

(No Model.)

G. W. CHADWICK.
HEART MOTION FOR SPINNING MACHINES.

No. 602,303.

Patented Apr. 12, 1898.

Fig. 1.

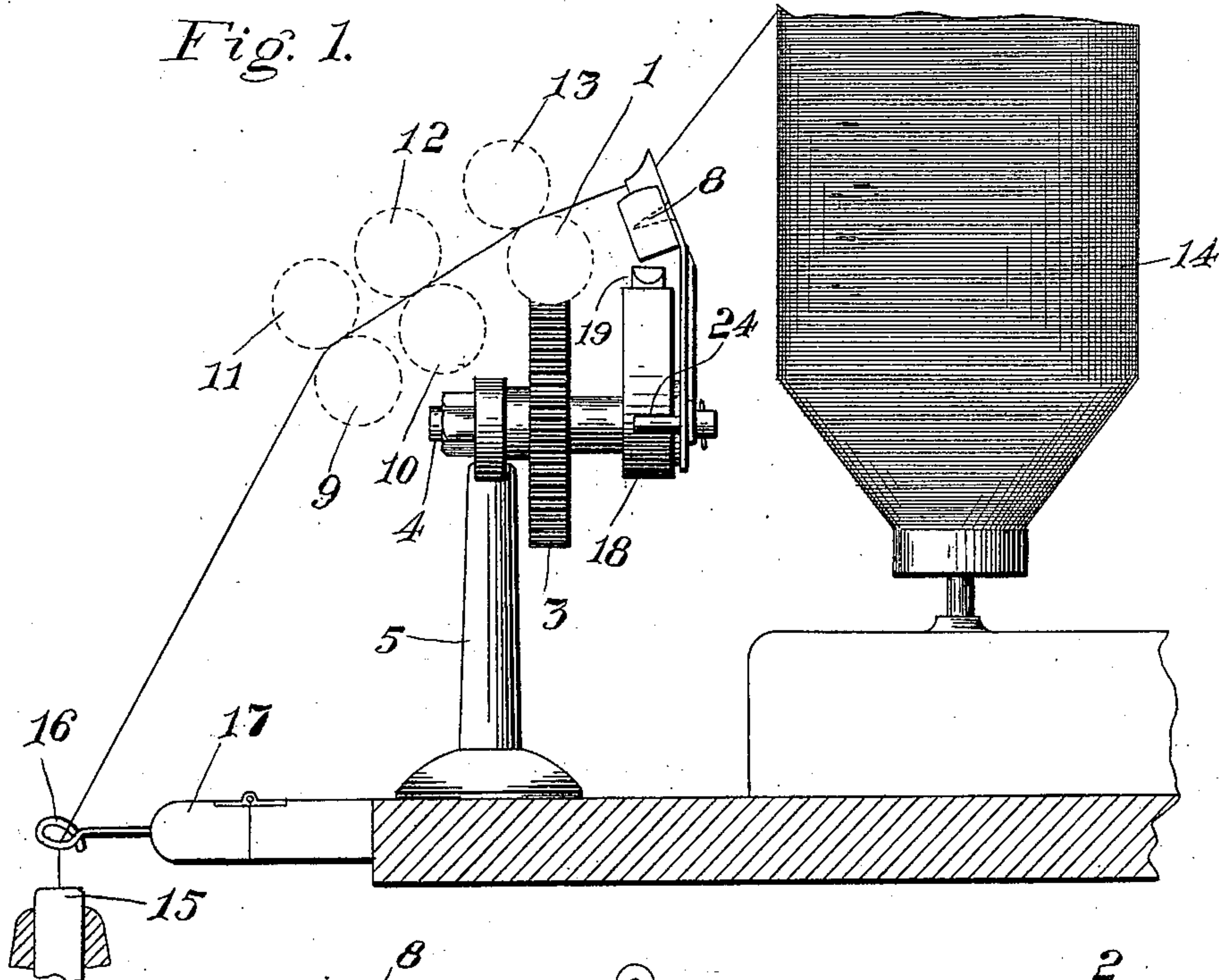


Fig. 2.

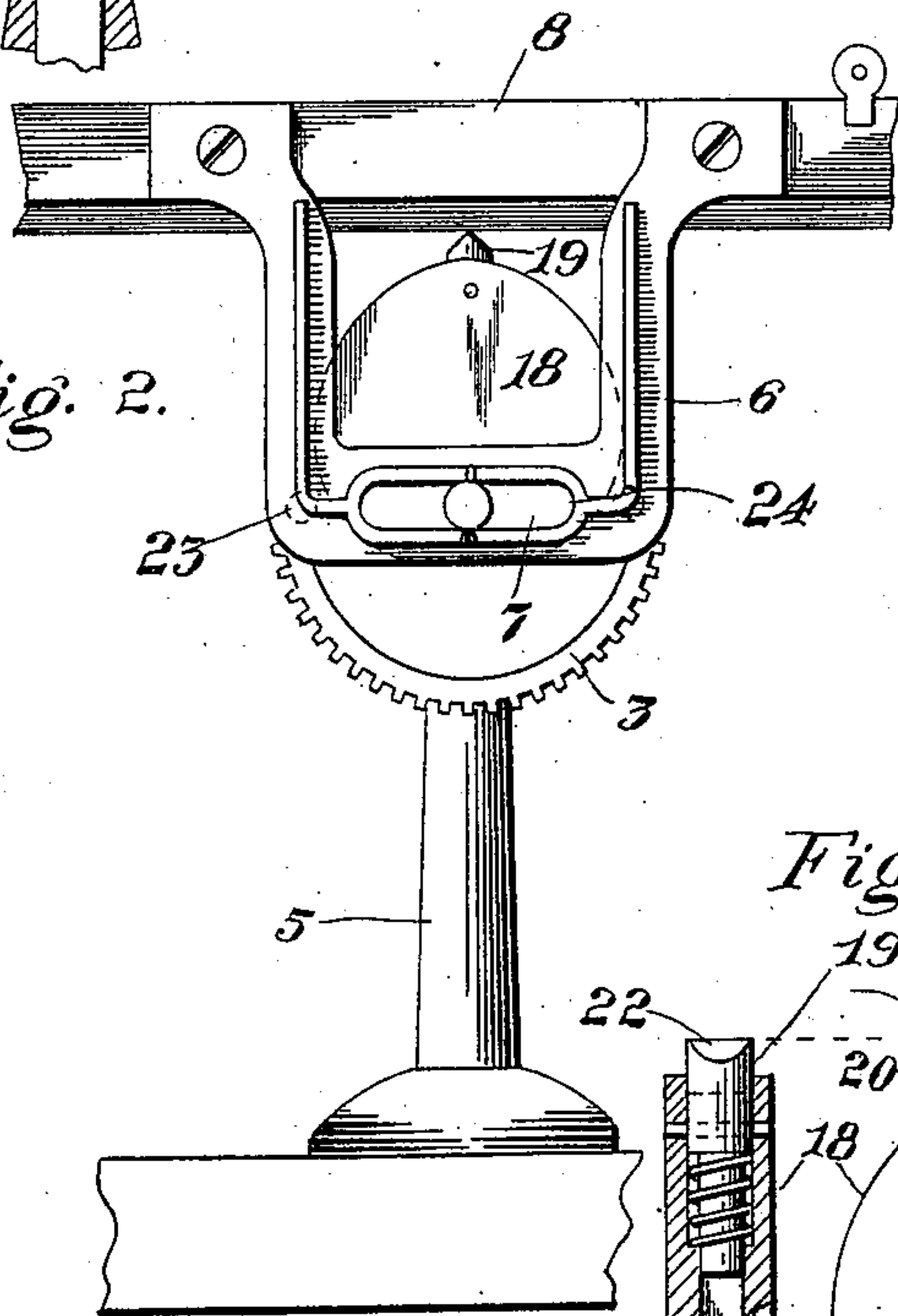


Fig. 3.

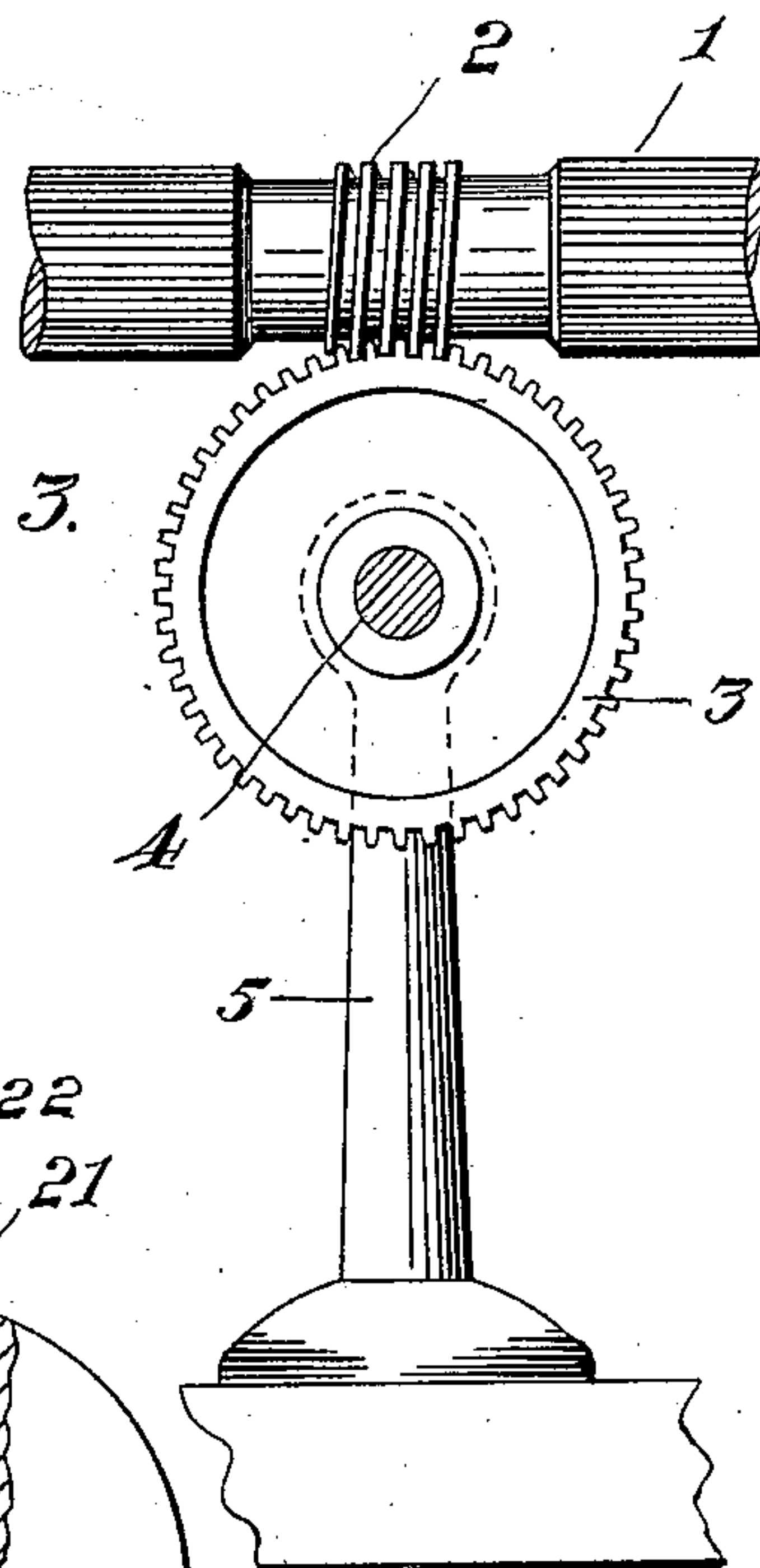
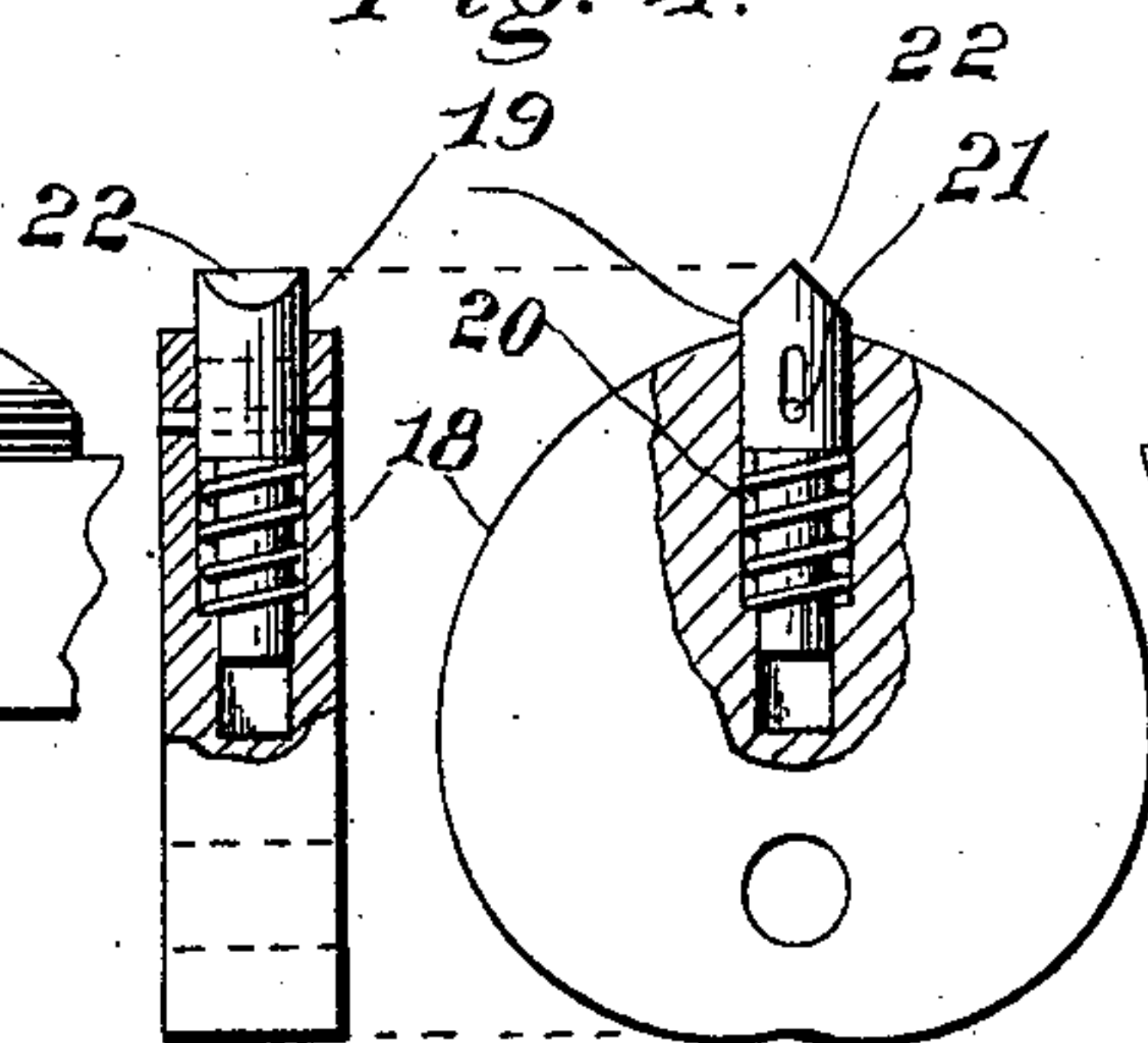


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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HEART-MOTION FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 602,303, dated April 12, 1898.

Application filed September 22, 1897. Serial No. 652,562. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CHADWICK, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Heart-Motions for Spinning-Machines; 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 drawing and evening machines; and it consists, essentially, of the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

By the devices heretofore employed the leather covering of the rolls has been materially injured by lost motion of the actuating mechanism for the roving-guides, which in turn injures the yarn being acted upon to a considerable extent.

It is the intention of the present invention to overcome the disadvantages heretofore encountered, and thereby causing the rolls on the spinning frame and mules to run considerably longer, by the positive traverse motion, and the same may be applied to slubbers, speeders, and fine-roving frames, which would be a vast saving to manufacturers, besides the improvement in the quality of yarn.

The object of the present invention, therefore, is to employ in connection with the ordinary mechanism a heart-motion which gives the roving traverse a positive action and takes up the lost motion incidental to machines of this character, the parts being simple and effective in their construction and operation, strong and durable, easily and readily applied without changing the structure in the present form of machines, and comparatively inexpensive in the cost of manufacture.

In the accompanying drawings, Figure 1 is an end elevation of a portion of a spinning-machine, showing the improved device applied thereto. Fig. 2 is a detail view looking toward the roller and showing the heart-motion in position. Fig. 3 is a similar view with the parts of the device shown by Fig. 2 removed. Fig. 4 illustrates detail views of the

heart-shaped cam broken away and showing the construction thereof.

Referring to the drawings, wherein similar numerals of reference are employed to indicate corresponding parts in the several views, the numeral 1 designates the back roll, as clearly illustrated in Fig. 3, which includes as a part thereof a worm-roll 2. Engaging the said worm-roll is a worm-wheel 3, mounted upon a shaft 4, held by a standard 5. Also mounted upon a roving rod or guide is a bracket 6, which has a lower slot 7 to permit movement of said bracket backward and forward over the driving-shaft 4. The roving-guide is mounted and operates in the usual way. Adjacent to and above the mechanism thus far set forth a front drawing-roll 9 and an intermediate roll 10 are located and formed of fluted steel. Above the said rolls are other rolls 11 and 12, which are covered with leather, and in rear of the same is a third roll 13, also supplied with said covering and coacting with the back roll 1. Adjacent to the said rolls and the mechanism set forth is a roving-bobbin 14, carrying the yarn, and at a suitable point below is a spindle-bobbin 15, adjacent to which is a guide 16, carried by a board 17. The roving-guide is supplied with trumpets for the roving to pass therethrough. On the same shaft 4, giving bearing to the worm-wheel 3, and over which the bracket 6 is mounted, a heart-shaped cam 18 is also fixed, the bearing thereof being located near the base, as shown in Fig. 4, and in a diametrical line with the said bearing, at the opposite side, the said cam is supplied with a spring-actuated pin 19, movable in a socket 20, and retained in position by a cross-pin 21, passing through a slot therein. The outer end of the pin 19 is beveled, as at 22, and is adapted to contact with oppositely-disposed pins or projections 23 and 24 on the lower portion of the bracket 6.

In use the cam operates the roving rod or guide in the usual way until the point and the hollow of the heart comes to the projections 23 and 24, when the spring-plunger 19, pressing on one projection, forces the roving-guide along, so as to bring the other projection into the hollow of the heart, thereby taking up lost motion.

Having described my invention, what I claim is—

5 In a drawing-machine, the combination of a reciprocating roving rod or guide provided with a bracket having two pins, a heart-cam provided with a spring-pressed plunger adapted to engage said pins, and means for actuating said cam, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE W. CHADWICK.

Witnesses:

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ROBERT SMITH.