

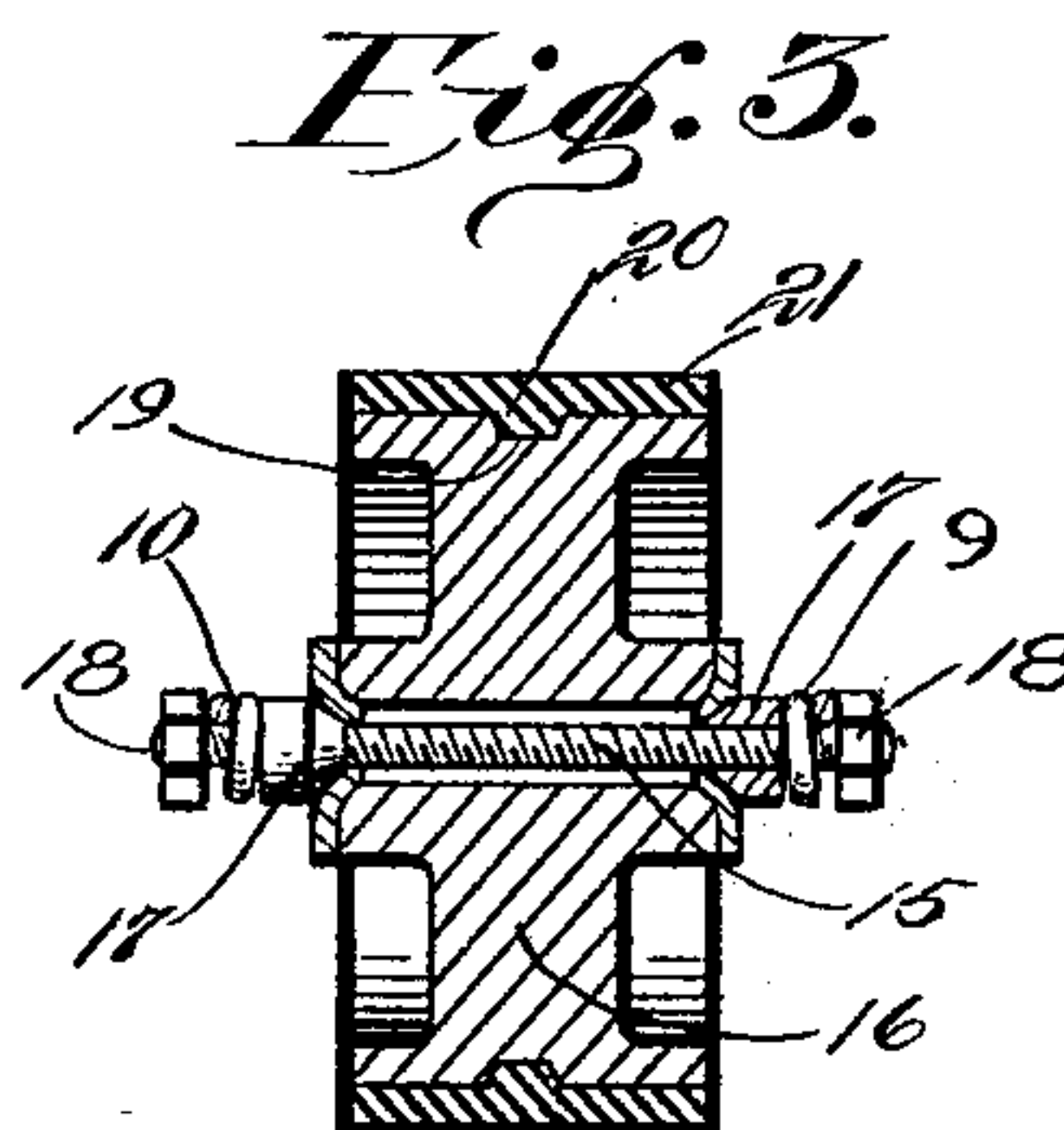
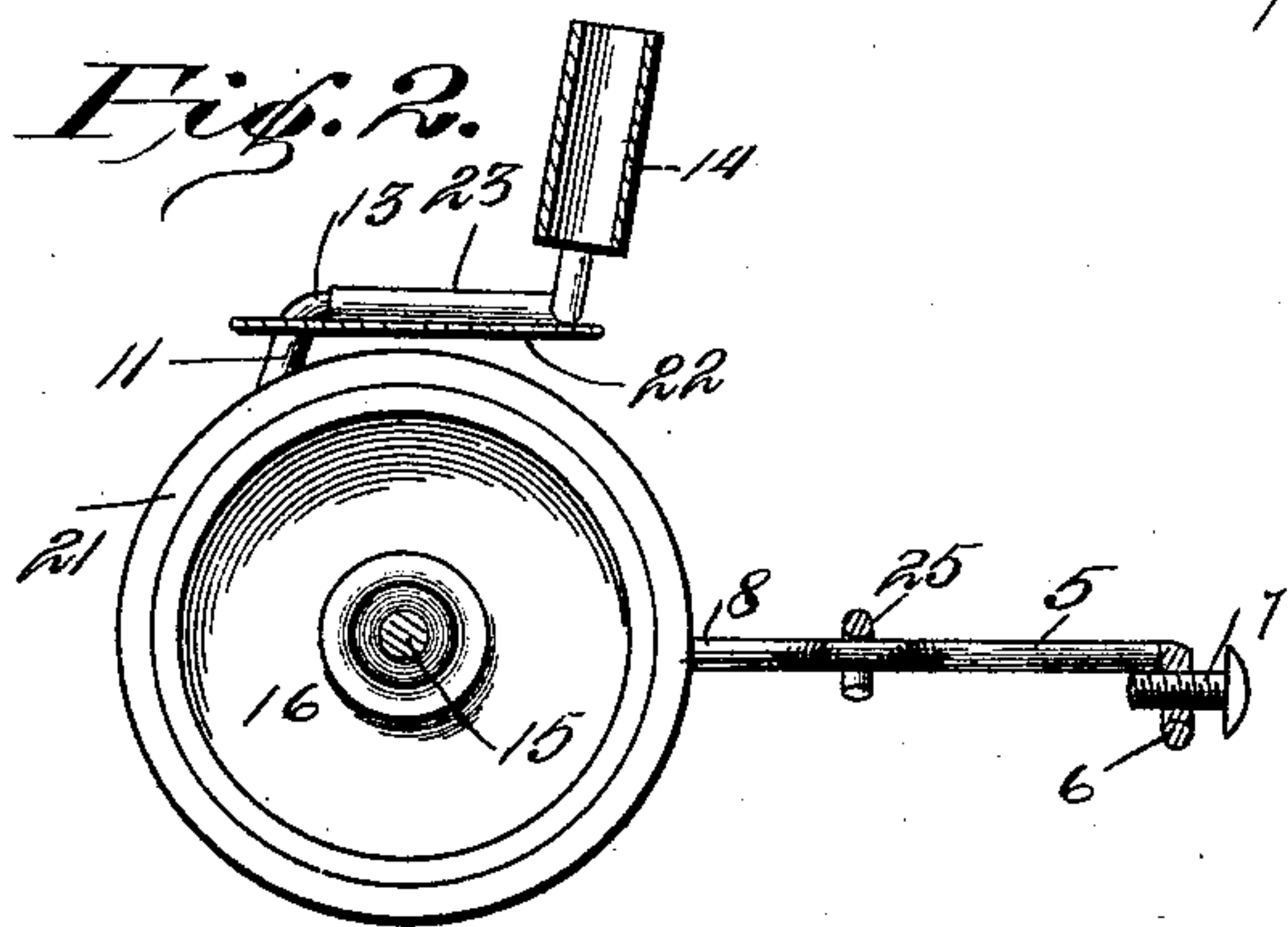
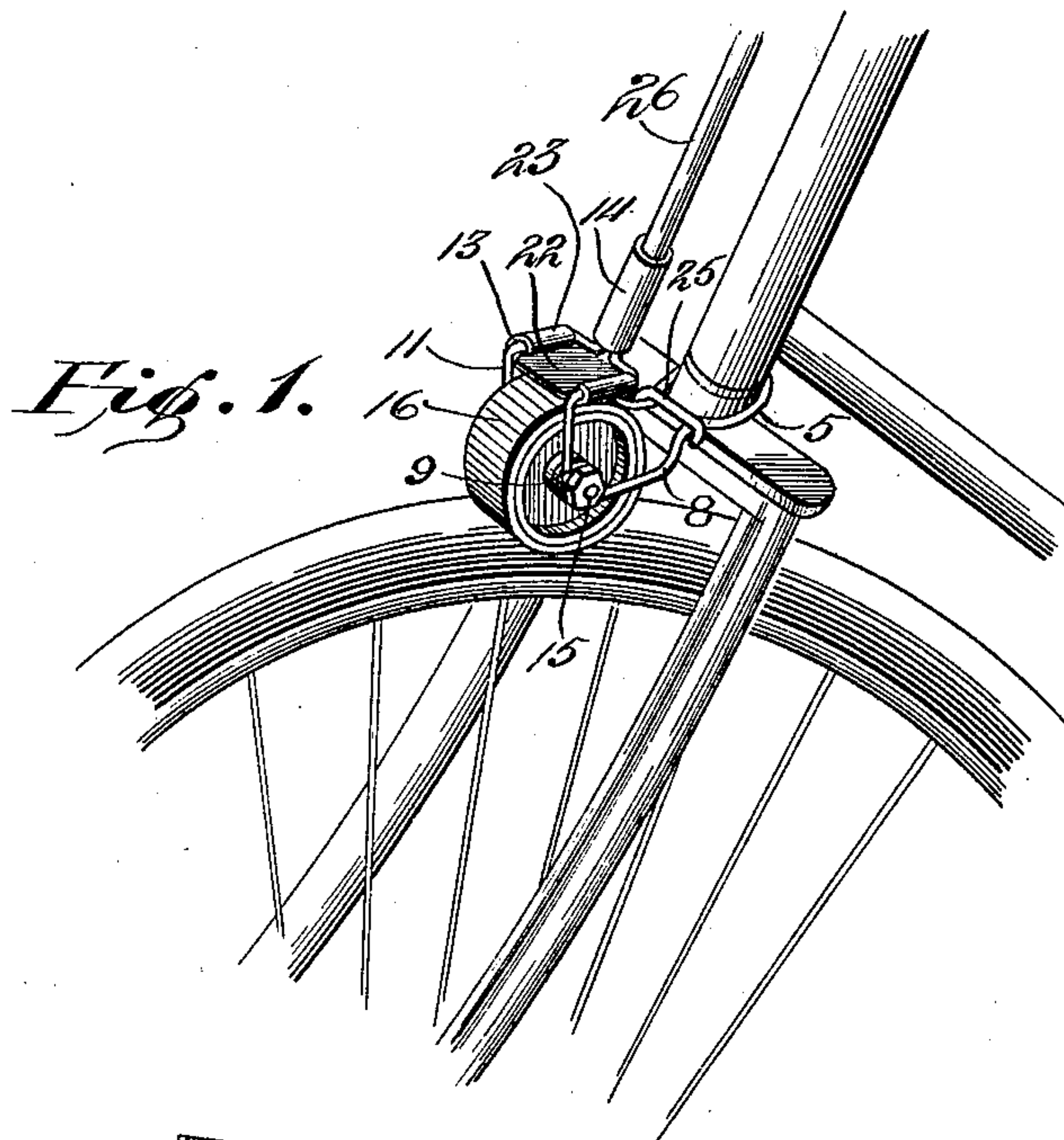
No. 636,494.

Patented Nov. 7, 1899.

G. M. COLLINS.
BICYCLE BRAKE.

(Application filed June 22, 1899.)

(No Model.)



Witnesses

Clarence H. Walker. By his Attorneys

Geo. H. Chandler

George M. Collins Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

GEORGE M. COLLINS, OF DAVENPORT, WASHINGTON, ASSIGNOR OF ONE-HALF TO JOHN E. KEENER, OF SAME PLACE.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 636,494, dated November 7, 1899.

Application filed June 22, 1899. Serial No. 721,479. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. COLLINS, a citizen of the United States, residing at Davenport, in the county of Lincoln and State of Washington, have invented a new and useful Bicycle Roller-Brake, of which the following is a specification.

This invention relates to bicycle-brakes in general, and more particularly to that class known as "roller-brakes;" and it has for its object to provide a brake of this nature which will be simple in its construction and which may be readily applied to and detached from a bicycle-frame and in which, moreover, the supporting-frame will be formed of a single wire or band, with a consequent cheapness and simplicity.

In the drawings forming a portion of this specification, and in which like numerals of reference designate corresponding parts in the several views, Figure 1 is a perspective view of a portion of a bicycle, showing my brake applied thereto. Fig. 2 is a vertical section of the brake with the friction-roller shown in elevation. Fig. 3 is a section of the friction-roller, taken through its axis.

Referring now to the drawings, in constructing a brake in accordance with this invention a supporting-frame is formed of a wire band, which is bent midway of its ends to form a loop 5, the central portion of which at the rear is bent downwardly and upwardly, as shown at 6, to form a second loop at right angles to the loop 5, through which is passed a set-screw 7 for the attachment of the frame or bracket to the stem of the fork-crown of a bicycle. From the ends of the loop 5 the material of the frame is bent outwardly and then forwardly to lie parallel, as shown at 8, and is then bent to form two co-axial loops 9 and 10, from each of which the material is then continued upwardly at right angles to the extensions 8 for a distance somewhat greater than the length of the radius of the friction-roller to be supported thereby, from which upwardly-extending portions 11 the material is bent backwardly to lie parallel with the portions 8 and to project over them, as shown at 13, the ends being then brought inwardly and then turned upwardly at right angles to enter a coupling-collar 14.

The axis of the loops 9 and 10 is at right angles to the planes containing the extensions 8 and 11, and passed through these loops is an axle 15, upon which is arranged a roller 16, having a frusto-conical depression in each of its faces adapted to cooperate with cones 17 to form cone-bearings. The cones 17 are threaded upon the axle 15 for adjustment longitudinally thereof to compensate for wear of the bearing and are held fixedly through the medium of clamping-nuts 18 upon the ends of the axle 15 and which nuts impinge the loops 9 and 10 and clamp them upon the bases of the cones. The supporting frame or bracket described is of spring material, which permits this operation.

The roller 16 has a peripheral groove 19, which is angular in cross-section and in which is seated a similar flange 20 upon the inner surface of a rubber tire 21, arranged upon the wheel, although this tire may be of any other desired material.

Connecting the extensions 13 of the supporting frame or bracket is a plate 22, having its end curved upwardly and inwardly to form cylindrical eyes 23, which inclose the extensions 13, the plate 22 lying upon the lower side of said extensions and being separated from the roller 16 by a slight interspace.

In practice the loop 5 is slipped over the stem of the fork-crown of a bicycle, and a clip 25, consisting of a straight wire having its ends bent to lie parallel with the body thereof, has its ends engaged with the material of the frame at the extremities of the loop 5, thus preventing spreading of the loop, the shoulders formed by the outward turning of the material at this point preventing the clip sliding forwardly of the frame. When the frame is in this position, the clamp-screw 7 is operated to engage the stem of the fork-crown and hold the same fixedly in place. The position of the roller-supporting frame is such that the roller will project outwardly and over the front wheel of the bicycle and will be but slightly separated therefrom. The usual brake-operating rod 26 is then disposed in the coupling 14, when it will be seen that by pressing said rod downwardly the elasticity of the frame of the device will permit the plate 22 to engage the surface of the roller

after the roller has engaged the tire of the bicycle-wheel. The first pressure of the rod 26 bends the extensions 11 slightly, but bends the extensions 8 to a greater extent and presses
5 the roller 16 into engagement with the bicycle-wheel. Continued pressure engages the plate 22 with the roller. The plate will thus retard the rotation of the roller 16, which will revolve with the wheel of the bicycle and will
10 hence retard the rotation of the latter. The slip in the device, due to the nature of the engaging surfaces, will be substantially all between the roller 16 and the wheel of the bicycle.

15 It will be seen that the construction is very cheap in its manufacture, while at the same time it is simple and effective, is not susceptible to disorder, and does not wear the tire of bicycle appreciably.

20 Having thus described the invention, what is claimed is—

1. A bicycle-brake, comprising an elastic frame including a loop adapted to receive the stem of a fork-crown, arms extending from
25 the ends of the loop and having additional coaxial loops therein, said frame being continued upwardly from the second loops and then rearwardly and then inwardly and upwardly to receive an operating-rod, an axle in the

second loops, a rotatable body mounted on 30 said axle, and a plate fixed to said rearwardly-extending portion of the frame and adapted to engage and depress the rotatable body.

2. A bicycle-brake, comprising a wire, the central portion of which is bent to form a loop 35 and having a downwardly-extending portion provided with a threaded eye adapted to receive a clamping-screw, the ends of said loop being bent outwardly and then parallel and having additional and coaxial loops at the 40 ends of said parallel portions, the ends of the wire being then bent upwardly and rearwardly and then inwardly, and having their terminals extending upwardly and in mutual contact, an operating-rod connected with said 45 terminals, an axle arranged in the coaxial loops, a rotatable body mounted upon the axle, a plate fixed to the rearwardly-extending portions of the wire, and a link inclosing the wire at the ends of the first-named loop. 50

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE M. COLLINS.

Witnesses:

J. E. FRASER,
E. N. INNES.