

No. 659,964.

Patented Oct. 16, 1900.

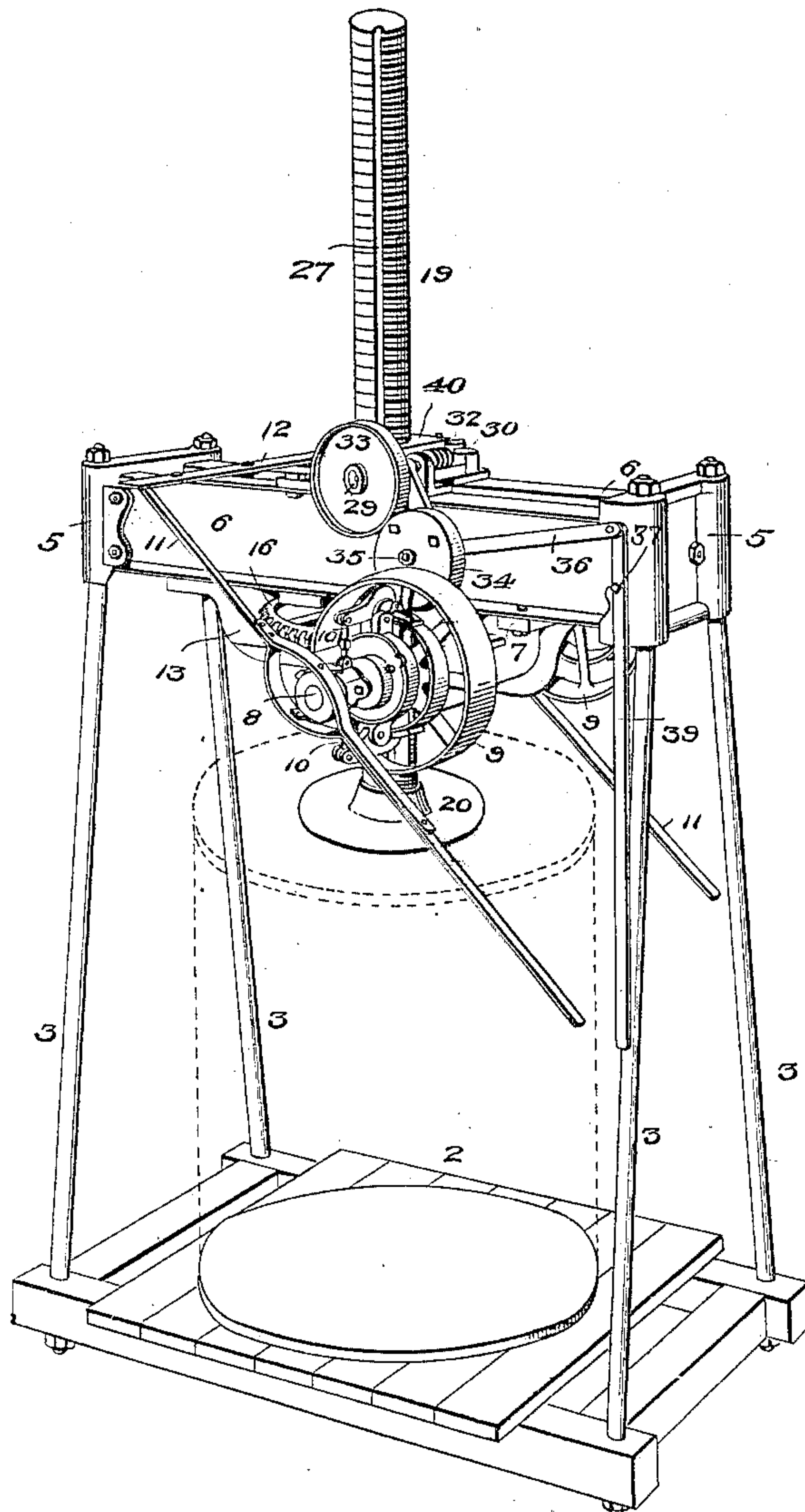
F. GROTE.
PRESS.

(Application filed Oct. 23, 1899.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.



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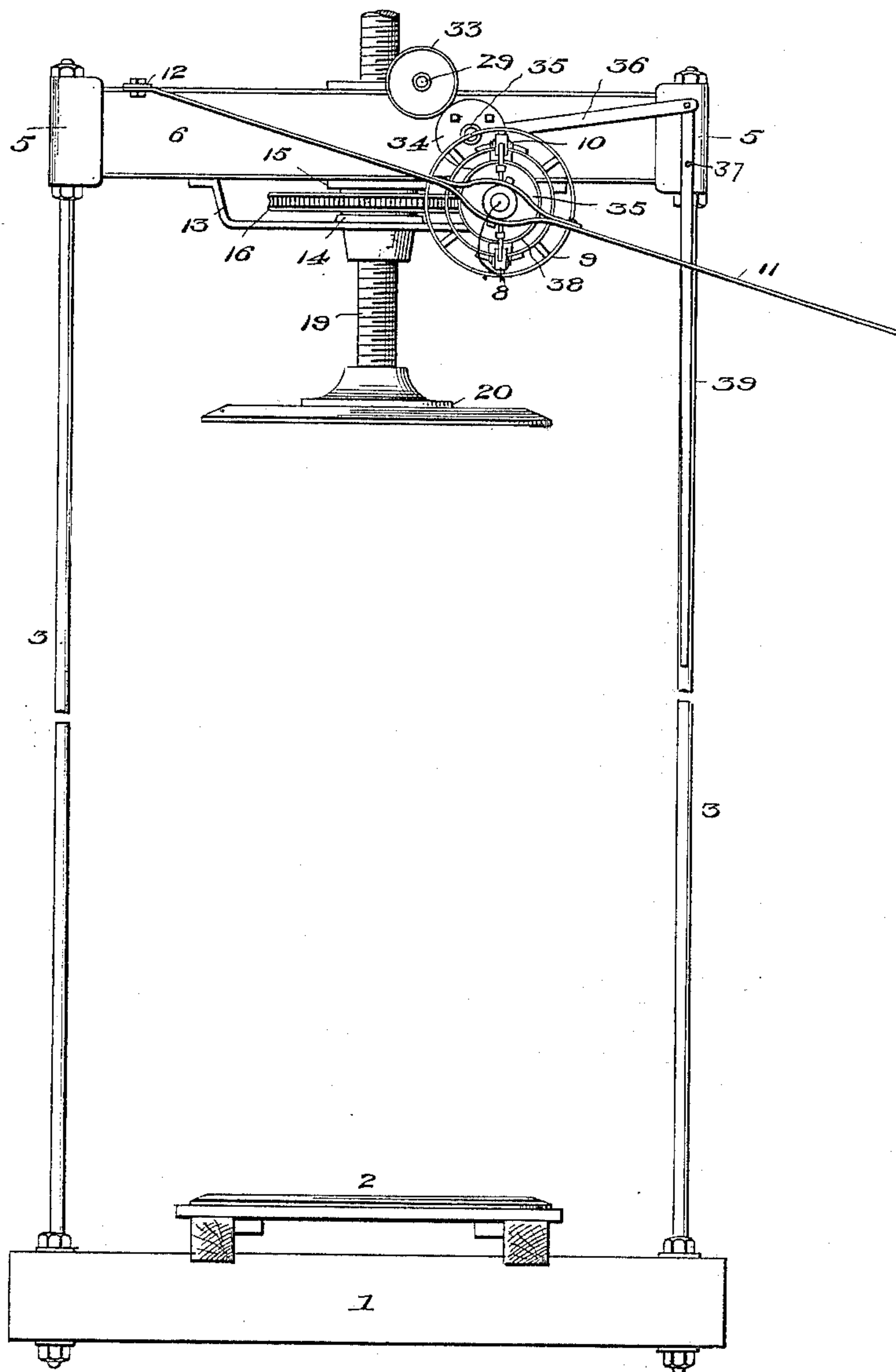
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Fig. 2.



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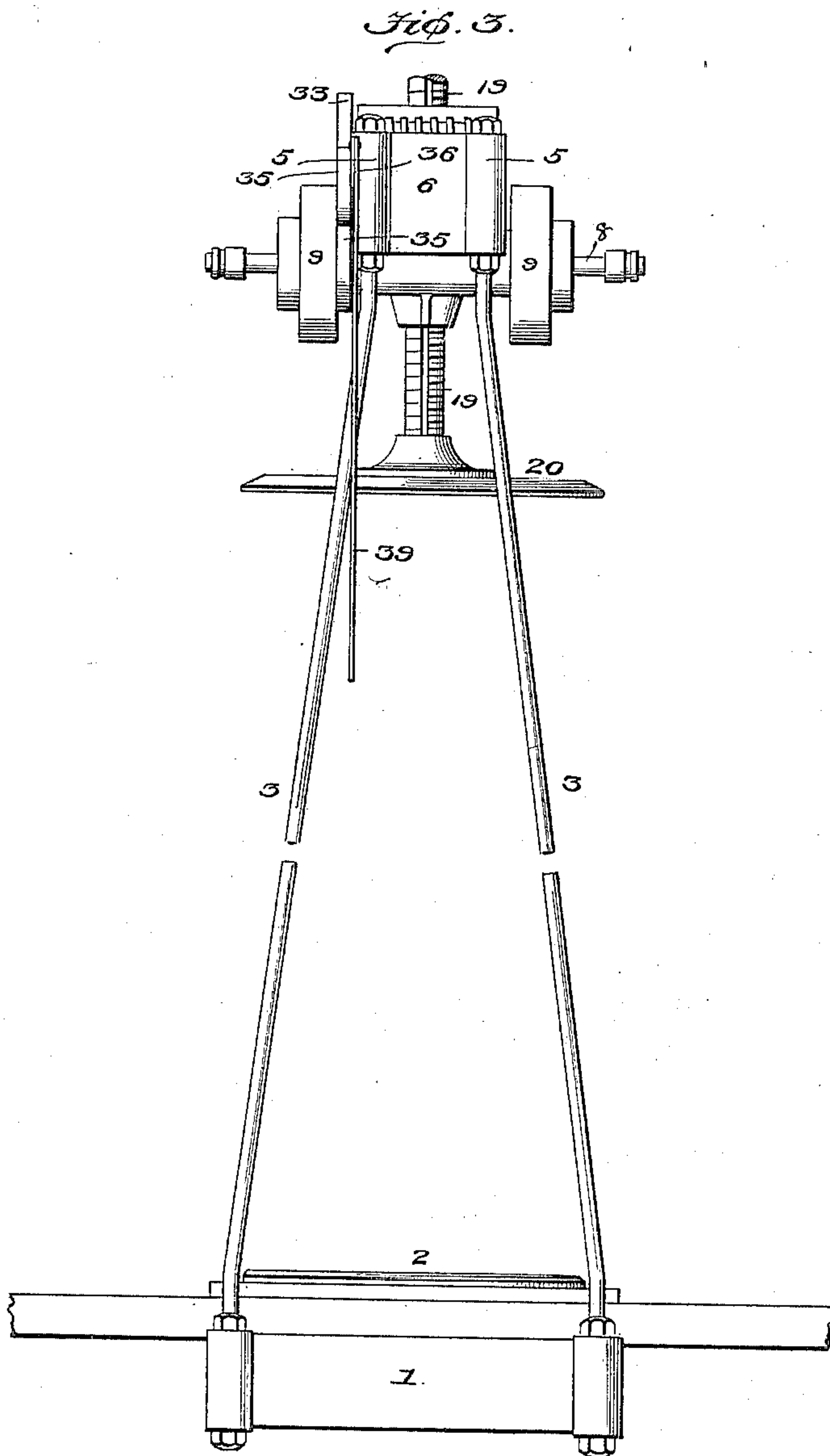
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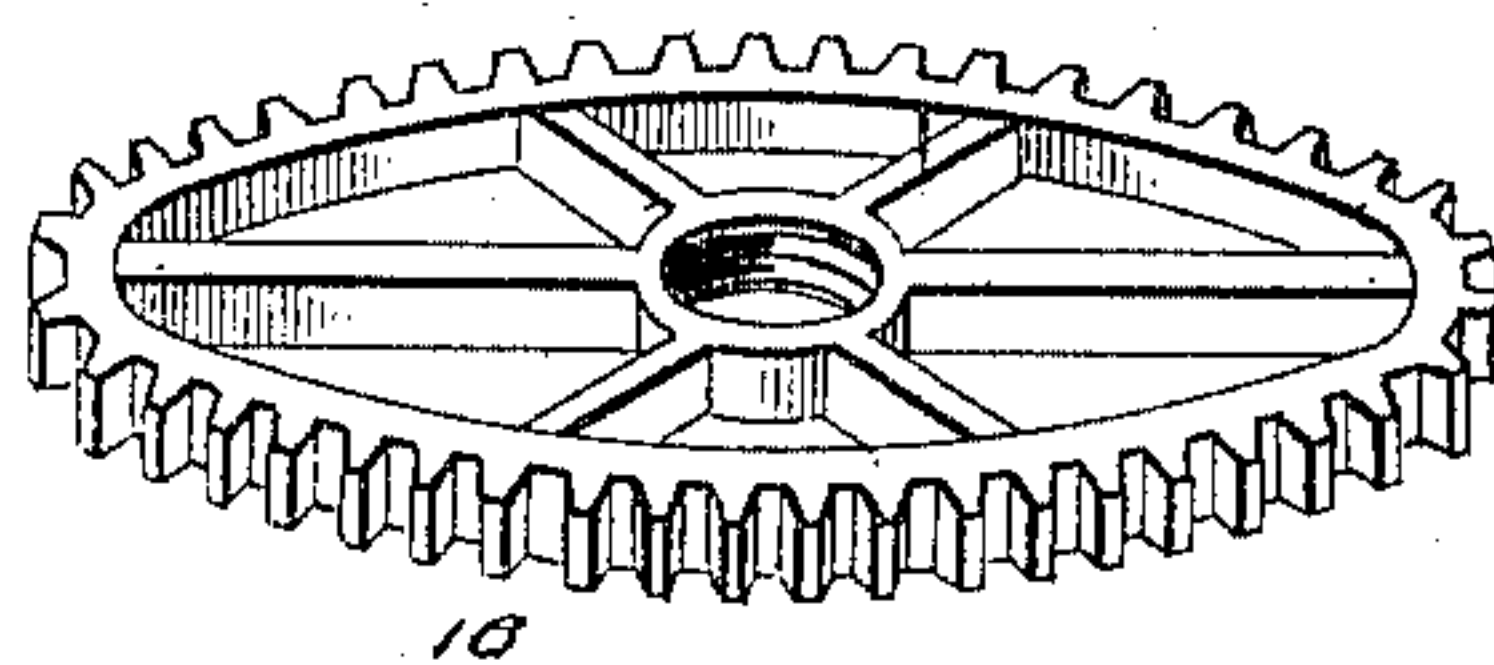
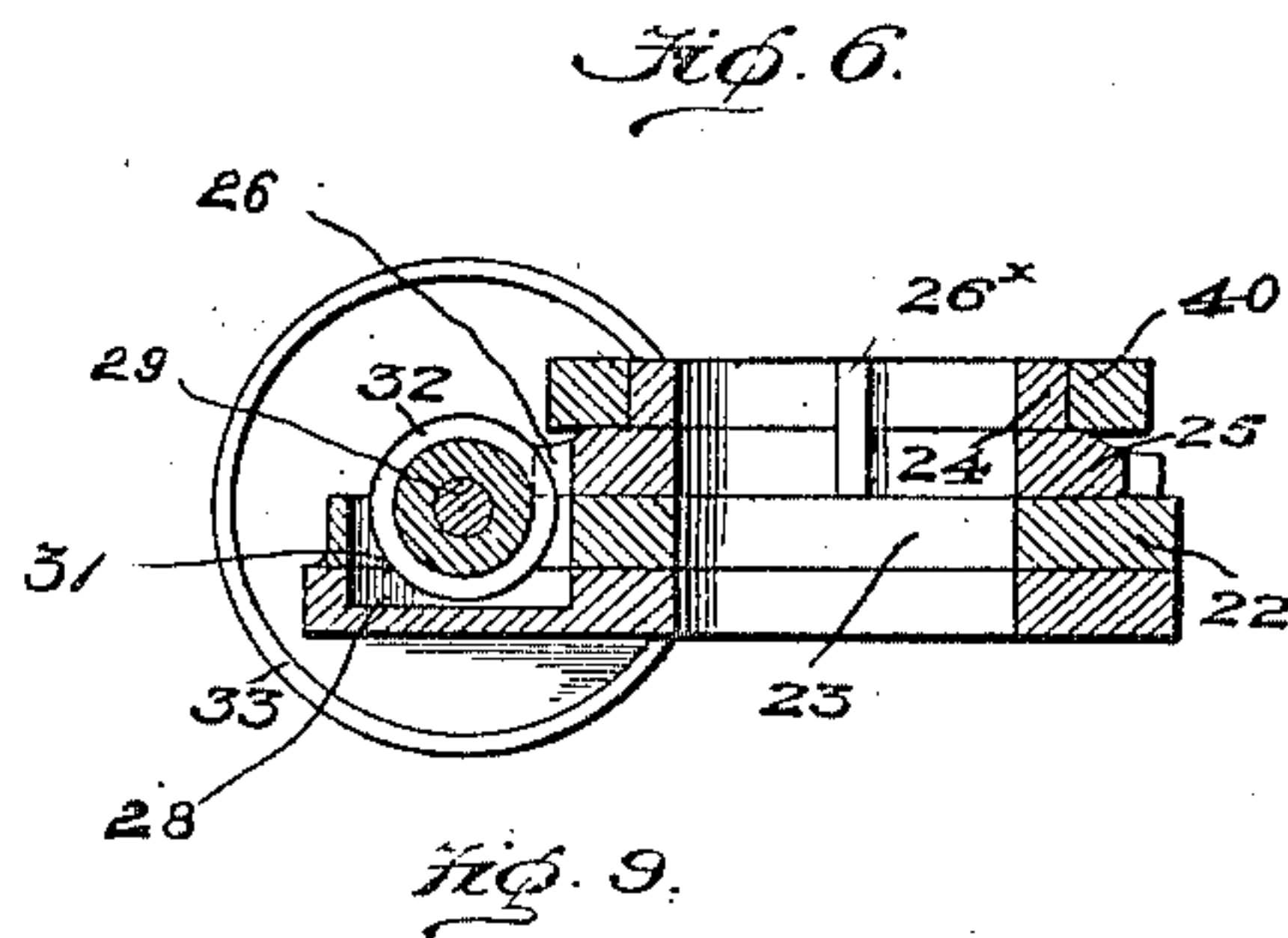
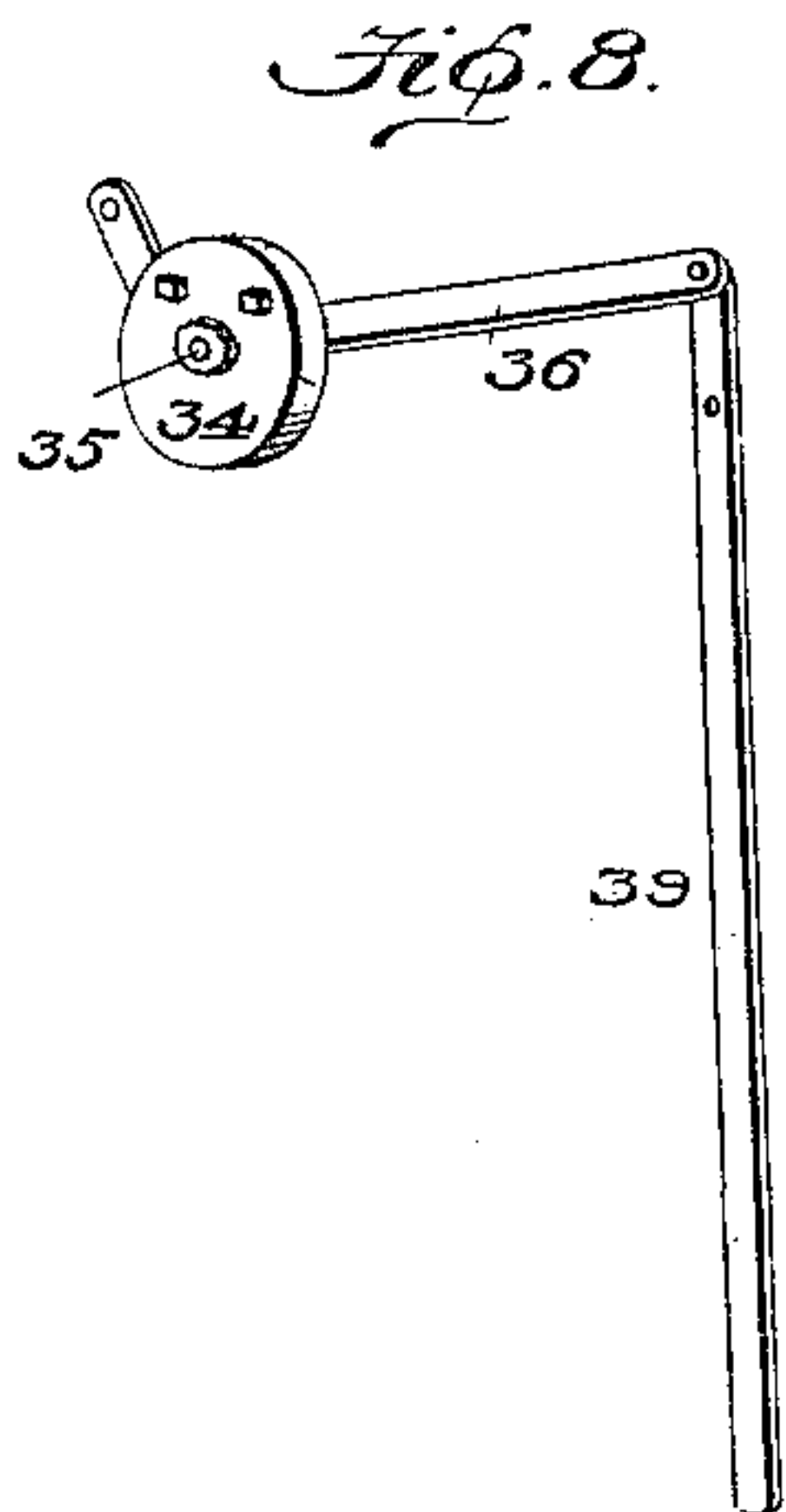
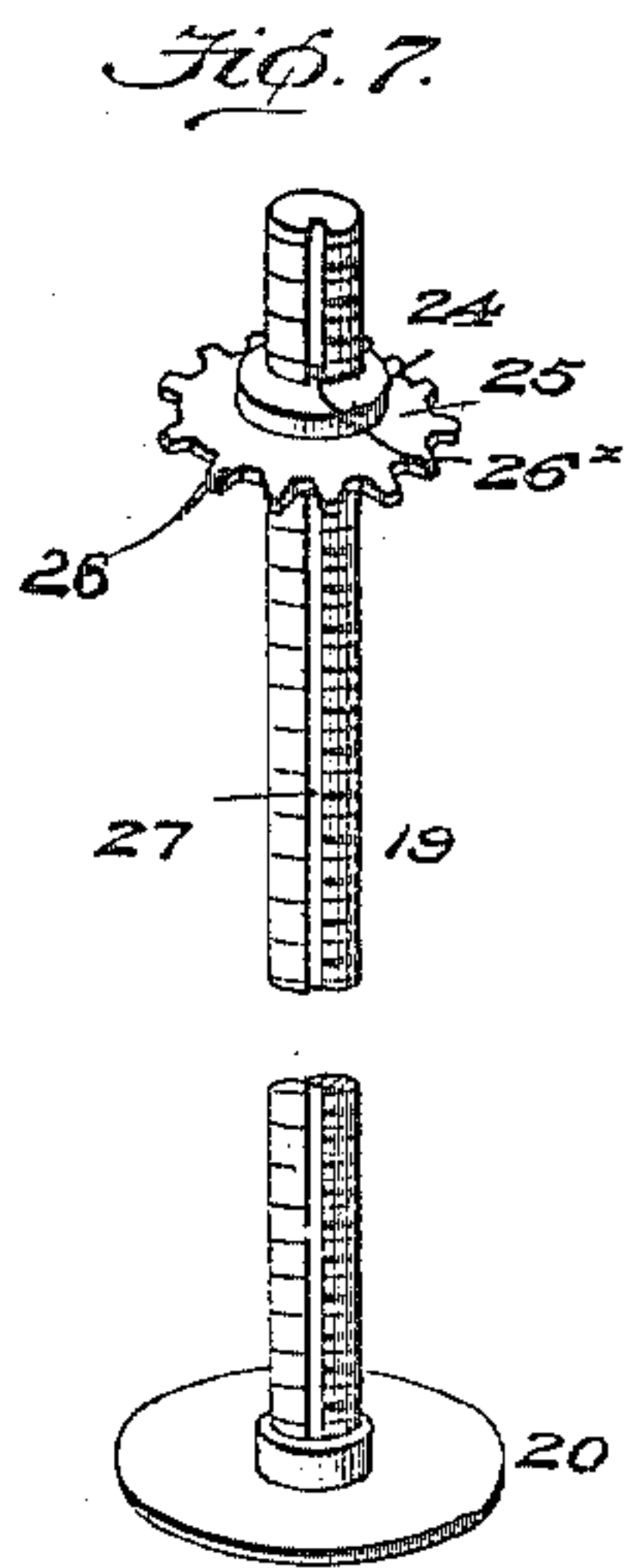
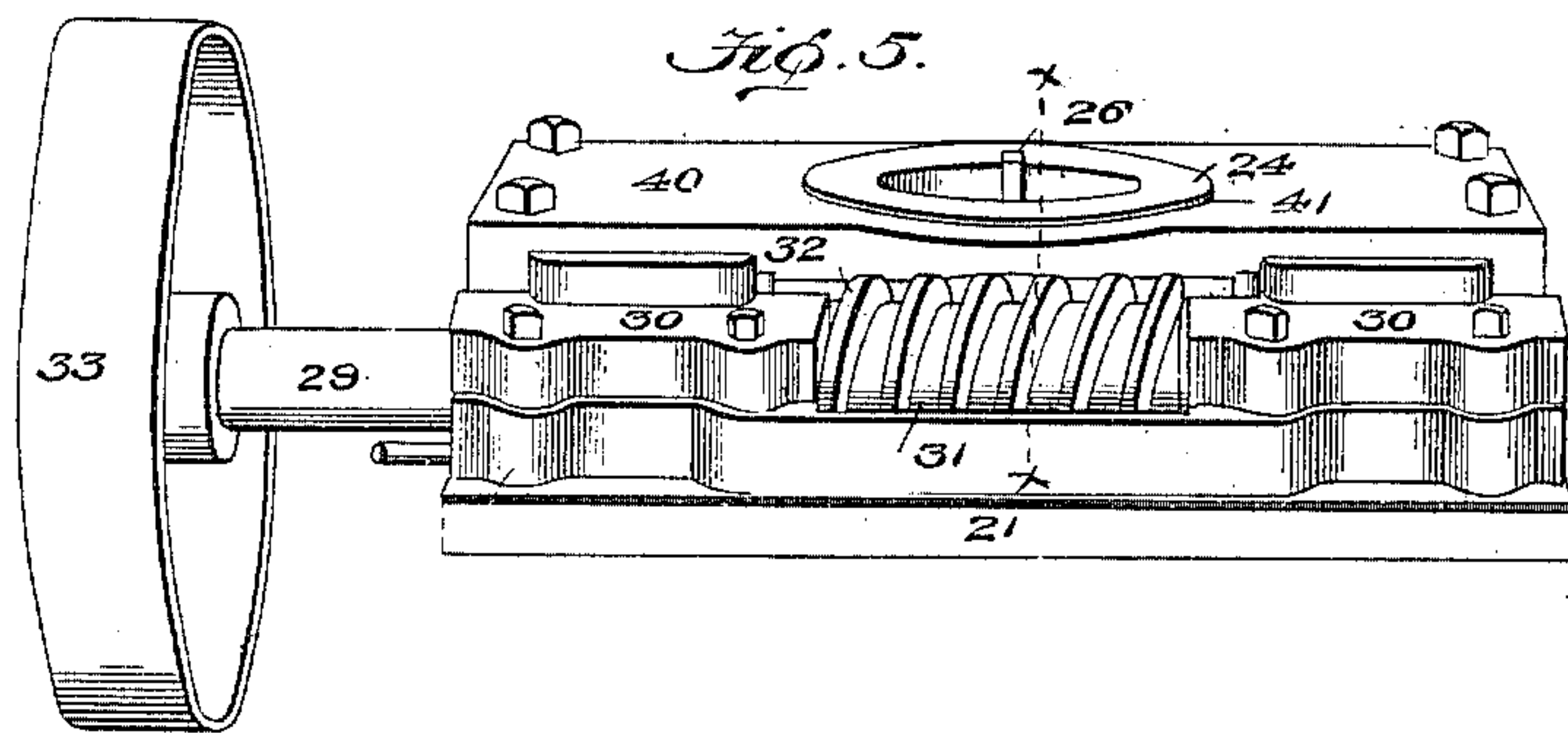
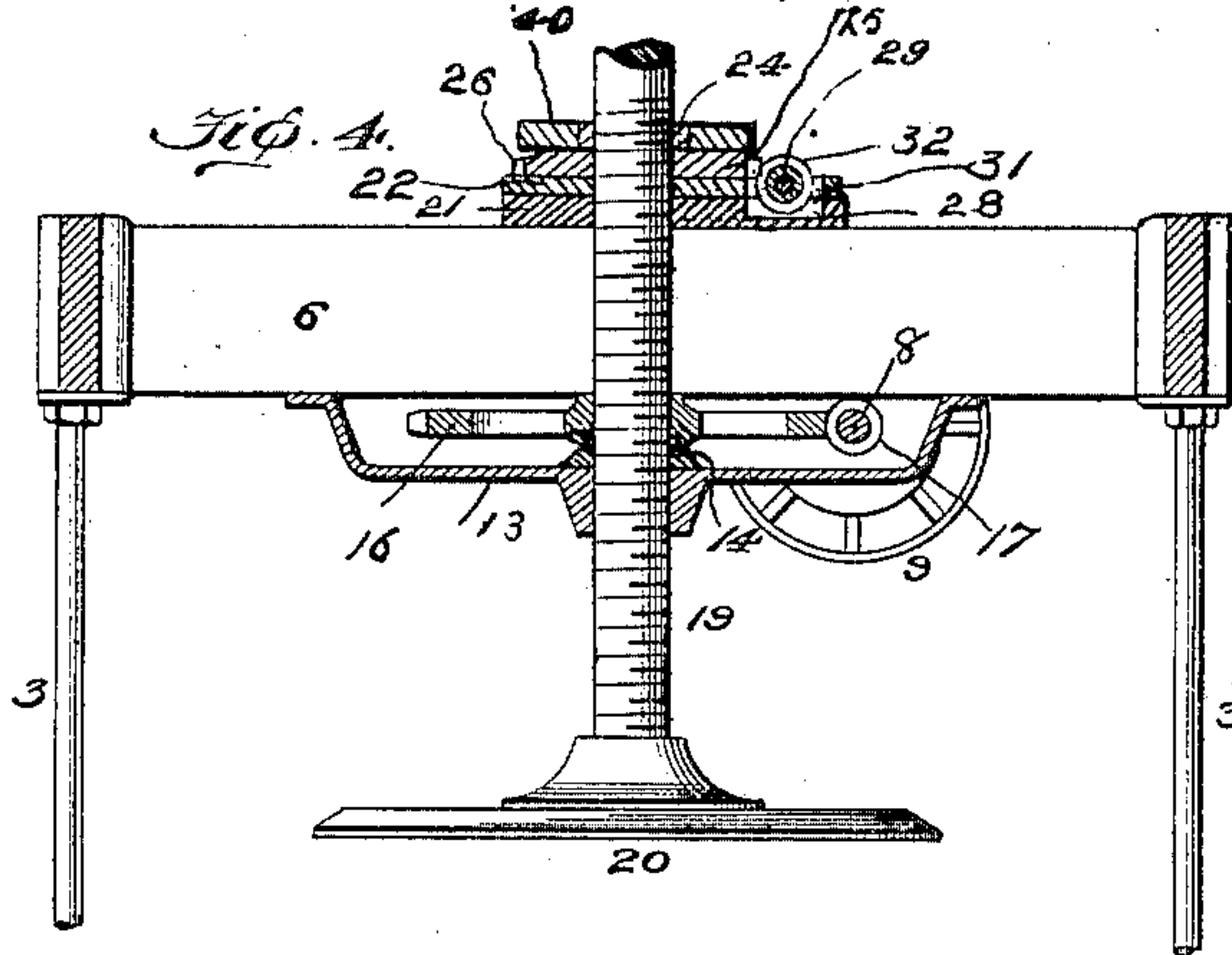
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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

FERDINAND GROTE, OF EVANSVILLE, INDIANA.

PRESS.

SPECIFICATION forming part of Letters Patent No. 659,964, dated October 16, 1900.

Application filed October 23, 1899. Serial No. 734,457. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND GROTE, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Presses, of which the following is a specification.

My invention relates to an improved press; and one object of my invention is the provision of a press adapted to press tobacco, cotton, and the like and which is so operated as to cause the presser to be brought into position in a very rapid manner and when released to be returned in a very rapid manner, a separate mechanism being employed for this purpose, but one which can be used in conjunction with the mechanism for pressing the material.

Another object of my invention is the provision of a press which may be run by power transmitted vertically or horizontally and which consists of a very simple, durable, and inexpensive mechanism, thus producing a very useful and practical press for the intended purposes.

To attain the desired objects, my invention consists of a press embodying novel features of construction and combination of parts, substantially as disclosed herein.

Figure 1 is a perspective view of my complete press in operative position, with the material-holding hogshead in position. Fig. 2 is a side elevation of my press, showing clearly the pressing mechanism. Fig. 3 is a front view of my invention. Fig. 4 is a vertical central sectional view of my press to more clearly show the connections of the gears to the pressing-screw. Fig. 5 is a perspective view of the worm and gear, with casing for guiding and running the screw back or from the material to be or after having been pressed. Fig. 6 is a sectional view taken on line *x x* of Fig. 5. Fig. 7 is a perspective view of the screw and its holding or guiding disk, both being removed from the press. Figs. 8 and 9 are detail views of portions of the machine.

In the drawings the numeral 1 designates the platform upon which rests the hogshead, the bottom 2 of which only is shown in Figs. 2 and 3 and also to which and from which are connected and rise the legs or supports 3, which are secured in the metal frame 4 at the

top of said supports. This frame consists of the ends 5 and the two bars or side pieces 6, to which is connected and is operated my pressing mechanism.

Journaled in the bearings 7, secured to the bars upon their under side, is the shaft or axle 8, upon which are secured the power-transmitting wheels or pulleys 9, each of said pulleys being provided with the clutch mechanism 10, which may be of any well-known form and which is adapted to be operated by the rods 11, secured upon the top of the frame by means of the plate or strip 12, to set the machine or press into operation. Depending from the under side of the frame is the supporting disk or bracket 13, which is provided with the central opening or bearing 14, and upon this bearing and between it and the bearing 15 is the large worm gear-wheel 16, which is adapted to mesh with the worm-gear 17, carried by the shaft 8. The opening 18 of this worm gear-wheel 16 is provided with the large screw-threads, in which is adapted to operate the pressing-screw 19, carrying the presser plate or disk 20 at its lower end.

Secured upon the top of the frame is the plate 21, provided with a bearing 22, having the opening 23, and adapted to be carried by this bearing is the revolving disk 24, which is provided with the central flange 25, provided with the gear-teeth 26, and formed integral with this collar or disk upon the inside thereof is the vertical rib 26*, which is adapted to enter the groove 27, formed in the feed-screw 19, so that while the disk may be moved longitudinally on the screw it will revolve therewith. Formed in the top of this plate 21 is a channel or groove 28, in which is adapted to be journaled the small shaft 29, which is held in place by means of the caps 30, which form journal-boxes for the shaft, and adapted to occupy the large space or recess 31 in the center of the channel 28 is the small worm-gear 32, rigid with the shaft 29, said gear being adapted to mesh with the cogs of the disk 24 to revolve the same, which causes the feed or pressing screw to be rotated rapidly in the threads of the larger gear or cog to raise or lower the presser. Upon the outer end of this shaft 29 is a power-transmitting wheel 33, which is adapted to

be contacted by the small pulley 34, jour-
 naled upon the axle 35, carried by the lever
 36, said lever being movably secured by the
 pin 37 to the frame. This lever is operated
 5 to contact the wheel 33 and the small pulley
 38, carried by the shaft 8, by means of the
 handle 39, which is pivoted to the upper por-
 tion of the press-frame and movably connect-
 ed to the lever 36. Adapted to rest upon the
 10 top of the plate 21 and be bolted thereto is
 the top plate 40, which is provided with the
 opening 41 to receive the upper end of the
 collar or disk 24 and act as the upper por-
 tion of its bearing. It is to be understood
 15 that the screw 19 passes freely in the revol-
 ving disk 24 and the bearing 14.

From this description, taken in connection
 with the drawings, the operation of my press
 is readily understood; but, briefly stated, it is
 20 as follows: The hogshead is filled and placed
 in position to receive the presser-disk, which
 is lowered into position by means of the small
 worm-gear connections, which are operated
 through the medium of the pulley 38 on the
 25 shaft 8 and the intermediate power-transmit-
 ting wheel 34 and the pulley 33, which, when
 the presser-disk is in proper position, pul-
 ley 34 is moved out of engagement with the
 pulley 33 by means of the lever 39, the shaft
 30 8 being revolved to cause its worm-gear to
 operate the large worm gear-wheel which, by
 reason of its connection with the feed-screw,
 causes the presser to be fed steadily and
 heavily to press the material in the hogshead,
 35 and when the material has been pressed suffi-
 ciently, the lever operating the clutch mech-
 anism is operated to throw the same out of
 engagement with the cooperating part with
 which it has been engaged and moved length-
 40 wise of the shaft to throw it into engagement
 with that upon the opposite side, thus caus-
 ing the other pulley to be put in operation,
 thus reversing the movement of the shaft 8,
 which causes the worm-gear to slowly raise

the pressing screw, but which may be raised 45
 very rapidly by causing the transmitting-
 wheel 33 to be again brought into operation,
 this causing the feed-screw to be entirely re-
 volved in the worm gear-wheel 16, thus rais-
 ing the feed-screw rapidly. 50

I would have it understood that the idea
 of the means for holding the feed-screw in
 position and for causing the same to rapidly
 ascend or descend when the press has been
 completed or before it has been started, al- 55
 though it may be employed to press the ma-
 terial in connection with the means for stead-
 ily and heavily moving the pressing screw, is
 broadly new and is the gist of my invention.

Thus it will be seen that I provide a thor- 60
 oughly efficient and practical press, which is
 the embodiment of simplicity, durability, and
 cheapness.

I claim—

1. In a press, the combination of a platen, 65
 a driving-pulley, an upper and a lower worm-
 gear, means cooperating with each of said
 gears, and devices whereby either of said
 worm-gears may be connected or disconnected
 alternately with the driving-pulley, as set 70
 forth.

2. In a press, a threaded stem, a presser-
 plate at one end thereof, a toothed gear
 threaded on said stem, a pinion keyed to said
 stem to slide thereon, a worm meshing with 75
 said gear, and another worm meshing with
 said pinion, a driving-pulley on the shaft of
 the first-mentioned worm, a clutch between
 said pulley and worm-shaft, and a shiftable
 device for connecting or disconnecting the 80
 said driving-pulley to or from said worm
 that drives the sliding pinion, as set forth.

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

FERDINAND GROTE.

Witnesses:

WM. HARTMAN,
 FRED W. GOERGEUS.