

No. 688,889.

Patented Dec. 17, 1901.

J. R. SCOTT.
STOP MECHANISM FOR MACHINERY.

(Application filed Sept. 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.

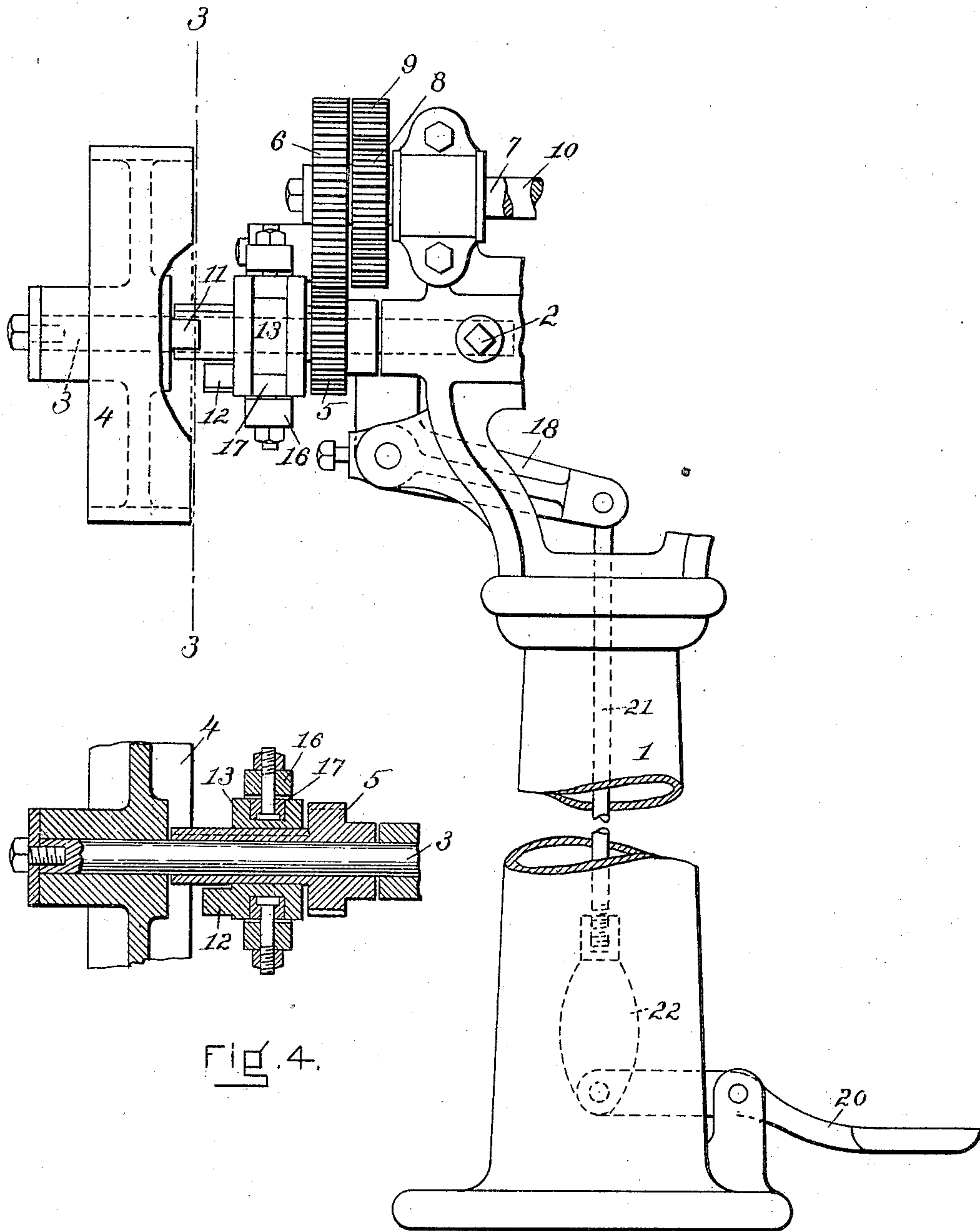


Fig. 4.

Fig. 1.

WITNESSES

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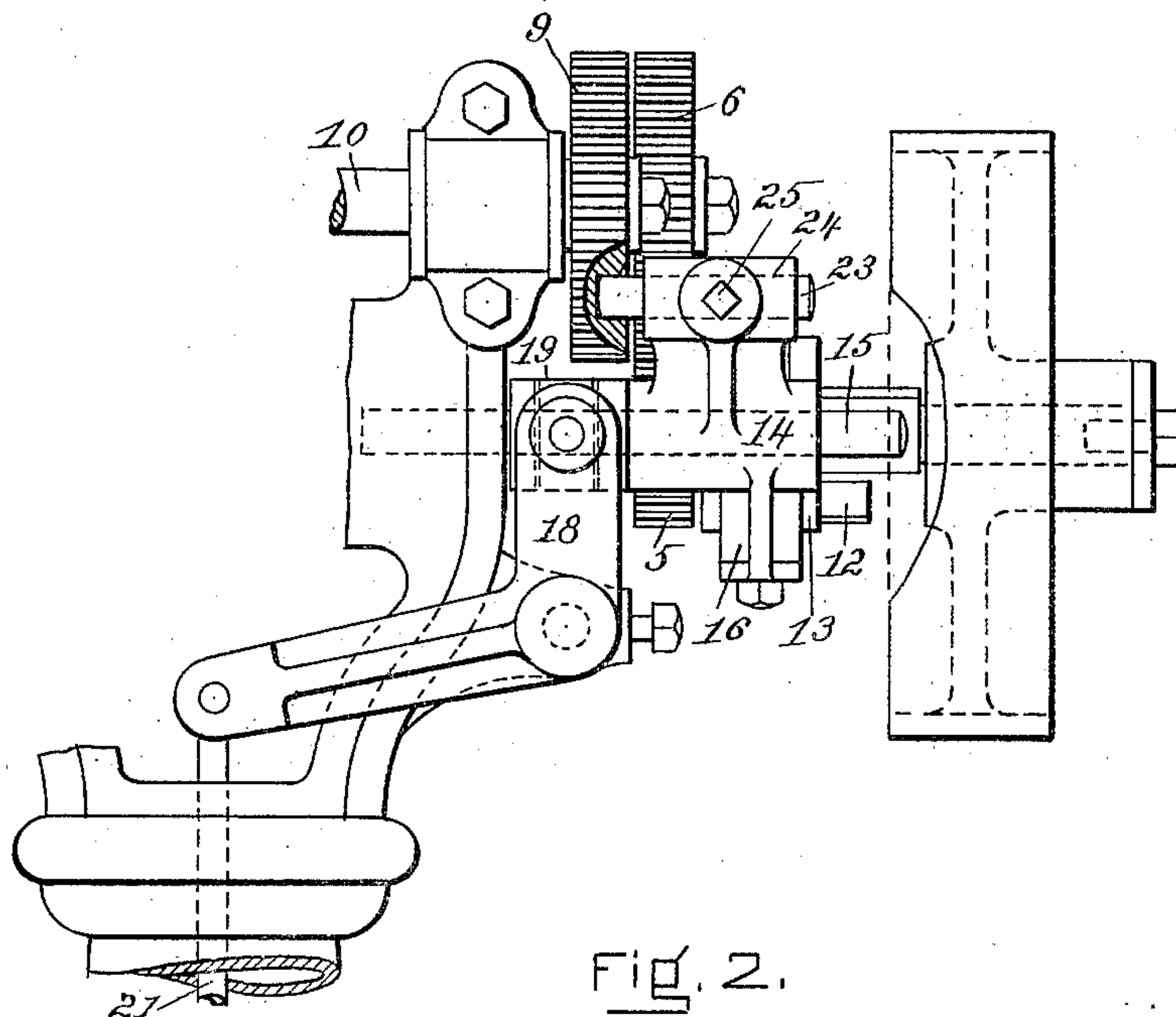


Fig. 2.

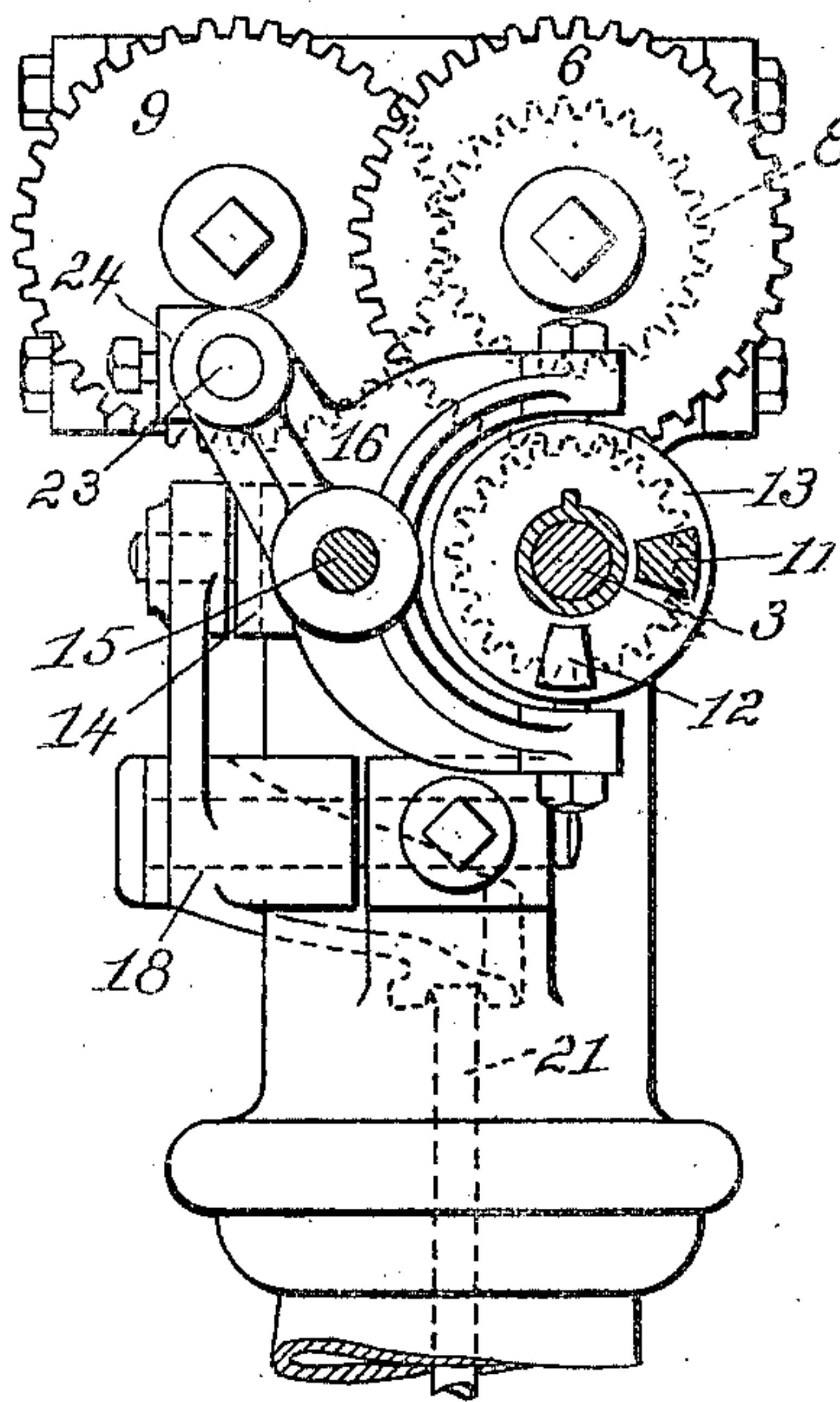


Fig. 3.

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UNITED STATES PATENT OFFICE.

JACOB R. SCOTT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

STOP MECHANISM FOR MACHINERY.

SPECIFICATION forming part of Letters Patent No. 688,889, dated December 17, 1901.

Application filed September 21, 1900. Serial No. 30,678. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. SCOTT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Stop Mechanism for Machinery; 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.

This invention relates to stop mechanism for machinery.

The object of my present invention is to provide an improved mechanism of the class referred to whereby the operating parts of a machine may be given a series of movements and then stopped in a certain definite position.

With this object in view my invention consists in the improved mechanism hereinafter described and claimed.

My invention can be applied to any machine in which it is desirable to disconnect the operating parts from the driving-shaft after a predetermined number of revolutions, but is particularly intended for application to the leather-skiving machine disclosed in my pending application, Serial No. 737,224, filed November 16, 1899.

A preferred form of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a mechanism embodying the invention. Fig. 2 is a similar view of the opposite side to that shown in Fig. 1. Fig. 3 is a sectional view on the line 3 3, Fig. 1; and Fig. 4 is a detail sectional view of the clutch members.

Referring to the drawings, in which like characters of reference indicate like parts, 1 represents a portion of the frame of a leather-skiving or other machine. In the top portion of the frame and extending horizontally therefrom is secured, by means of the screw 2, a fixed shaft or stud 3, having loosely mounted thereon the driving-pulley 4 and pinion 5. Meshing with the pinion 5 is a gear 6, secured to a shaft 7, on which is also secured a gear 8, meshing with a gear 9, fast on a shaft 10,

the arrangement being such that the rotary movement of the pinion 5 is transmitted to the gears 6, 8, and 9 and to the shafts 7 and 10. For connecting the pinion 5 and driving-pulley 4 suitable clutching mechanism is provided, such mechanism, as shown, comprising a projecting lug 11 on the hub of the driving-pulley and a projecting lug 12 on a collar 13, splined on the extended hub of the pinion 5 and arranged to slide thereon to bring the projecting lug 12 into the path of the lug 11.

14 designates a clutch-actuating member, herein shown as a slide mounted to reciprocate on a rod 15, secured to the frame of the machine, said slide being provided with arms 16, forming a yoke extending partially around the collar 13 and being provided with friction-rollers 17, engaging a groove in the collar. For reciprocating the slide a bell-crank lever 18 is provided, pivoted on the frame of the machine and having its upper arm connected to the slide 14 by means of a pivotal connection with a block 19, mounted to reciprocate vertically in suitable guideways formed in the slide. The lower arm of the bell-crank is connected to a treadle 20 by means of a connecting-rod 21. The above-described arrangement is such that a depression of the treadle 20 will actuate the slide 14 through the connecting-rod 21 and bell-crank 18 to bring the clutch members into engagement. As a convenient means for actuating the slide 14 in the opposite direction to disengage the clutch members the rod 21 is provided with a weight 22. For controlling the movements of clutch-actuating slide 14 a pin 23 is provided, arranged to bear against the face of the gear 9 and at a certain point in the revolution of the gear to enter a recess or seat formed therein, said pin being adjustably secured in the upper end of an arm 24 of the slide 14 by means of a screw 25.

As shown in Fig. 2, the edge of the recess of the gear 9 is cut away or beveled and the end of the pin 23 is made slightly round, whereby the pin is enabled to readily enter the recess. By this construction also the slide 14 is positively actuated by the engagement of the beveled edge of the recess with the

rounded end of the pin to force the clutch members into engagement if the movement imparted to the slide 14 by the bell-crank 18 has not been sufficient to completely withdraw the pin from the recess. By adjusting the pin in the arm 24 the pin can be set to insure the desired extent of movement being imparted to the slide 14 to bring the members of the clutch firmly in engagement.

10 The operation of the mechanism above described is as follows: The parts being in the position shown in the drawings, the treadle 20 is depressed and the slide 14 actuated, through the connections hereinbefore described, to move the clutch member into engagement and the pin 23 from the recess in the gear 9. The pinion 5 will now revolve and through the gears 6 and 8 rotate the gear 9 to move the recess in the gear 9 out of alignment with the pin 23. The treadle 20 is now released, and the pin 23 bears against the face of the gear 9, which prevents any backward movement of the pin 23 and slide 14, and thus acts as a locking member to hold the members of the clutch in engagement. As the gear 9 completes its revolution the recess in the face of the gear comes into alignment with the pin 23, which is forced into the recess by the action of the weight 22, thereby positively stopping the rotation of the gear and at the same time allowing the slide 14 to disengage the clutch members. The number of revolutions which will be made by the driven member of the clutch at each operation of the mechanism will depend on the relative number of teeth in the gears connecting the member with the gear 9, as will be evident. The gear 9 will always be stopped at a certain predetermined point, as the pin 23 is firmly supported in the slide 14, which is prevented from sidewise movement by the rod 15 and arms 16, carrying the rollers 17, engaging the grooved collar 13. By adjusting the pin 23 in the arm 24 the relative longitudinal position of the engaging members of the clutch when in engagement can be varied as desired.

The mechanism which I have illustrated in the drawings and above described embodies my invention in the best form at present known to me; but it is to be understood that as to its generic features it is not limited thereto, but may be embodied in many different forms without departing from the spirit thereof.

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

1. A stop mechanism, having, in combination, a clutch comprising a driving member and a driven member movable toward and from the driving member, a locking member driven from the driven member provided with a recess, a slide located between the driving member and the locking member en-

gaging the driven member and arranged to bear against the locking member to hold the clutch members in engagement and means for forcing the slide into said recess to disengage the clutch members, substantially as described.

2. A stop mechanism, having, in combination, a clutch comprising driving and driven members one of which is movable toward and from the other, a rotating locking member provided with a recess driven from the driven member and located adjacent to the movable clutch member, a slide engaging the movable clutch member located between the other clutch member and the locking member and arranged to bear against the locking member and hold the clutch members in engagement, and means for forcing the slide into said recess to disengage the clutch members, substantially as described.

3. A stop mechanism having, in combination, a gear provided with a recess in its face, a clutch-actuating member, a pin carried by said member arranged to bear against the face of the gear and enter the recess, a clutch member engaged by the clutch-actuating member, and means for adjusting the pin toward and from the gear, substantially as described.

4. A stop mechanism having, in combination, a clutch comprising a driving member, a driven member movable toward and from the driving member, a locking member driven from the driven member provided with a recess, a slide engaging the driven member arranged to bear against the locking member and hold the clutch members in engagement and means for forcing the slide into said recess to disengage the clutch members, substantially as described.

5. A stop mechanism having, in combination, a clutch comprising driven and driving members movable toward and from each other, a gear driven from the driven member provided with a recess in its face, a slide engaging one of the clutch members arranged to bear against the face of the gear for holding the members of the clutch in engagement and to enter the recess to disengage the clutch members, and a lever and weight for moving the slide back and forth, substantially as described.

6. A stop mechanism having, in combination, a clutch comprising driven and driving members movable toward and from each other, a gear driven from the driven member provided with a recess in its face, a slide engaging one of the clutch members, a pin on said slide arranged to enter the recess, a lever pivoted to the slide and an actuating weight and treadle for the lever, substantially as described.

7. A stop mechanism having, in combination, a clutch comprising driven and driving members movable toward and from each other, a gear driven from the driven member

provided with a recess in its face, a slide engaging one of the clutch members arranged to bear against the face of the gear for holding the members of the clutch in engagement
5 and means for forcing the slide into said recess to disengage the clutch members, substantially as described.

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

JACOB R. SCOTT.

Witnesses:

ALFRED H. HILDRETH,
FRED O. FISH.