

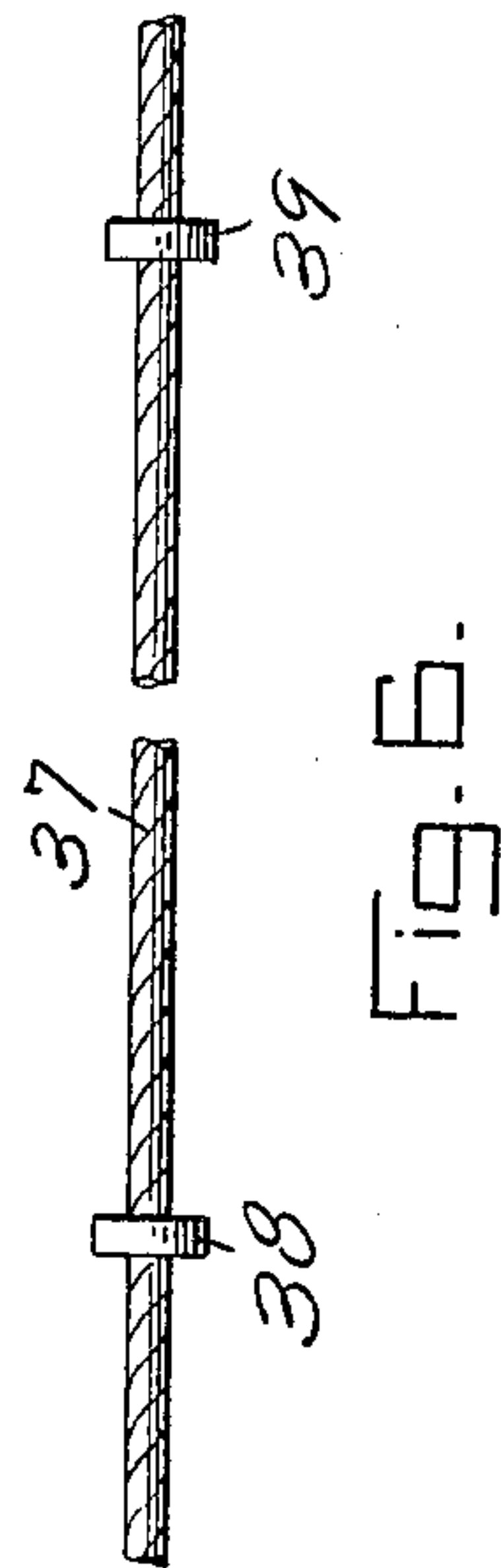
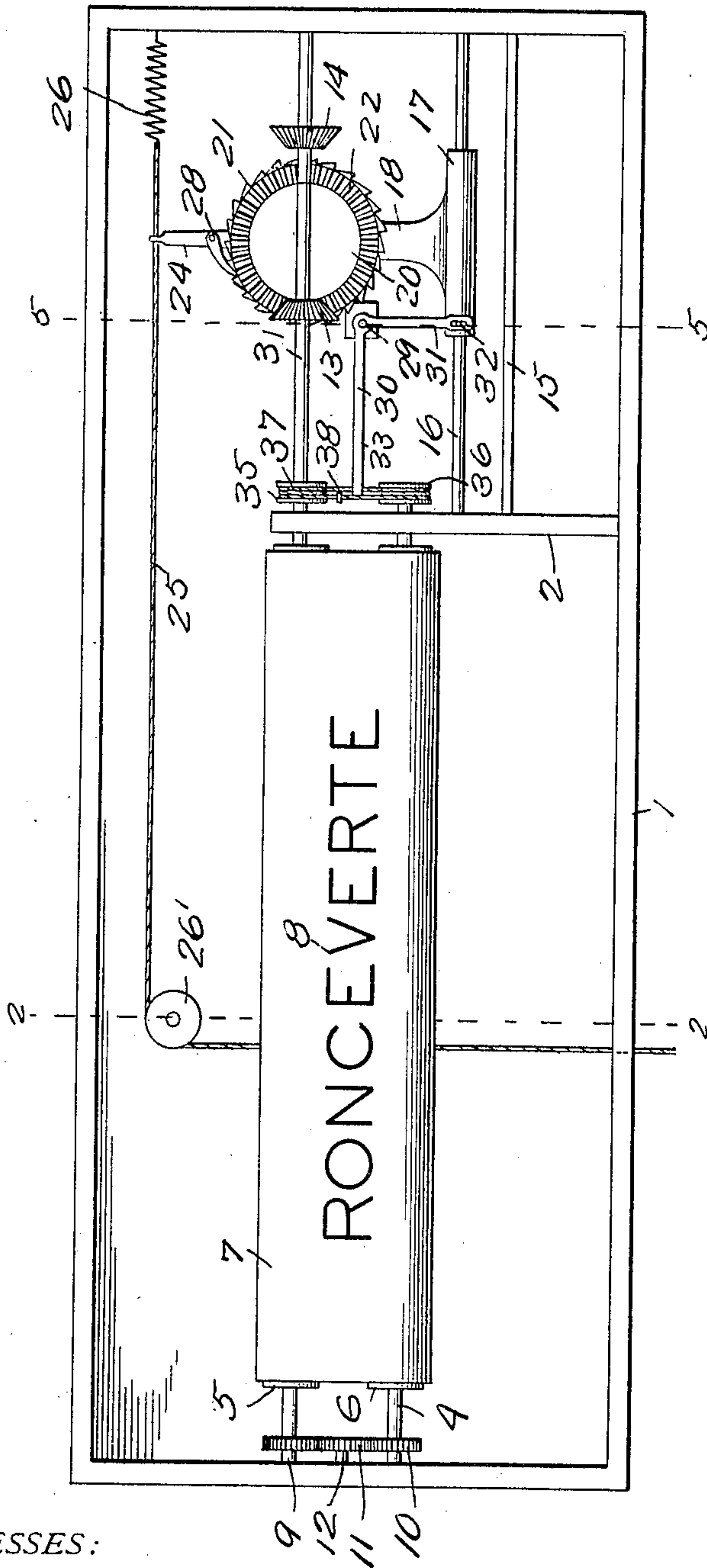
No. 885,487.

PATENTED APR. 21, 1908.

C. W. KINCAID.
STATION INDICATOR.
APPLICATION FILED JUNE 5, 1907.

3 SHEETS—SHEET 1.

Fig. 1-



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3 SHEETS—SHEET 2.

Fig. 2.

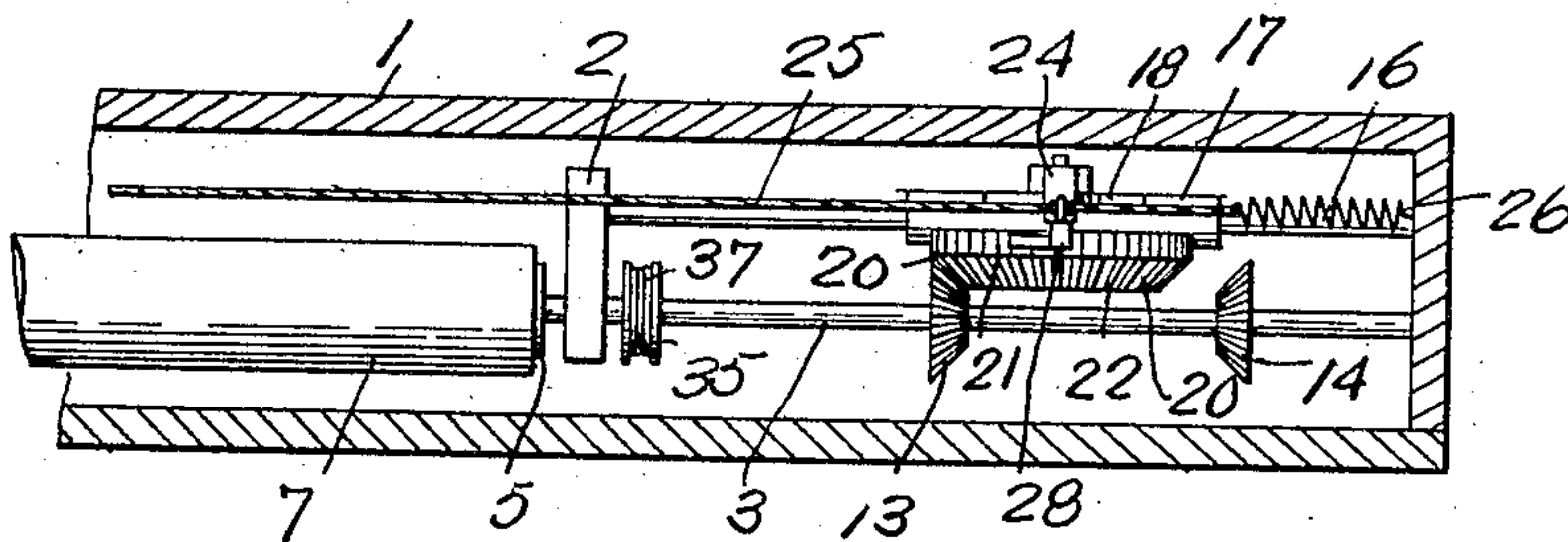
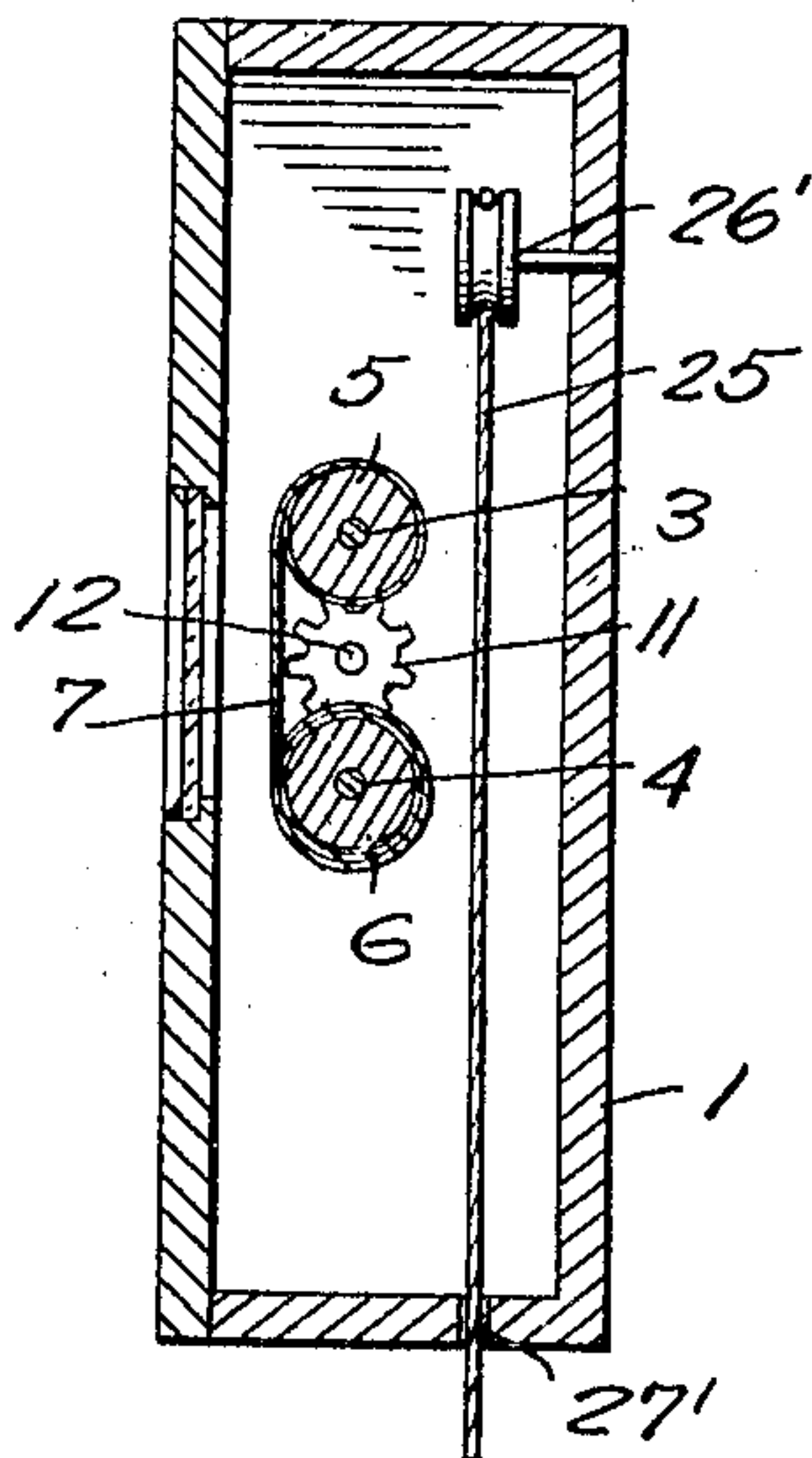


Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 4.

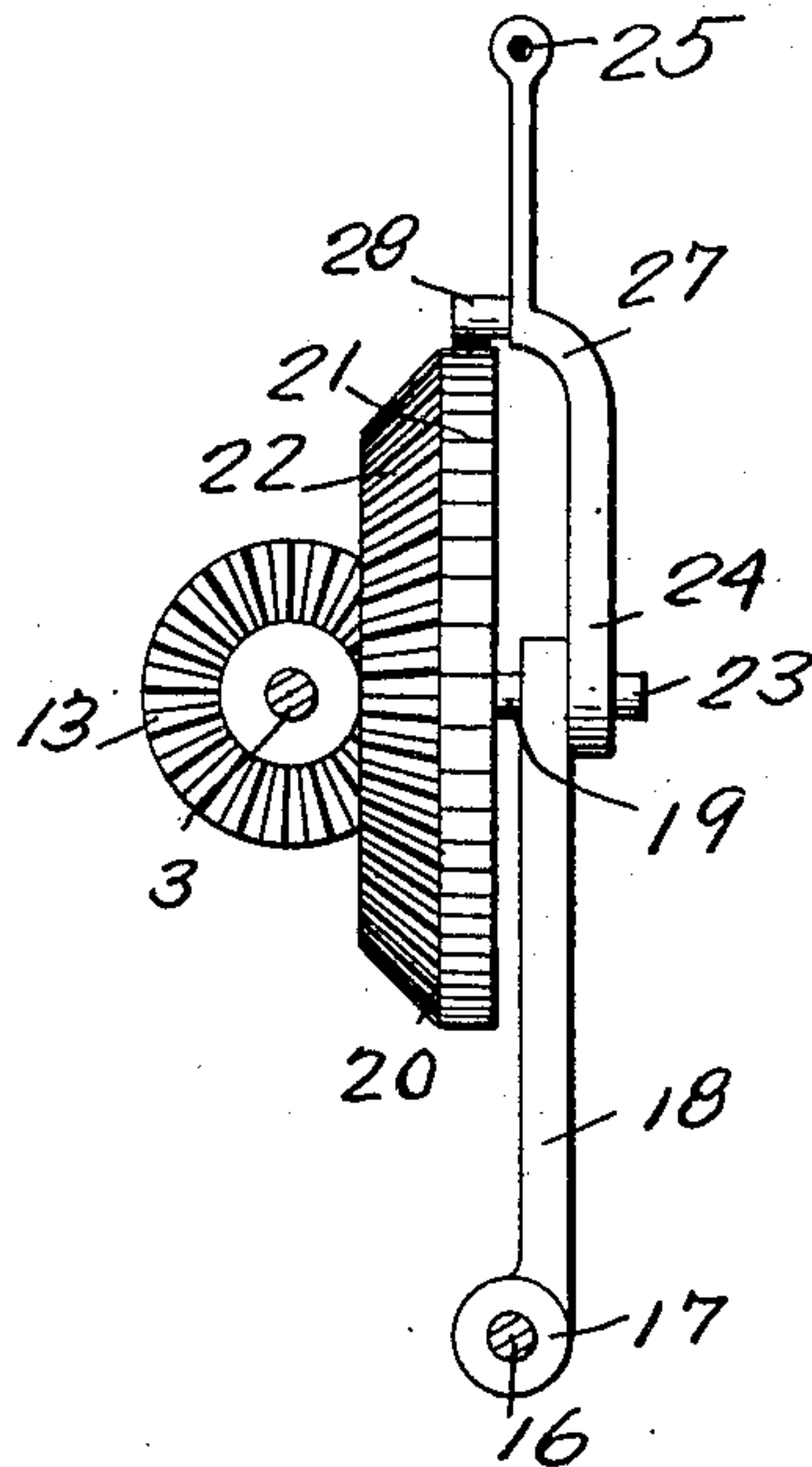
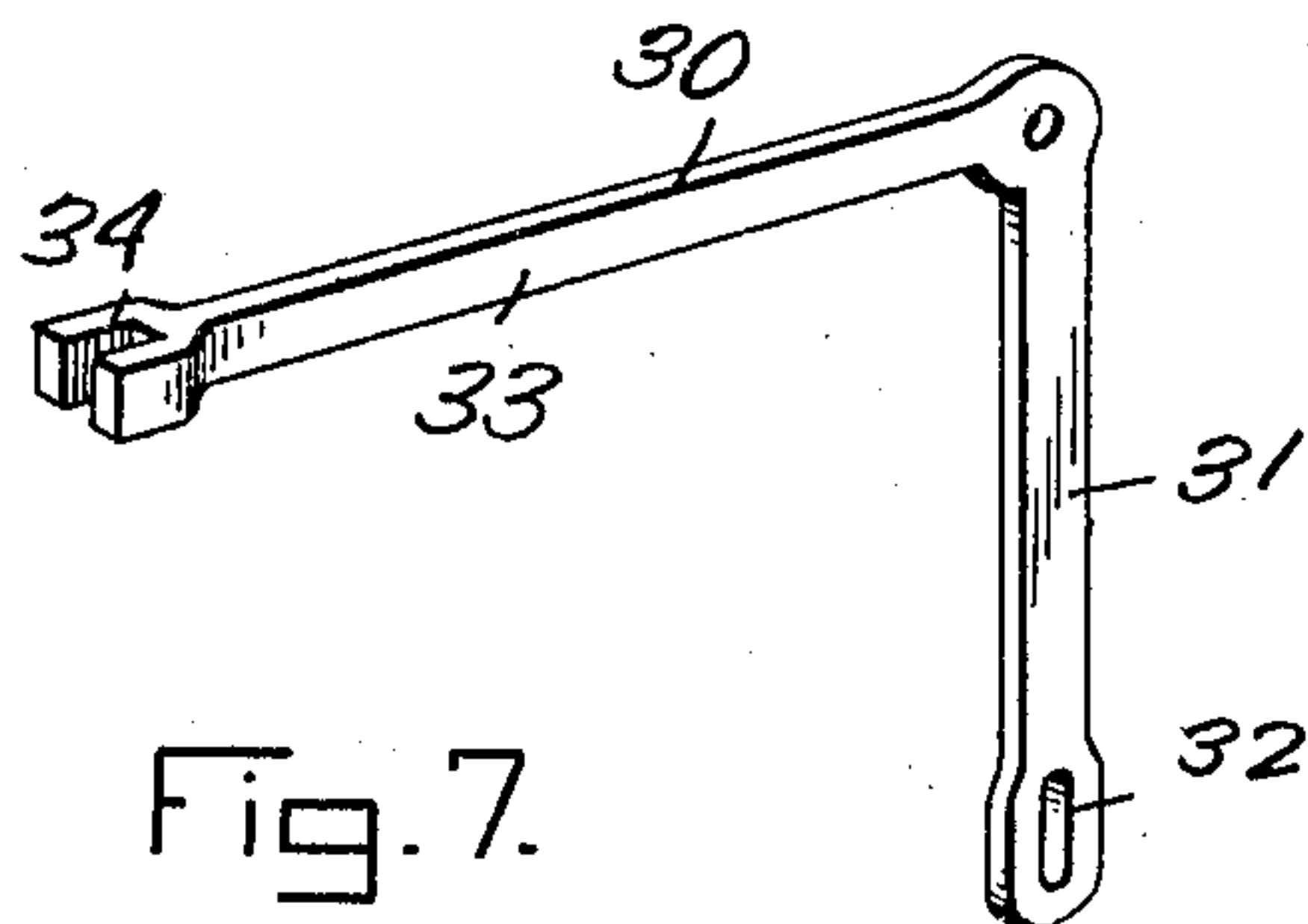
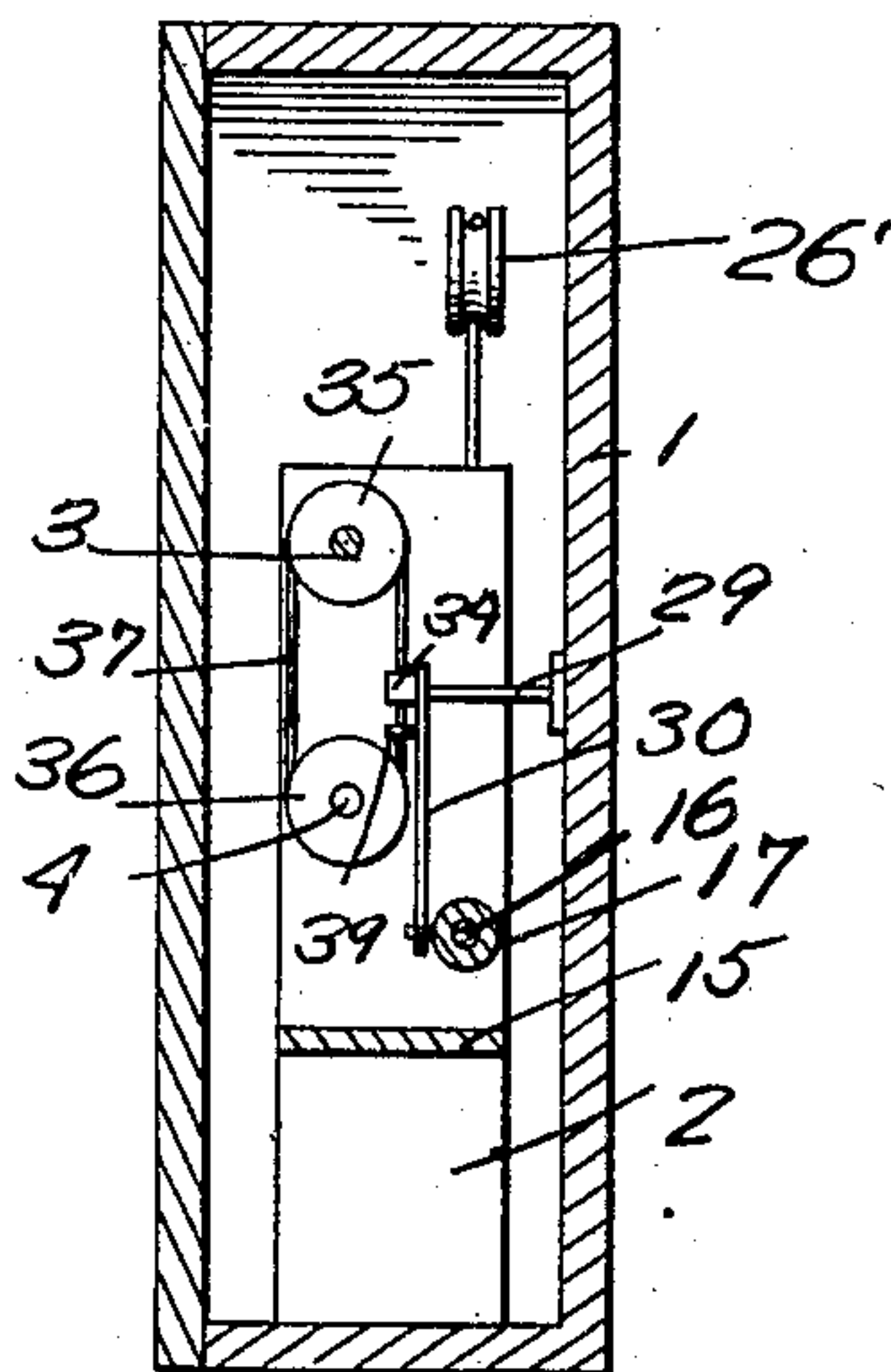


Fig. 5.



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UNITED STATES PATENT OFFICE.

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STATION-INDICATOR.

No. 885,487.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed June 5, 1907. Serial No. 377,391.

To all whom it may concern:

Be it known that I, CHARLES W. KINCAID, a citizen of the United States, residing at Ronceverte, in the county of Greenbrier, State of West Virginia, have invented certain new and useful Improvements in Station-Indicators; 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 new and useful improvements in station indicators for trains or cars, and it has particular reference to a device of this type including a display belt having thereon the designations of the successive stations and in connection with which manually operated means are provided for effecting movement of said belt.

The invention has for its object to provide novel means for automatically reversing movement of the belt when the train reaches a terminal.

The invention aims as a further object to provide a novel construction, combination and arrangement of parts, the details of which will appear in the course of the following description, in which reference is had to the accompanying drawings forming a part of this specification, like characters of reference designating similar parts throughout the several views, wherein:

Figure 1 is a front elevation of a station indicator constructed in accordance with the present invention, the front wall of the casing thereof being broken away to more clearly show the construction and arrangement of parts. Fig. 2 is a section on the line 2—2 of Fig. 1, showing more particularly the arrangement of the rollers over which the indicator belt is trained. Fig. 3 is a top plan view of the differential gearing and its controlling elements. Fig. 4 is a side elevation of the crown wheel of such gearing together with its adjuncts. Fig. 5 is a section on the line 5—5 of Fig. 1. Fig. 6 is an elevation of a cord embodied in the present invention and which forms an element of the transmission gearing, the same being broken away and being shown as carrying buttons adjacent each end thereof. Fig. 7 is a detailed perspective view of a bell crank lever comprehended in the invention.

Referring specifically to the accompanying drawings the numeral 1 designates the casing and the numeral 2, designates a post extend-

ing vertically thereof. Journaled in the sides of the casing 1, and projecting through the post 2, is a main shaft 3, and a second shaft 4 is journaled in one of the sides of said casing and in the post 2 in parallelism to the shaft 3, the shaft 4 projecting beyond said post. The shafts 3 and 4 carry rollers or spools 5 and 6, and a display belt 7 has its ends engaged with said rollers or spools in any well known manner and is designed to be wound alternately from one upon the other, the said display belt carrying the designations of the successive stations as indicated by the numeral 8. The shaft 3 carries at one end thereof, a pinion 9, and the shaft 4 carries a pinion 10. A transmission pinion 11 is interposed between the pinions 9 and 10 and is mounted on a stub shaft 12, journaled in the adjacent side of the casing 1.

Beyond the post 2, the shaft 3 carries confronting bevel pinions 13 and 14. The post 2 together with the side of the casing 1, adjacent the pinion 14, supports a transverse plate 15, and a rod 16. A sleeve 17 is mounted for sliding movement upon the latter and the said sleeve is formed with a vertically extending arm 18, which at its upper end carries a horizontally projecting pintle 19, upon which is mounted a casting 20, the latter being formed with peripheral ratchet teeth 21 and with crown teeth 22, the latter being designed for engagement alternately with the pinions 13 and 14, to drive the shaft 3 in opposite directions. A stud 23, projects from the arm 18, at a point coincident with the pintle 19 and upon the said stud is pivotally mounted a lever 24, which is moved in one direction by a rope 25, secured to the upper end thereof and which is retracted by a suitable coil spring 26. The lever 24 is offset adjacent its upper end as at 27, and carries a pivoted pawl 28 for engagement with the ratchet teeth 21 upon actuation of said lever by the rope 25, the latter being trained over a suitable pulley 26', provided in the casing 1, and being passed through an opening 27' in said casing into the car. Projecting from the casing 1, is a bracket 29 upon which is pivotally mounted a bell crank lever 30, the depending arm of which 31, is pivoted as at 32, to the sleeve 17, and the horizontal arm 33 of which terminates in a yoke 34. The shaft 3 carries a spool 35 and the shaft 4 carries a spool 36, and a rope 37 is trained over the spools 35 and 36, which are of the same diameter as the spools 5 and 6. The rope 37

is endless and of approximately the same length as the belt 7, and carries two equidistantly spaced buttons 38 and 39, which are designed to alternately engage the yoked end 34 of the lever 30 and to trip said lever in opposite directions.

In use, assuming that the casting 20 has its teeth 22 engaged with the pinion 13 and that the belt 7 is being unwound from the spool 6 upon the spool 5 by successive actuations of the lever 24, when the train reaches a terminal and the belt is completely unwound, the button 39 will engage the lever 30, in the manner above noted and will trip said lever to slide the sleeve 17, upon the rod 16. This action results in engaging the teeth 20 with the pinion 14, and in rotating the shafts 3 and 4 in opposite directions, and consequently reversing the movement of the belt 7. At the termination of the movement of the belt 7 in a reverse direction, the button 38 engages the lever 30 and resets the parts in like manner.

A station indicator constructed in accordance with the present invention, is simple, inexpensive to manufacture and practical and efficient in use.

From the foregoing description it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various

minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

A station indicator of the type set forth, comprising parallel shafts, rollers carried thereby, an indicating belt trained over said rollers, gearing between said shafts for driving one from the other in the same direction, confronting bevel pinions carried by one of said shafts, a slidable member, a casting carried thereby, having crown teeth for engagement alternately with each of said pinions, manually operated means for rotating said casting, means for resetting said manually operated means after each operation thereof, a pivoted bell crank lever having one end engaged with said member, spools carried by said parallel shafts, a rope trained over said spools, and buttons carried upon said rope at equidistant points, said bell crank lever having its other end projecting in the path of said buttons and formed to be engaged thereby.

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

CHARLES W. KINCAID.

Witnesses:

M. T. MILLER,
GEO. H. CHANDLEE.