

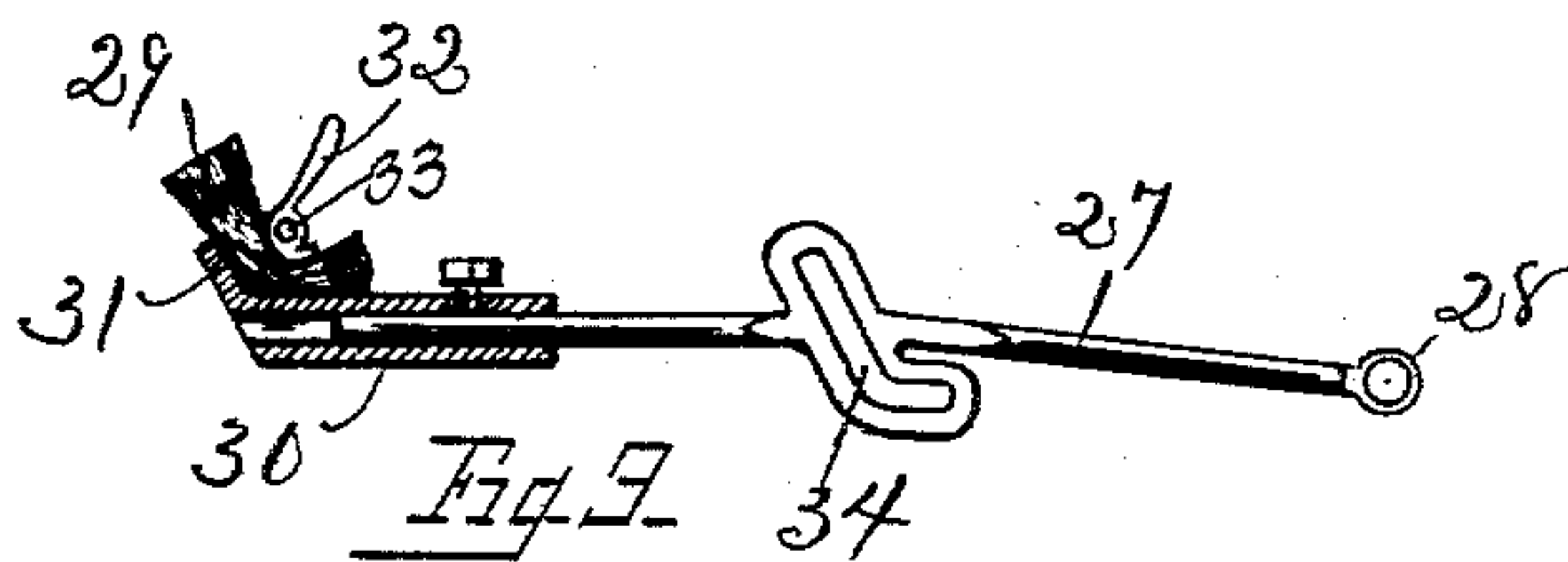
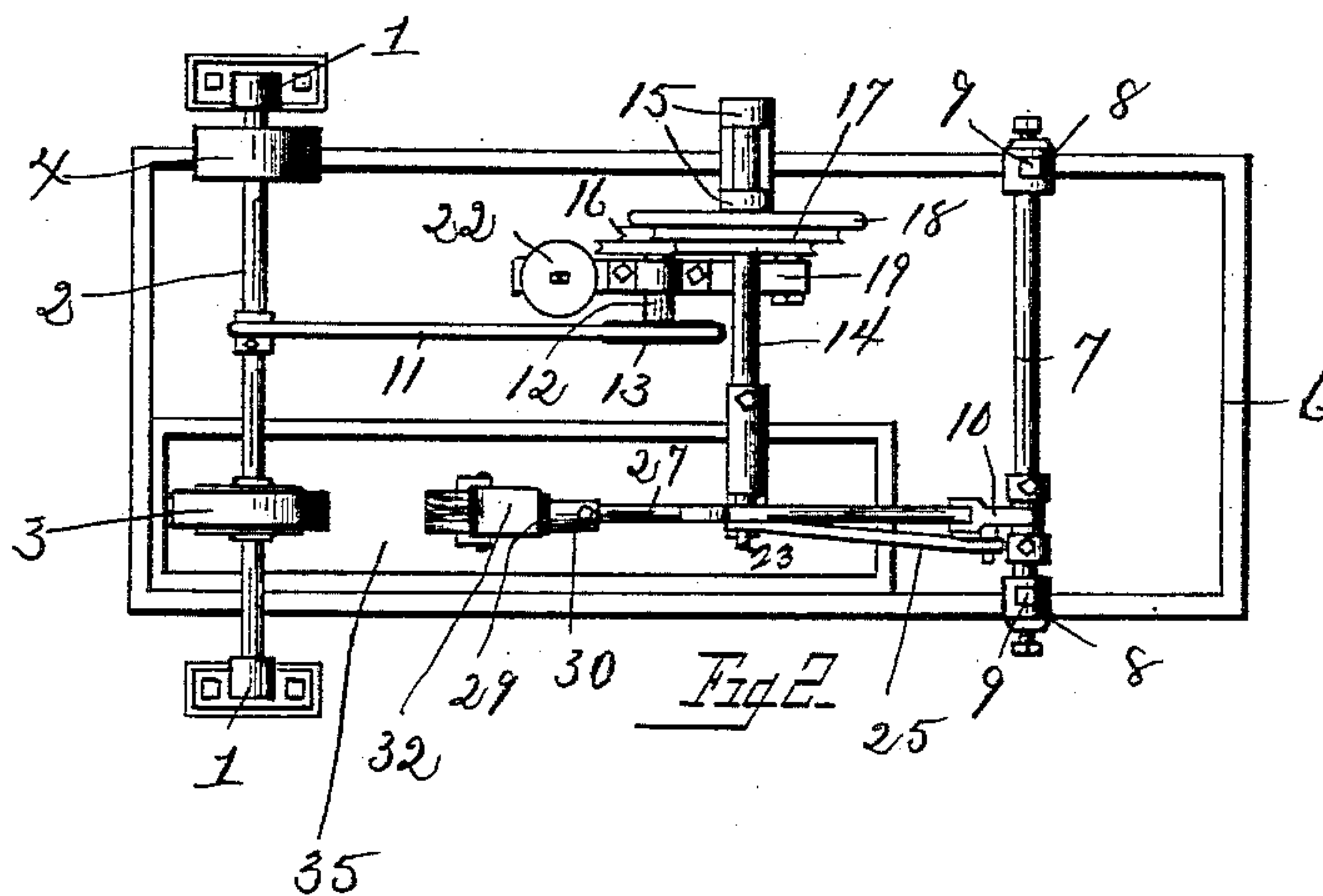
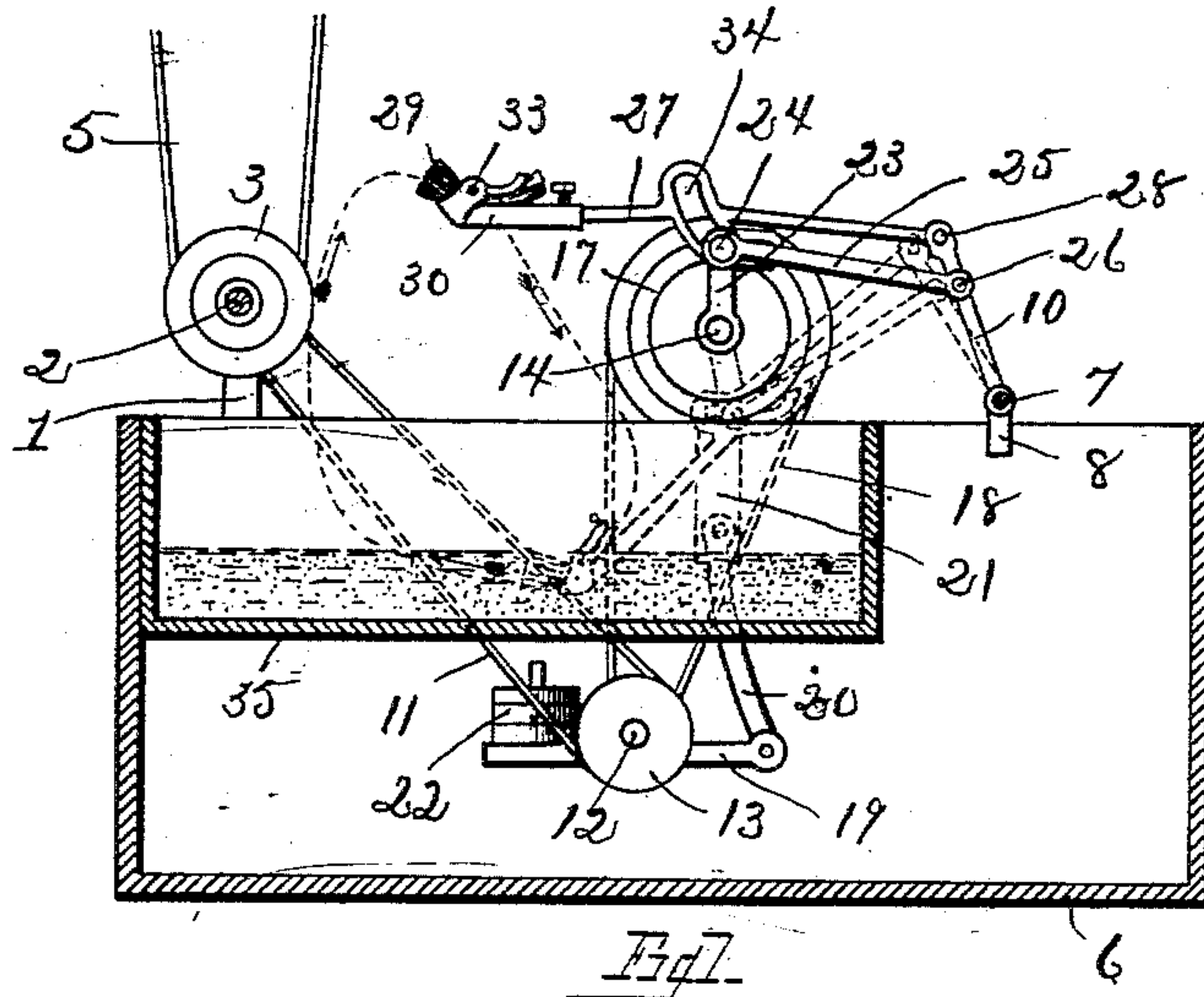
(No Model.)

L. W. KIMBLE.

FEEDING UP MACHINE FOR POLISHING TOOLS.

No. 504,593.

Patented Sept. 5, 1893.



WITNESSES.

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FEEDING-UP MACHINE FOR POLISHING TOOLS.

SPECIFICATION forming part of Letters Patent No. 504,593, dated September 5, 1893.

Application filed April 10, 1893. Serial No. 469,664. (No model.)

To all whom it may concern:

Be it known that I, LOREN W. KIMBLE, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Feeding-Up Machines for Polishing Tools; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 part of this specification.

My invention relates to a feeding up machine for polishing tools, and has for its object to provide automatic means for feeding the pumice or putty to the brush.

A further object is to provide a feeding up machine in which a brush shall be caused to travel in an elliptical circuit to cause the same to dip into the liquid material with a progressive movement approximately in a horizontal line, and then rise in an approximately vertical line to contact with the polishing brush or wheel to supply the material to the brush or wheel, and afterward descend in an elliptical circuit in order that the pumice or other polishing material may be applied at regular intervals, and without splashing the liquid material by the movement of the brush.

A further object is to provide a compact and portable machine of this character, with provision for convenient attachment to the brush frame, with an arrangement by which power may be transmitted from the brush shaft.

The invention consists in the parts and combination of parts hereinafter described and pointed out in the claims.

In the drawings: Figure 1 is an elevation of a complete machine, shown as attached to a trough, one side of the latter being removed to disclose the mechanism. Fig. 2 is a plan view of the same. Fig. 3 is a detail view of the brush arm, shown partly in section.

My invention is especially adapted for use for glass polishing tools, where the pumice or putty is applied at intervals to the brush or wheel, and is designed to dispense with the manual application.

1 designates hangers in which is journaled a shaft 2, upon which is secured the polishing

tool 3, which in the present instance I have illustrated as a brush, there also being a pulley 4 upon the shaft, which is connected with the line shafting by belt 5, by which the polishing tool is revolved.

While I have shown and described the aforesaid construction of polishing frame, I wish it understood that I may employ any form of frame and mechanism for revolving the polishing tool, as the feeding up mechanism may be attached to any construction of polishing machine.

6 designates a frame, which is shown in the present instance as an elongated box, on which is secured a shaft 7, in boxes 8 attached to each side of the frame, said shaft being stationary, and is secured from movement by means of screws 9 bearing upon the same. Loosely secured upon the shaft is one end of an arm 10. A belt 11 passes around the shaft 2 and transmits motion to a pulley 13 mounted upon one end of a shaft 12, and upon the opposite end of said shaft 12 is a pulley 16 around which passes a belt 18 and drives a pulley 17, mounted upon a shaft 14 journaled in the hanger screwed to the side of the frame 6. Shaft 12 is journaled in a bearing on an arm 19 pivotally secured at one end to a lever 20, which is in turn pivoted to an extension 21 of hanger 15, the outer end or arm 19 being weighted by means of weights 22, said arm serving as a belt tightener to tighten belts 11 and 18 respectively.

23 designates a crank arm secured upon shaft 14. To the outer end of said arm is a pin 24, upon which is pivotally secured one end of a guide lever 25, the opposite end of the lever being pivotally secured on a pin 26 upon arm 10.

27 designates the brush arm pivoted at one end to arm 10 at 28, above the lever 25, the brush 29 being secured at the opposite end in the brush holder 30, which is adjustably secured upon the brush lever 27, and comprises a plate 31 upon which the brush is laid, and is clamped by means of the clamp arm 32, journaled on pin 33. Substantially midway of the brush arm and formed in the same is a slot 34 through which the pin 24 passes, said slot having an inclination substantially sixty degrees from the body of the brush arm, and

extends below the same, the slot running substantially parallel with the same.

35 designates a trough for holding the liquid material to be fed to the polishing tool, said trough being below the brush arm, and in a vertical line therewith.

In operation, the polishing tool being revolved, revolves shaft 14 and crank arm 23 which forces arm 10 back, and also pulls upon the brush arm to cause the pin 24 to travel down in slot 34 in the direction of the slot, thereby lowering the brush in a line with the slot, (see dotted lines Fig. 1.) As crank arm 23 continues to move, the slot is in a horizontal position and the pin 24 traveling therein will give the brush a substantially horizontal movement in the liquid material in the trough. A further turn of the crank will cause the arm 10, guide lever 25, and brush lever 27 to be in a horizontal line, when the crank 23 will raise the brush in an arc substantially vertical to contact with the brush, and upon the remainder of the turn of the crank arm, the brush is given a turn to perform a downward movement as has been described. By means of the elliptical circuit traversed by the brush, the brush not only has a progressive movement in the liquid material, but has an easy movement and avoids throwing or splashing of the material.

It will be seen that by securing the brush arm adjustably, the brush may be set for different sizes of polishing wheels, also by means of the pivoted belt tightener the feeding up mechanism can be attached to any height of polishing frame.

What I claim is—

1. In a feeding up mechanism for polishing tools, a tool shaft and tool, a brush lever having a slot intermediate its ends, a revoluble

shaft having a crank arm, and a pin secured upon said arm and engaging the slot in the brush lever, whereby the brush is given an elliptical motion.

2. In a feeding up mechanism, a tool shaft and tool, a revoluble shaft carrying a pulley and crank arm, a weighted arm carrying a shaft provided with pulleys at each end, belts connecting the tool shaft and crank shaft, a brush lever having a slot, and a pin mounted upon the crank arm and engaging the slot in the brush lever.

3. In a feeding up mechanism for polishing tools, a tool shaft, a shaft actuated thereby, a crank upon the last named shaft, a brush lever pivoted at one end to a pivoted arm and carrying a brush at the opposite end, a slot in the lever through which a pin of the crank passes, and a guide lever connecting the pin and pivoted arm.

4. In a feeding up mechanism, a tool shaft and tool, a revoluble shaft carrying a crank arm provided with a pin, a stationary shaft having an arm loosely mounted thereon, a brush lever pivoted to the end of said arm, and slotted intermediate its ends, and a guide lever connecting the crank and pivotal arms.

5. In a feeding up machine for polishing tools a tool shaft, a brush lever actuated thereby, said lever having a brush holder adjustably secured thereon, a pin in the brush holder, and a cam lever secured upon the pin for clamping the brush.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

LOREN W. KIMBLE.

Witnesses:

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WILLIAM WEBSTER.