

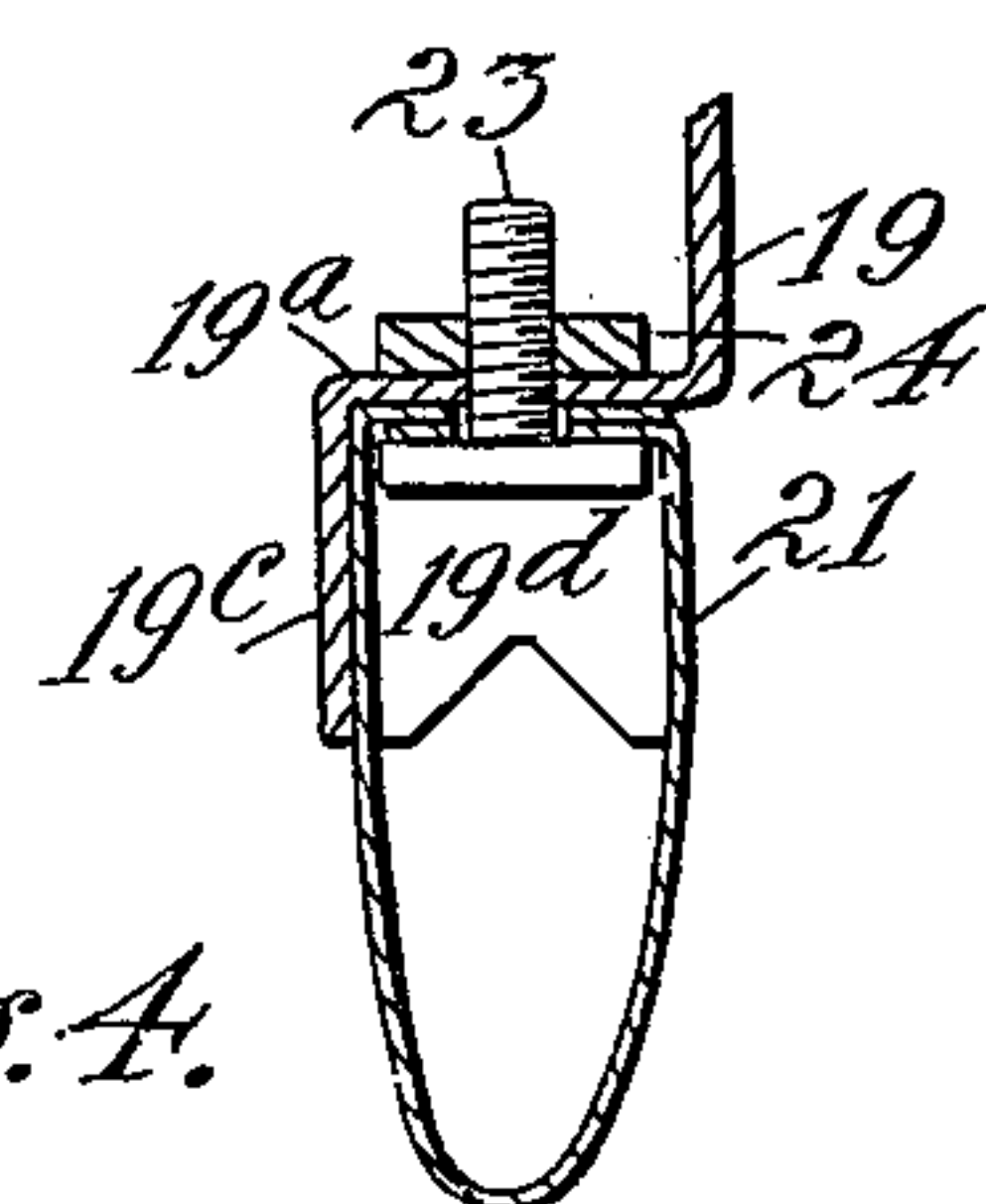
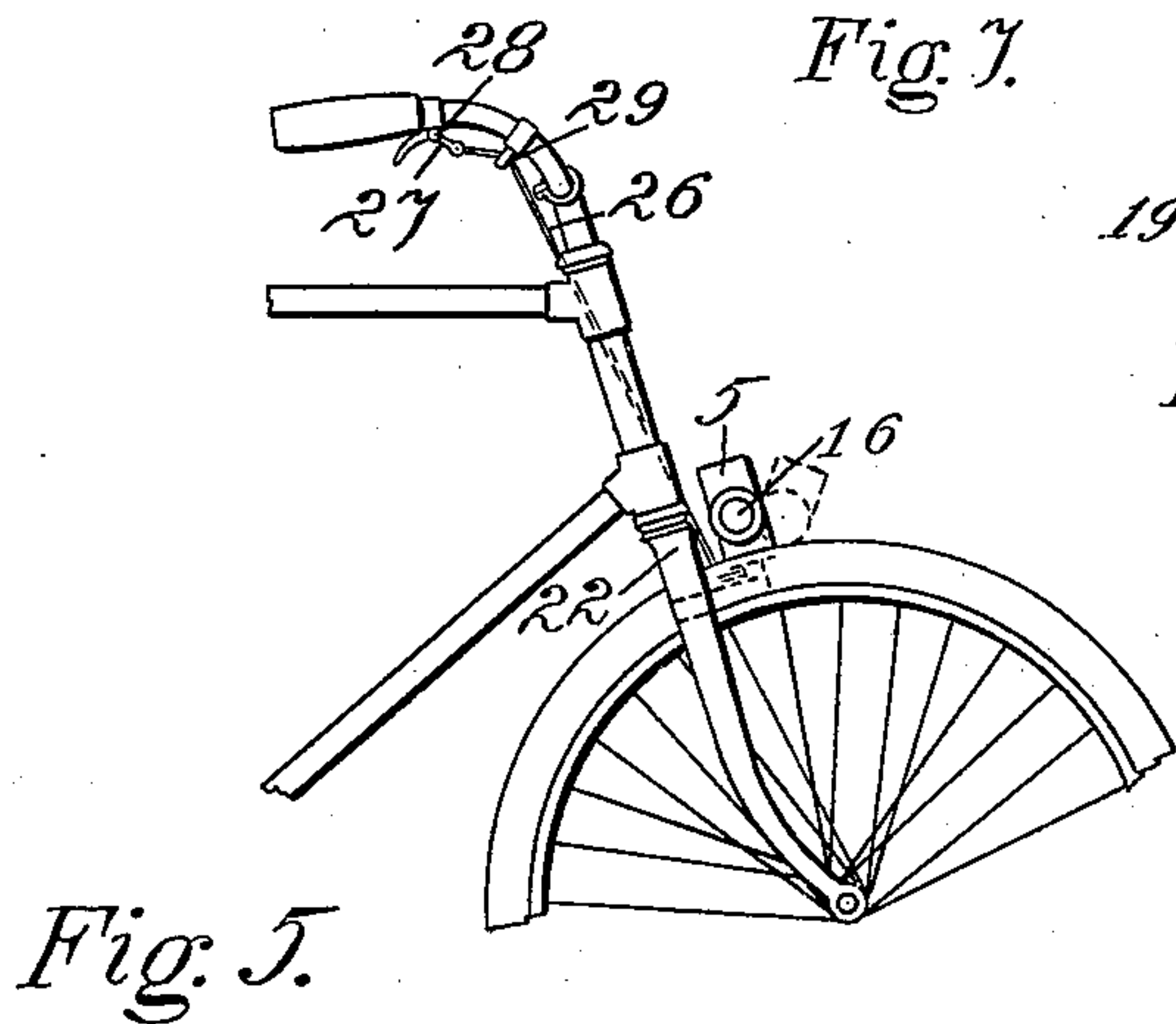
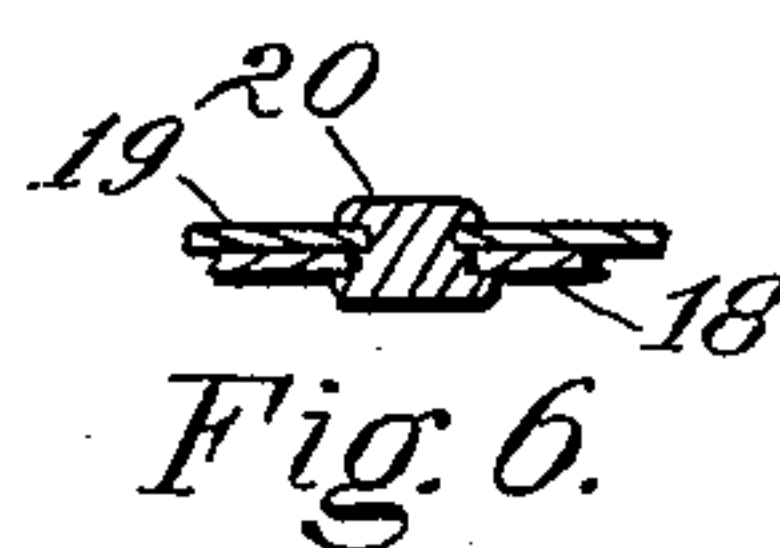
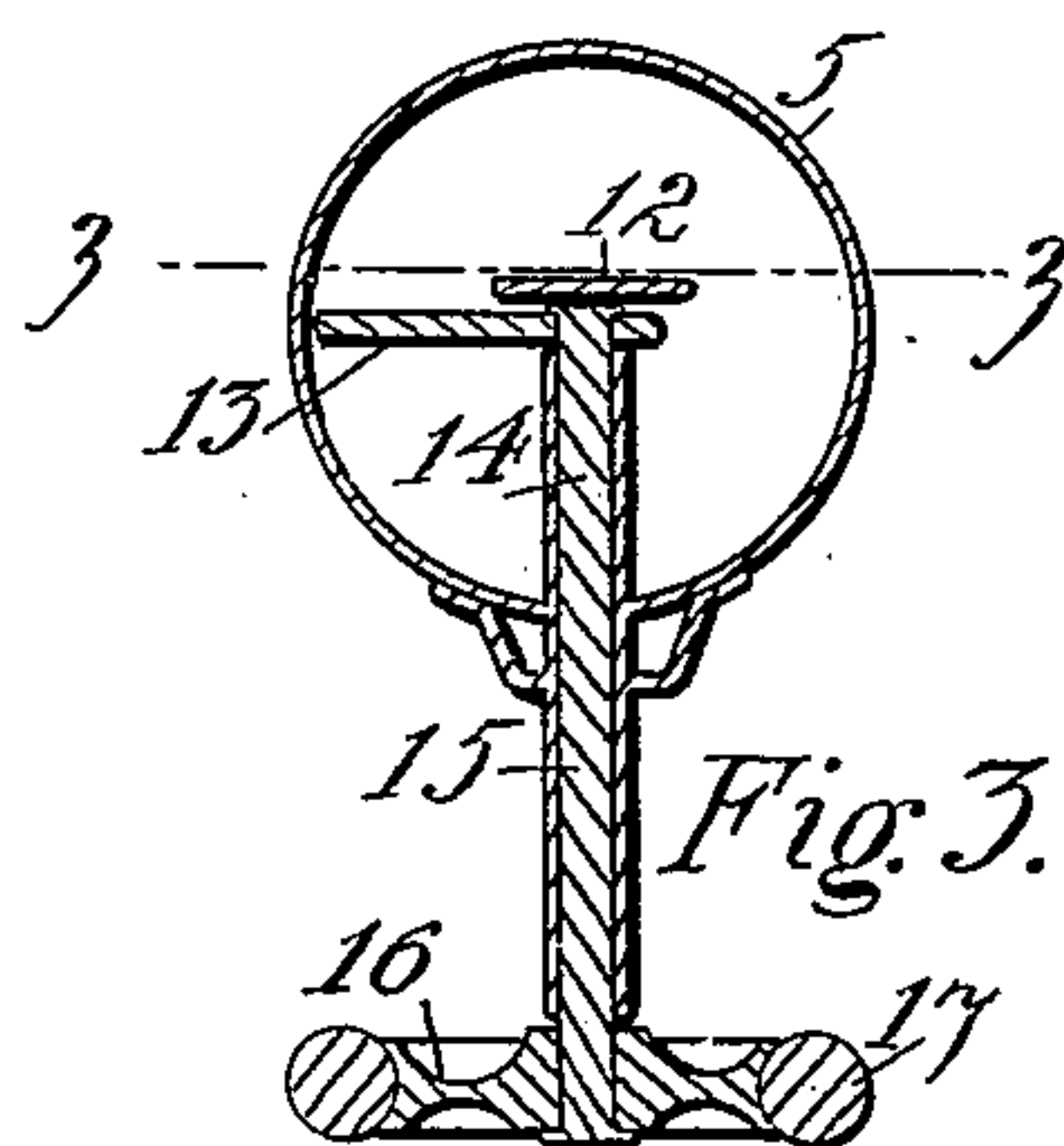
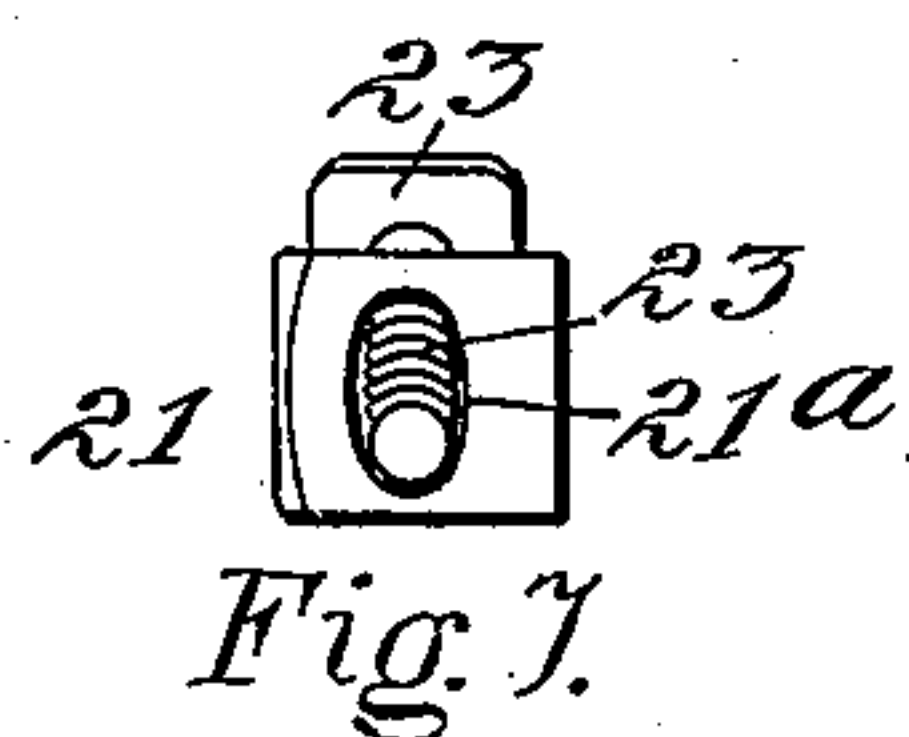
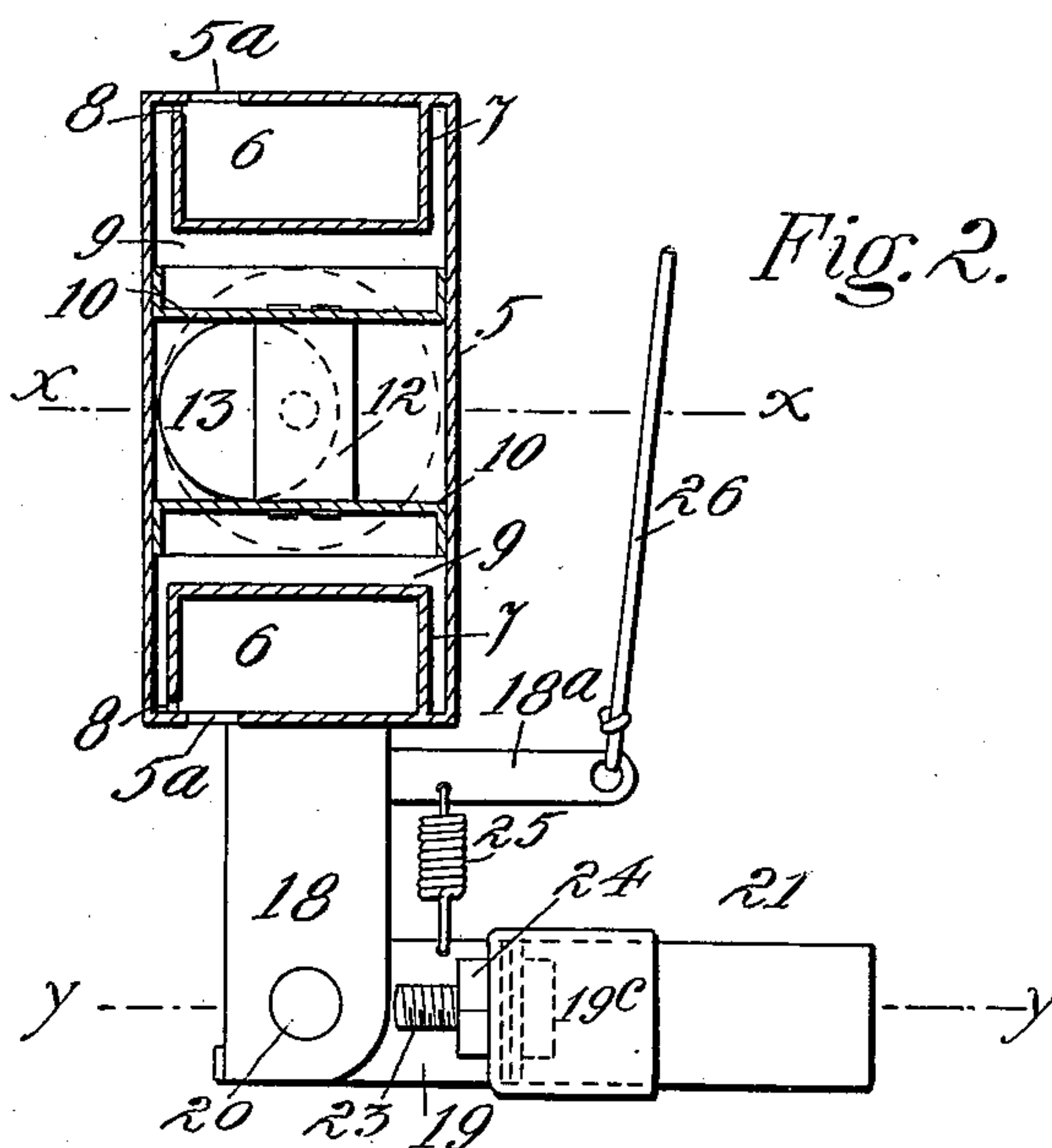
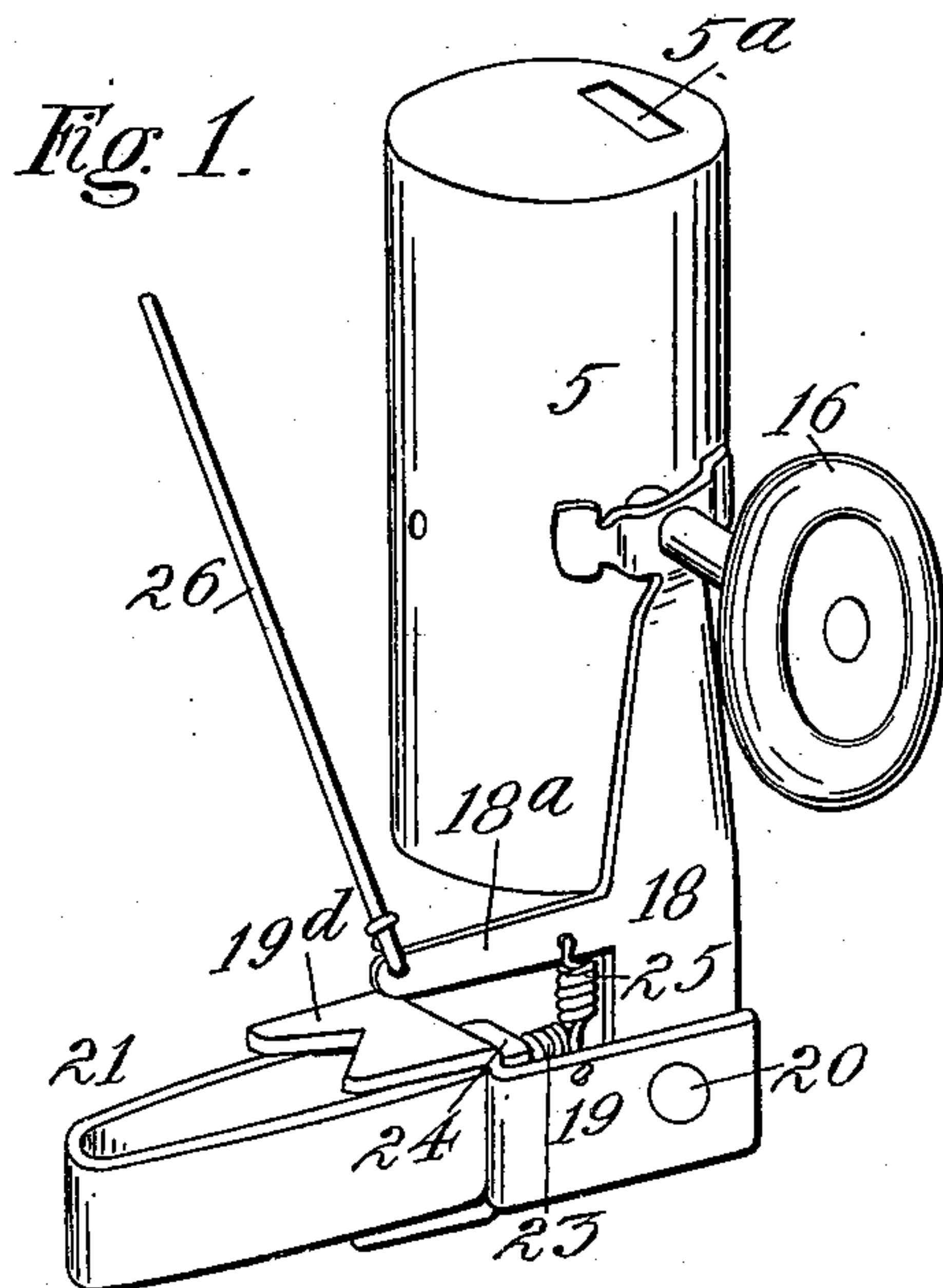
No. 636,487

Patented Nov. 7, 1899.

J. M. BUTCHER.
ALARM MECHANISM.

(Application filed Mar. 7, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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ALARM MECHANISM.

SPECIFICATION forming part of Letters Patent No. 636,487, dated November 7, 1899.

Application filed March 7, 1899. Serial No. 708,096. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. BUTCHER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Alarm Mechanism; 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 invention relates to improvements in alarms of the whistling class, and while more especially intended for use in connection with bicycles may be employed to advantage in other relations where alarms are needed.

The apparatus herein set forth, in which my invention is embodied, comprises a casing having a chamber in each extremity communicating with the atmosphere by way of an orifice formed in the casing-head and with the interior of the chamber by way of another orifice; a reciprocating piston located in the chamber of the casing, consisting of two separated members rigidly connected; a disk located between the piston members and eccentrically mounted on a spindle journaled in the casing, whereby the rotation of the spindle turns the disk which actuates the piston, thus forcing the air into the end chambers of the casing and out through the openings in the casing-heads with a whistling sound; a friction-wheel fast on the exteriorly-protruding extremity of the spindle; an arm clamped to the frame of the bicycle; a depending arm rigidly attached to the casing and pivotally connected with the clamp-arm; a spring connecting the two arms and normally maintaining them in a position at right angles or approximately at right angles to each other, and a lever mounted on the handle-bar of the bicycle and connected by means of a cord with a projection on the depending arm of the casing, whereby as the lever is actuated the casing is thrown downward in the arc of a circle, whereby the friction-wheel on the spindle is brought into engagement with the tire of the front wheel of the bicycle. When the bicycle is moving,

it is evident that this will result in the rapid reciprocation of the piston and the alternate forcing of the air out of the opposite ends of the casing with a whistling sound.

This construction will now be described in detail, and the novel features subsequently pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved whistle, the operating-cord being shown attached. Fig. 2 is a longitudinal section taken through the casing on the line Z Z, Fig. 3. Fig. 3 is a section taken on the line X X, Fig. 2. Fig. 4 is a section taken on the line Y Y, Fig. 2. Fig. 5 illustrates my improvement applied to a bicycle, the operating position of the casing and friction-wheel being indicated by dotted lines. Fig. 6 is a section taken through the pivot pin or rivet connecting the depending arm of the casing with the arm attached to the clamp. This section is also taken on the line Y Y, Fig. 2. Fig. 7 is an end view illustrating the clamp, showing the elongated opening through which the bolt is passed for connecting the horizontal arm with the clamp.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the casing, whose extremities are each provided with an opening 5^a, leading to an interior whistle-chamber 6, inclosed by an auxiliary casing 7. The main chamber 9 communicates with each chamber 6 by way of an orifice 8. In the main chamber 9, between the auxiliary end chambers, is located a piston composed of two members 10, connected by a plate 12. Located between these two piston members is a disk 13, eccentrically mounted on a spindle 14, journaled in a sleeve 15, made fast to the casing and having an interior and an exterior projection. To the outer extremity of this spindle is attached a friction-wheel 16, preferably provided with a rubber tire 17.

Attached to the casing and projecting downwardly therefrom is an arm 18, whose lower extremity is pivotally connected with an arm 19 by means of a rivet-pin 20. The arm 19 is provided with a socket adapted to receive one extremity of a clamp 21, adapted to surround an arm 22 of the front fork of the bicycle. This clamp is formed from a piece of sheet

metal bent to the proper shape and whose extremities overlap each other and are provided with elongated registering openings adapted to receive a bolt 23, which passes through the end wall 19^a of the socket connected with the arm 19. This clamp extremity is further surrounded by a side wall 19^c and a top and a bottom wall 19^d, notched to engage the fork-arm 22. The clamp 21 is secured to the end wall 19^a by a nut 24. The arm 18 is provided intermediate its extremities with a projection, which is connected with the arm 19 by a spring 25. The outer extremity of this projection is connected with a cord 26, whose opposite extremity, after passing through a guide 29, is attached to one arm of a lever 27, fulcrumed on the handle-bar at 28. By pressing one arm of this lever the cord 26 is drawn upward sufficiently to turn the arm 18 on the arm 19 and throw the friction-wheel 16 into contact with the turning wheel of the bicycle, causing the wheel 16, the spindle 14, and the disk 13 to rotate. This rotation of the disk actuates the piston and produces the whistling sound in the manner heretofore explained.

The purpose of the elongated opening 21^a in the end of the clamp 21 is to facilitate the insertion of the fastening-screw 23 after the clamp has been passed around the fork-arm.

The rivet 20 is shouldered to prevent the parts 18 and 19 from being riveted so tightly together as to interfere with perfect freedom of movement.

Having thus described my invention, what I claim is—

1. An alarm mechanism comprising a casing having a whistling-chamber in each extremity communicating with the outer air by way of an orifice formed in the head of the casing and communicating with the main chamber by another orifice, a piston having two separated members suitably connected, a revoluble disk located between said members and having its periphery in contact with both, a spindle journaled in the casing, the disk being eccentrically mounted on the spindle, and means for rotating the spindle for the purpose set forth.

2. An alarm mechanism comprising a casing having a whistling-chamber in each extremity communicating with the outer air by way of an orifice formed in the end of the casing and with the main chamber by another orifice, a piston having two separated members suitably connected, a revoluble disk located between said members and having its periphery in contact with both members, a spindle journaled in the casing, the disk being eccentrically mounted on the spindle,

and means for rotating the spindle comprising an exterior friction-wheel fast on the spindle adapted to be brought into contact with the rotating part.

3. A bicycle-alarm comprising a casing having a whistling-chamber communicating by an orifice with the outer air and communicating by another orifice with the main chamber, a reciprocating piston composed of two separate members, a disk located between said members which are operated by the engagement of its periphery, a spindle journaled in the casing and upon which the said disk is eccentrically mounted, an exterior friction-wheel fast on the spindle, a clamp arranged to fasten the device to the frame of a bicycle in proximity to one of the wheels, and a suitable connection between the casing and clamp whereby the movement of the casing in the arc of a circle brings the friction-wheel into contact with the tire of the bicycle-wheel.

4. The combination with a casing constructed to produce a whistling sound as the air is forced out of it, a piston composed of two separated members located in said casing, a disk located between the said members and having its periphery in contact with both members, a spindle upon which the disk is eccentrically mounted, and means for rotating the spindle.

5. In a bicycle-alarm mechanism, the combination with a casing constructed to emit a whistling sound as the air is forced out from within, a reciprocating piston composed of two separated members, a disk located between the members, which are operated by the engagement of its periphery, a spindle journaled in the casing and upon which said disk is eccentrically mounted, and an exterior friction-wheel fast on the spindle, of a clamp adapted to connect the device with the bicycle-frame, a depending arm attached to the casing and pivotally connected with the clamp-arm, the depending arm being provided with a projection, a spring connecting said projection with the clamp-arm, a lever mounted on the handle-bar, and a flexible connection between said lever and the projection on the depending arm of the casing whereby the pulling of the cord actuates the casing in the arc of a circle and throws the friction-wheel into contact with the bicycle-wheel.

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

JAMES M. BUTCHER.

Witnesses:

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