No. 640,702. Patented Jan. 2, 1900.

J. W. ROGERS.

DRIVING MECHANISM FOR BICYCLES.

(Application filed Feb. 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

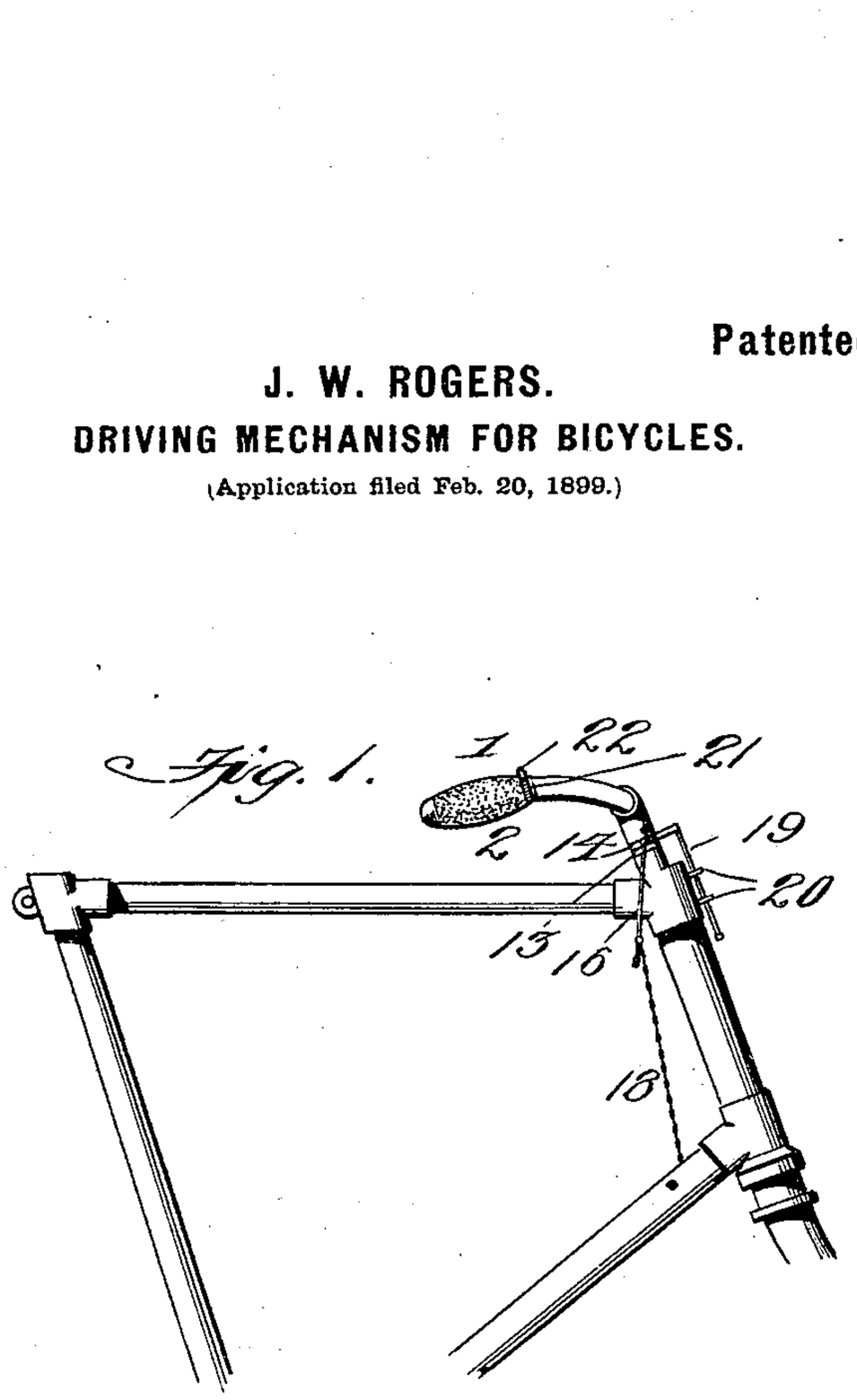

Fig. 2.

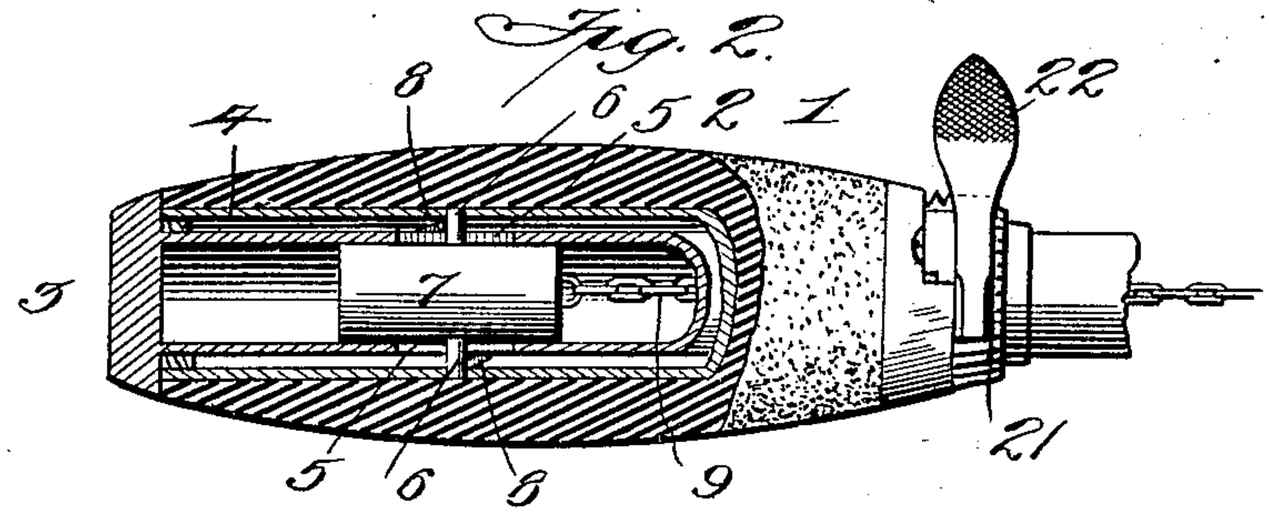

Fig. 3.

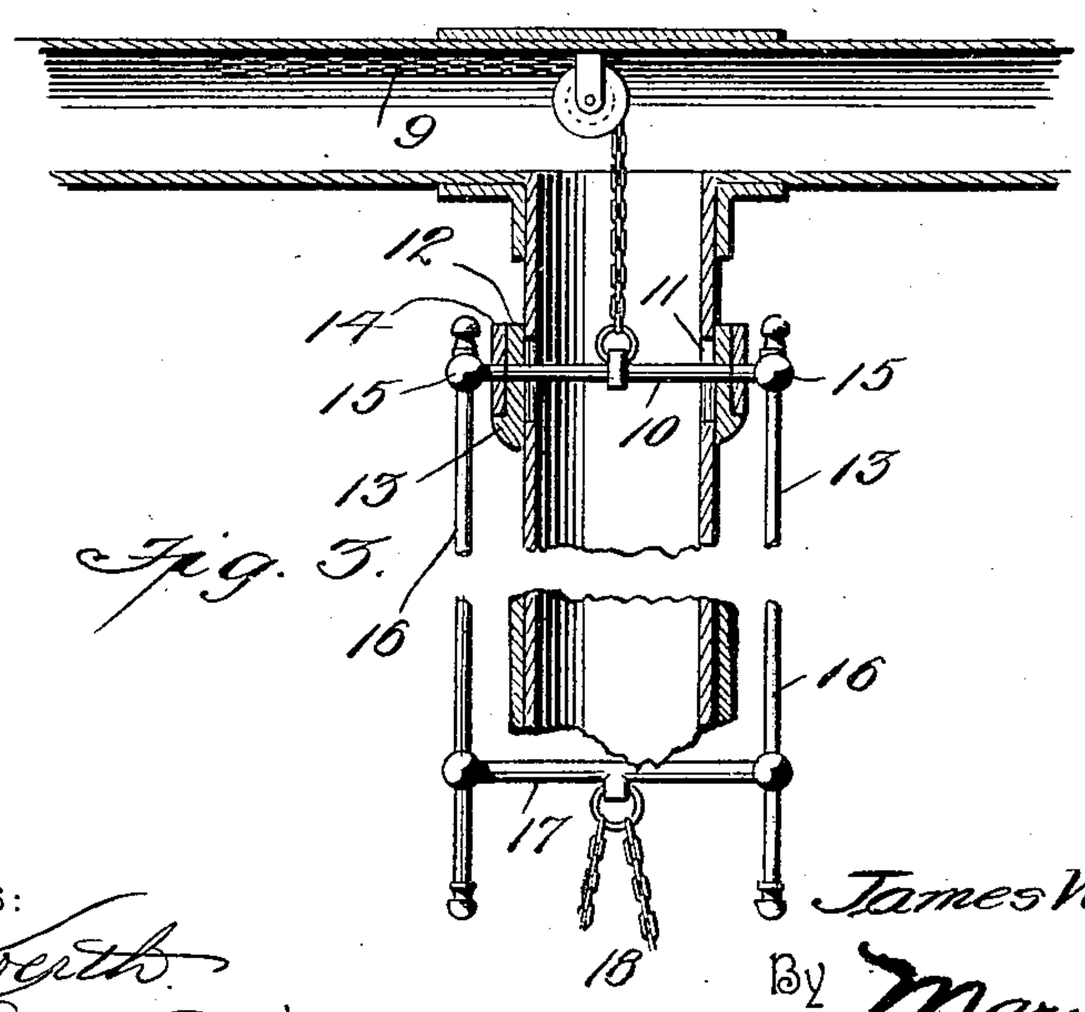

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Fig. 4

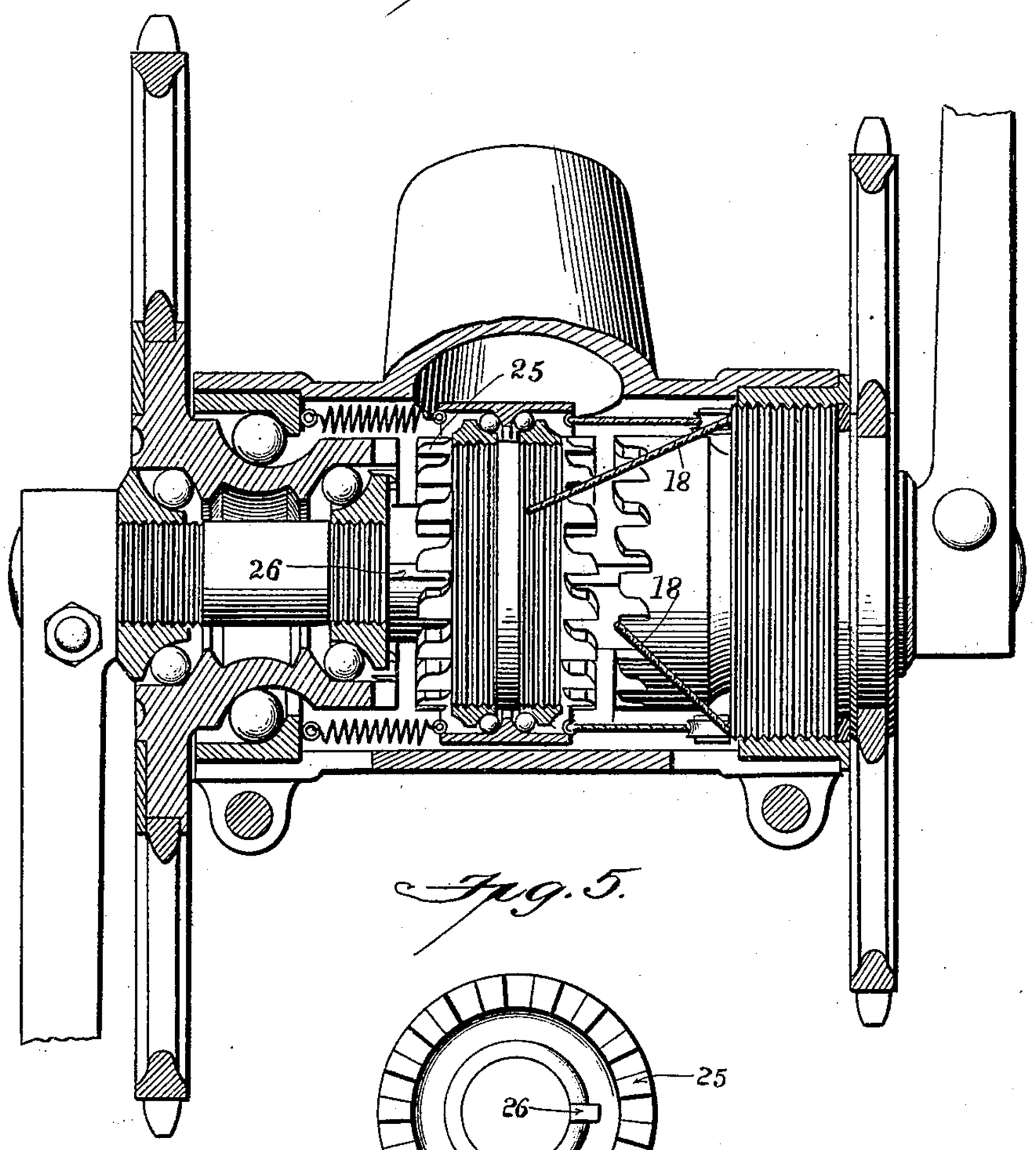

Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES WILBERT ROGERS, OF TORONTO, CANADA, ASSIGNOR OF ONE-HALF TO MICHAEL KOPPELMAN, OF HAMPTON, CANADA.

DRIVING MECHANISM FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 640,702, dated January 2, 1900.

Application filed February 20, 1899. Serial No. 706,294. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILBERT ROGERS, a subject of Her Majesty the Queen of Great Britain, residing at Toronto, county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Driving Mechanism for Bicycles; and I do hereby 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.

My invention relates to improvements in bicycles, and has particular relation to mechanism for changing the position of the parts of a speed-changing gear.

The object of my invention is to provide a device of this character which can be operated by the rider without dismounting, which is operated from one of the handle-bars, which is neat and attractive in appearance, simple and efficient in operation, durable in construction, and which can be manufactured and applied at a low cost of manufacture.

To these and other ends my invention consists in the improved construction and combination of parts hereinafter fully described and particularly pointed out in the appended claims.

In the drawings, in which similar numerals of reference indicate similar parts in all of the figures, Figure 1 is a side elevation of a bicycle having my improvements in position. Fig. 2 is a sectional detail view of the handle-bar containing the operating mechanism. Fig. 3 is a vertical sectional view of the head. Fig. 4 is a sectional view of a changeable gear to which the attachment is particularly applicable. Fig. 5 is a detail of one of the parts of the gear shown in Fig. 4.

The present construction is particularly applicable for use in connection with a changeable gear in which the parts are normally held in one position and are drawn into a different position by mechanism connected to the handle-bar. Such a construction is shown in Figs. 4 and 5; but no claim is made herein for the changeable gear or its precise construction, that forming the subject-matter of a separate application.

In the drawings, 1 designates the handle-bar, having one of its grips 2 arranged substantially as shown in Fig. 2. The end of the handle-bar is provided with a ring 3, around which is located a tubular portion 4, the grips 2 being connected to said portion. The handle-bar is provided with longitudinally-extending slots 5 to receive radially-extending pins 6, secured to a cylindrical portion 7, slidably mounted in the handle-bar, as shown. The ends of the pins 6 extend into suitable inclined slots 8, formed in the tubular portion 4, as shown. By this construction it will be readily seen that if the grip 2 be rotated, carrying with it the tubular portion 4, the pins 6 will necessarily change position, owing to the use of the inclined slots 8, this change of position being only in a longitudinal direction, the slots 5 preventing said pins from moving in rotatorially, the movement of the pins being in a direct longitudinal line, imparting a similar movement to the portion 7.

The portion 7 is connected by means of a suitable rope or chain 9, passing through the handle-bar, to the head of the bicycle, where the chain is connected to a sliding bar 10. The sliding bar 10 extends diametrically across the handle-bar shank through suitable vertical slots 11, formed therein, and is secured to a collar 12, slidably mounted on said shank, said collar being provided with an annular flange 13 to support a ring 14, loosely mounted on said collar 12. The ring 14 is provided with pins 15, extending radially therefrom, to which are secured downwardly-extending bars 16, having their lower ends connected by a cross-bar 17, adjustably mounted on said bars. To the cross-bar 17 are connected the chains or ropes 18, leading to the changeable gear.

To prevent any shortening of the connections by torsion when the handle-bar is turned, I provide the ring 14 with a downwardly-extending rod 19, which passes through suitable eyes 20, secured on the head of the bicycle.

It will be readily seen that when the handle-bar is turned in steering, the collar 12 will be turned with the moving shank, carrying with it the bar 10. By the securing of the ring against rotation relative to the head of the bicycle by means of the rod 19 the turning move-

ment of the handle-bar is not communicated to the ring, the collar 12 having a rotary movement within said ring, yet serving to raise said ring when the grip 2 is rotated, as heretofore explained. The return or downward movement of the ring and the return of the parts to their normal positions are accomplished by means of the springs, &c., located in the gear.

In order that the parts of the changeable gear may be held in either of their adjusted positions, I provide the handle-bar 1 with a suitable ratchet-toothed surface 21, upon which a spring-pressed ratchet-pawl 22, mounted on the grip 2, is adapted to operate, the pawl being adapted to hold the grip in any of its positions until released by the thumb of the rider.

The changeable gear shown in the drawings is one in which three positions may be secured, these positions being, first, the normal position when the sliding gear is in contact with the connecting-gear on the left, the second position being shown in Fig. 4, in which the sliding gear is not connected to either gear, this position being the one assumed in coasting, the third position being when the sliding gear is in contact with the gear on the right.

The advantages of this construction are self-evident, and it is believed to be unnecessary to set them forth in detail.

While I have herein shown a preferred form of carrying my invention into effect, yet I do not desire to limit myself to such preferred details of construction, but claim the right to use any and all modifications thereof which will serve to carry into effect the objects to be attained by this invention in so far as such modifications and changes may fall within the spirit and scope of my said invention.

Having thus described my invention, what I claim as new is—

1. In a bicycle, the combination with a changeable gear; of a rotatable handle-grip; a collar operatively connected to said grip, the rotary movement of said grip imparting a vertical sliding movement of said collar on the handle-bar shank; a ring mounted independently on said collar and held in fixed position relatively to the head of the bicycle, said ring being subject to the vertical movement of said collar and connections between said ring and the speed-changing gear, whereby a rotary movement of said grip will move said speed-changing gear, substantially as described.

2. In a bicycle, the combination with a changeable gear; of a rotatable handle-grip having an adjustable movement; means for retaining said grip in its adjusted position; a collar operatively connected to said grip, the rotary movement of said grip imparting a vertical sliding movement to said collar on the handle-bar shank; a ring mounted independently on said collar and held in fixed position relatively to the head of the bicycle, said ring being subject to the vertical movement of said collar; and the connections between said ring and the speed-changing gear, whereby a rotary movement of said grip will move said speed-changing gear, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JAMES WILBERT ROGERS.

Witnesses:
H. G. LAAGSTROTH,
M. KOPPELMAN.