

P. C. SCOTT.
ADVERTISING DEVICE.
APPLICATION FILED JUNE 15, 1909.

978,662.

Patented Dec. 13, 1910.

2 SHEETS-SHEET 1.

Fig. 1.

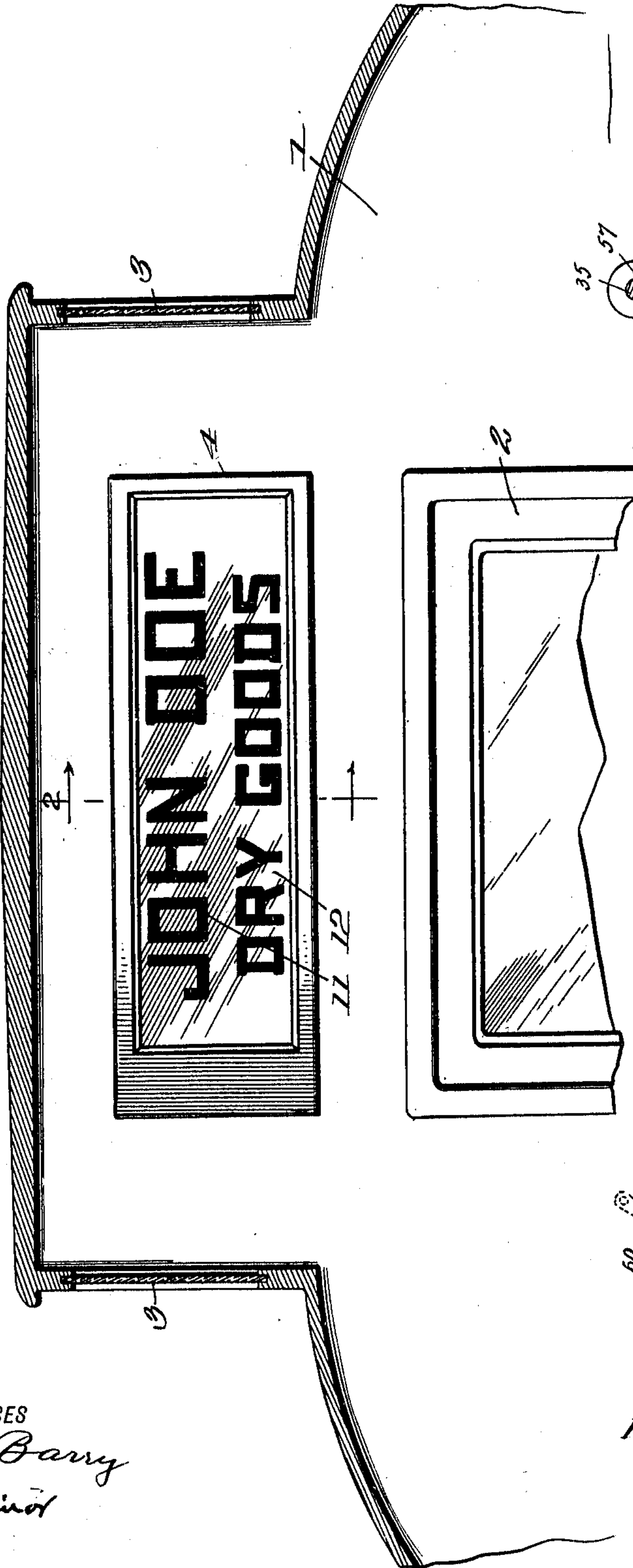


Fig. 8.

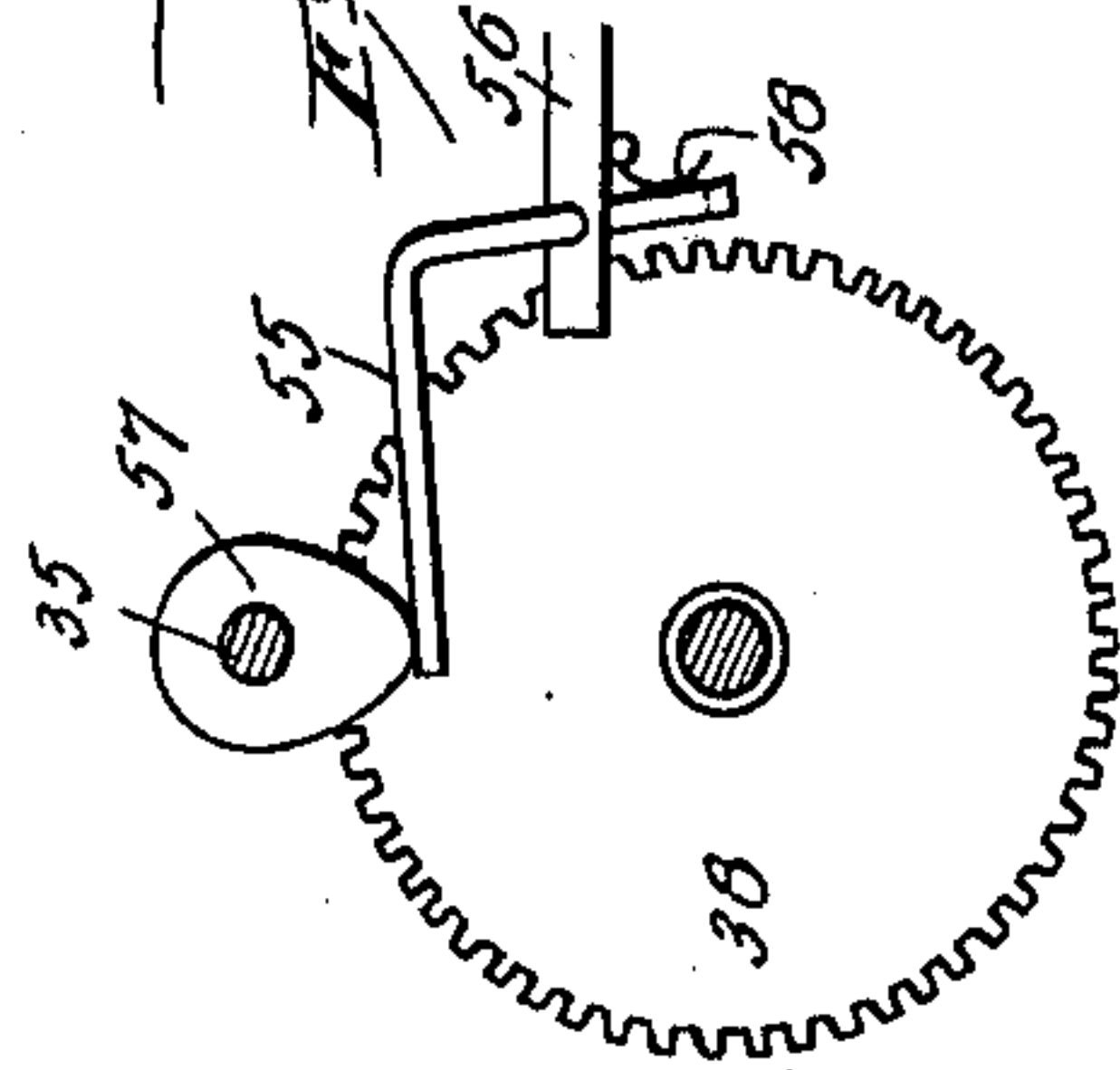


Fig. 2.

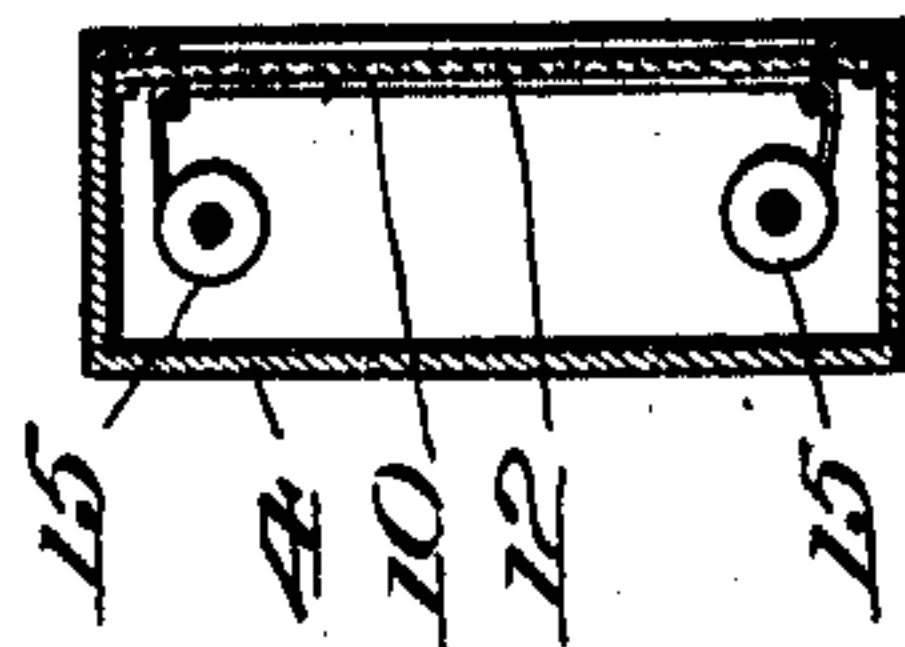
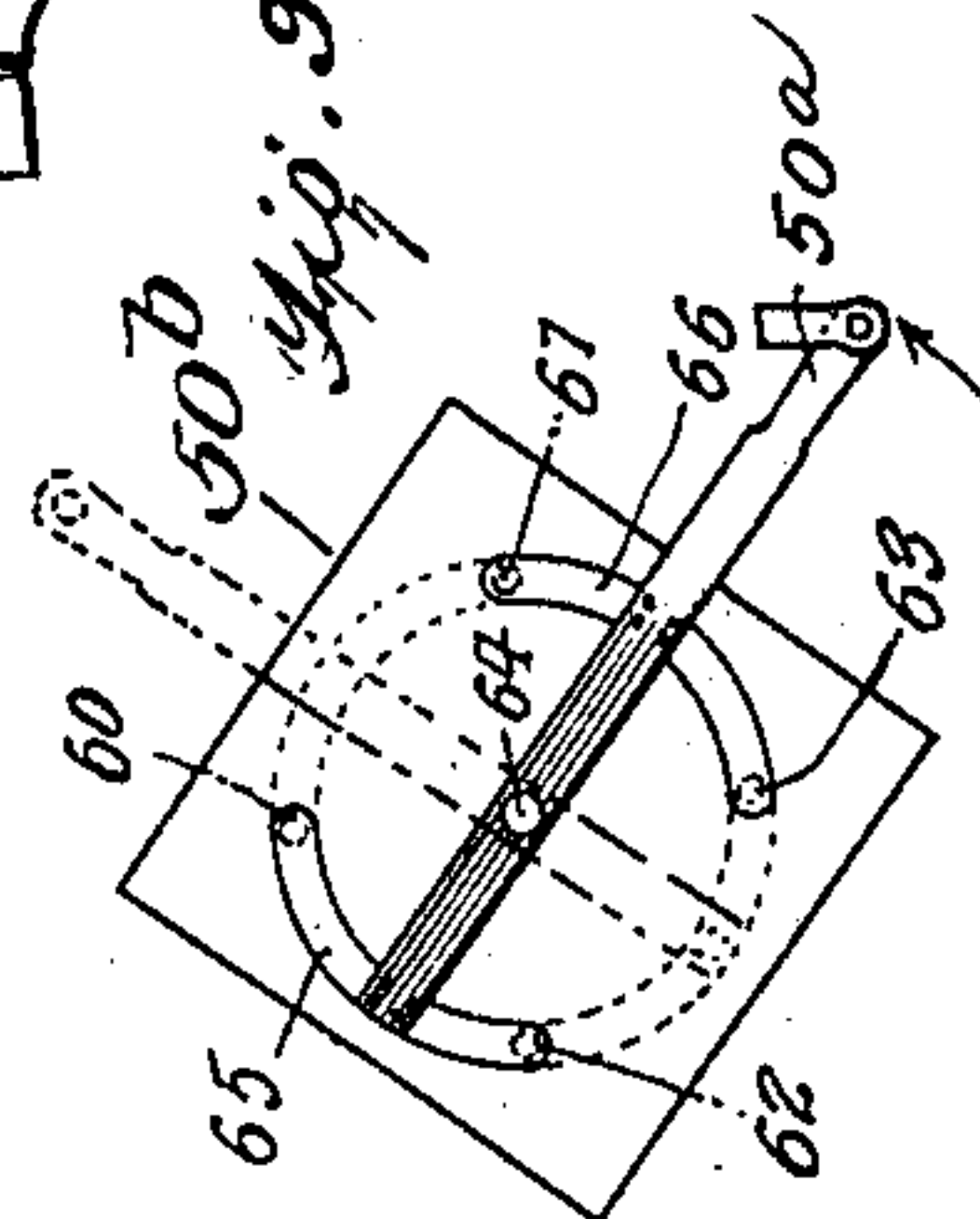


Fig. 9.



WITNESSES
H. C. Barry
C. L. Trainor

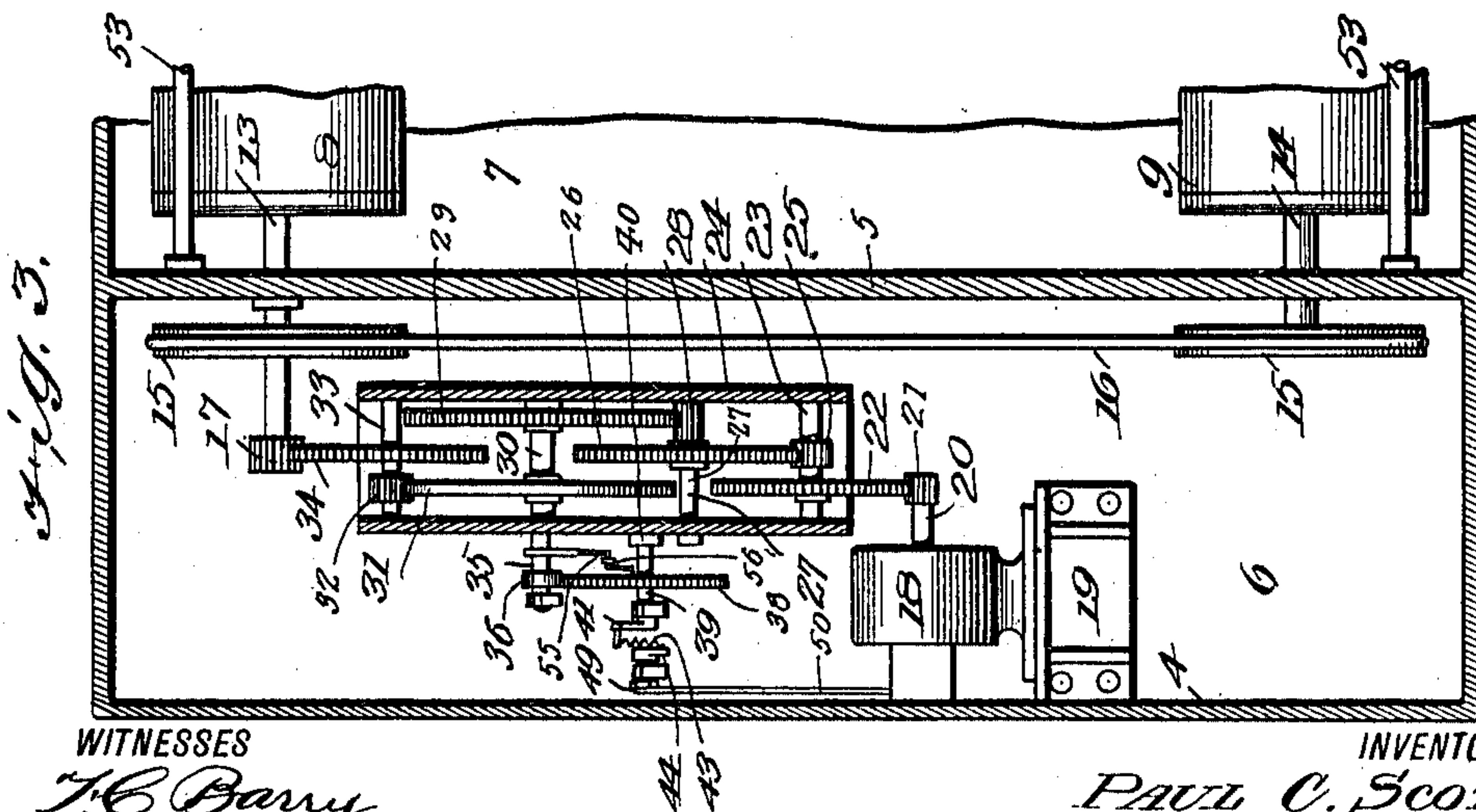
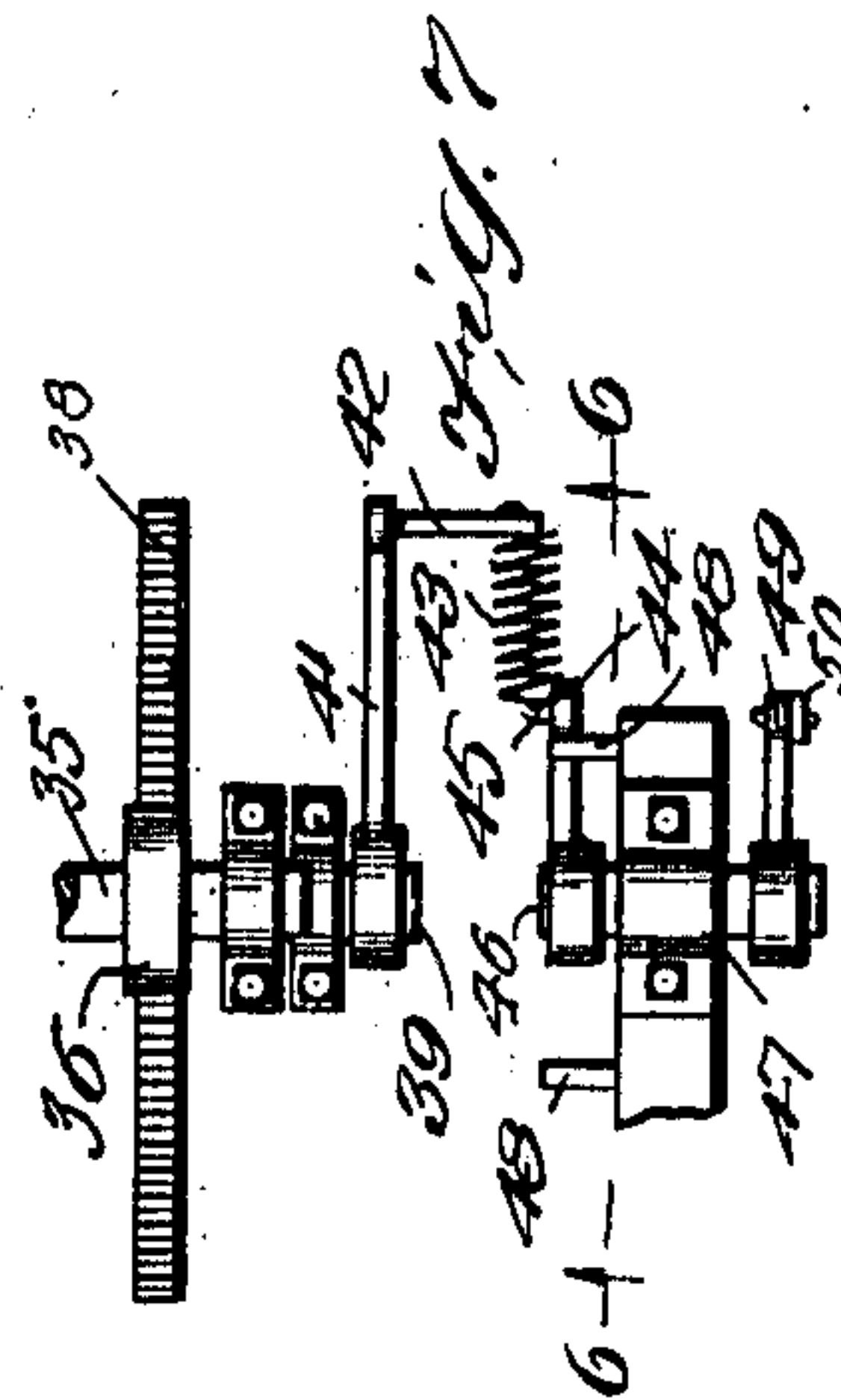
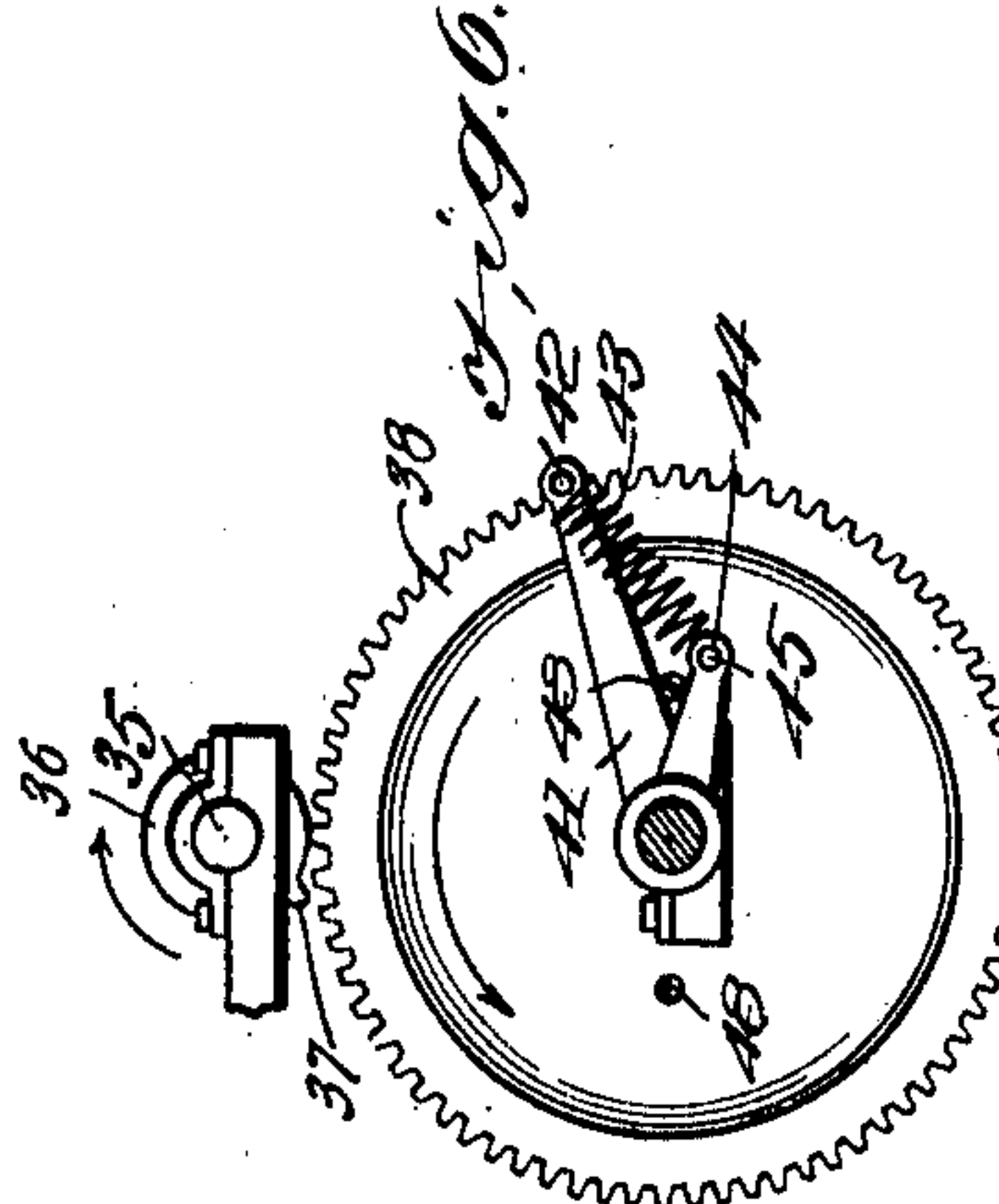
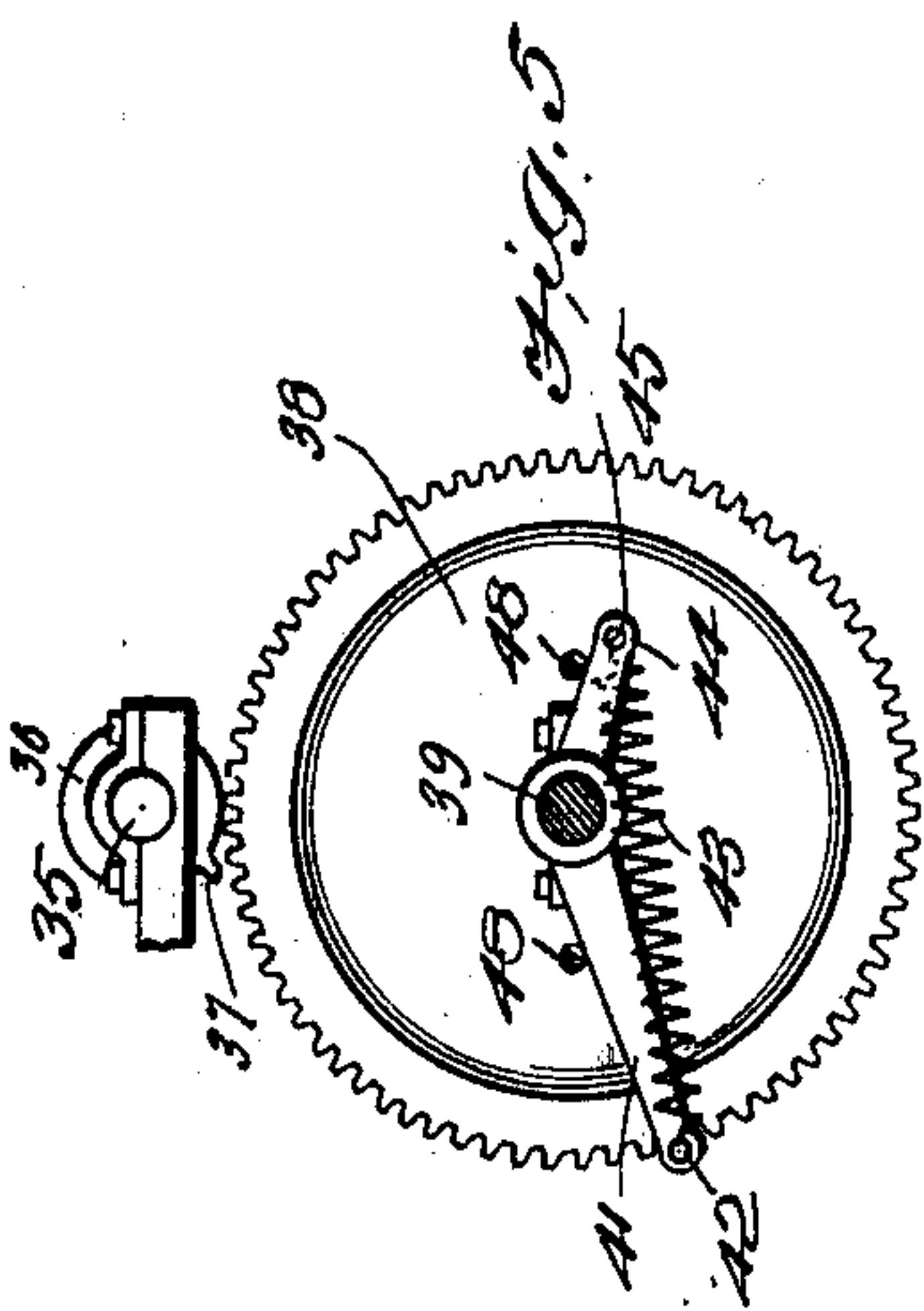
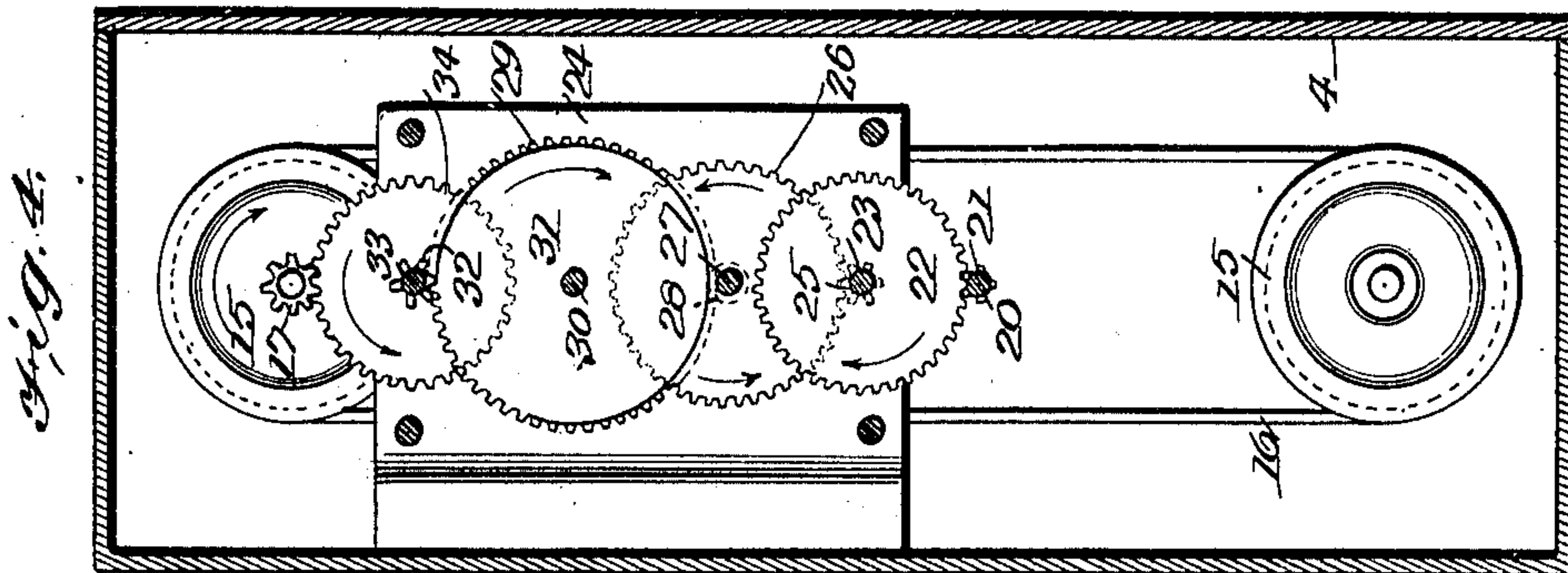
INVENTOR
PAUL C. Scott
BY Munn & Co.
ATTORNEYS

P. C. SCOTT.
ADVERTISING DEVICE.
APPLICATION FILED JUNE 16, 1909.

978,662.

Patented Dec. 13, 1910.

2 SHEETS-SHEET 2.



WITNESSES
T. C. Barry
C. E. Trainer

INVENTOR
PAUL C. SCOTT
BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

PAUL CLARENCE SCOTT, OF COUNCIL BLUFFS, IOWA.

ADVERTISING DEVICE.

978,662.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed June 15, 1909. Serial No. 502,213.

To all whom it may concern:

Be it known that I, PAUL C. SCOTT, a citizen of the United States, and a resident of Council Bluffs, in the county of Pottawattamie and State of Iowa, have made certain new and useful Improvements in Advertising Devices, of which the following is a specification.

My invention is an improvement in advertising devices, and consists in certain novel constructions, and combinations of parts hereinafter described and claimed.

The object of the invention is to produce a device of the class described, for use in street cars, or in public places, which will display an advertisement or a section of reading matter, hold it in view for a predetermined length of time, and will then replace it by another advertisement or section of reading matter.

Referring to the drawings forming a part hereof, Figure 1 is a front view of the improvement supported in a street car, parts of the figure being in section, Fig. 2 is a transverse section of the display device proper. Fig. 3 is a front view of the operating mechanism, the case being in section, Fig. 4 is an end view of the same, partly in section, Fig. 5 is a side view of a part of the gearing, Fig. 6 is a section on the line 6—6 of Fig. 7, Fig. 7 is a plan view of Fig. 6, Fig. 8 is a side view of the catch, and Fig. 9 is a plan view of the reversing switch.

The present embodiment of the invention is shown supported or mounted in a street car 1, and at the end thereof, appearing above the door 2, of the car, and in the reduced space between the ventilators 3.

The mechanism is supported in a case 4, which may be of any desired size and construction, and is divided by a partition 5, into two compartments 6 and 7.

The display mechanism is supported in the compartment 7, and consists of a pair of rollers 8 and 9, arranged in parallel relation, and spaced apart from each other, the said rollers being journaled in bearings in the partition 5, and in the adjacent end wall of the case. A web 10 of flexible and preferably fabric material is supported by the rollers, winding off of one and onto the other, and the advertisements 11 are arranged transversely of the web at spaced intervals. The front 12 of the compartment 7 is of transparent material as shown, so

that the advertisements while visible, are protected, from injury.

The rollers are secured to shafts 13 and 14, and the ends of the shafts are extended into the compartment 6 and each is provided with a pulley 15, which are connected by a belt 16. The shaft 13 is also provided with a pinion 17 outside of the pulley and the operating mechanism, which is supported in the compartment 6, is connected with the pinion, in a manner to be presently described.

The operating mechanism comprises a motor 18, supported on a suitable base 19, and the extended end of the shaft 20, of the motor, is provided with a pinion 21, meshing with a gear wheel 22, on a shaft 23 journaled in a gear casing 24, supported above the motor. The shaft 23 is provided with a pinion 25, meshing with a gear wheel 26 on a shaft 27, also journaled in the casing, and provided with a pinion 28 meshing with a gear wheel 29 on a shaft 30 journaled in the casing, the whole forming a reducing train of gears, for reducing the speed of the motor to properly operate the display mechanism. The shaft 30 is provided with a mutilated gear wheel 31, which meshes with a pinion 32 on a shaft 33, journaled in the casing and provided with a gear wheel 34 which meshes with the pinion 17, before mentioned, on the end of the roller shaft 13. The end of the said shaft 30 is extended outside of the gear casing, as at 35, and is provided with a mutilated pinion 36, having a single tooth 37, as shown in Fig. 5, and the said pinion meshes with a gear wheel 38 on a counter shaft 39, journaled in a bearing in the casing, and in a bearing 40 on the case. The counter shaft 39 is also provided with a rigid arm 41, having at its fore end a lateral pin 42, connected by a coil spring 43, with a pin 45 on an arm 44 rigid with a shaft 46 journaled in bearings 47, in alinement with the shaft 39. The bearing 47 is provided on each side of its shaft 46, with a lateral pin 48, with which the arm 44 engages to limit its swinging movement. The outer end of the shaft 46 is provided with a rigid arm 49, connected by a link 50, with the handle 50^a of a reversing switch 50^b for the motor, to operate the same, since the switch forms no part of the invention it is not thought necessary to further describe the same.

A catch 55 is pivoted at 56 adjacent to the gear wheel 38, and the free end of the catch is held normally in engagement with the gear wheel by a spring 58, to prevent movement of the said wheel. The other end of the catch is adapted to be engaged by a cam 57 on the shaft 35, once during each complete rotation of the said shaft. When so engaged the catch is lifted and disengaged from the gear wheel, thus permitting the wheel to move freely.

A small rod or wire 53 is arranged adjacent to each roller, and parallel therewith for engaging the roll to hold it close to the transparent part of the case.

The operating device, broadly considered, comprises a motor, a reducing gear connecting the motor and the display mechanism, a timing device for retaining the advertisement a proper length of time in display position, and a reversing mechanism. The timing device consists of the mutilated gear wheel 31, and the parts coöperating therewith, and operates as follows. The motor being started the rollers are turned, as long as the teeth of the gear wheel 31 are in mesh with the pinion 32. As soon however, as the said teeth pass out of mesh with the pinion, the rollers stop. The motor is however still running, and the complete revolution of the mutilated gear wheel again brings the teeth in mesh with the pinion, and the rollers are again turned, to move the displayed advertisement out of place, and to move another into place. It will be evident that the size of the gear wheel, and the number of teeth left thereon, will determine the distance which the roll turns, and the length of time the reading matter is left in display position. It will be understood that the parts are constructed and arranged in accordance with this relation.

The reversing mechanism comprises the pinion 36, and the parts operated thereby, and operates as follows. Once during each complete revolution of the shaft 30, the tooth 37 comes into engagement with the gear wheel 38, and moves the said wheel one tooth. The arm 41 is also moved an equal distance, and in the course of a number of revolutions, the arm 41 is brought into a position shown in Fig. 5; such that the pull of the spring 43 is away from the pin 48, and the arm 44 is swung to the opposite side against the other pin 48, thus operating the switch to reverse the motor. Normally the pull of the spring acts to retain the arm 44 against the pins. The catch 55 normally holds the gear 38 fixed, and the cam 57 is so arranged that the catch is released when the tooth 37 engages the wheel.

The length of the web and the number of advertisements thereon determine the length of the series of teeth on the mutilated gear 31, it being evident that the relation of the

parts should be such that the reversing may take place after the display of the last advertisement. The belt connection between the rollers permits them to slip in order to compensate for the difference in size of the rollers at different stages of the operation of the device. The reversing switch comprises a base, upon which are four binding posts, 60, 61, 62 and 63. The handle 50^a of the switch is pivoted at 64 to the base. When the handle is so moved that the binding post 60 is connected with the binding post 62 and the binding post 61 is connected with the binding post 63, the motor will run in one direction, and when the binding post 60 is connected with the binding post 61 and the binding post 62 is connected with the binding post 63, the motor will run in the opposite direction. The arc-shaped conducting strips 65 and 66 are secured to the handle and moved therewith and make the above described connections.

I claim—

1. A device of the class described comprising a pair of spaced rollers, shafts upon which the rollers are secured, and extended at one end beyond the rollers, a flexible strip supported on the rollers, and provided at spaced intervals with display matter, pulleys on the shafts, a belt connecting the pulleys, a pinion on one roller shaft, a shaft, a motor, a train of reducing gears connecting the motor and the shaft, a wheel on the shaft provided with a segment of gear teeth for meshing with the pinion, a pinion on the shaft provided with a single tooth, a gear wheel for engagement by the tooth, a counter shaft to which the gear wheel is secured, an arm secured on the shaft, a stub shaft, in alignment with the counter shaft, an arm secured on the stub shaft, a spring connecting the arms, an arm rigid with the stub shaft, a reversing mechanism for the motor, a link connecting the arm with said mechanism, and pins for limiting the movement of the first named arm of the stub shaft.

2. A device of the class described comprising a pair of spaced rollers, shafts upon which the rollers are secured, and extended at one end beyond the rollers, a flexible strip supported on the rollers, and provided at spaced intervals with display matter, pulleys on the shafts, a belt connecting the pulleys, a pinion on one roller shaft, a shaft, a motor, a train of reducing gears connecting the motor and the shaft, a wheel on the shaft provided with a segment of gear teeth for meshing with the pinion, a pinion on the shaft provided with a single tooth, a gear wheel for engagement by the tooth, a counter shaft to which the gear wheel is secured, an arm secured to the shaft, reversing mechanism for the motor, and means operated by the arm for operating said mechanism at predetermined intervals.

3. A device of the class described, comprising a pair of spaced rollers, a yielding connection between the rollers, a flexible strip winding on the rollers, a pinion connected with one of the rollers, a motor, a train of reducing gears with one end of which the motor is connected, a wheel provided with a segment of gear teeth connecting the other end with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, an arm rigidly connected with the gear wheel, a reversing mechanism for the motor, an arm for operating the same, and a yielding connection between the arms for the purpose set forth.

4. In a device of the class described, comprising a pair of spaced rollers, a yielding connection between the rollers, a flexible strip winding on the rollers, a pinion connected with one of the rollers, a motor, a train of reducing gears with one end of which the motor is connected, a wheel provided with a segment of gear teeth connecting the other end with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, and means for reversing the motor at predetermined intervals operated by the gear wheel.

5. In a device of the class described, a means for displaying a series of advertisements or the like and means for operating said means to display the advertisements in sequence and at predetermined intervals, said means comprising a motor for operat-

ing said means, a train of reducing gears with one end of which the motor is connected, a pinion having a driving connection with said means, a wheel provided with a segment of gear teeth connecting the other end of said train with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, a reversing mechanism for the motor, an arm operated by the gear wheel, and a connection between the arm and the reversing mechanism for operating the same.

6. In a device of the class described, a means for displaying a series of advertisements or the like and means for operating said means to display the advertisements in sequence and at predetermined intervals, said means comprising a motor for operating said means, a train of reducing gears with one end of which the motor is connected, a pinion having a driving connection with said means, a wheel provided with a segment of gear teeth connecting the other end of said train with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, an arm rigidly connected with the gear wheel, a reversing mechanism for the motor, and a connection between the arm and the reversing mechanism for operating the same.

PAUL CLARENCE SCOTT.

Witnesses:

FLOYD C. HENDRICKS,
E. H. DUDLEY.