

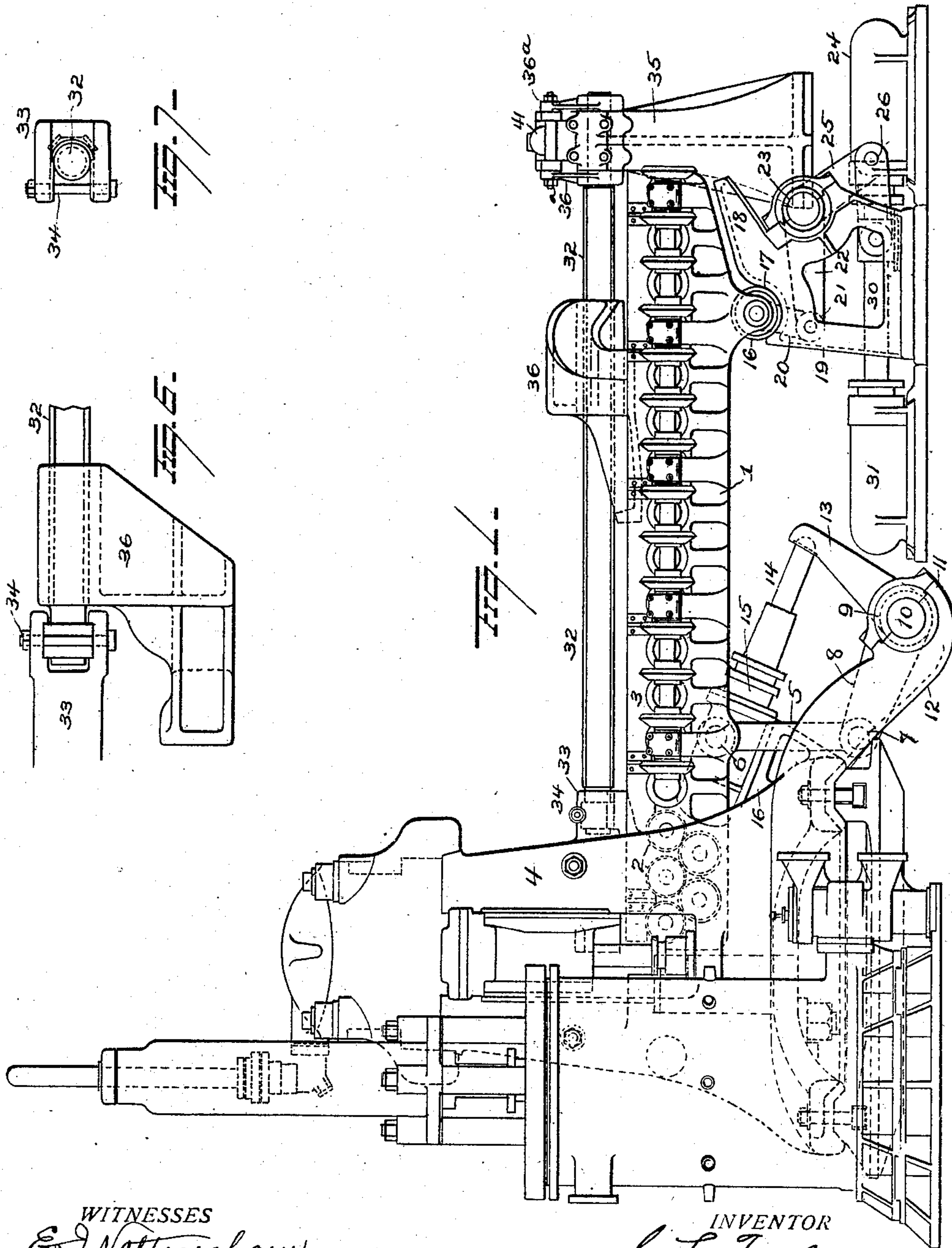
No. 840,398.

PATENTED JAN. 1, 1907.

C. L. TAYLOR.
ROLLER TABLE.

APPLICATION FILED MAR. 12, 1906.

4 SHEETS—SHEET 1.



WITNESSES
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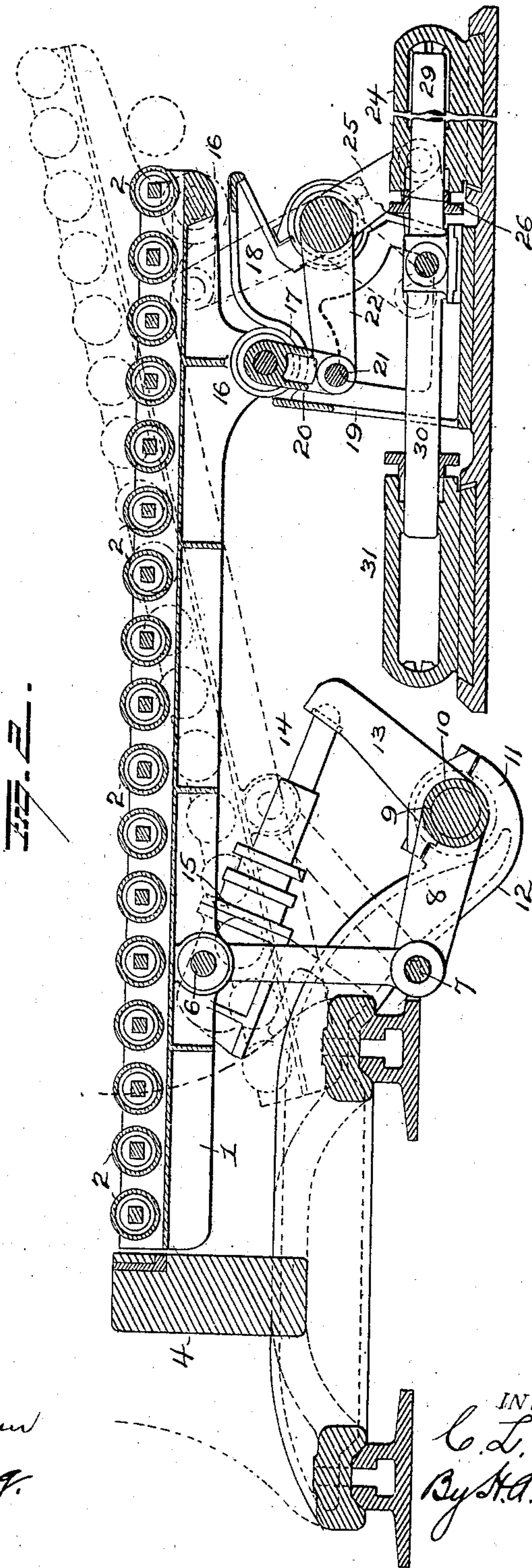
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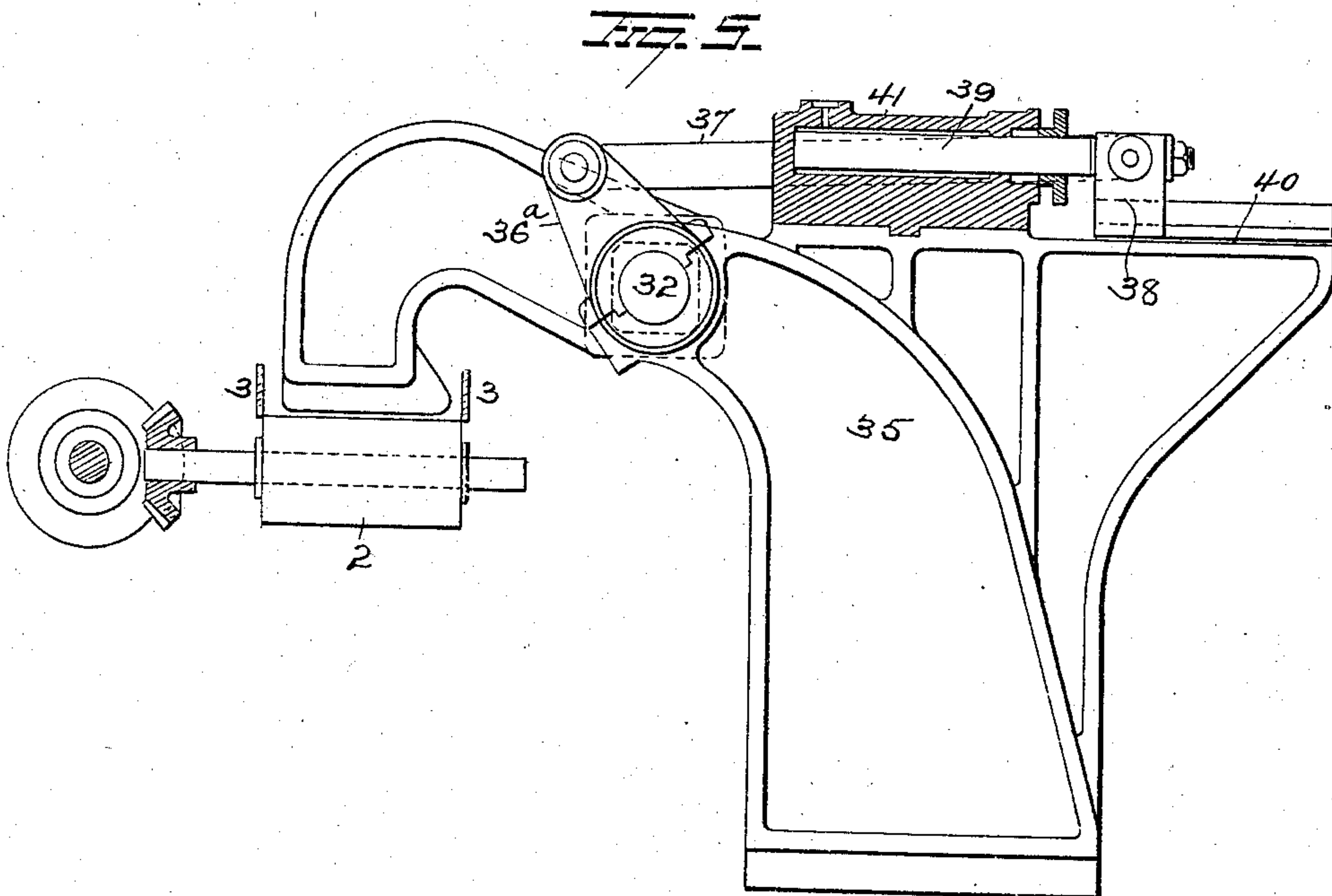
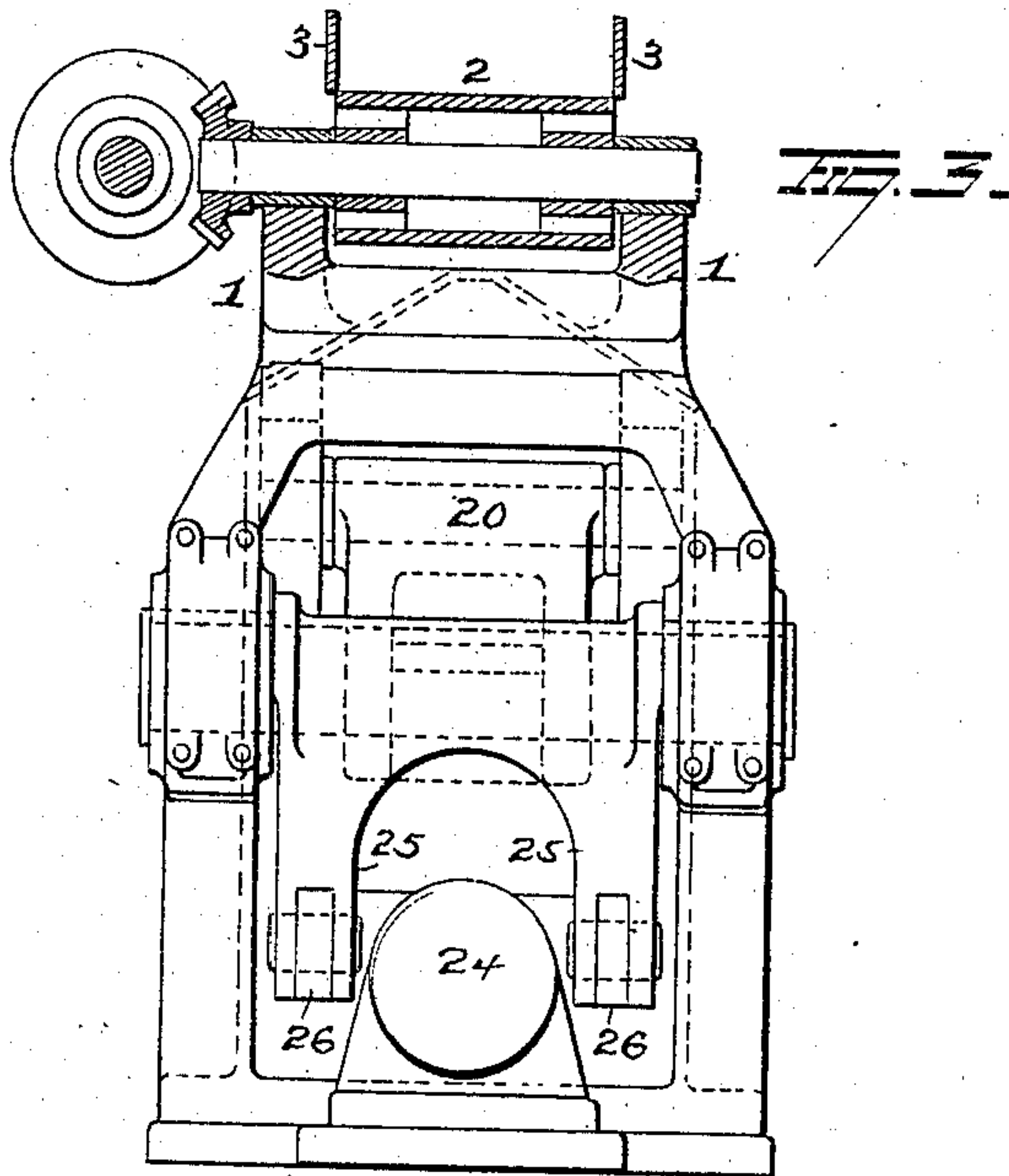
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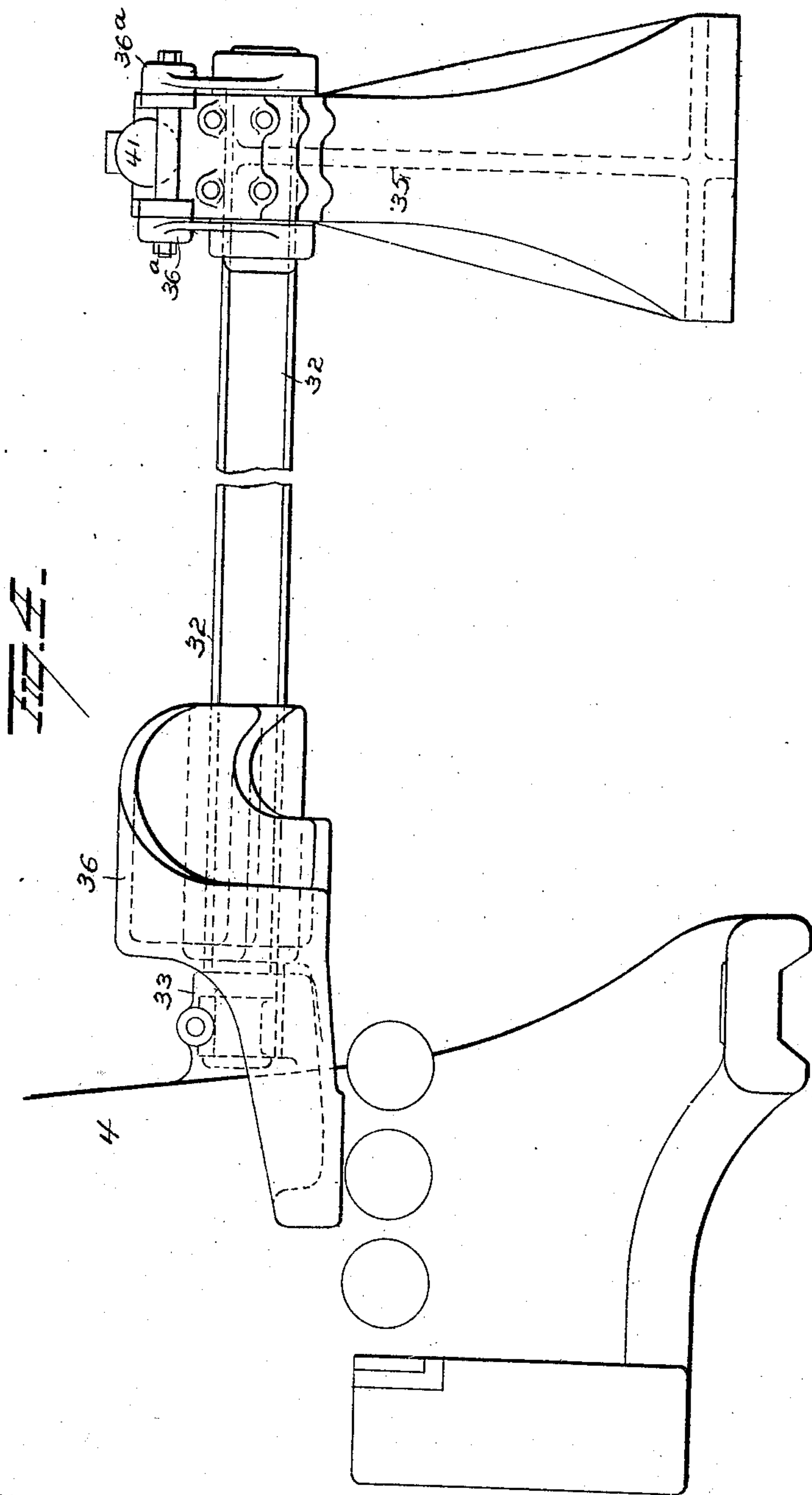
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UNITED STATES PATENT OFFICE.

CLARENCE L. TAYLOR, OF ALLIANCE, OHIO, ASSIGNOR TO THE MORGAN
ENGINEERING COMPANY, OF ALLIANCE, OHIO.

ROLLER-TABLE.

No. 840,398.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed March 12, 1906. Serial No. 305,677.

To all whom it may concern:

Be it known that I, CLARENCE L. TAYLOR, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful
5 Improvements in Roller-Tables; 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.
10 My invention relates to an improvement in roller-tables for use in connection with metal shears, the object of the invention being to provide a table that can be moved away from the shear so as to permit of the discharge of
15 the severed ends and all undersized parts and be moved up to the shear in a position to receive the articles as they pass through the shear.

A further object is to provide an adjustable
20 gage adapted to overhang the roller-table and capable of being moved so as to permit the roller-table to drop and also to permit of the articles thereon to be carried throughout the length of the table.

25 With these ends in view my invention consists in the parts and combination of parts, as will be more fully explained and pointed out in the claims.

In the accompanying drawings, Figure 1 is
30 a view in elevation of my improvement. Fig. 2 is a view in vertical longitudinal section of the table, the full lines showing the table in its operative position and the dotted lines showing it tilted, the gage being removed.
35 Fig. 3 is an end view partly in section. Fig. 4 is a view in side elevation of the gage and its supporting-shaft. Fig. 5 is an end view of the latter, the gage-actuating cylinder being shown in section; and Figs. 6 and 7 are detail
40 views showing the manner of mounting the gage-actuating shaft at its end adjacent to the shear.

1 represents a rectangular table of any approved construction provided throughout its
45 length with a series of rollers 2, coupled up so as to rotate in unison and convey any article placed thereon throughout the length of the table. This table is provided with sides 3, which project above the rolls and prevent
50 any article on the rolls from being discharged over either side, and is supported at its end adjacent to the shear 4 by the arms 5, pivoted at 6 to the under side of the table and secured at their opposite ends to the shaft 7, the lat-

ter being supported at its ends in the levers 8, 55
integral with sleeve 9, mounted on shaft 10, the latter being supported at its ends in bearings 11, which latter are preferably formed in projections 12 from the shear-frame or housing 4. Secured to this sleeve 9 in a plane to
60 one side of the table is the lever-arm 13, which normally rests at or about the angle shown in Fig. 2, and which has bearing against the free end of the plunger 14, mounted in the cylinder 15. This cylinder is in an inclined
65 position and is secured to bracket 16, preferably integral with the frame or housing of the shear. From this explanation it will be seen that with a pressure within cylinder 15
70 in front of the plunger the table will, so far as the mechanism above described is concerned, remain in its elevated position or, rather, in
the position shown in full lines in Fig. 2. Cylinder 15 is piped to an accumulator with-
75 out operating-valves, thus giving constant pressure in said cylinder. When a piece is severed by the shear, the severed end will be forced downwardly by the top knife and
80 knife-holder, and as this severed piece is resting on the roller-table the latter will be forced downward, thus forcing the plunger into the cylinder 15, which displaces an equal volume
of water through the connecting-pipe back to the accumulator. When the top knife
85 moves upwardly, the constant hydraulic pressure within cylinder 15 will return the table to its horizontal position. This arrangement makes the upward and downward movement
90 of the table at the shear end perfectly automatic and without the use of operating-valves.

The outer or discharge end of the table carries the wheels 16, which latter normally rest
95 in the curved seats 17, formed in the sides 18 of the frame 19. These seats 17 are curved to conform to the peripheries of the wheels, so as to normally hold the latter against
movement, and thus maintain the table solidly while in its horizontal position.

The sides 18 of the frame constitute track- 100
ways on which the wheels 16 travel, and at a point immediately in rear of the curved seats they extend abruptly upwardly and rear-
wardly and then rearwardly at a gradual in- 105
cline, so that when the wheels 16 are first forced rearwardly they rise abruptly and
then at a gradual ascent rearwardly. Se-
cured to the axle of these wheels 16 or to

bearings coincident with the axes of said wheels is the link 20, carrying the pin 21, to which the crank-arm 22 is secured. This arm is fixed to the shaft 23, mounted in bearings in the frame 19. Secured to shaft 23 is the lever-arm 25, bifurcated at its lower end so as to straddle the cylinder 24. The two ends of the bifurcated end of the arm 25 are pivotally connected at a point intermediate the two cylinders by links 26 with the double plunger 29 and 30, mounted in cylinders 24 and 31. These cylinders are located end to end, as shown in Fig. 2, with the plungers 29 and 30 moving in their respective cylinders.

The link 20, connecting the lever-arm 22 with the table, normally inclines upwardly and rearwardly. Hence a lifting pressure applied thereto tends to elevate the rear end of the table and also causes the wheels to hug the upwardly and rearwardly inclined tracks on which they move.

The operation of the apparatus at the rear end thereof is as follows: With the table in its normal position, as shown in full lines in Fig. 2, if the fluid be exhausted from cylinder 31 and admitted to cylinder 24 the plungers 30 and 29 will be forced forwardly or to the left, thus turning shaft 23 and elevating crank-arm 22. This upward movement of the arm 22 forces the link 20 and table connected thereto upwardly and rearwardly, as shown in dotted lines in Fig. 2. As the table begins to move rearwardly the arms 5, supporting the front end, swing rearwardly until they assume the position shown in dotted lines, Fig. 2. With the table in this inclined position, its front end or its end adjacent to the shear rests in a plane below and at a distance removed from the shear, thus leaving ample room for the discharge of all ends and other short sections severed by the shear. To restore the table to its normal position, it is simply necessary to exhaust the fluid in cylinder 29 and admit fluid under pressure to cylinder 31. The pressure in cylinder 31, assisted by gravity, causes the table to assume its horizontal position, the fluid in the twin cylinders 24 and 31 causing the parts to move steadily and without shock or jar.

32 is a shaft located adjacent to and parallel with the table. This shaft is pivotally and removably supported at its front end in the bearing 33, formed in the housing or shear frame and is detachably locked therein by the pin 34, the rear end of said shaft being supported by the frame 35.

Mounted to slide on the shaft 32 is the gage 36, which latter is shaped as shown and normally rests over the rolls and in the path traversed by any article resting on the rolls. This gage can be moved to any position and clamped by any suitable means and when in its position over the rolls forms a stop or abutment for one end of the article to be severed by the shear.

Secured to the shaft 32 at its rear end are the crank-arms 36^a, to which the pitmen 37 are pivotally connected. These pitmen are connected at their rear ends to the cross-head 38, to which the plunger 39 is secured, the said cross-head traveling in the guide-ways 40, formed in the supporting-frame 35. The plunger 39 is mounted in cylinder 41, and it will be seen that when fluid under pressure is admitted to the cylinder the shaft 32 and its attached gage will be rocked in a direction to carry the gage to one side and out of the plane of the vertical table.

In the operation of the device after the article, the length of which has been gaged by the gage, has been severed by the shear the gage should be turned sidewise sufficiently to permit the article to pass on and be discharged over the end of the table. Again, when it is necessary to tilt the table, as before described, the gage should first be thrown over and to one side, so as to permit the table to assume its inclined position without interference from the gage.

If the gage-arm 36 is placed toward the rear end of the table in position over the rollers, as shown in Fig. 5, and the table be moved to the position shown in dotted lines in Fig. 2, the upward movement of the rear end of the table will automatically raise the gage-arm 36, which movement will turn shaft 32 in its bearings and move the cross-head 38 and plunger 39 outward without the use of water in cylinder 41. When the table moves back to its original horizontal position, the gage-arm 36, being heavier than its attached parts, will draw the plunger back into cylinder 41. From this it will be seen that the gage can move automatically with the movements of the rear end of the table and also be operated independently by its operating-cylinder 41.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts herein shown and described; but,

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

1. In a roller-table, the combination with a movable support for one end of the table, of a fixed inclined support for the other end of the table, and means for positively moving said table on said inclined support.

2. In a roller-table the combination with a movable support for one end of said table, of a fixed inclined support for the other end of said table and means connected with the table for positively moving it on said inclined support.

3. The combination with a shear or other

tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or machine, an inclined support for the rear end of the table and means for positively moving said table back and forth on said inclined support.

4. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or machine, wheels carried by the rear end of said table, an inclined support for said wheels, the lower end of said inclined support terminating in curved seats for the wheels on the table, and means connected with the table for positively moving the latter on said inclined support.

5. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or support, wheels adjacent to the rear end of said table, an inclined support on which said wheels travel, a pair of cylinders, a plunger common to both cylinders and means connecting the plunger and table whereby the latter is positively moved back and forth over said inclined support.

6. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to said tool or machine, wheels carried by said table near its discharge end, an upwardly and rearwardly inclined way on which said wheels are mounted, twin cylinders, a plunger common to both and mechanism connecting the plunger and table whereby the latter may be moved longitudinally on the inclined way.

7. The combination with a table, an in-

clined way or support for the rear end of the latter and means for moving the table over said inclined way or support, of links supporting the forward end of said arms, crank-arms supporting said links, a cylinder, a plunger therein and means connecting said plunger and crank-arms.

8. The combination with a table, an inclined way or support for the rear end of the latter, and means for moving the table over said inclined way or support, of links pivotally connected to the forward end of the table, crank-arms carrying said links, a cylinder, plunger therein, and a lever-arm connected to the crank-arms and bearing against the end of the plunger.

9. The combination with a roller-table, of a shaft parallel therewith, a gage slidingly mounted on said shaft and adapted to rest in a position over the table, and means for rocking the shaft.

10. The combination with a roller-table, of a shaft parallel therewith, a gage slidingly mounted on said shaft and constructed to overhang the roller-table, and a hydraulic plunger connected to said shaft for rocking same.

11. The combination with a roller-table, and means whereby the latter can be moved rearwardly into an inclined position, of a shaft parallel with said table, a gage slidingly mounted on said shaft, a crank on the shaft, a cylinder, and a plunger within the cylinder and connected to the crank on the shaft.

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

CLARENCE L. TAYLOR.

Witnesses:

E. E. BROSIUS,
N. C. FETTERS.