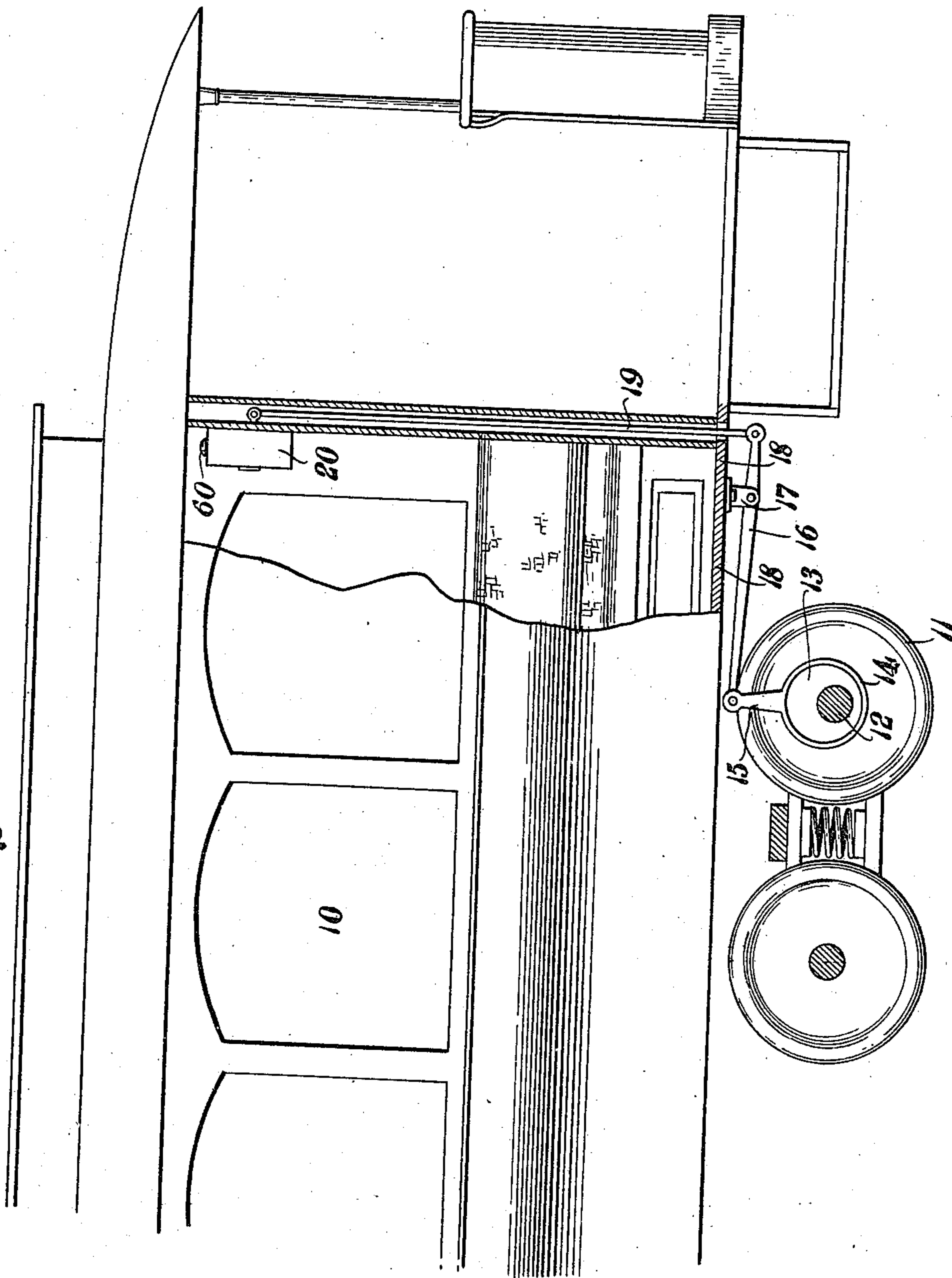


948,911.

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CAR INDICATOR.
APPLICATION FILED APR. 16, 1908.

Patented Feb. 8, 1910.
4 SHEETS—SHEET 1.

Fig. 1.



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4 SHEETS—SHEET 2.

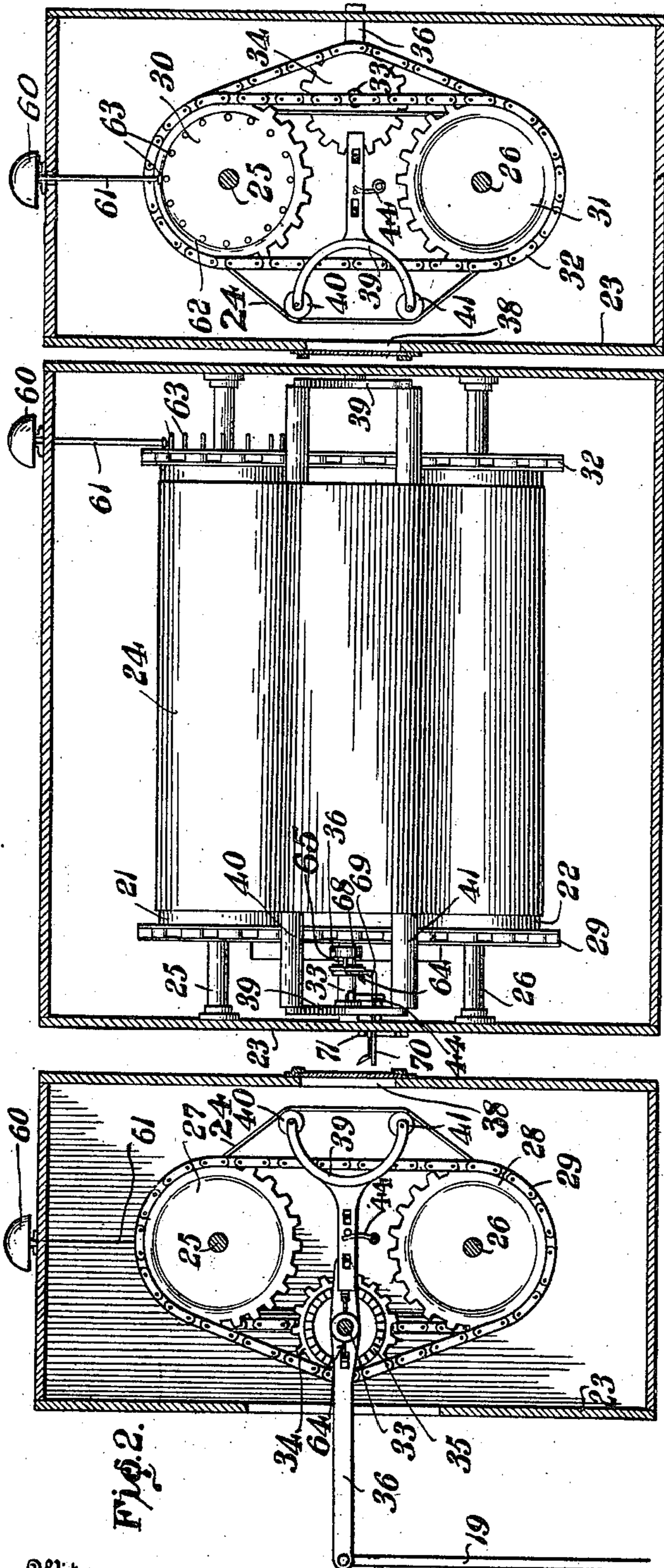


Fig. 4.

Fig. 3.

Fig. 2.

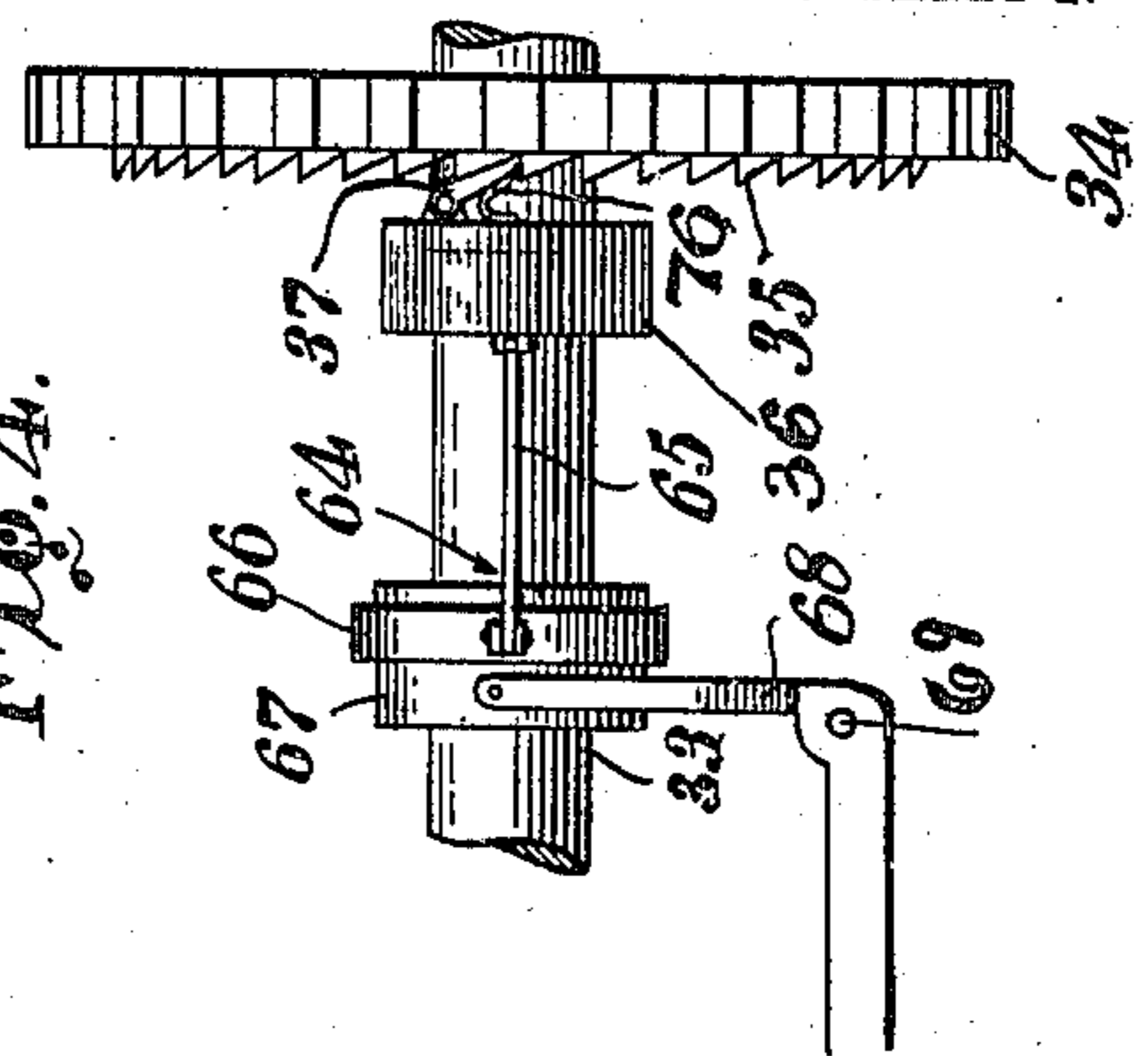


Fig. 6.

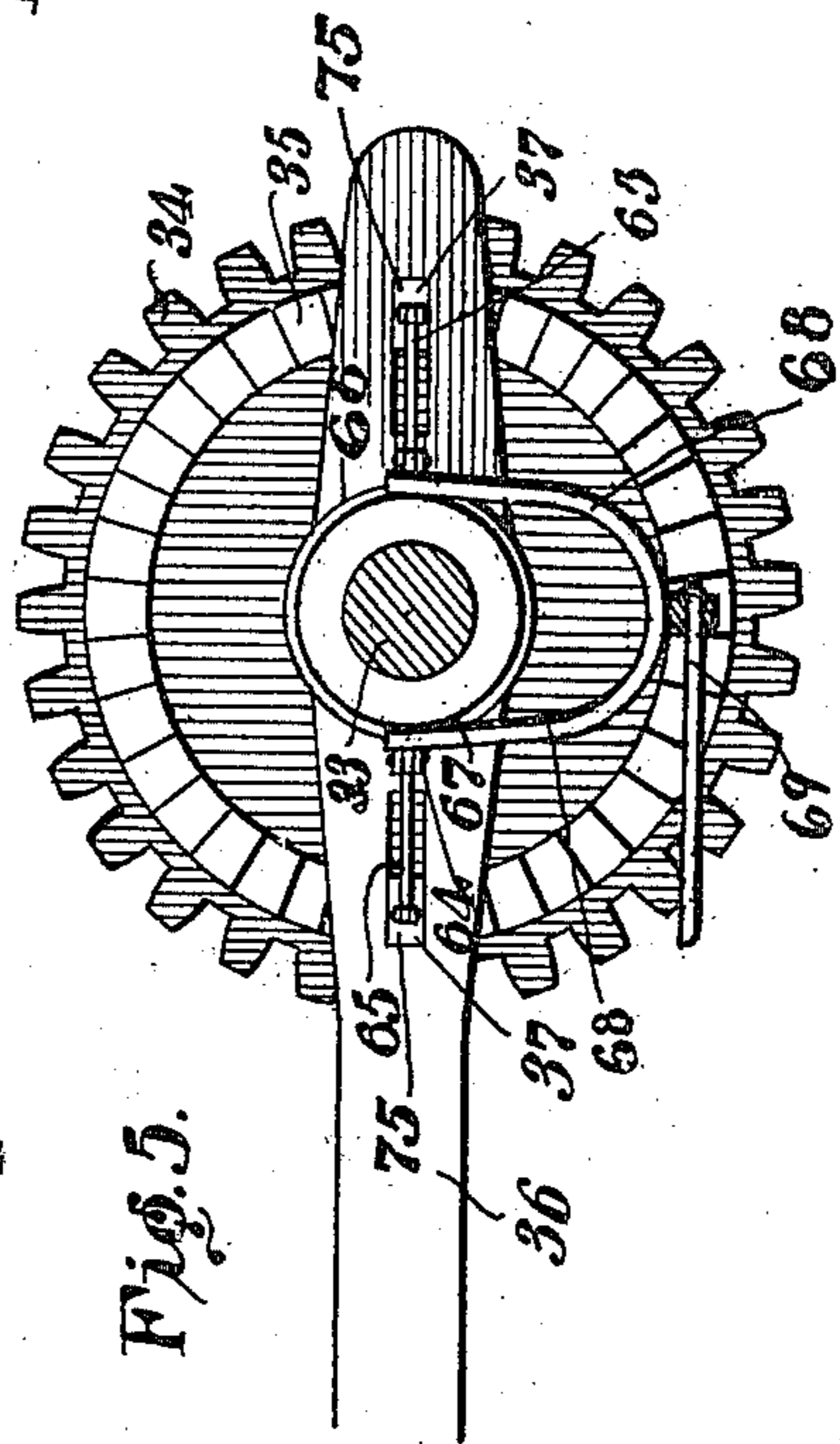


Fig. 5.

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4 SHEETS—SHEET 3.

Fig. 8.

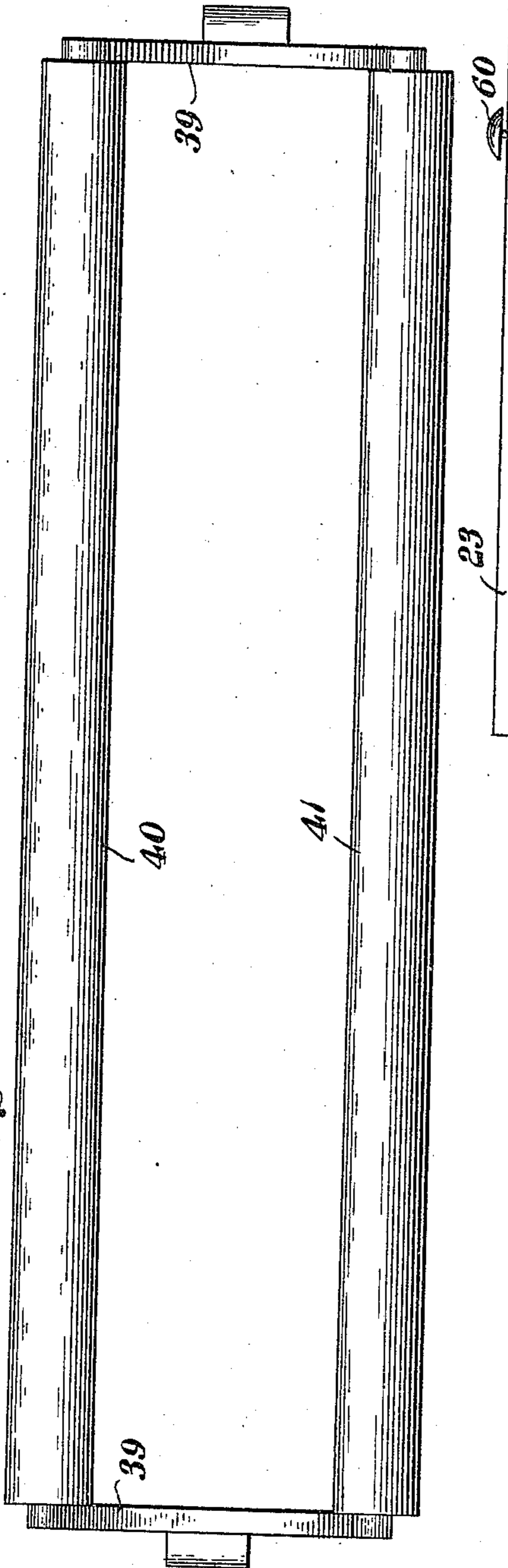


Fig. 9.

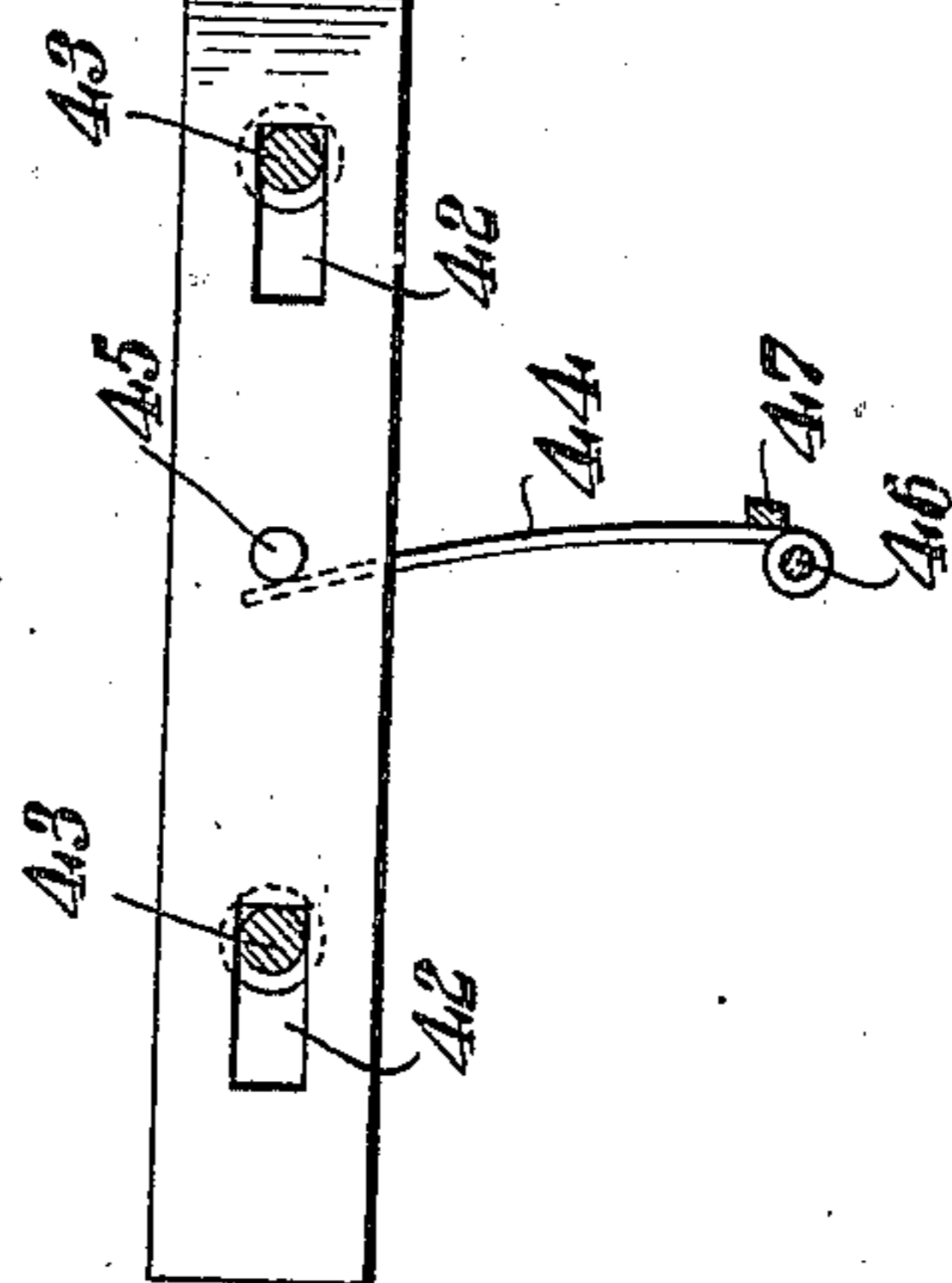
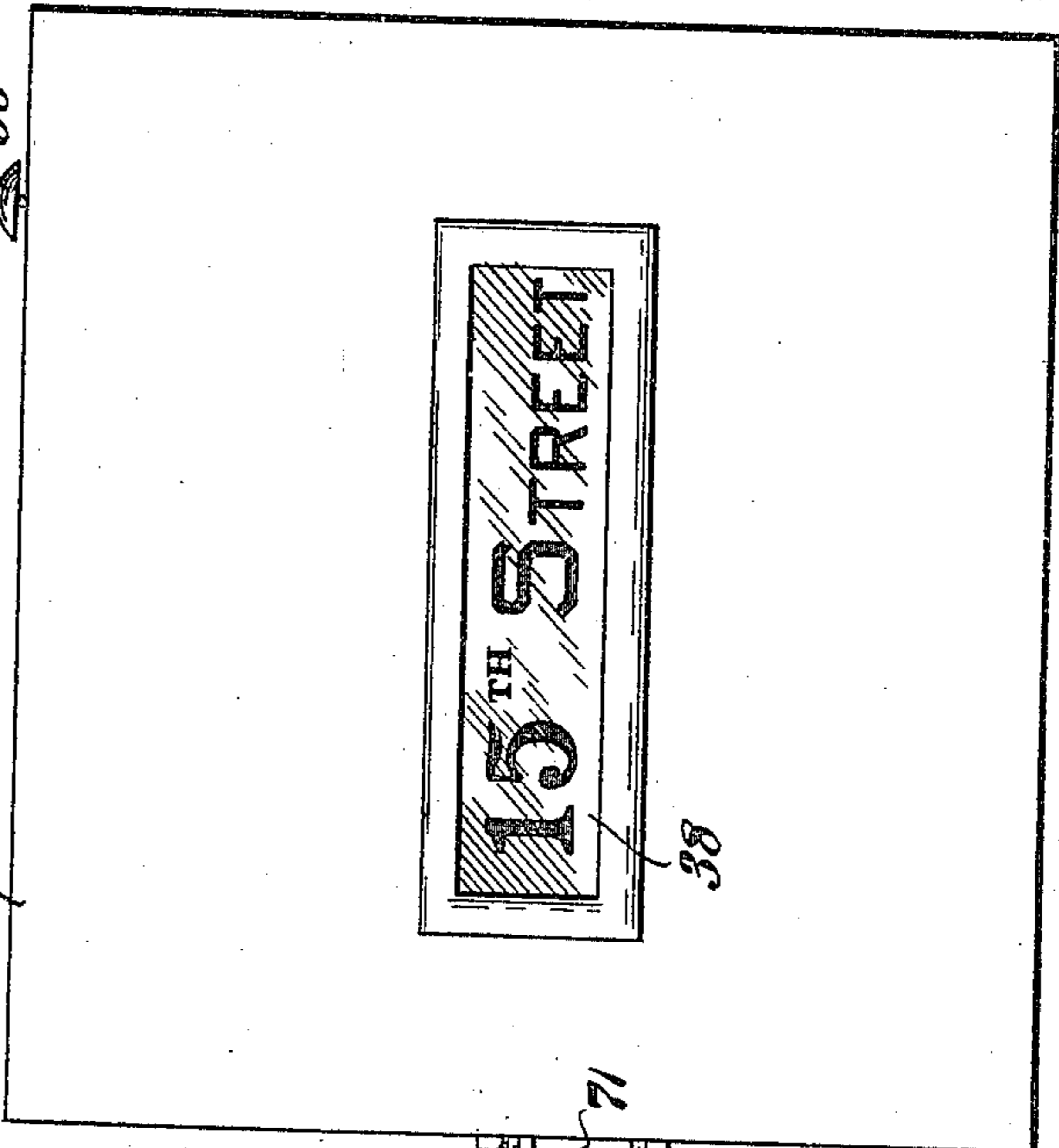


Fig. 7.



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4 SHEETS—SHEET 4.

Fig. 10

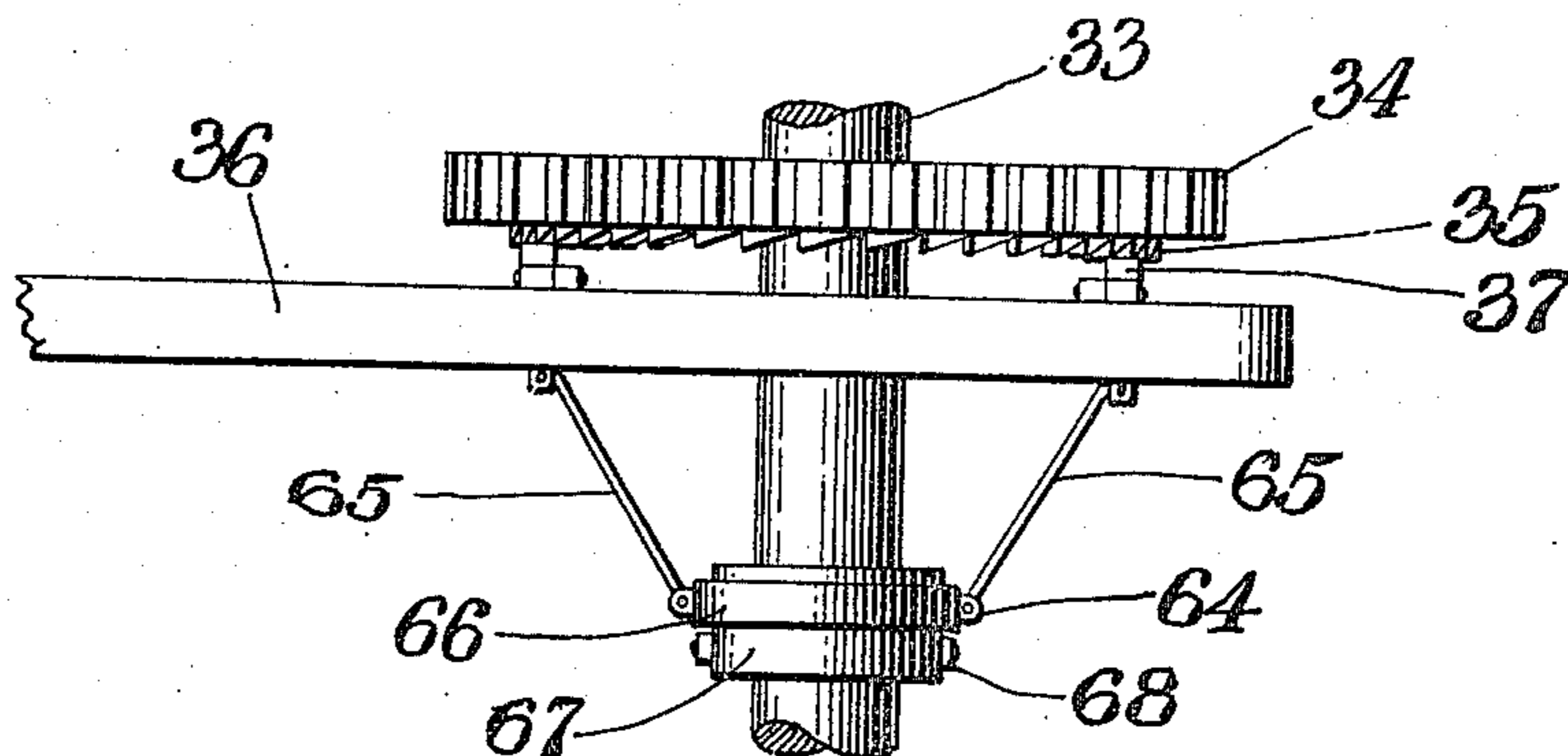


Fig. 11

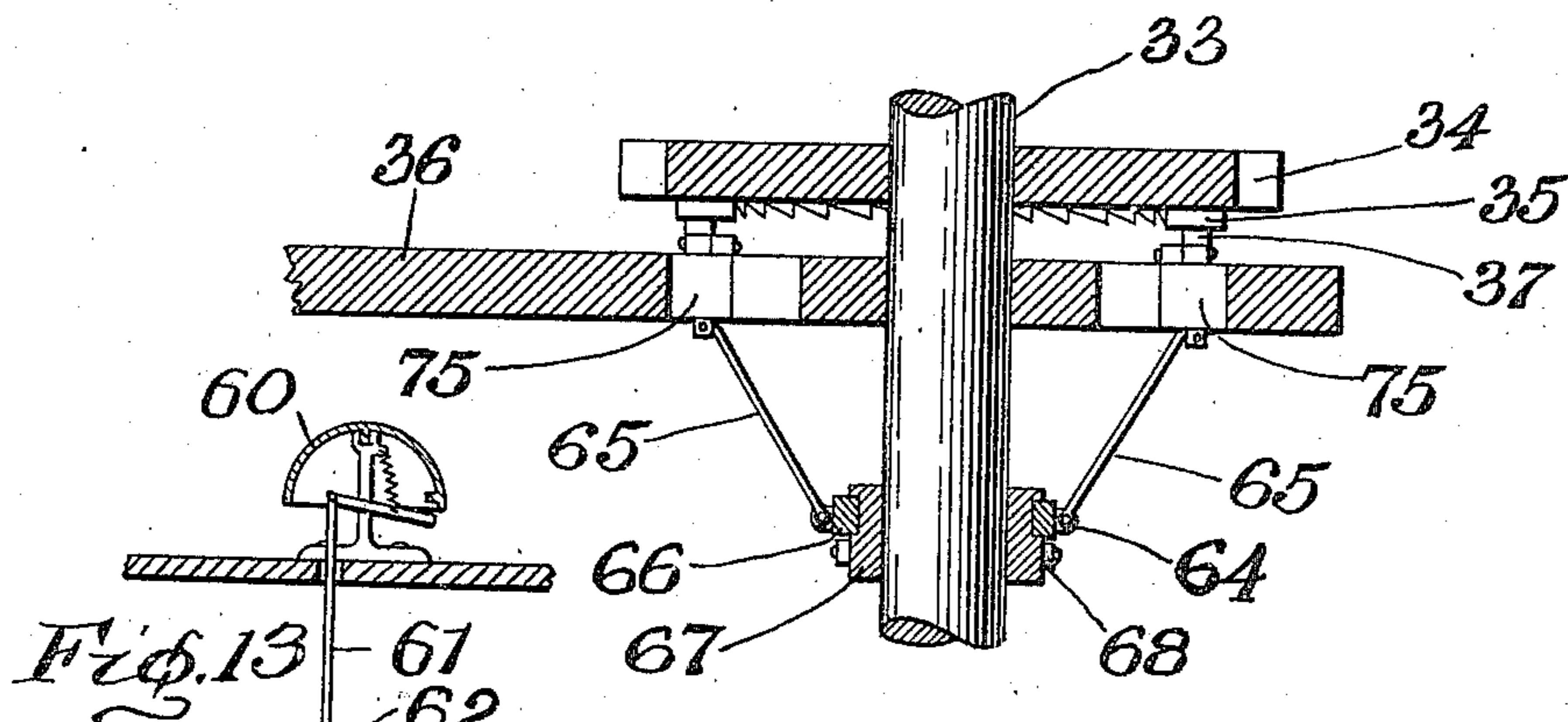


Fig. 13

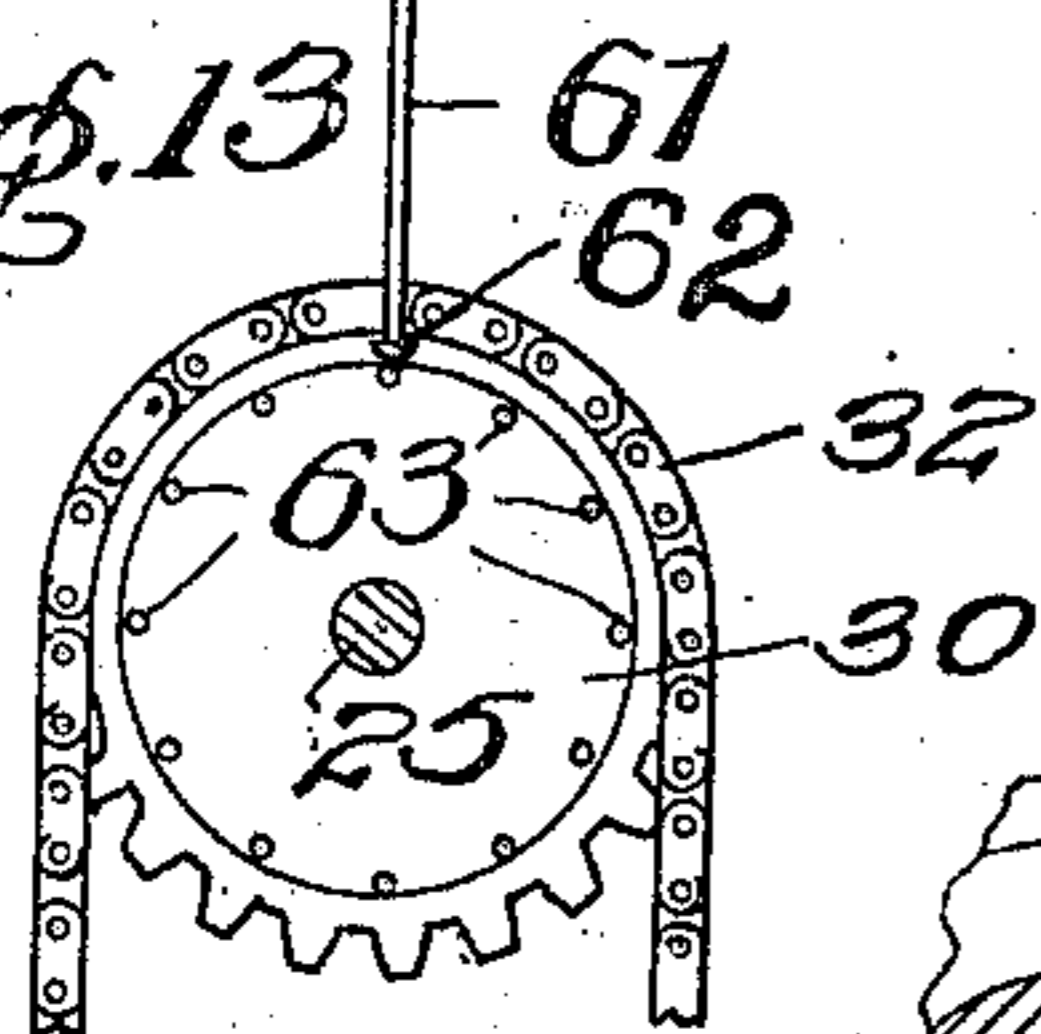
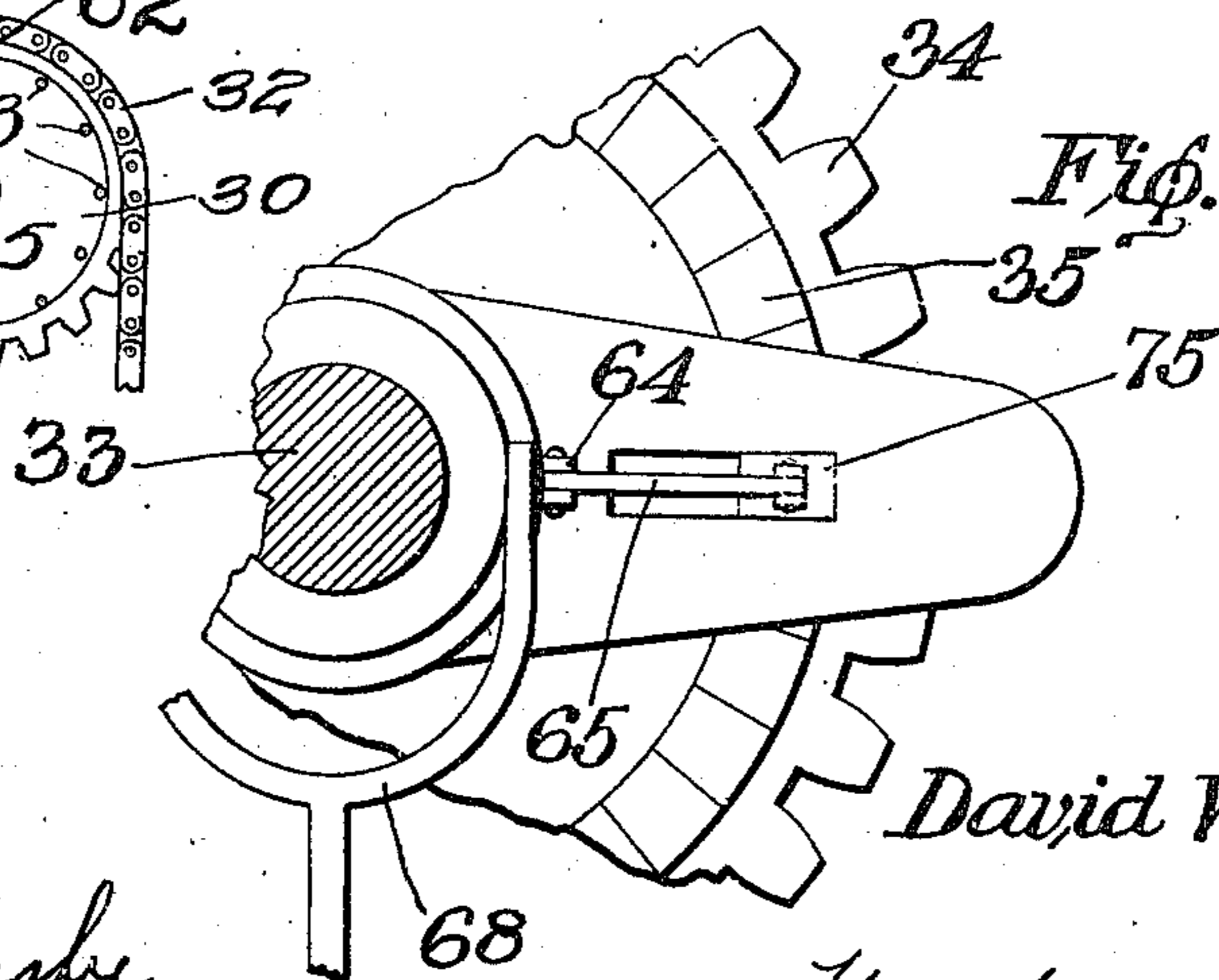


Fig. 12



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UNITED STATES PATENT OFFICE.

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Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed April 16, 1908. Serial No. 427,404.

To all whom it may concern:

Be it known that I, DAVID WILLOUGHBY, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Car-Indicators, of which the following is a specification.

This invention relates to indicators and especially to that class which are adapted for use in street railway cars for the purpose of indicating the streets.

An object of this invention is to provide for the construction of a device which may be operated by the car automatically or by hand.

Another object of the invention is to provide for the formation of a device of this character that will be simple in construction and at the same time perform its work in a satisfactory manner.

Another object of this invention is to provide for the construction of an indicator which may be enlarged and adapted to street car routes of any length or number of streets.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structures shown and described may be made within the scope of the claims and that any suitable material may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts, in the several views, Figure 1 is a side elevation partly in section showing the device applied to a car, Fig. 2 is a detailed end elevation of the device the casing being broken away, Fig. 3 is a front elevation of the device, the casing being removed, Fig. 4 is an end elevation opposite to that shown in Fig. 2, Fig. 5 is a detailed side elevation of the operating sprocket, Fig. 6 is an edge of the operating sprocket in elevation, Fig. 7 is a front elevation of the indicator, Fig. 8 is a front elevation of the tension device, Fig. 9 is a side elevation of the same, Fig. 10 is a top plan view of Fig. 5, Fig. 11 is a horizontal section through the same, Fig. 12 is a detailed view of the pawl mechanism employed in connection therewith. Fig. 13 is a detail view of the bell ringing mechanism.

Referring to the drawings, 10 designates a car of the usual type mounted on wheels

11 carried by the axle 12. Intermediate of the length of said axle 12 is an eccentric 13 in the periphery of which is formed an annular groove carrying a strap 14 supporting a pitman 15 pivotally connected to the long arm of a lever 16. The lever 16 is fulcrumed to a depending bracket 17 secured to the under side of the car bottom 18. The short arm of the lever 16 is connected to a connecting rod 19 which extends upwardly through the car to the indicator 20.

The indicator 20 comprises the casing 23 having two rollers 21 and 22 positioned adjacent its top and bottom respectively, said rollers 21 and 22 carrying an endless web 24, the web 24 being drawn taut. Affixed to the roller spindles 25 and 26 and abutting the sides of said rollers there are sprockets 27 and 28 over which passes an endless chain 29 for the purpose of keeping said rollers 21 and 22 in such a position as respects each other as to hold the web 24 taut. It is desirable to have the opposite ends of the spindles 25 and 26 provided with sprockets 30 and 31 and an endless connecting chain 32 as shown, which serves to keep said rollers 21 and 22 from binding and enables them to revolve smoothly.

On the inner side of the casing 23 immediately of the spindles 25 and 26 there is mounted a stub shaft 33 carrying an operating sprocket 34 having formed in one of its faces an annular rack 35. Pivotally and concentrically mounted on said stub shaft 33 and in juxtaposition with said operating sprocket 34, is a lever 36 fulcrumed intermediate of its length and carrying pawls 37 engaged with said rack 35.

The rod 36 is provided with longitudinal slots oppositely of and adjacent its pivotal point and carries two blocks 75 slidably disposed in the slots and which carry pawls 37 provided with springs 76 for causing the engagement of the same against the teeth 35 when the oppositely disposed blocks 75 are moved into position for such engagement. The blocks 75 are pivotally secured to rods 65 which are carried at their opposite extremities upon a sliding sleeve 67 which is loosely mounted upon the stub shaft 33 and actuated by the forked lever 68. When the sliding sleeve 67 is reciprocated longitudinally upon the stub shaft 33, the rods 65 are caused to diverge and to be drawn together alternately thus reciprocating the blocks 75 and thereby engaging the pawls 37

against the teeth 35 when it is desired to actuate the mechanism. It will thus be seen that the mechanism may be thrown out of operation when desired by operation of the lever 68, pivoted at 69 and manipulated by the member 70, projecting through the casing 23. A segment 71 having two notches 72 and 73 is provided to engage the pawl 74 carried by the handle. One end of said lever 36 is secured to the connecting rod 19, beforementioned.

The casing 23 is provided with a longitudinally extending central aperture 38 for the purpose of displaying the surface of the web 24 as it passes therebehind upon rotation of the rollers 21 and 22. A bell 60 is located upon the casing 23 of the indicator 20 having any suitable form of ringing device thereunder operated by the rod 61 through the trip 62 which is adapted to be engaged successively by projections 63 carried by the roller 30 at such distances as to raise the rod 61. Continued movement of the roller causes the projection to pass beyond the trip, when the latter will fall and the bell will be rung as each new name is displayed, thus drawing attention to the same. The engaging pin 63 passes from under the rod after operation and allows it to fall to initial position.

To keep the web 24 evenly displayed at the aperture 38, a tension device is used as illustrated in the drawings.

39 are forked supports carrying in their forked ends the rollers 40 and 41 which are adapted to bear against the inner side of the web 24 above and below the aperture 38 respectively. The supports are formed with longitudinal slots 42 which are engaged by studs 43 carried by the casing, said studs carrying the supports 39 and allowing free reciprocating movement thereof. Springs 44 are employed to press said rollers 40 and 41 against the web by reason of their engagement with the supports 39 at the point 45. Said springs 44 are secured to the casing 23 by means of screws 46 and stops or lugs 47.

In operation, as the car 10 is set in motion, the axle 12 and eccentric 13 are revolved which causes the operation of the pitman 15 and actuation of the rod 19. The upper end of the rod 19 is connected to one arm of the lever 36, causing reciprocation thereof and consequent operation of the pawls 37 resulting in intermittent rotation of the sprocket 34. This intermittent rotary motion is communicated to the rollers 21 and 22 through the endless chain 29. As the web 24 is mounted upon the rollers 21 and 22 it also receives the intermittent motion and is passed before the aperture 38. It is thus seen that any markings upon the outer surface of the web 24 will be brought to view at the aperture 38.

What is claimed is:—

1. In a device of the character described the combination with an operating lever, pawls slidably mounted on said lever, a stub shaft carrying said lever, a sleeve slidably engaged on said stub shaft, an annulus on said sleeve, connecting rods between said annulus and said pawls, and a lever engaged with said sleeve for operation thereof.

2. In a device of the character described the combination with an operating lever, pawls slidably mounted on said lever, a stub shaft for carrying said lever, a sleeve slidably engaged on said stub shaft, an annulus on said sleeve, connecting rods disposed between said annulus and said pawls, a lever engaged with said sleeve for operation thereof, a bell disposed upon the casing of said device, a rod depended from said bell, a trip lever connected to said rod, a roller carried by said device, projections equidistantly spaced upon said roller for engagement with said trip lever for the purpose of actuating said bell.

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

DAVID WILLOUGHBY.

Witnesses:

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AMANDA B. ANDERSON.