Brakes, of which the following is a specification.

This invention relates to back pedaling coaster brakes, and its object is to dispense with the brake arm ordinarily used for holding the brake member against rotation.

In the drawings:—Figure 1 is a central, longitudinal section of the complete device; Fig. 2 is a similar section of the hub, showing its contents; and Figs. 3 to 5, inclusive, are different views of one of the parts.

The specific means shown in the drawings for retaining the nonrotary brake member against rotation consists of a lock-washer with parallel ribs on its inner face, and a centrally located lug that is adapted to be placed upon the axle outside the bicycle frame, and by projecting through the fork and engaging the nonrotary brake member, so to secure the latter that it cannot rotate on back pedaling. In the drawings filed herewith this lock-washer is shown in connection with the coaster brake mechanism that is described in my pending application Serial No. 430,400, filed May 1, 1908, and is, in fact, the same washer indicated in the drawings of that application. In view of this fact, it is unnecessary to describe in detail the driving and braking mechanism, shown in these drawings, but only sufficiently to make clear how the improvements that are the subject of this application cooperate with the nonrotary member of any brake mechanism, whatever its form or construction may be, in order to hold it against rotation during the operation of applying the brake.

Briefly then, the parts numbered 1 to 7, inclusive, and 14 to 27, inclusive, are those parts of the coaster brake device that are described in detail in my said application Serial No. 430,400, while the parts numbered 8 to 13, inclusive, are the nonrotary brake member and the means for retaining it against rotation; 8 is the nonrotary brake element; 9 the lock-washer; 10 a lug on the inner face of the washer, that is adapted to pass through the usual slot in the end of the rear fork 11 of the velocipede frame, and

enter a corresponding recess 12 in the non-rotary brake member, which thus presents a shoulder on each side of the lug; and 13 ribs on the inner face of the washer to engage the outer side of the fork.

Not only does the projection 10 that connects the washer and brake element itself hold the latter against rotation on back pedaling, because it engages the velocipede frame as well as the brake element, but it also is the means of utilizing the friction between the washer and the frame to resist the torsion on the brake element on back pedaling, because it connects the washer non-rotatably with said brake element. This is important for the force brought to bear upon the lug on back pedaling is sufficient at times to break a lug of moderate size, and may spread the fork, when the lug is passed through the slot in it, as shown in the drawings, if some resistance such as that offered by the washer is not added to that of the lug. Again, both the ribs 13 on the inner face of the washer, and the ribs 32 on the outer face of the brake-element, both of which engage the velocipede frame, are made in the form of raised, sharp edges, on each side of the lug, that are parallel with each other and also with the lug. These ribs, or edges, take hold of the fork on each side of the slot, and resist the tendency of the lug to spread it on powerful back pedaling. When the ribs bite into the fork, as they do in practice, they make sockets for themselves in the fork that greatly help to resist the spreading tendency of the fork under strain. These ribs on the washer also increase the friction between the washer and the fork for the purpose before mentioned, and the connection between washer and brake element insures that the ribs on both will always lie parallel with the slot, which is the position in which they are most effective. Finally, this form of lock establishes a definite position for the brake member, since the recess must always be opposite to the slot in the fork. In some brakes this is a consideration, as in the case of the brake shown, where the lever may fall out of the slot where it lies between the edges of the expansible shell 14, unless the parts are so locked in place that the lever lies uppermost, as shown in the drawings.

What I claim is:—

1. In a coaster brake, the combination with a supporting frame, of an axle carried

thereby; a hub; a brake element and a washer, said brake element and washer being mounted on the axle one on each side of and adjacent to the supporting frame, one
5 of said parts having a shoulder, and the other having a locking projection engaging both the shoulder on the other part and the intervening frame; substantially as shown and described.

10 2. In a coaster brake, the combination with a supporting frame, having an angular slot, of an axle extending therethrough; a hub; a brake element and a washer, said
15 brake element and washer being mounted on the axle one on each side of and adjacent to the supporting frame, one of said parts having a shoulder, and the other a locking projection extending through said slot in the
20 supporting frame into locking engagement with the shoulder on the other part; substantially as shown and described.

3. In a coaster brake, the combination with a supporting frame having an angular slot, of an axle carried thereby; a hub; a
25 washer on the axle, having an inwardly extending projection adapted to register with said slot in the frame and extend beyond it; and a brake member recessed to receive said
30 projection and having a shoulder to engage it whereby the brake member is held against

rotation; substantially as shown and described.

4. In a coaster brake mechanism, the combination with a bifurcated supporting frame or fork, of a brake element on one
35 side of said fork, and a washer on the other side of said fork, one of said last mentioned parts having parallel ribs that are adapted to lie parallel with and engage said fork on
40 both sides of its slot; and locking means extending through said slot and positively connecting the washer and brake element against rotation relative to the frame; substantially as shown and described.

5. In a coaster brake, the combination
45 with a bifurcated supporting frame, of an axle carried therein; a hub; a brake element and a washer, adapted to lie one on each side of and adjacent to the supporting frame, one of said parts having ribs that are parallel with the arms of the frame, and parallel with each other, one of said parts having a shoulder; and a projection from one of
50 said parts, adapted to engage both said frame and said shoulder on the other part; substantially as shown and described.

FREDERICK S. ELLETT.

Witnesses:

D. L. WHITTIER,

A. C. RICE.