

979,083.

2 SHEETS—SHEET 1.

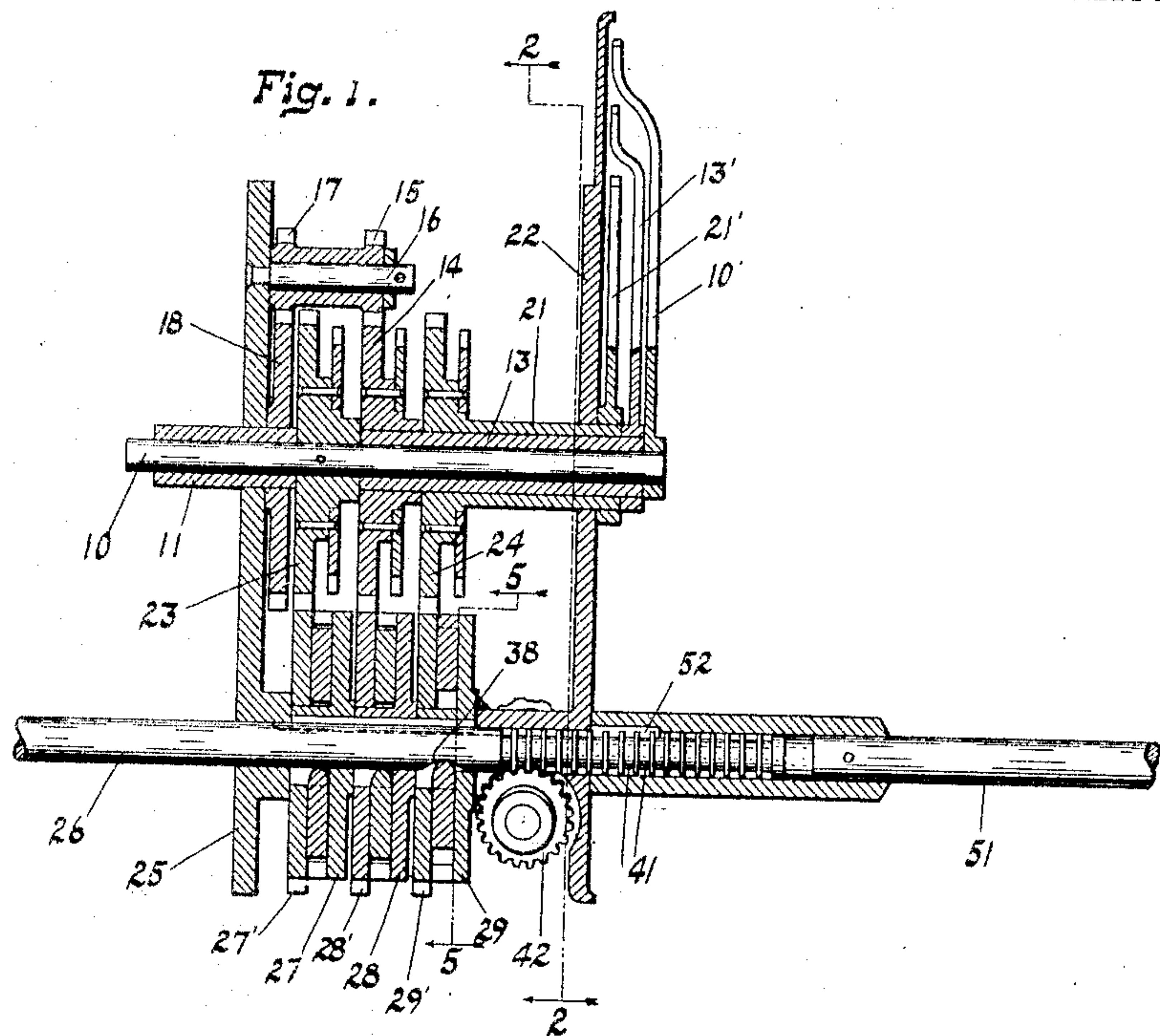
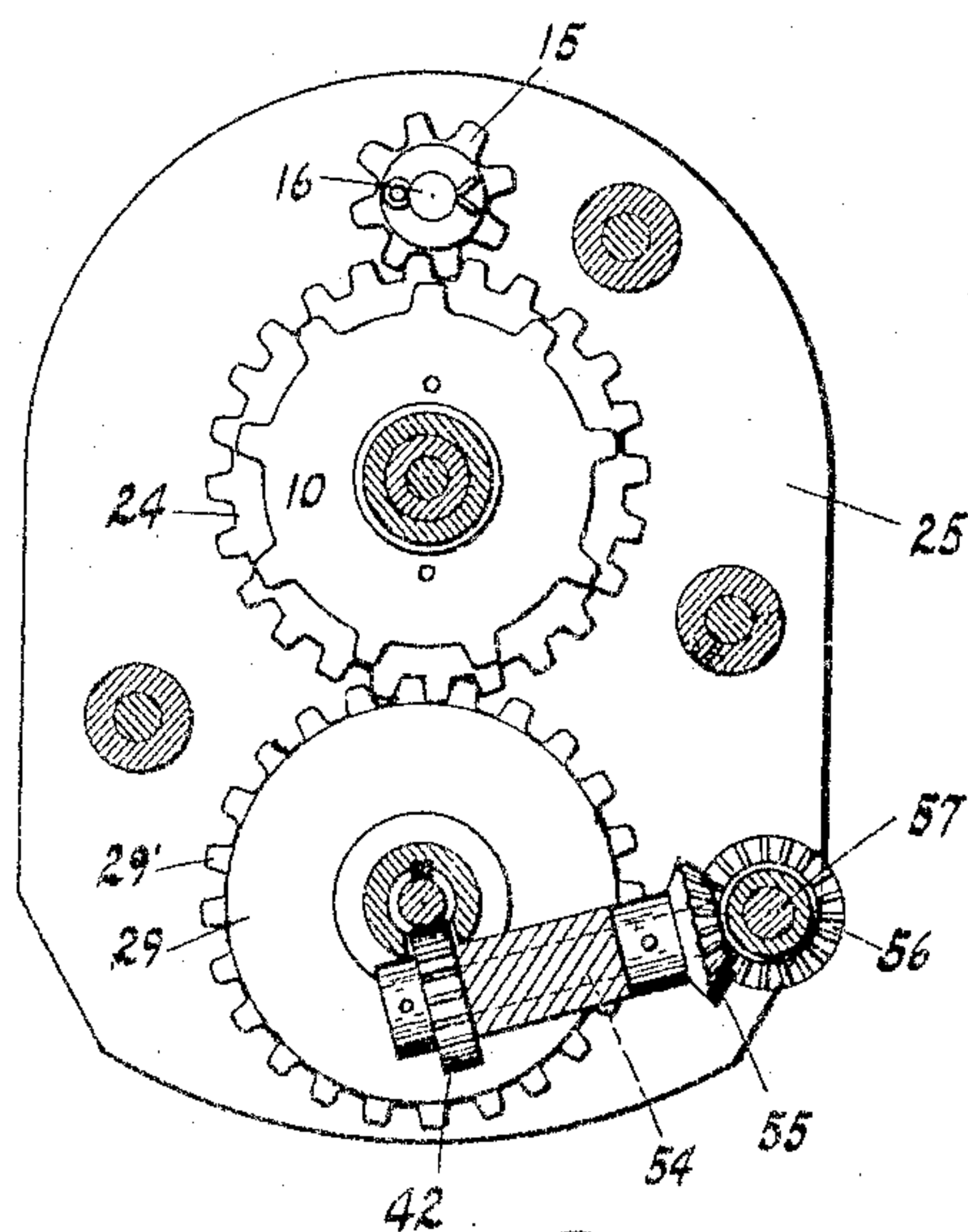


Fig. 2.



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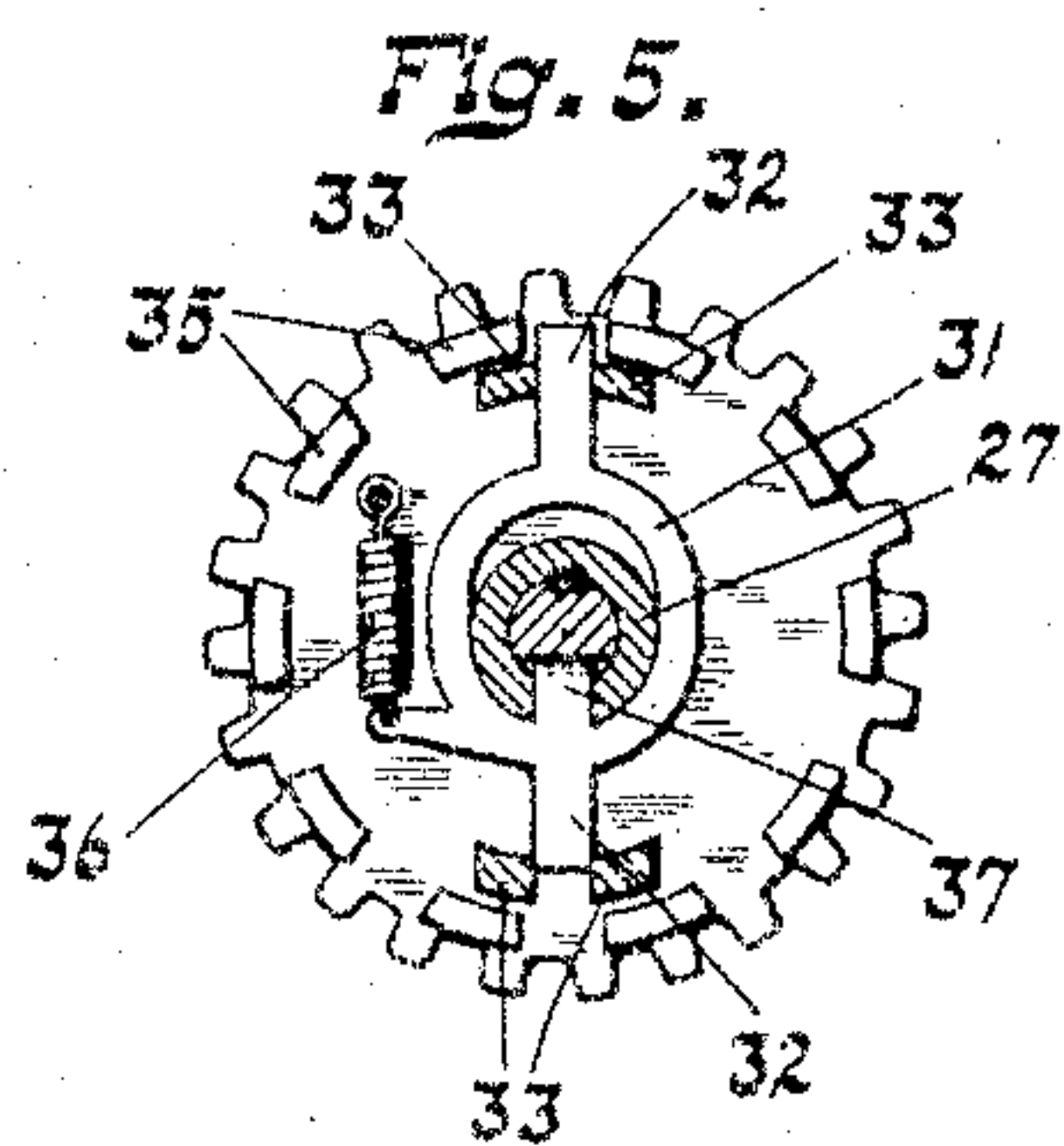
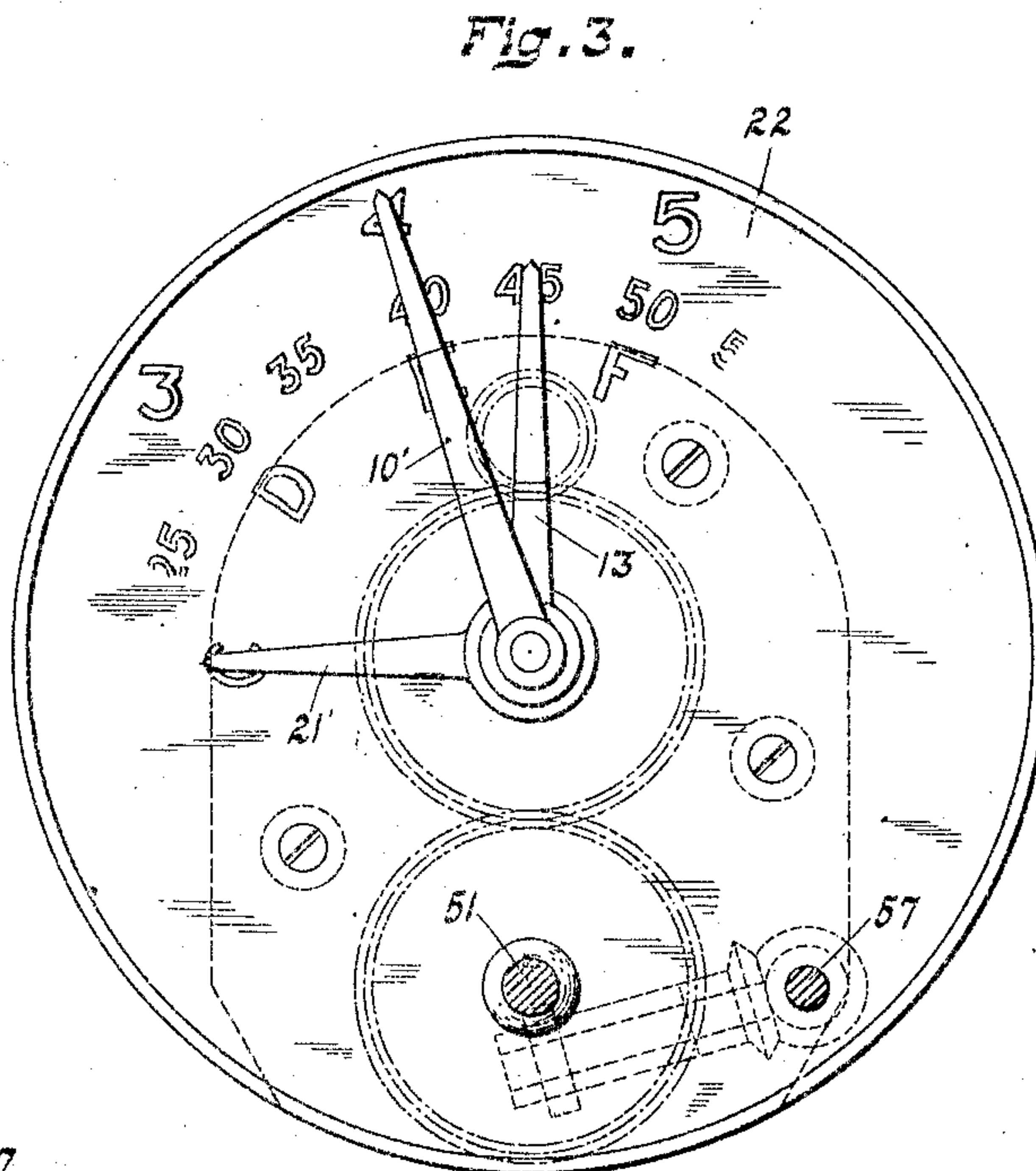
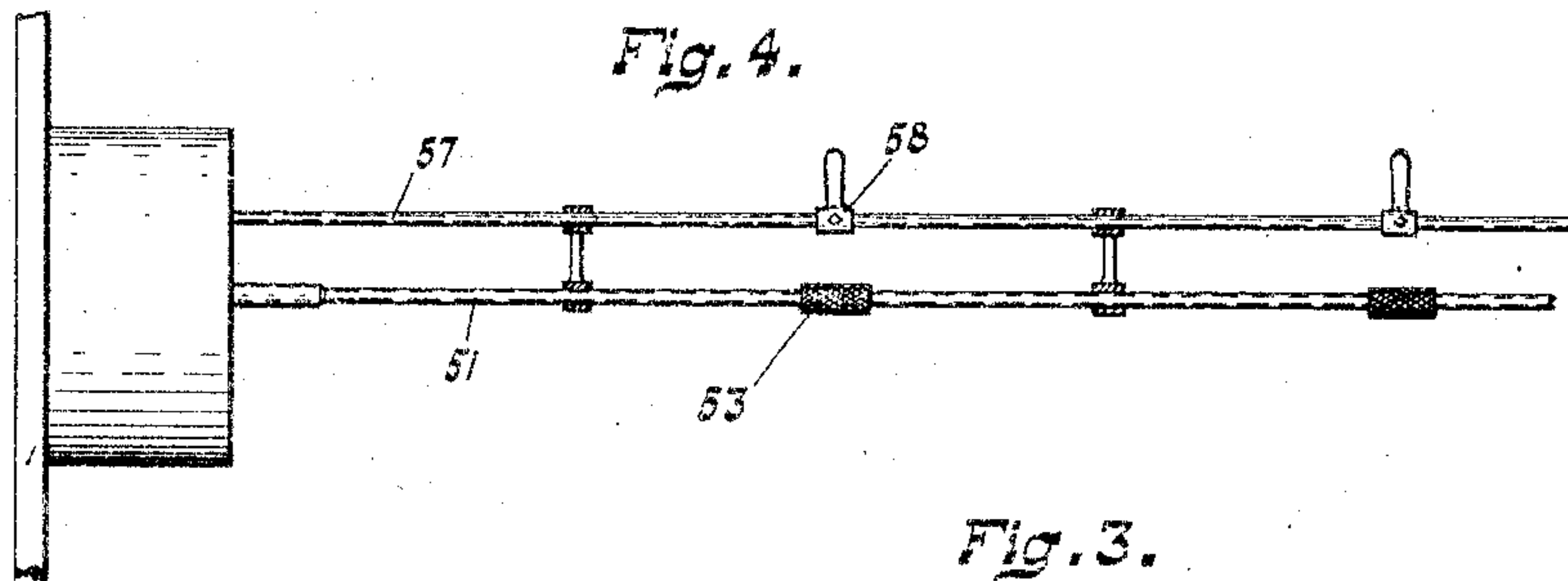
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O. N. MOORE.
INDICATOR OPERATOR FOR FARE REGISTERS.
APPLICATION FILED NOV. 11, 1909.

979,083.

Patented Dec. 20, 1910.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

OTTO N. MOORE, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO JOHN W. MOORE, OF RUSHVILLE, INDIANA, AND OTTO N. MOORE, OF INDIANAPOLIS, INDIANA, COTRUSTEES.

INDICATOR-OPERATOR FOR FARE-REGISTERS.

979,083.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed November 11, 1909. Serial No. 527,524.

To all whom it may concern:

Be it known that I, OTTO N. MOORE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Indicator-Operators for Fare-Registers, of which the following is a specification.

The object of my invention is to produce a setting device for use in connection with machines having several parts which need to be set in different coöperative relations.

The device is primarily intended for use in connection with fare registers, more especially of the type shown in my Patent No. 845,882, but is by no means limited to such particular use.

The accompanying drawings illustrate my invention.

Figure 1 is an axial section; Fig. 2 a section on line 2 2 of Fig. 1; Fig. 3 a front elevation of the indicating dial and adjacent parts, with the operating shafts in section; Fig. 4 a plan on a smaller scale, and Fig. 5 a section detail on line 5 5 of Fig. 1.

In the drawings, 10 and 11 indicate a pair of members, preferably sleeved together, adapted to transmit motion to portions of a fare register to be variously set to produce desired registrations or records. In the present form the part 10 is a shaft upon which the part 11 is sleeved, and also sleeved upon the shaft 10 is a sleeve 13 carrying a gear 14 meshing with a gear 15 which is journaled on a stud shaft 16. Formed integral with or secured to gear 15 is a gear 17 which meshes with gear 18 carried by sleeve 11 so that rotation of sleeve 13 and 11 will be coextensive and simultaneous. Sleeved upon sleeve 13 is a sleeve 21 which is journaled in the face plate or dial 22, the parts 21, 13 and 10 being projected to different extents through the face plate and each other and carrying indicating fingers 10', 13' and 21' respectively so as to traverse three sets of indicators formed on the exposed face of the dial plate 22. Secured to shaft 10, between gears 14 and 18 is a gear 23 and secured to sleeve 21 is a gear 24, the gears 23, 24 and 14 being preferably uniform in size although not necessarily so. Journaled in the face plate 22 and in a rear plate 25 (in which the sleeve 11 is also journaled) is a shaft 26 which lies parallel with the shaft 10 and splined upon this shaft, so as to rotate therewith, but so

as to permit axial movement of the shaft 26, are three clutch members 27, 28 and 29 each of which carries a locking member 31 having oppositely projecting fingers 32, 32 which lie between projections 33 carried by the clutch member. Journaled upon the clutch members, so as to normally rotate freely thereon, are gears 27', 28' and 29', respectively, which are continuously in mesh with the gears 23, 14 and 24 respectively. Each of these gears carries a plurality of teeth 35 which overhang the projections 33 of the corresponding clutch members and are spaced apart a distance sufficient to permit the entry of one of the fingers 32, a spring 36 acting upon the lock 31 to normally tend to project said finger 32 into position between two of the fingers 35 so as to thus lock the clutch member and its gear together. Each lock 31 is provided with a finger 37 which projects through a slot formed in the hub of its clutch member (Fig. 5) and into engagement with the shaft 26. Shaft 26 is provided at one point with a notch 38 into which finger 37 of any one of the locks 31 may be forced by the corresponding spring 36 so that, when the notch 38 is opposite any lock, that lock will be projected so as to lock the corresponding clutch member and gear together but, so soon as the notch is withdrawn, said locking member will be retracted so that the gear may rotate freely upon its clutch member.

For the purpose of moving the shaft 26 axially I form in said shaft a plurality of circumferential grooves 41 which thus form a rack adapted to coöperate with a pinion 42 without interfering with the possible rotation of shaft 26 in any position of axial adjustment. Extending lengthwise of the car is a rotatable shaft 51 which is brought up against the dial 22 and is provided with a key 52 which is splined into shaft 26 so as to compel rotation of shaft 26 with shaft 51 and so as to permit axial adjustment of the shaft 26. This shaft 51 is provided at various points in its length with the grips 53 by means of which it may be very readily rotated to any desired extent. For the purpose of axially moving shaft 26 pinion 42 is carried by the short shaft 54 (dotted lines Fig. 2) to which is secured a bevel gear 55 meshing with a gear 56 secured to the end of the shaft 57 which also runs lengthwise of the car parallel to the shaft 51 and pro-

vided with suitable grips 58 by means of which it may be rotated. Supposing the pointer 10' to traverse a scale indicating dollars and pointer 13' to traverse a scale indicating cents, and the pointer 21' to traverse a scale indicating any other desired item as for instance a conductor number or a station number, etc. the operation is as follows: The conductor will first rotate shaft 57 to bring shaft 26 to the position indicated in Fig. 1 thus clutching gear 29' to its clutch member 29, whereupon a rotation of shaft 51 will produce a movement of pointer 21 to any desired position. Shaft 57 will then be again rotated to bring notch 38 of shaft 26 into position of either one of the locks of the clutch members 27 and 28 and, by, rotating shaft 51 the pointers 10' and 13' may be correspondingly adjusted to indicate the desired positions to which the members 10 and 11 are to be set to cause a proper setting of the members of the registering apparatus.

It will be seen from the above that the setting is accomplished merely by partial rotation of the two shafts 51 and 57 and that the conductor is not put to the necessity of attempting any axial movement of the shafts. It is a well known fact that a partial rotative movement may be accomplished with much greater ease and with greater certainty as to extent than an axial movement.

I claim as my invention:—

1. A setting mechanism comprising a plurality of members to be shifted, a plurality of shifting members engaging the first mentioned members, a pair of rotative shafts the first of which is rotatable independent of the second, means for connecting any one of the shifting members with the first of said shafts, and intermediate connections between said means and the second shaft for controlling said means.

2. In a setting mechanism, the combination with a plurality of members to be set, of a pair of rotatable shafts the first of which is rotatable independent of the second, intermediate disconnectible driving

connections between the first of the shafts and the members to be set, and intermediate connections between the second shaft and said driving connections for controlling the driving connections between the first shaft and the members to be set.

3. A setting mechanism comprising a pair of operating shafts the first of which is rotatable independent of the second, a plurality of members to be set, separable driving connections between said members and the first shaft whereby rotation of the shaft may produce movement of said members, a member for controlling the said separable connections, and a connection between the second shaft and the said last mentioned member.

4. A setting device comprising a plurality of members to be set, a plurality of gears individually geared to said members, an operative shaft, a plurality of clutches between said gears and shaft, a controlling member for said clutches, a second controlling shaft, and driving connections between the said second controlling shaft and the clutch controlling member.

5. In a setting mechanism, the combination of a setting pinion a pair of controlling shafts, a clutch controlling shaft splined to one of said shafts and axially movable relative thereto, said last mentioned shaft having a plurality of circumferential notches adapted to receive said setting pinion, the said setting pinion, a plurality of clutch gears mounted upon said clutch controlling shaft, each of said gears having a clutch member coöperating with the clutch controlling shaft, a second operating shaft, and rotative connections between said second operating shaft and the said pinion, substantially as set forth.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this eighth day of November, A. D. one thousand nine hundred and nine.

OTTO N. MOORE. [L. S.]

Witnesses:

ARTHUR M. HOOD,

THOMAS W. McMEANS.