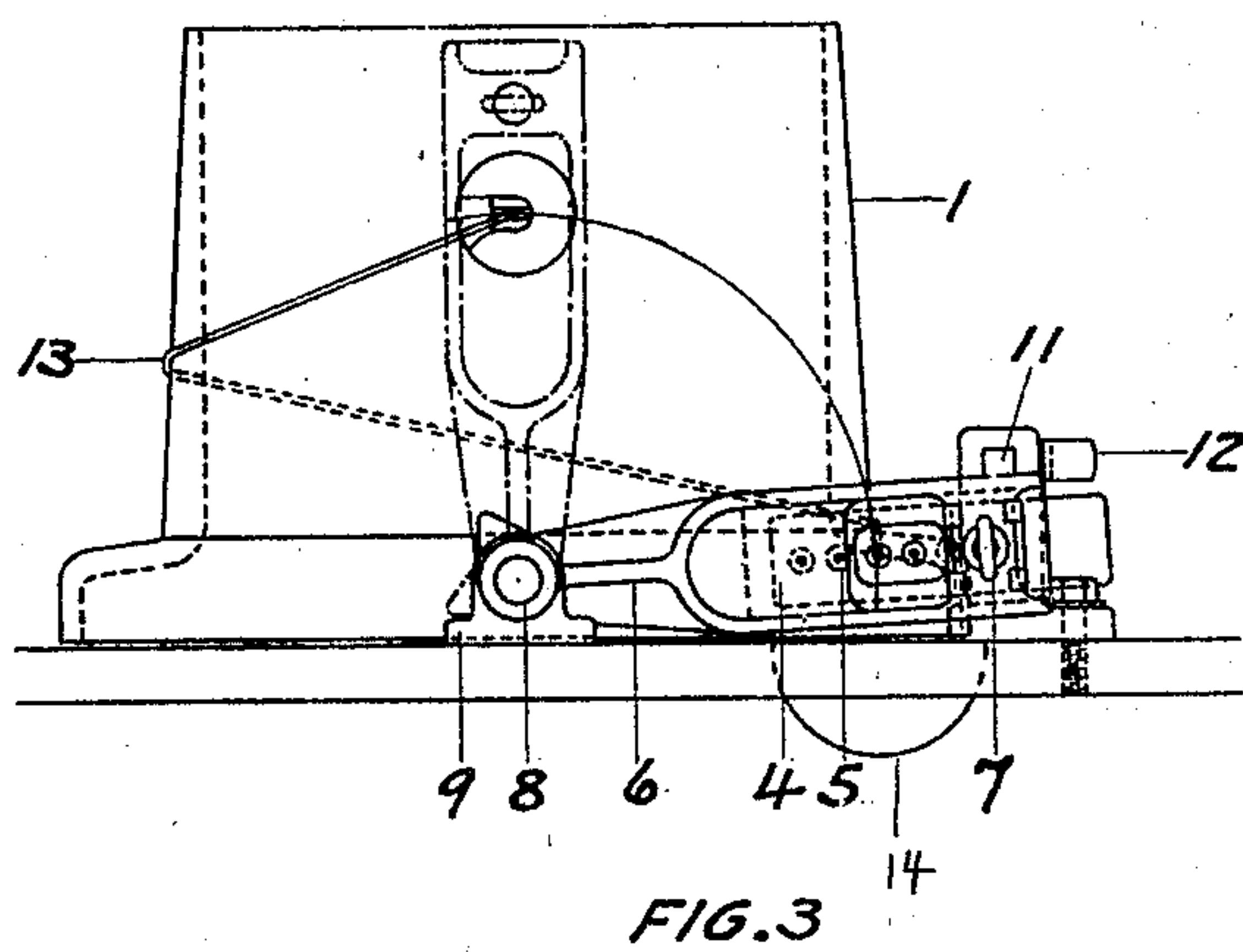
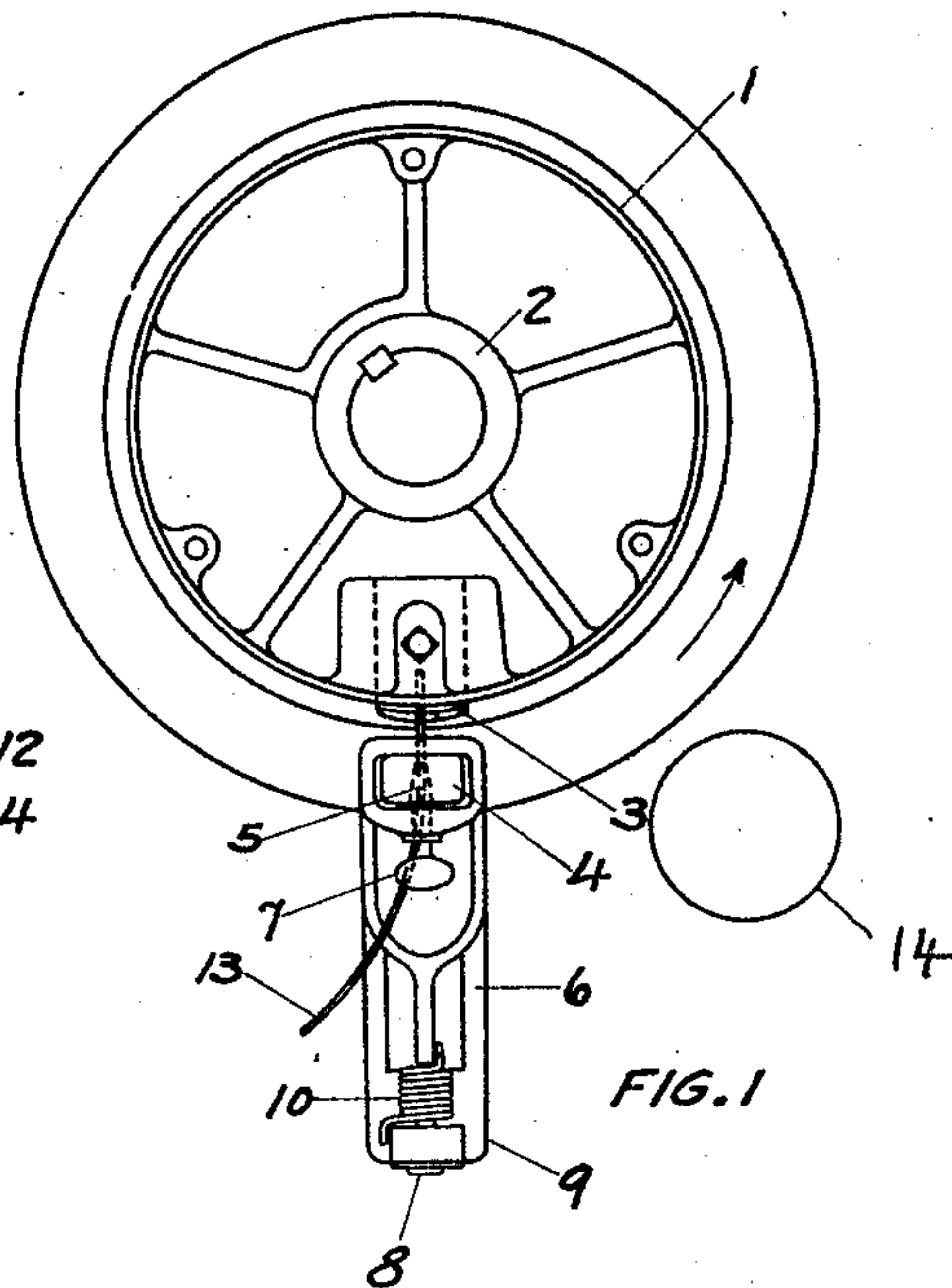
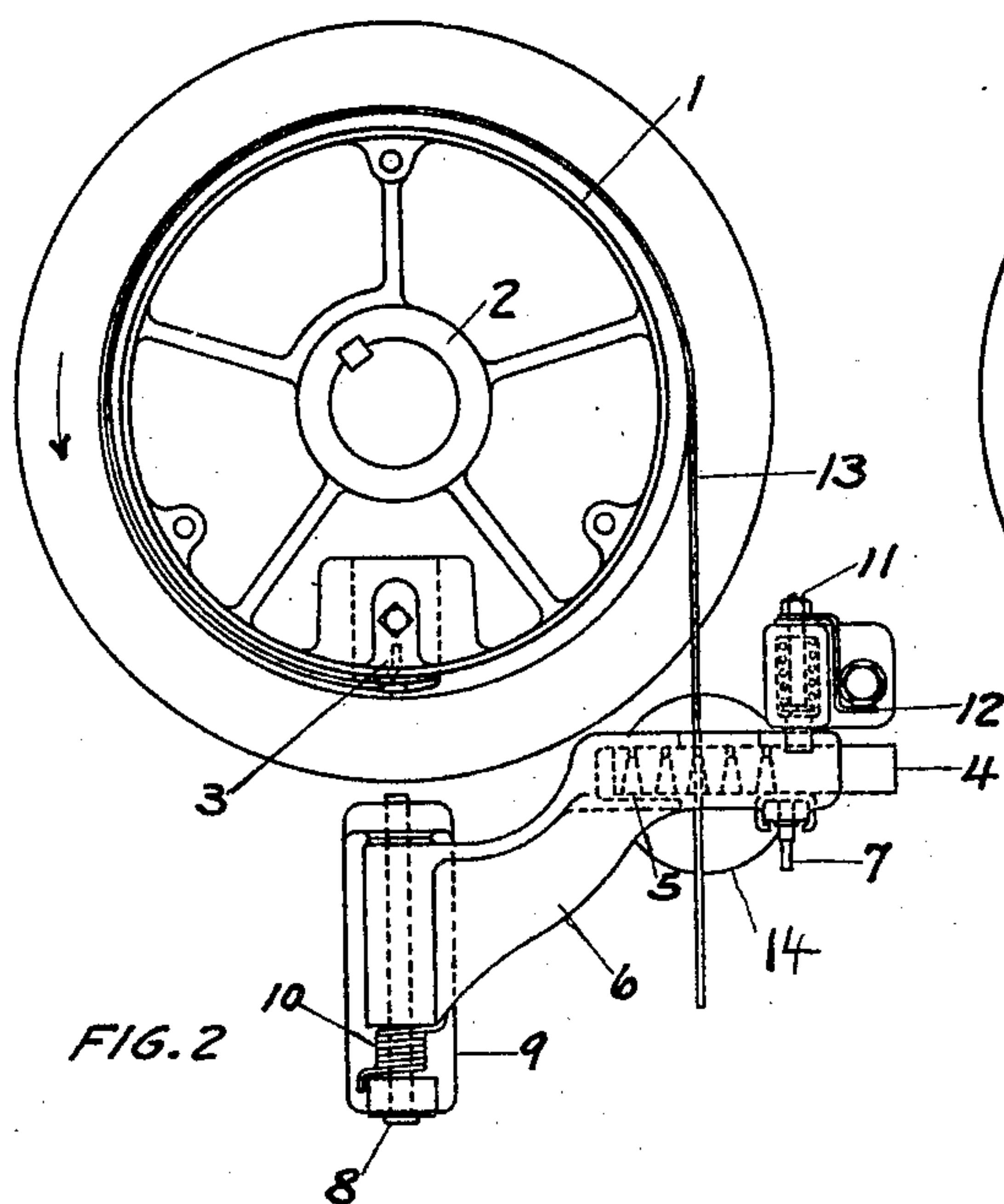


No. 799,501.

PATENTED SEPT. 12, 1905.

H. L. THOMPSON.  
WIRE DRAWING MACHINE.  
APPLICATION FILED OCT. 19, 1904.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HUGH L. THOMPSON, OF WATERBURY, CONNECTICUT.

## WIRE-DRAWING MACHINE.

No. 799,501.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed October 19, 1904. Serial No. 229,073.

*To all whom it may concern:*

Be it known that I, HUGH L. THOMPSON, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Wire-Drawing Machine, of which the following is a specification.

My invention relates to improvements in wire-drawing machines, and comprises means whereby the wire may be connected directly with the block without requiring a separate draw-out attachment and also means whereby the block may be started at its maximum speed of rotation, while the drawing operation upon the wire shall be a gradual one during approximately the first rotation of the block.

It is well known that the strain on the wire caused by the shock in starting the block in devices heretofore commonly in use has been an important factor in the initial speed of the machine, and in many instances devices have been employed for the gradual starting of the block's rotation. This obviously affects the efficiency of such machines and the amount of their output.

My invention comprises means for securing a gradual beginning of the drawing operation, while the block begins its rotation at approximately maximum speed.

My invention also comprises means whereby the minimum resistance to said rotation is exerted by the wire at the starting-point of the block's rotation, said resistance increasing gradually until the block has made approximately one full rotation.

A special advantage of my invention is that it comprises mechanism of few parts and of simple construction.

Referring to the drawings, Figure 1 is a plan view of my device, showing the block and the die-supporting member in the initial positions. Fig. 2 is a plan view showing the relative positions of the block and the die-supporting member after the block has made approximately one full rotation. Fig. 3 is an elevation of my device, showing the die-supporting member in both the initial and the final positions.

Similar numerals refer to similar parts throughout the several views.

Referring to the drawings, the drum 1 is mounted on the shaft 2, which is suitably supported and is driven in the usual way. Seated in the drum 1 is the gripping device 3, which is of the ordinary form and usually

consists of two serrated cooperating jaws which are forced together about the end of the wire. These jaws are preferably flush with the periphery of the drum. The die 4 is shown in the drawings as a bar provided with the apertures 5 and is secured to the rotatably-mounted supporting member 6 by any suitable means, such as thumb-screw 7. The die member 6 is mounted on the shaft 8, supported by the bracket member 9. The spring 10 surrounds a portion of shaft 8 and is adapted to hold the die member in the initial position, as shown in Fig. 1, the pull on the wire forcing it gradually when the block is rotated into the final position, as shown in Fig. 2. As a suitable automatic latching means for said die-supporting member I provide a spring-actuated bolt 11, beveled upon its upper surface and adapted to engage automatically with the die member 6 and to lock it in the final position, as shown in Fig. 2. To this bolt is secured the thumb-piece 12, whereby said bolt may be arbitrarily operated to release the die member 6.

The operation of my device is as follows: In the initial position, as shown in Fig. 1, the die is brought close up to the gripping device on the periphery of the drum 1, so that the end of the wire 13 which has been forced through the die is secured to said drum. If the die 4 were held rigidly in the position shown in Fig. 1, it is obvious that the wire-drawing operation would have a speed corresponding to the speed of rotation of the drum; but in view of the fact that the die member 6 is rotatably mounted on the shaft 8, which shaft extends at right angles to the axis of the drum and in a line with its radius, it will be seen that the moment the block begins to rotate the die member 6 in response to the pull exerted by the wire 13 will move from the vertical position (shown in Fig. 1) into the horizontal position, (shown in Fig. 2,) so that during the preliminary rotative movement of the drum there is a partial following of the point of engagement between the wire and the drum by the die. This is clearly shown in Figs. 2 and 3. From this movement it results that the block makes approximately one full rotation before the die becomes stationary, when the maximum speed of wire-drawing is attained. From this it results that the wire-drawing operation does not begin at its maximum speed, but begins gradually and increases in speed until approximately the full rotation



of the drum is completed, when said maximum is attained. This prevents the wire from being broken by the jar or shock of sudden starting of the drawing operation, and thereby permits the starting of the drum at approximately its maximum speed of rotation. From the fact that the wire-drawing operation begins gradually it obviously results that the resistance offered by the wire to the rotation of the drum is less at the starting-point of the drum's rotation and gradually increases. This also facilitates the starting of the drum at its maximum speed of rotation.

From the fact that the operator banks the grease against the outside of the die with a small wooden paddle while the wire passes through the die it is important to have the supply of grease in convenient proximity to said die, and I find that the work of the operator is greatly facilitated, and consequently the efficiency of the machine, by locking a grease-pot 14 directly beneath the die when in the final or operative position, as shown in Figs. 2 and 3.

What I claim is—

1. In a wire-drawing machine, the combination of a drum, wire-gripping means connected therewith, a die and a supporting member therefor having an axis of rotation approximately in line with the radius of the drum, said die being connected with said supporting member at a distance from its axis of rotation.

2. In combination with a drum, wire-gripping means connected therewith, a die and a supporting member therefor having a rotative movement in a plane approximately parallel with the axis of the drum, and at right angles with the radius of the drum which lies between the drum's axis and the axis of the supporting member, said die being offset from said axis of the supporting member.

3. In a wire-drawing machine, the combination of a drum, wire-gripping means connected therewith, a die, a supporting member therefor having an axis of rotation approximately in line with the radius of the drum, and automatic latching means for said member, the die being secured to the supporting member at a distance from its axis of rotation.

4. In a wire-drawing machine, the combi-

nation of a drum, wire-gripping means connected therewith, a die, a supporting member therefor having an axis of rotation approximately in line with the radius of the drum, the die being connected with the supporting member at a distance from its axis of rotation and manually-operative latching means for said member.

5. In a wire-drawing machine, the combination of a drum, wire-gripping means connected therewith, a die and spring-controlled supporting means therefor having an axis of rotation approximately in line with the radius of the drum, the die being connected with the supporting member at a distance from its axis of rotation.

6. In a wire-drawing machine, the combination of a drum, wire-gripping means connected therewith, a die, a supporting member therefor having an axis of rotation approximately in line with the radius of the drum, the die being connected with the supporting member at a distance from its axis of rotation, and spring-actuated means for engaging and securing the die-supporting member.

7. In a wire-drawing machine, the combination of a drum, wire-gripping means connected therewith, a die, a spring-controlled supporting member therefor having an axis of rotation approximately in line with the radius of the drum, the die being connected with the supporting member at a distance from its axis of rotation, and spring-actuated means for engaging and securing the die-supporting member.

8. A drum, gripping means connected therewith, a die and a supporting member therefor having a rotative movement on an axis approximately in line with the radius of the drum, from a position approximately parallel with the axis of the drum to a position approximately at right angles to the axis of the drum.

9. A drum, gripping means connected therewith, a die, a supporting member therefor having a rotative movement on an axis approximately in line with the radius of the drum, from a position parallel to a position at right angles with the axis of the drum and spring means for actuating said member.

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Witnesses:

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