

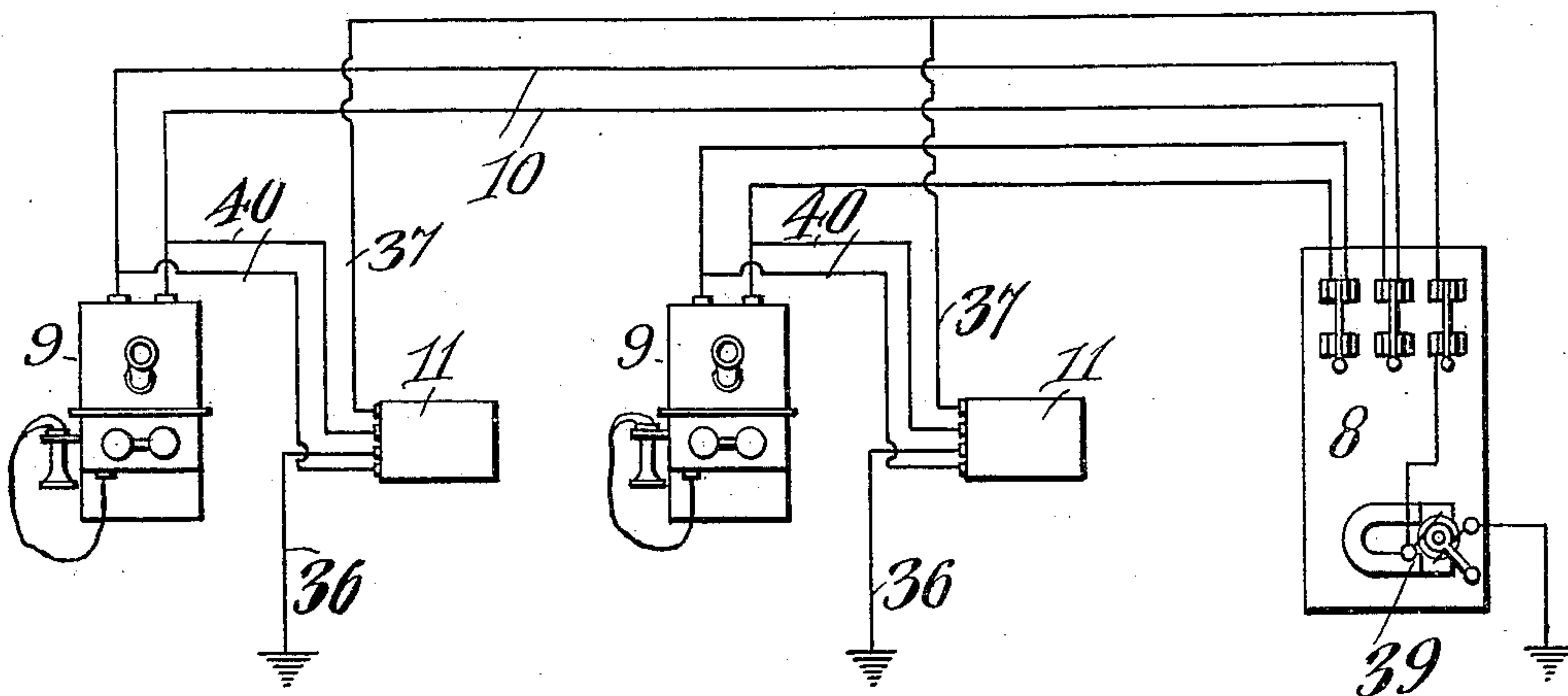
R. YEARNEAU.  
 RENT COLLECTING MEANS FOR TELEPHONE SERVICE.  
 APPLICATION FILED OCT. 8, 1908.

931,547.

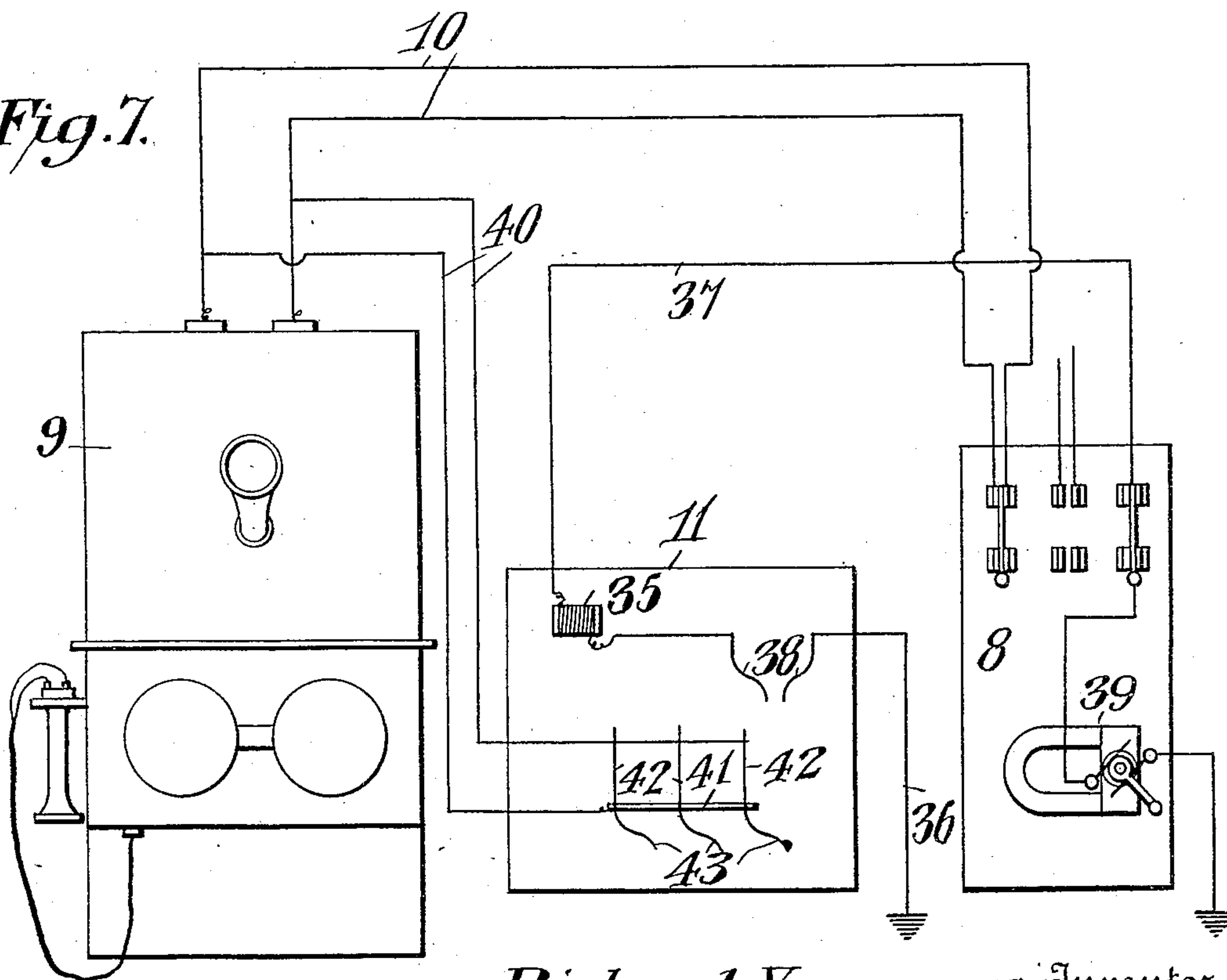
Patented Aug. 17, 1909.

3 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 7.*



*Richard Yearneau*, Inventor

Witnesses

*Jas. E. McLaughlin*  
*B. L. Fortin*

By

*E. J. Siggers*

Attorney

R. YEARNEAU.  
 RENT COLLECTING MEANS FOR TELEPHONE SERVICE.  
 APPLICATION FILED OCT. 8, 1908.

931,547.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 2.

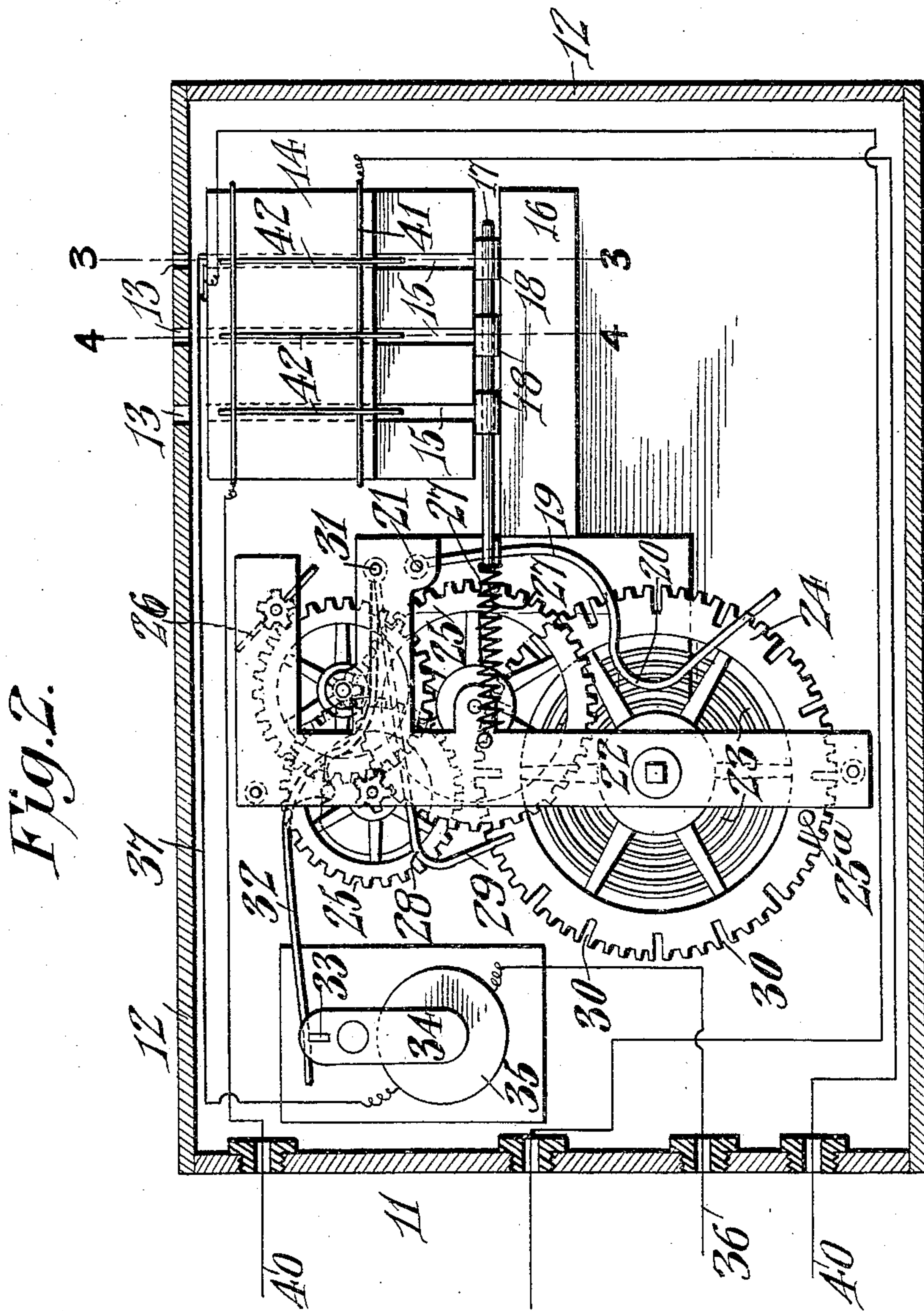


Fig. 2.

Richard Yearneau, Inventor

Witnesses  
 Jas. E. McLaughlin  
 B. H. Foster.

By *E. G. Siggers*  
 Attorney



R. YEARNEAU.  
 RENT COLLECTING MEANS FOR TELEPHONE SERVICE.  
 APPLICATION FILED OCT. 8, 1908.

931,547.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 3.

Fig. 5.

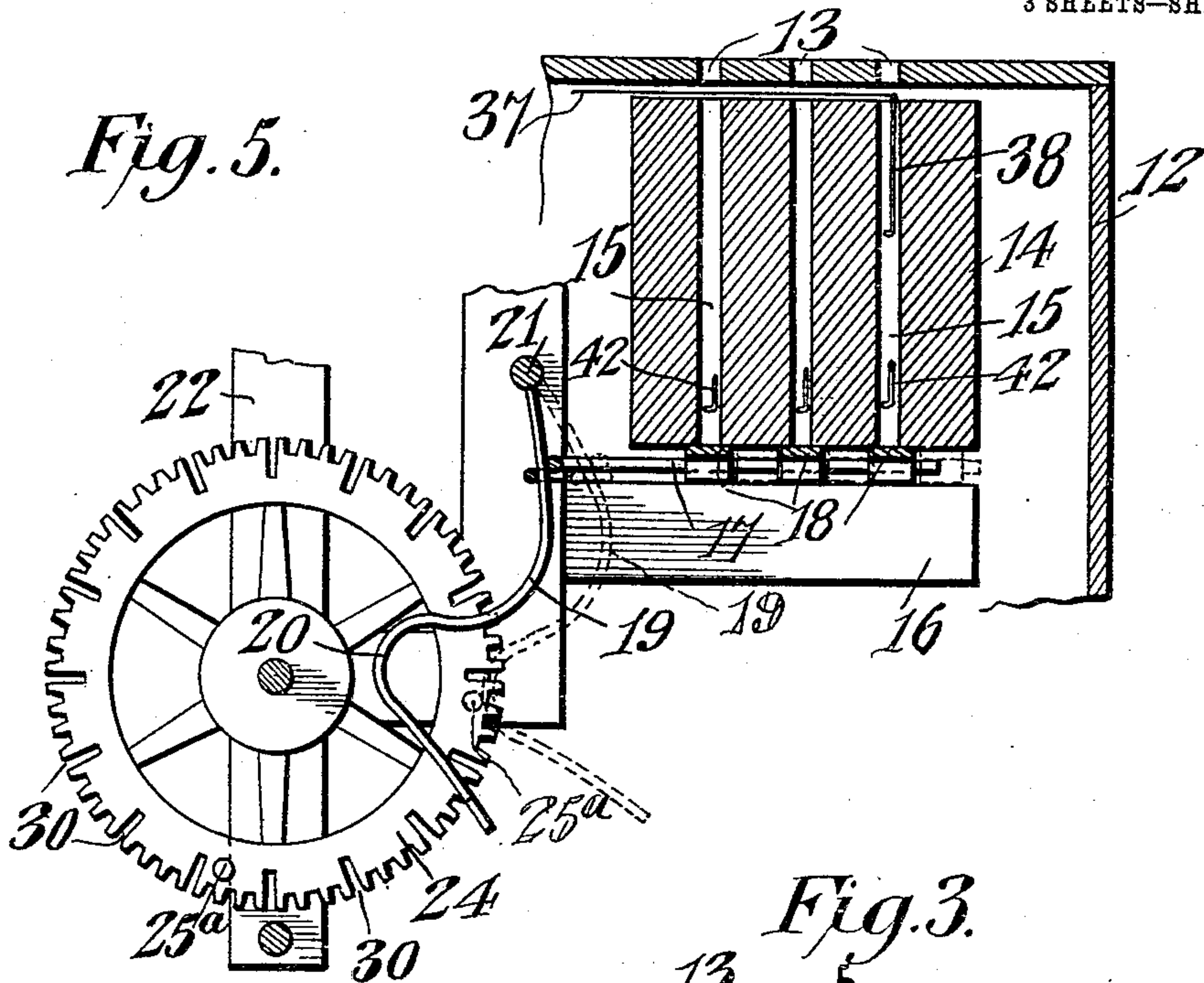


Fig. 3.

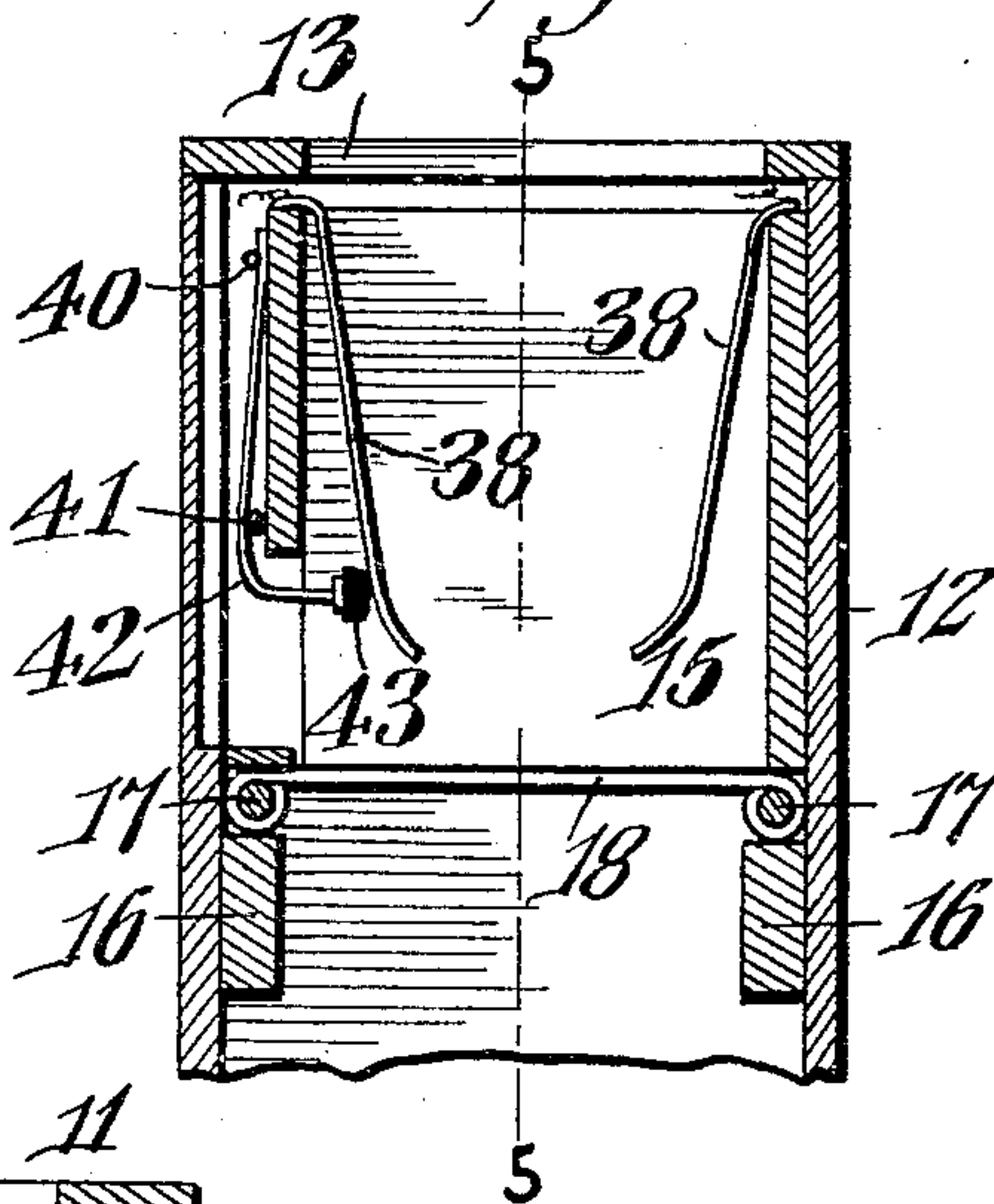


Fig. 6.

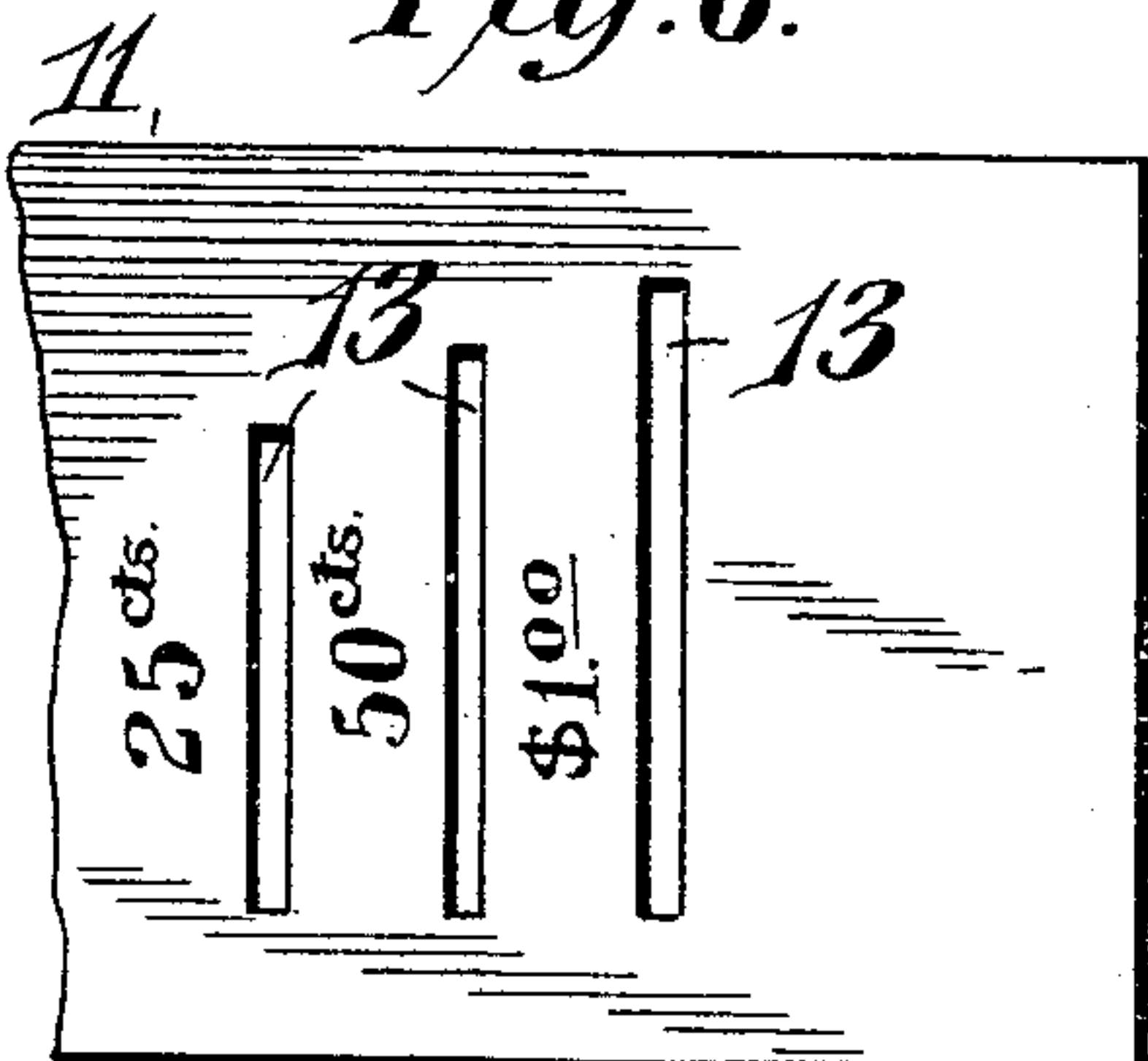
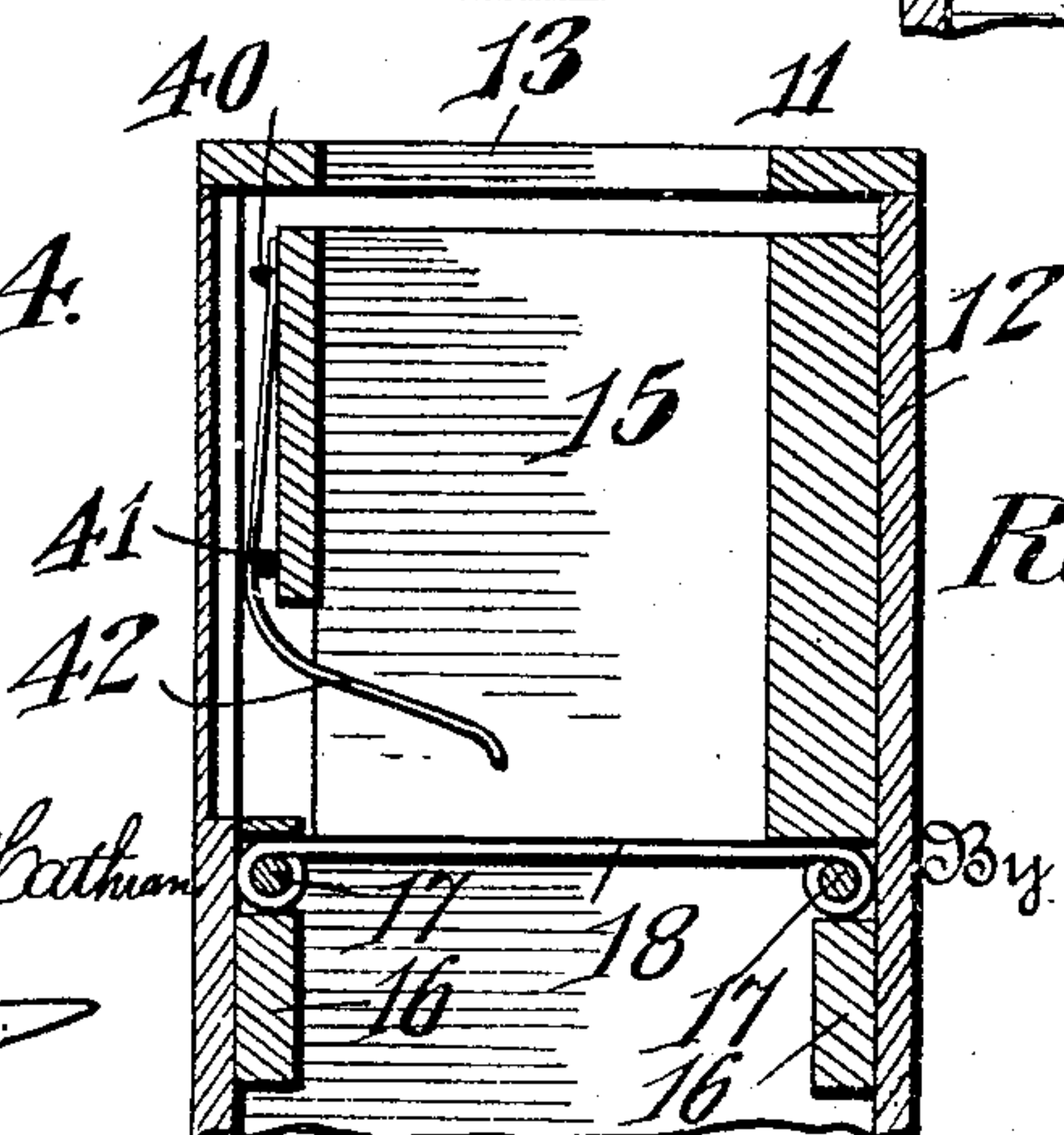


Fig. 4.



Richard Yearneau,  
 Inventor

Witnesses  
 Jas. E. McLaughlin  
 C. H. Foster

By  
 E. G. Siggers  
 Attorney



# UNITED STATES PATENT OFFICE.

RICHARD YEARNEAU, OF CLARK, SOUTH DAKOTA.

## RENT-COLLECTING MEANS FOR TELEPHONE SERVICE.

No. 931,547.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed October 8, 1908. Serial No. 456,776.

*To all whom it may concern:*

Be it known that I, RICHARD YEARNEAU, a citizen of the United States, residing at Clark, in the county of Clark and State of South Dakota, have invented a new and useful Rent-Collecting Means for Telephone Service, of which the following is a specification.

The present invention relates to improvements in toll mechanism for telephones, and is in the nature of an improvement on the structure disclosed in my Patent Number 910628, of January 26, 1909.

The object of the present invention is to provide a structure that is more simple and compact, and will permit the use of a number of coins or checks of different denominations.

An embodiment of the invention that is at present considered the preferable one is disclosed in the accompanying drawings, wherein:—

Figure 1 is a diagrammatic view of a portion of a telephone system, showing the novel controlling means installed. Fig. 2 is a sectional view on an enlarged scale through the casings of one of the rent-collecting devices, showing the mechanism in elevation. Fig. 3 is a cross sectional view on the line 3—3 of Fig. 2. Fig. 4 is a cross sectional view on the line 4—4 of Fig. 2. Fig. 5 is a longitudinal sectional view on the line 5—5 of Fig. 3. Fig. 6 is a plan view of a portion of the top of the casing. Fig. 7 is a diagrammatic view, illustrating the electrical connections at one of the instruments.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, a telephone system is disclosed, which includes a central station 8 and a plurality of instruments 9 having line connections 10 with said station. While a metallic circuit is disclosed, it will be evident that other circuits may be employed. Associated with each instrument is a rent-collecting device, designated as a whole by the reference numeral 11. Each instrument consists of a casing 12 having a plurality of coin-receiving slots 13 preferably constructed to permit the passage of coins of different sizes, as illustrated in Fig. 6, though it will be evident that additional slots may be provided for a plurality of coins of the same denomination. Within

the casing and below the slots 13 is a block 14 of non-conducting material having a plurality of coin guides or chutes 15 alined with the slots 13 and corresponding in cross sectional area thereto. Secured to the opposite sides of the casing 12 are tracks 16 on which reciprocates a frame 17 that is provided with a plurality of check-supporting plates 18, the whole forming practically a grid. The plates 18 are normally located below the lower ends of the guides or chutes 15, but are movable from beneath the same. To this end, the frame is connected to a depending finger 19 having an inwardly extending portion 20 that constitutes in effect a cam track. The upper end of the finger 19 is pivoted, as illustrated at 21 in a frame 22 that supports a spring motor including a spring 23, a master wheel 24, and a train of gearing 25 connected to a speed governor fan 26. The wheel 24 has a projection 25<sup>a</sup> thereon in the form of a stud, and the cam track 20 is located in the path of movement of this stud. It will thus be evident that when the motor is operated, the wheel 24 will rotate, and the stud 25<sup>a</sup> engaging the cam track will cause a rearward movement of the finger 19. This will move the plates 18 out of their normal positions beneath the chutes. The return movement is secured by a spring 27 connected to the frame 17, as clearly shown in Fig. 2. Under normal conditions, the motor is held against movement, and for this purpose, a holding arm 28 is employed having a tooth 29 that engages in any of a plurality of notches 30 formed in the periphery of the wheel 24. This holding arm is pivoted as shown at 31 in the frame 22, and it is actuated by another arm 32, which rests upon the rearwardly extending pin 33 of an armature 34. This armature coöperates with the core of an electro-magnet 35 located in one corner of the casing. The electro-magnet is in an electric circuit, one line 36 of which may be grounded as shown, the other line 37 including a pair of spring contact elements 38 located in one of the check guides or chutes 15. This line 37 continues to the central station 8 where a magnetic generator 39 or other suitable source of electrical energy is located.

A short circuit is provided for each instrument, and is in the form of wires 40 connected to the line wires 10 and extending into the casing 12. One of the line wires 40



is connected to a contact bar 41 secured to one side of the block 14 while the other wire 40 is connected to a number of yielding contact fingers 42 that extend across the bar 41, and have inturned terminals 43 extending into the guideways or chutes 15 and into the paths of movement of the checks or coins placed therein. Normally the fingers 42 are in engagement with the bar 41, as shown in Figs. 3 and 4, but when a coin or check is placed in a guideway, the finger will be moved out of engagement with the bar. Inasmuch as the finger 42 which extends into the guideway or chute containing the fingers 38 must not be electrically connected with said fingers 38, this particular finger 42 is preferably provided at its inner end with a contact head 43 of insulating material that is engaged by the adjacent finger 38 so that when a coin or check is located between the fingers 38, the latter are spread apart and one of said fingers pressing against the head 43, disengages the finger 42 from the bar 41.

The operation of the mechanism is substantially as follows. It will be evident that when there are no checks or coins in the guideways, the fingers 42 will be in engagement with the bar 41, and consequently the instrument will be short-circuited. Assuming for the purpose of explanation that the rent of the telephone instrument is one dollar and seventy-five cents a month, it will be evident that if a twenty-five cent piece is introduced into the proper slot 13, a fifty cent piece into the next and a silver dollar into the succeeding slot, these various coins will drop into the guideways 15 and rest upon the supporting plates 18. As a result, the various spring fingers 42 will be held out of engagement with the bar 41, the short circuit 40 will consequently be broken, and the instrument will be in uninterrupted communication with the central station. At the same time it will also be evident that the circuit 37 through the electro-magnet 35, will be closed by the one dollar piece engaging both of the springs 38. When the end of the month comes or a succeeding payment is due, the operator at the central station has only to generate current in the circuit 37 by means of the magneto generator 39, whereupon the electro magnet or magnets 35 in said circuit will be energized, thus elevating the fingers 32 and the fingers 28. The motors being thereby released will be operated and the stud 25<sup>a</sup> engaging the cam track 20 of the finger 19 will cause the check or coin-supporting plates to be moved from under the above mentioned coins and the latter will drop into the bottom of the casing. Immediately therefore the spring fingers 42 will return to their original positions in engagement with the bar 41 and the instrument or instruments will be short-

circuited and cannot be again used until the subscriber places the proper amount in the various slots. In this connection, it will be evident that the number and variety of slots may be altered according to the amount of rental imposed.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. The combination with a circuit closer comprising check controlled contact elements relatively movable into and out of engagement, of a movable support for the controlling check, a motor for operating the support, and electrically operated means for controlling the movement of the motor.

2. The combination with a circuit closer comprising check controlled contact elements relatively movable into and out of engagement, of a movable support for the controlling check, a motor for operating the support, a device for holding the motor against movement, and an electromagnet for operating the holding device.

3. The combination with a circuit closer comprising check controlled contact elements relatively movable into and out of engagement with each other, of a movable support for the controlling check, a motor for operating the support including a rotary device having a projection, a finger connected to the check support and having a portion located in the path of movement of the projection, a device for holding the motor against movement, and an electromagnet for operating said holding device.

4. The combination with a circuit closer comprising check-controlled contact elements relatively movable into and out of engagement with each other, of a reciprocatory support separate from the contacts and arranged to hold the controlling check in such a position as to maintain the contacts out of engagement with each other, and means for reciprocating the support to drop the check to permit the contacts to automatically engage.

5. The combination with a circuit closer comprising check controlled contact elements relatively movable into and out of engagement with each other, of a reciprocatory support for the controlling check, a motor including a rotary device having a projection, a finger connected to the reciprocatory support and having a portion located in the path of movement of the projection, a device for holding the motor against movement, and an electromagnet for operating said holding device.



5 catory support and having a portion located in the path of movement of the projection, a device for holding the motor against movement, and means for operating the device to release the motor.

10 6. The combination with a plurality of check-operated circuit closers, and a circuit connected with all the closers and open only when all the closers are open, of movable supporting means for independently supporting the various checks that operate said circuit closers, and common means for actuating the supporting means to permit all the checks to drop simultaneously from the supporting means.

20 7. The combination with a plurality of check-operated circuit closers, and a single circuit connected with the said closers and maintained closed as long as any of the latter are closed, of movable supporting means for the various checks that operate said circuit closers and on which all the checks normally bear at the same time, and a motor for simultaneously actuating said supporting means to drop all the checks from the latter at once.

30 8. The combination with a plurality of check receptacles, check-controlled circuit closers, one closer in each receptacle, of a plurality of movable supports for holding the various checks in operative positions with respect to the circuit closers, means for simultaneously moving all the supports together to release said checks, and a circuit with which the circuit closers are connected in shunt relation, whereby the circuit is open only when all the closers are open.

40 9. The combination with a plurality of check-controlled circuit closers, of check guides, a reciprocatory frame located at the lower end of the guides, a plurality of check supporting plates secured to the frame and normally located below the guides but movable from beneath the same, and means con-

5 nected to the frame for moving the same and thereby the supporting plates.

10 10. The combination with a plurality of check guides, of a reciprocatory frame located at the lower end of the same, a plurality of check supporting plates carried by the frame and normally located below the guides but movable from beneath the same, a finger connected to the frame, a motor for moving the finger and thereby the frame, a device for holding the motor against movement, an electro-magnet for operating the device to release the motor, a contact bar arranged alongside the guides, and a plurality of yielding contact fingers normally engaged with the contact bar and projecting into the guides in the path of movement of the checks that pass therethrough.

11. The combination with a check guide, of a contact element secured to one side of the same, another contact element movable into and out of engagement with the first mentioned element and projecting into the path of movement of the checks that pass through the guide, and a pair of contacts in the guide arranged to releasably receive a check between them for completing a circuit.

12. The combination with a block having a plurality of check guides therethrough, of a contact bar extending alongside the block transversely of the check guides, a plurality of separate yielding contact elements normally engaging the contact bar and projecting into the guides in the path of movement of the checks, a support for the checks arranged below the various guides, and means for operating said supports.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

RICHARD YEARNEAU.

Witnesses:

ANNA ARTZ,

CHAS. CARPENTER.