

No. 834,118.

PATENTED OCT. 23, 1906.

C. E. GIERDING.
FARE REGISTER.

APPLICATION FILED JAN. 13, 1906

4 SHEETS—SHEET 1.

Fig. 1.

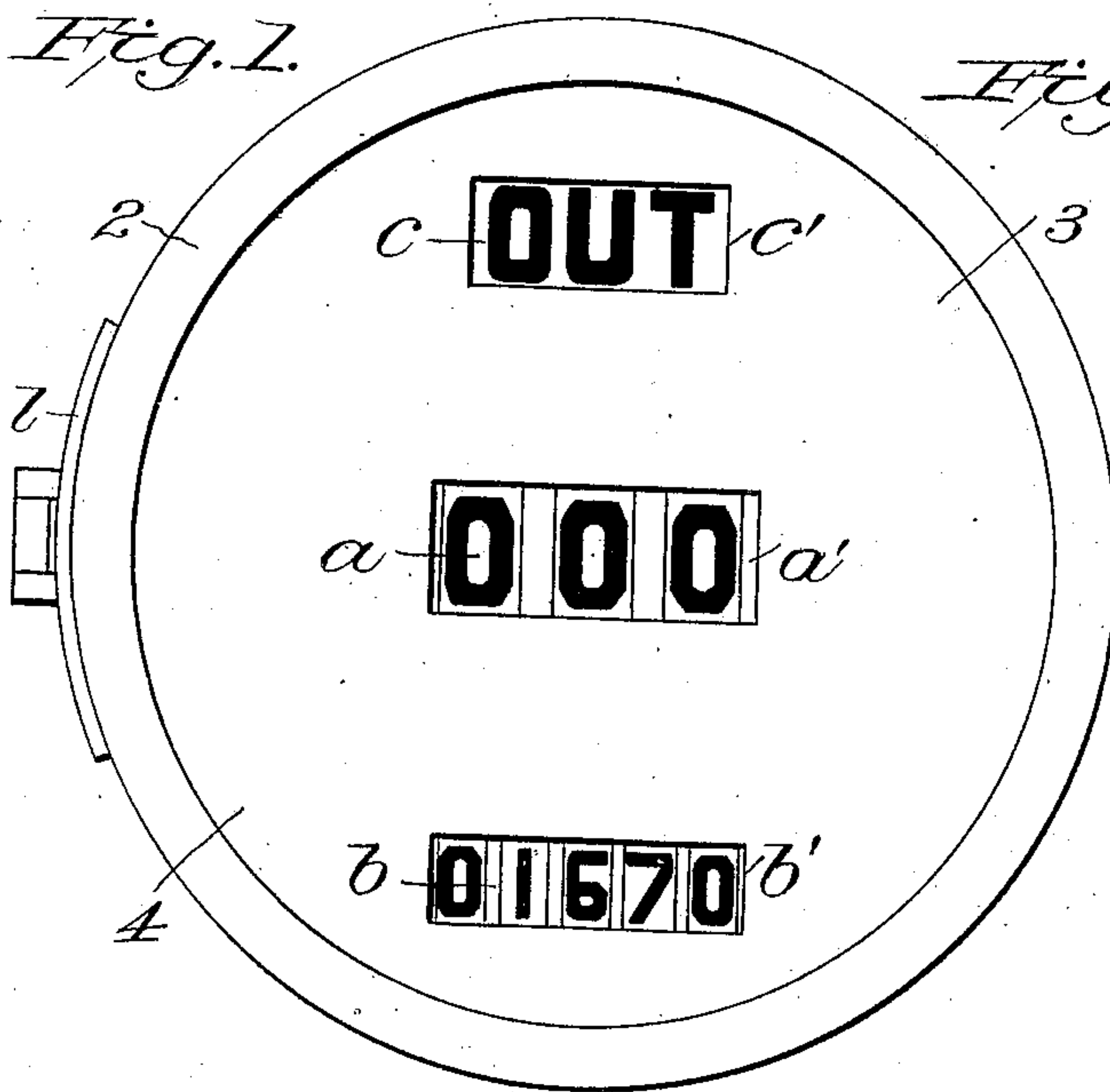


Fig. 2.

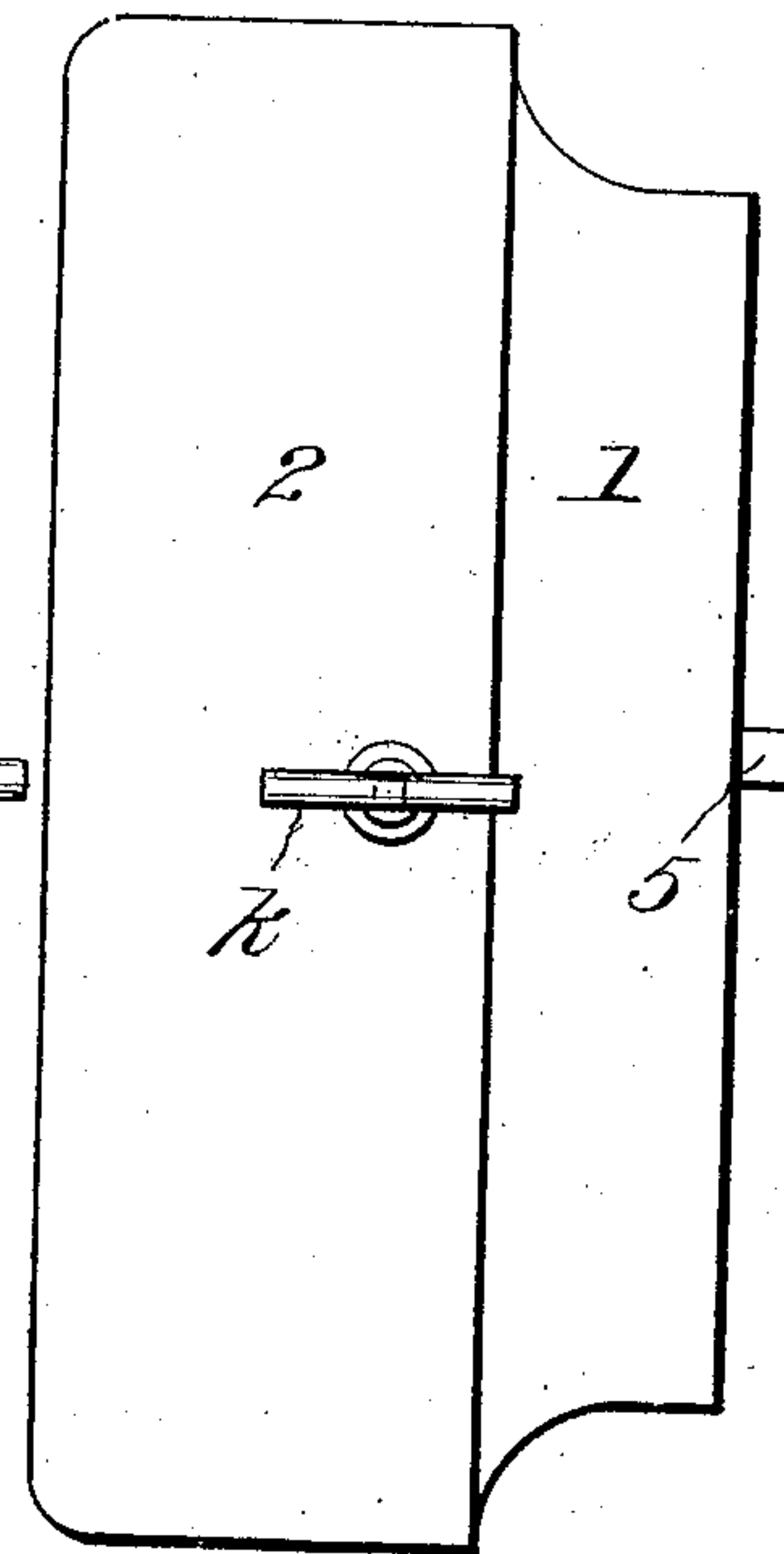


Fig. 3.

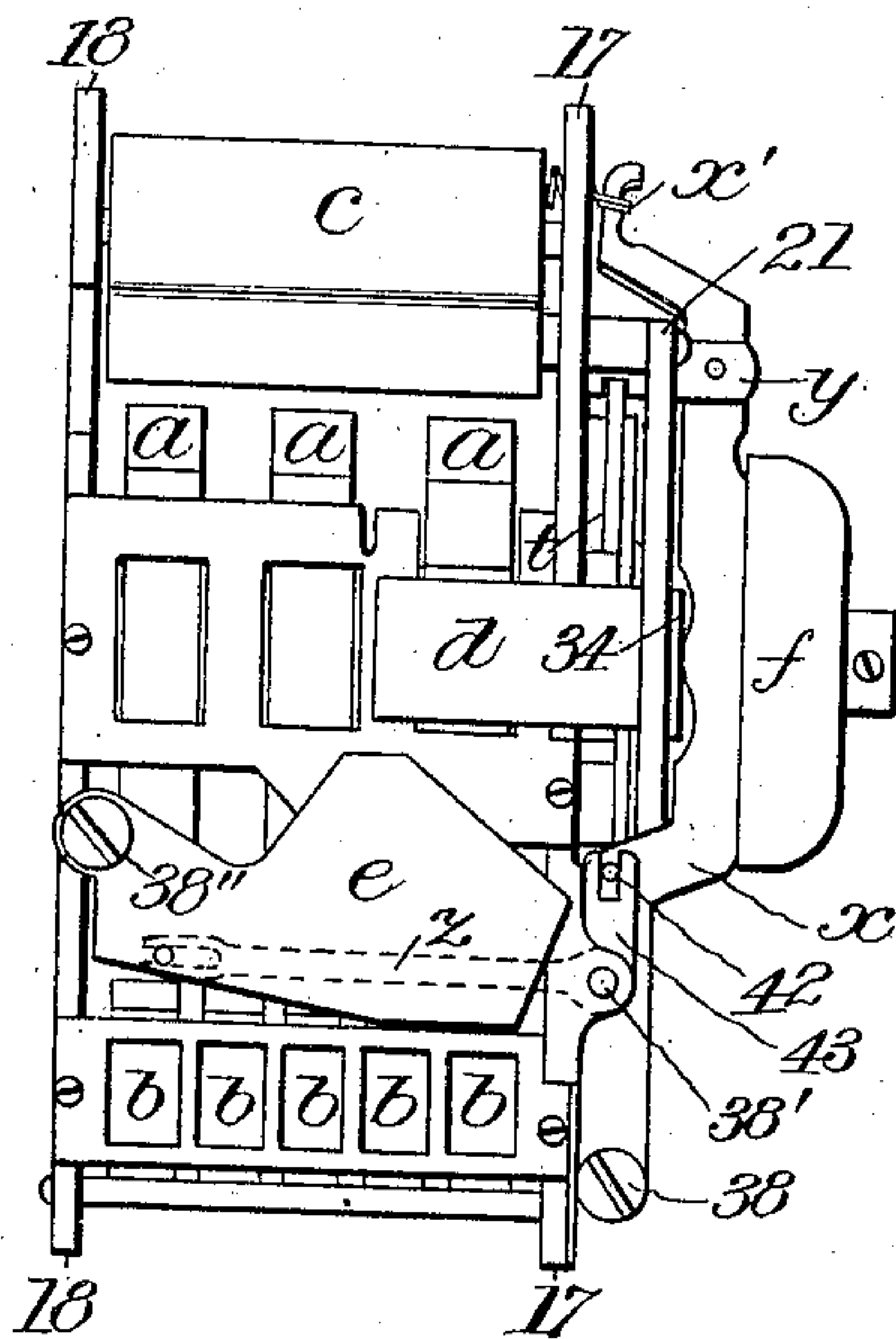
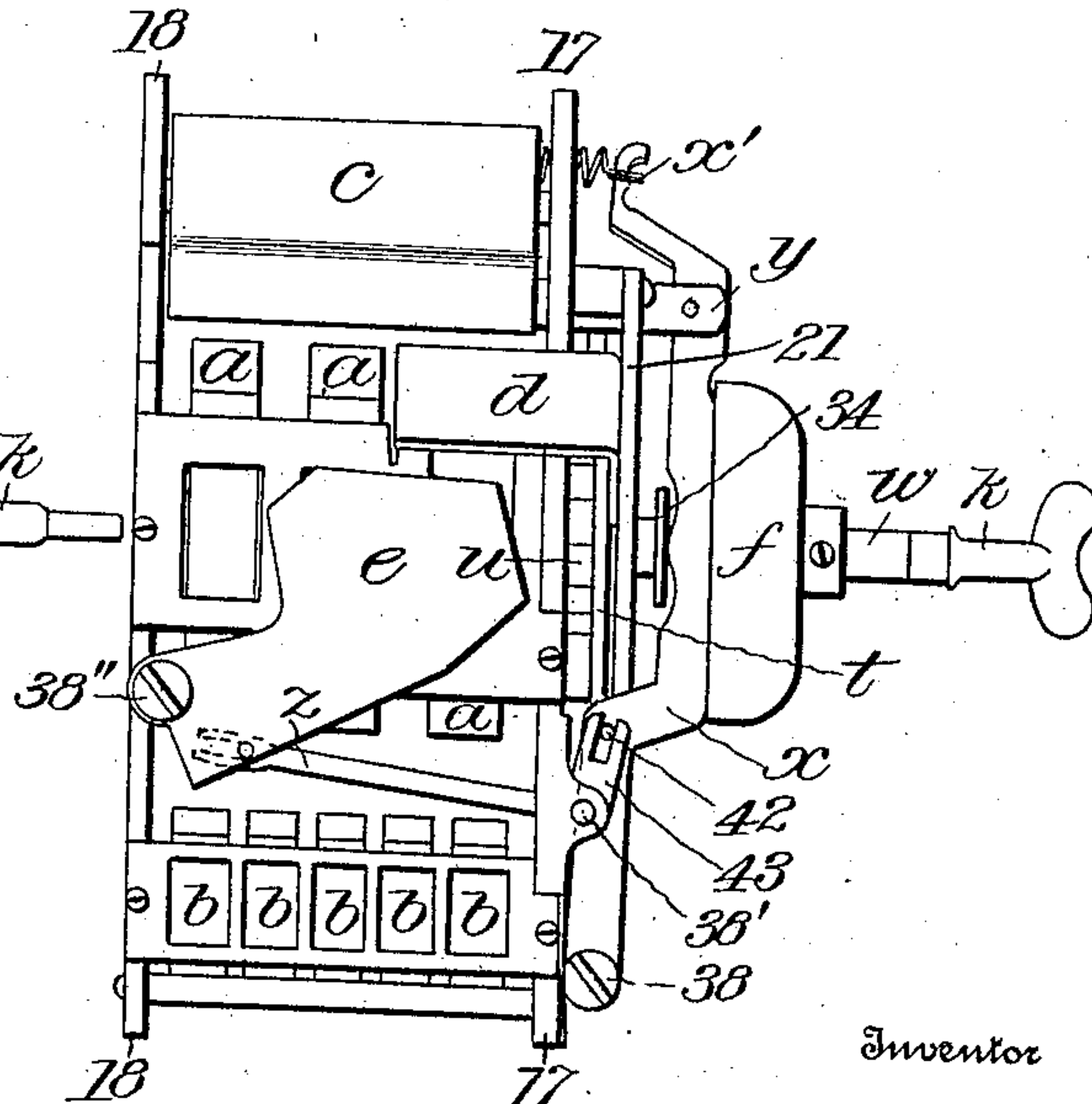


Fig. 4.



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4 SHEETS—SHEET 2.

Fig. 5.

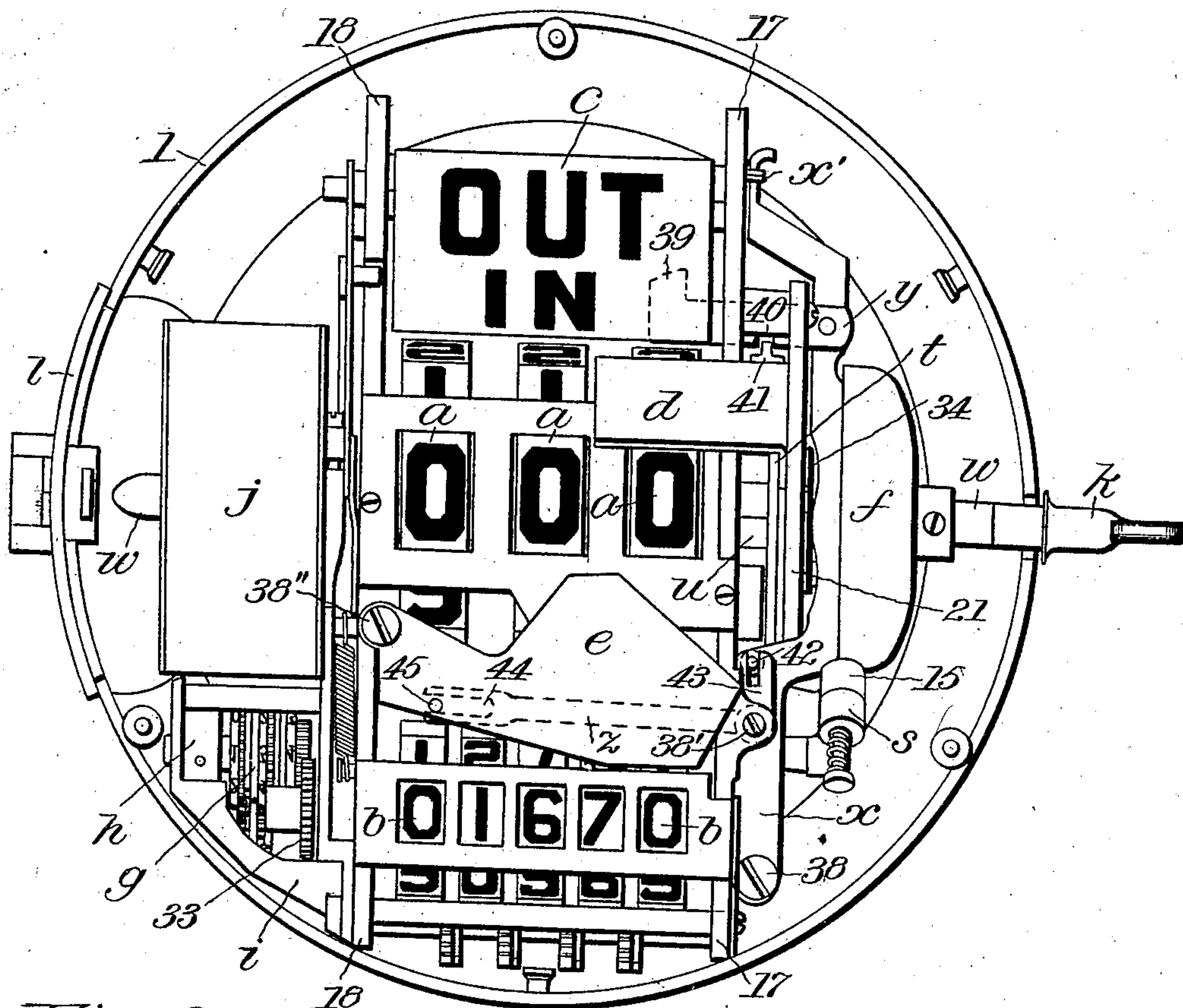


Fig. 6.

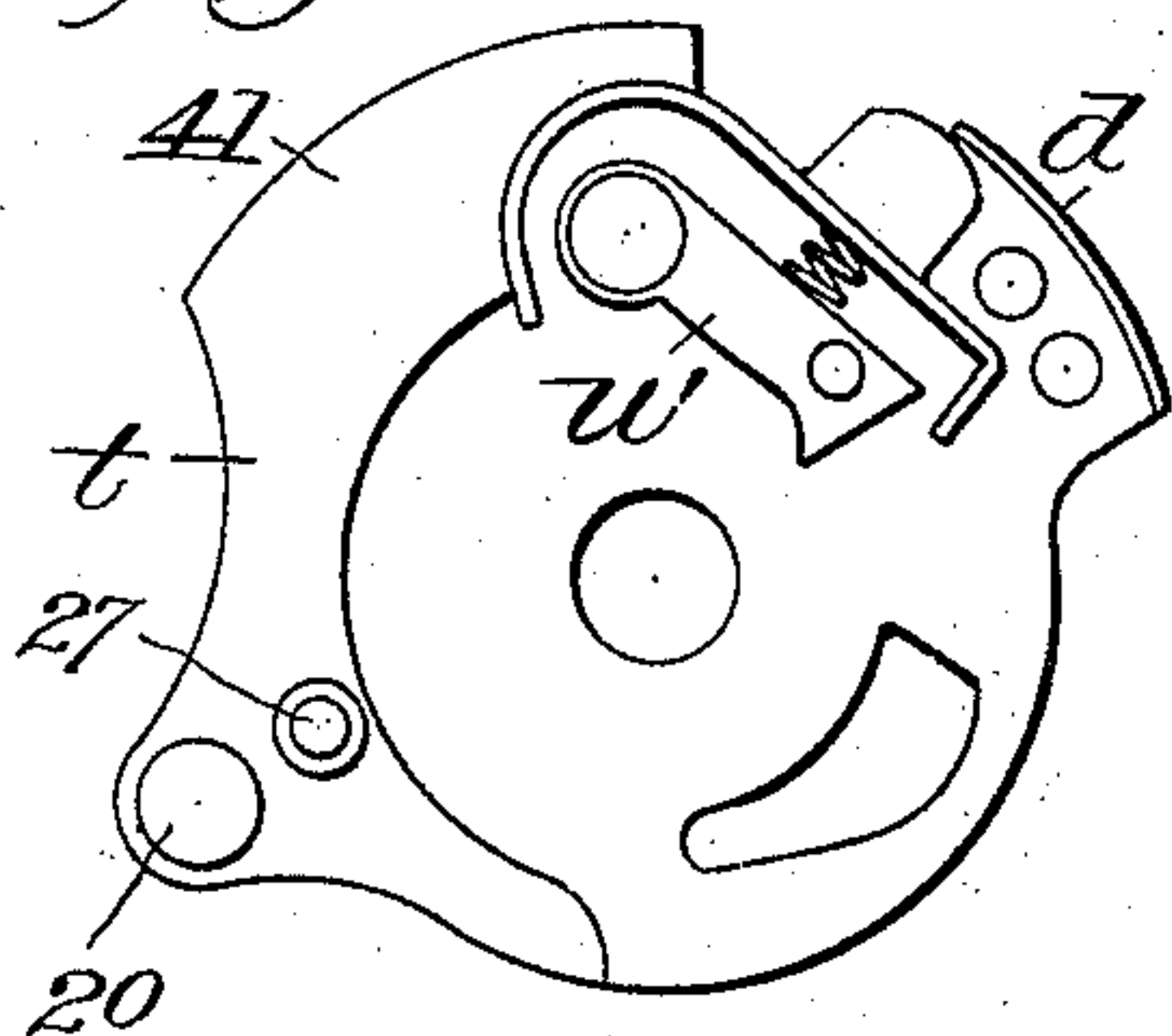


Fig. 7. $\frac{41}{1}$

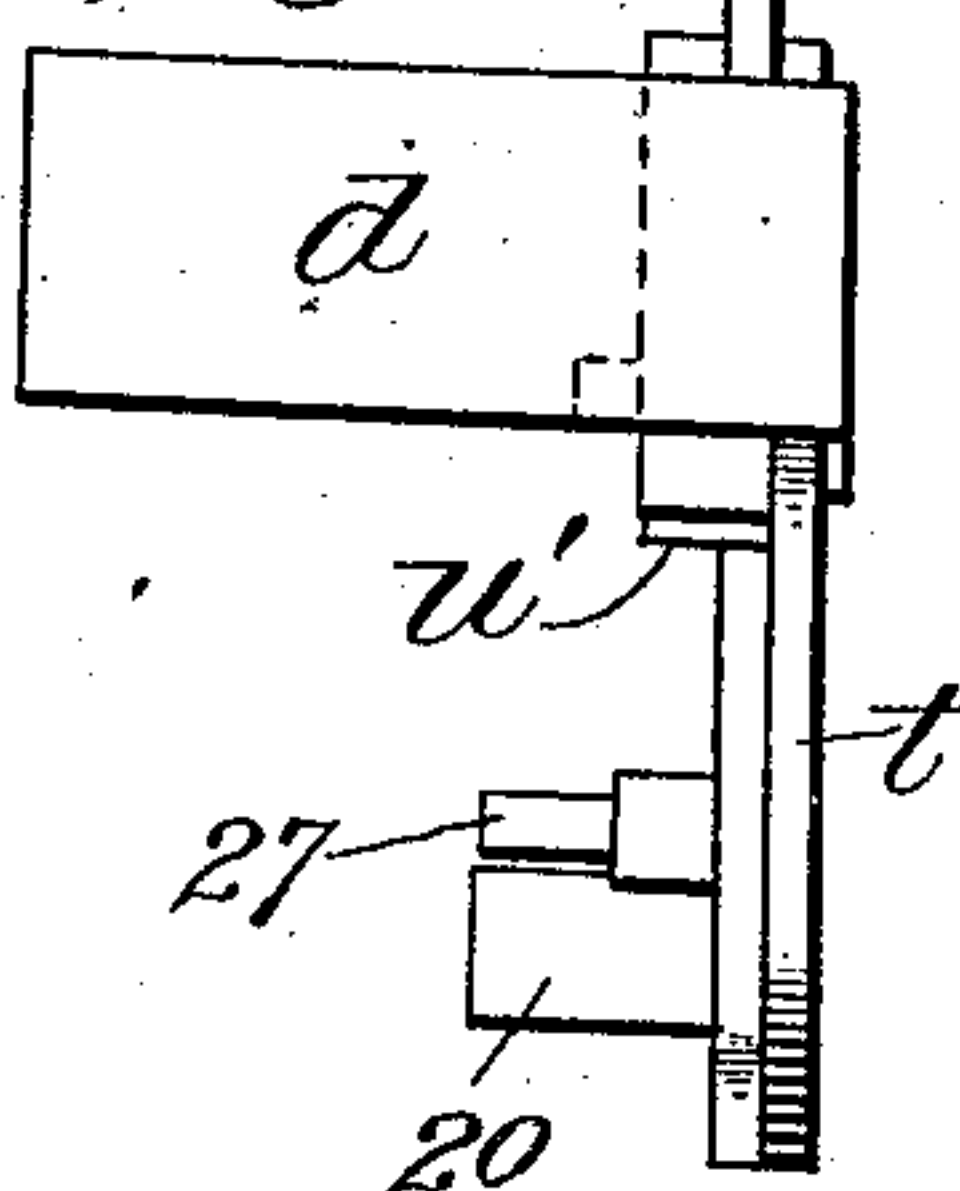


Fig. 8.

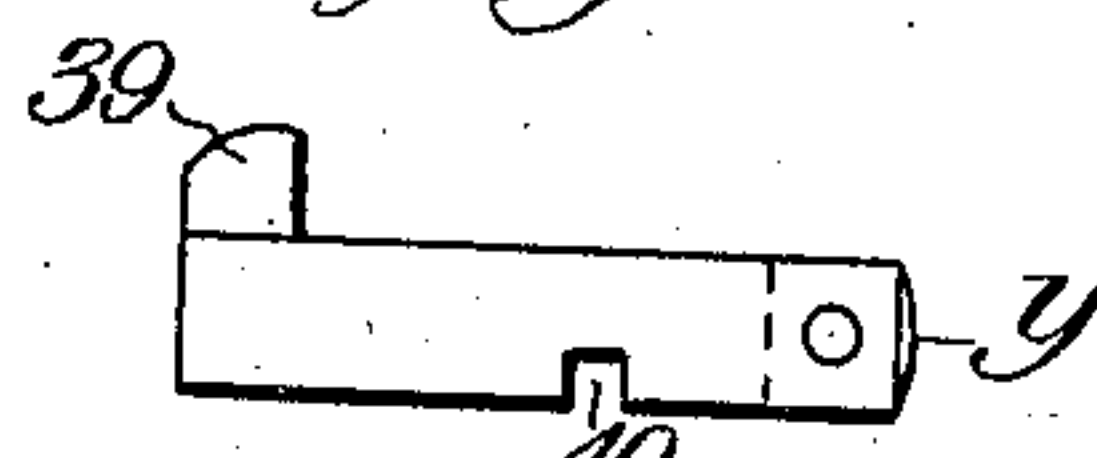
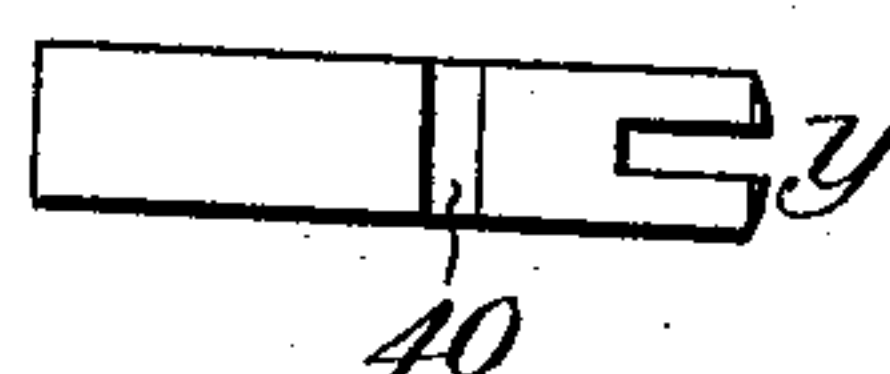


Fig. 9.



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4 SHEETS—SHEET 3.

Fig. 10.

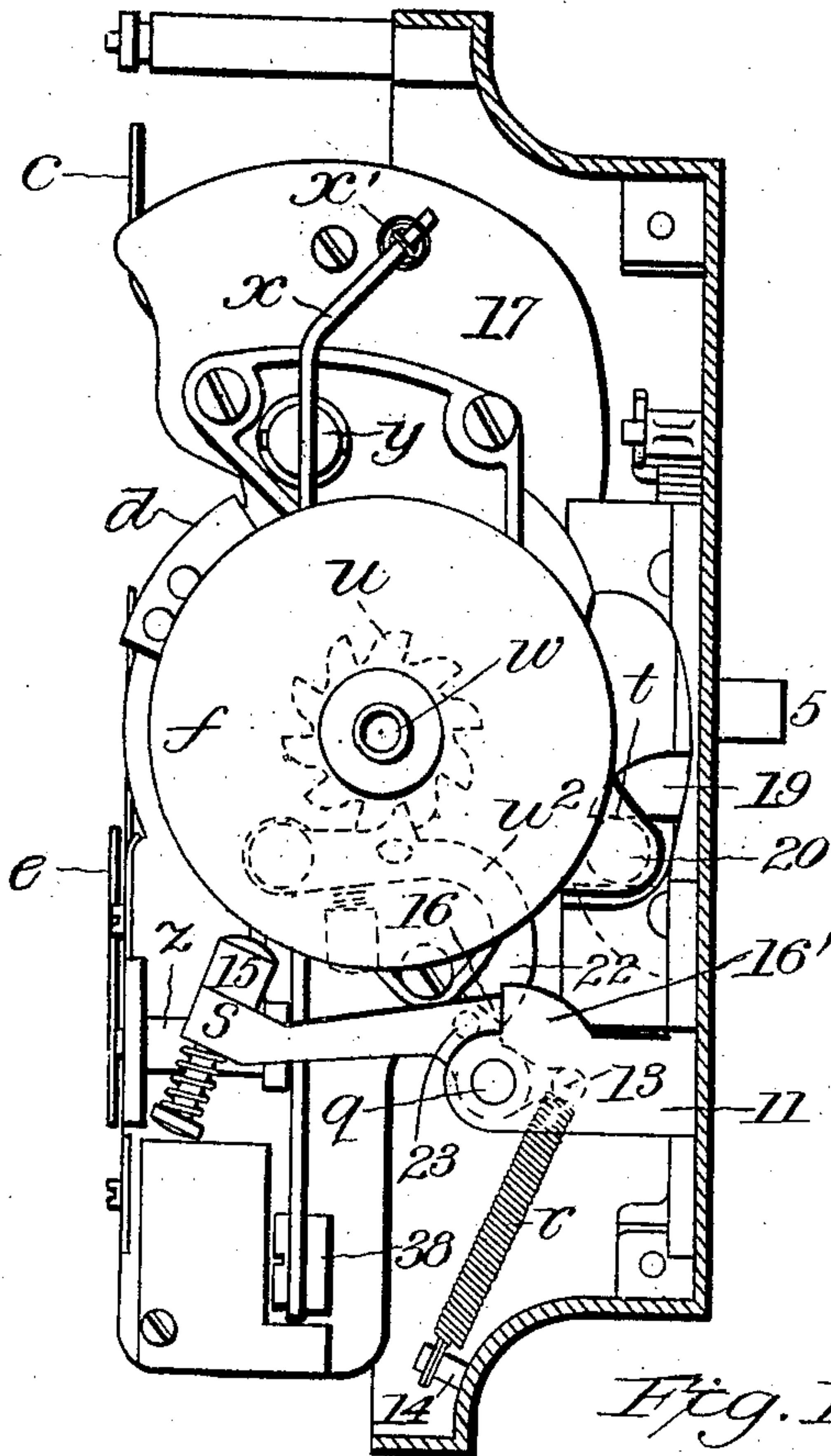


Fig. 11.

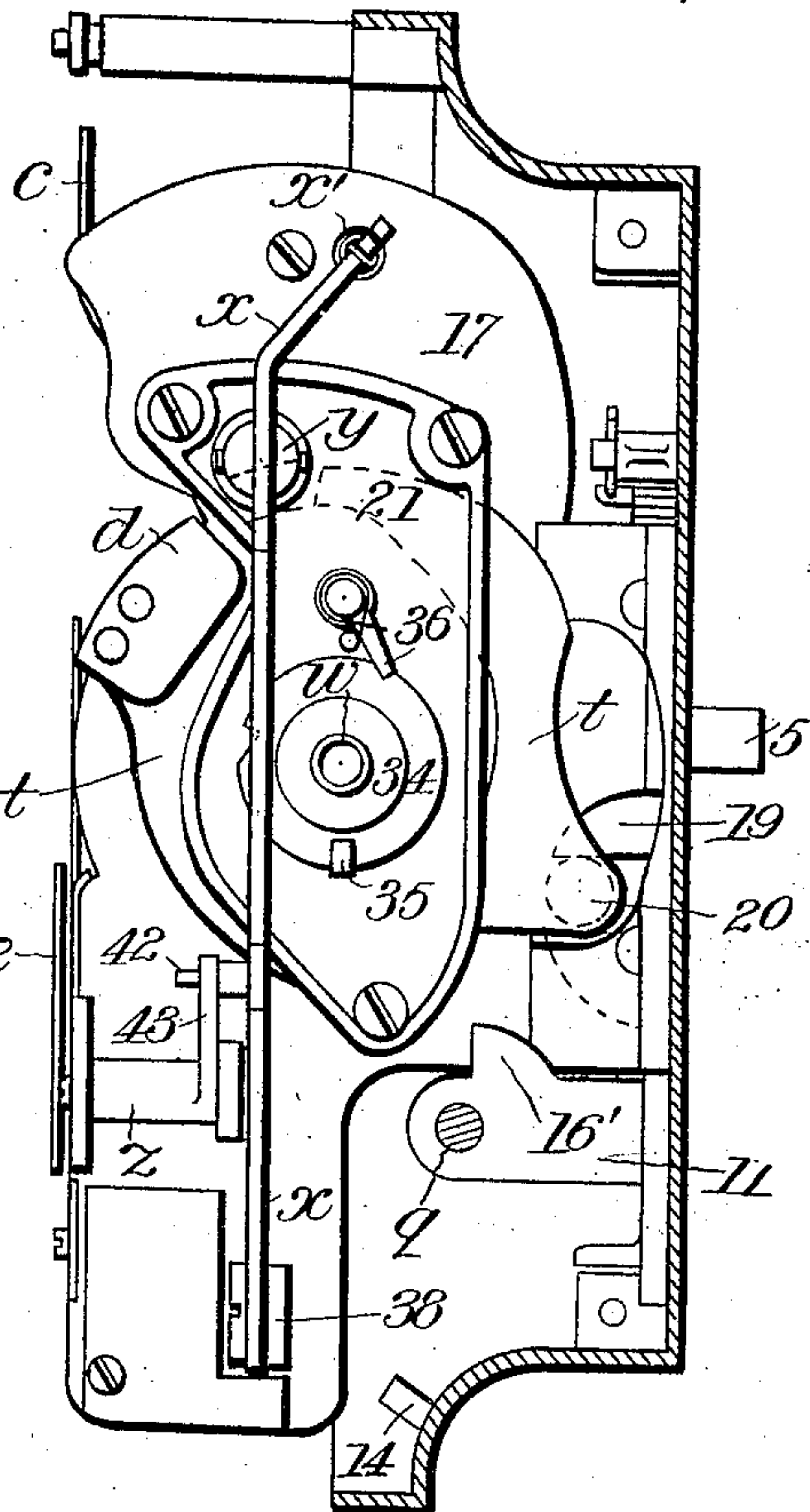


Fig. 14.

Fig. 12.

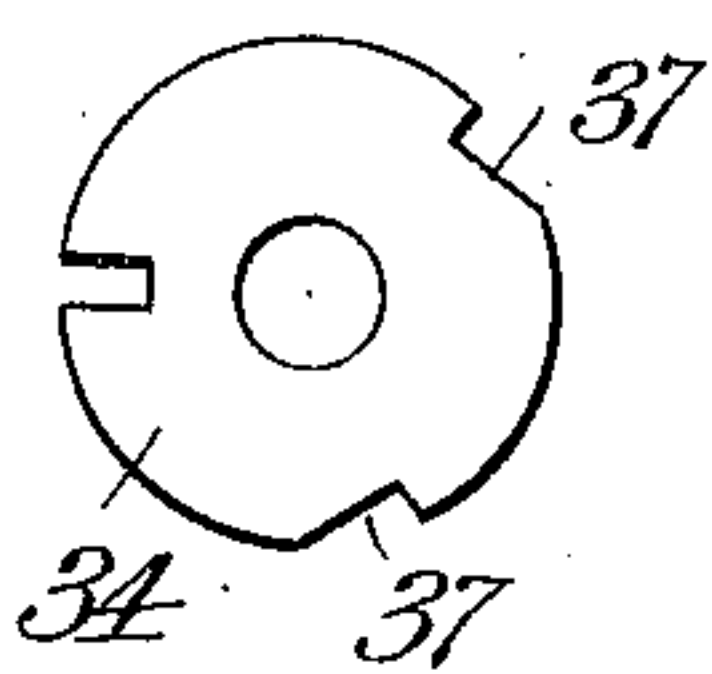


Fig. 13.

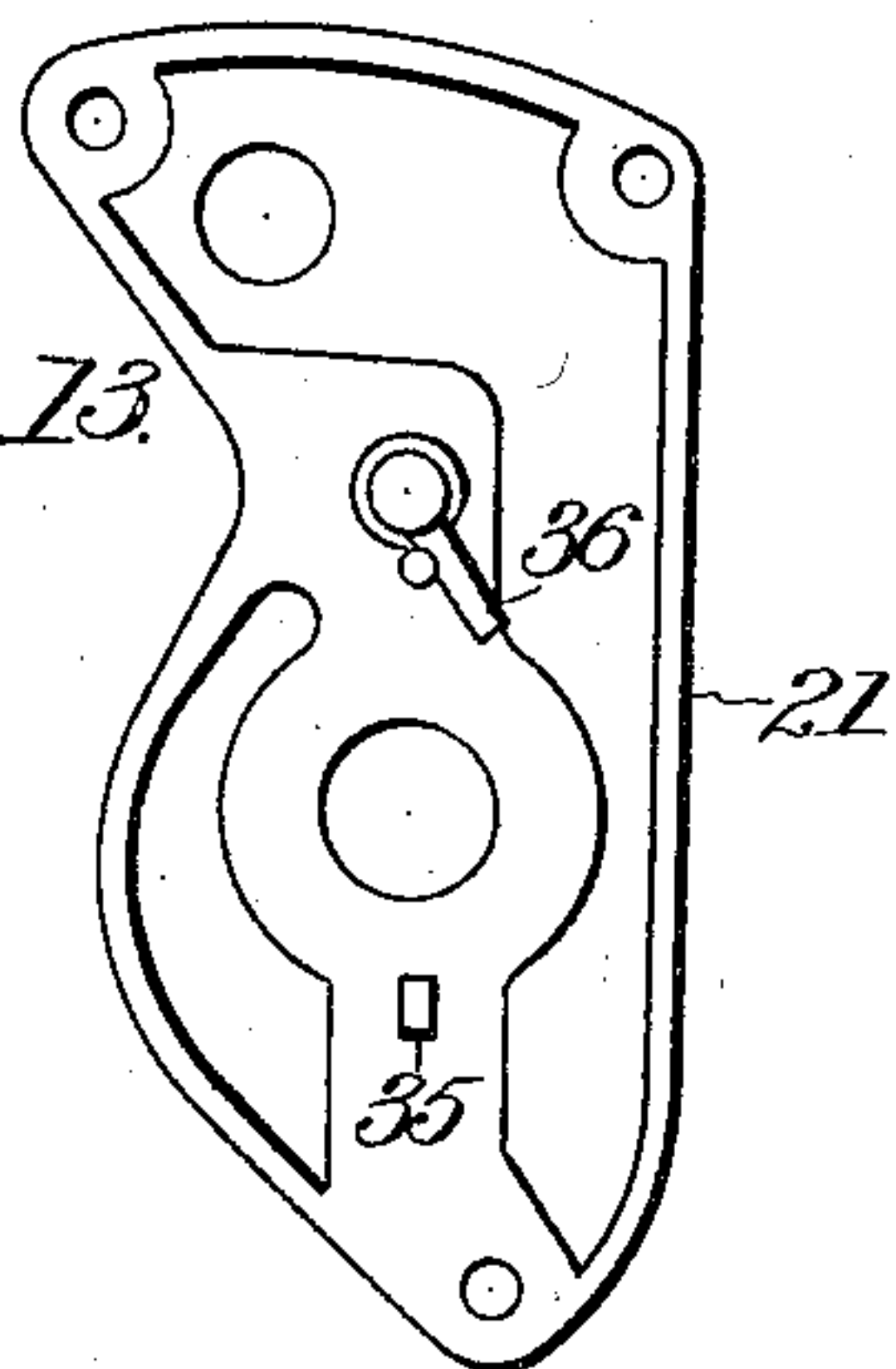
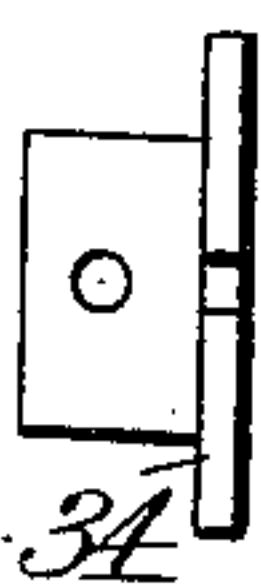
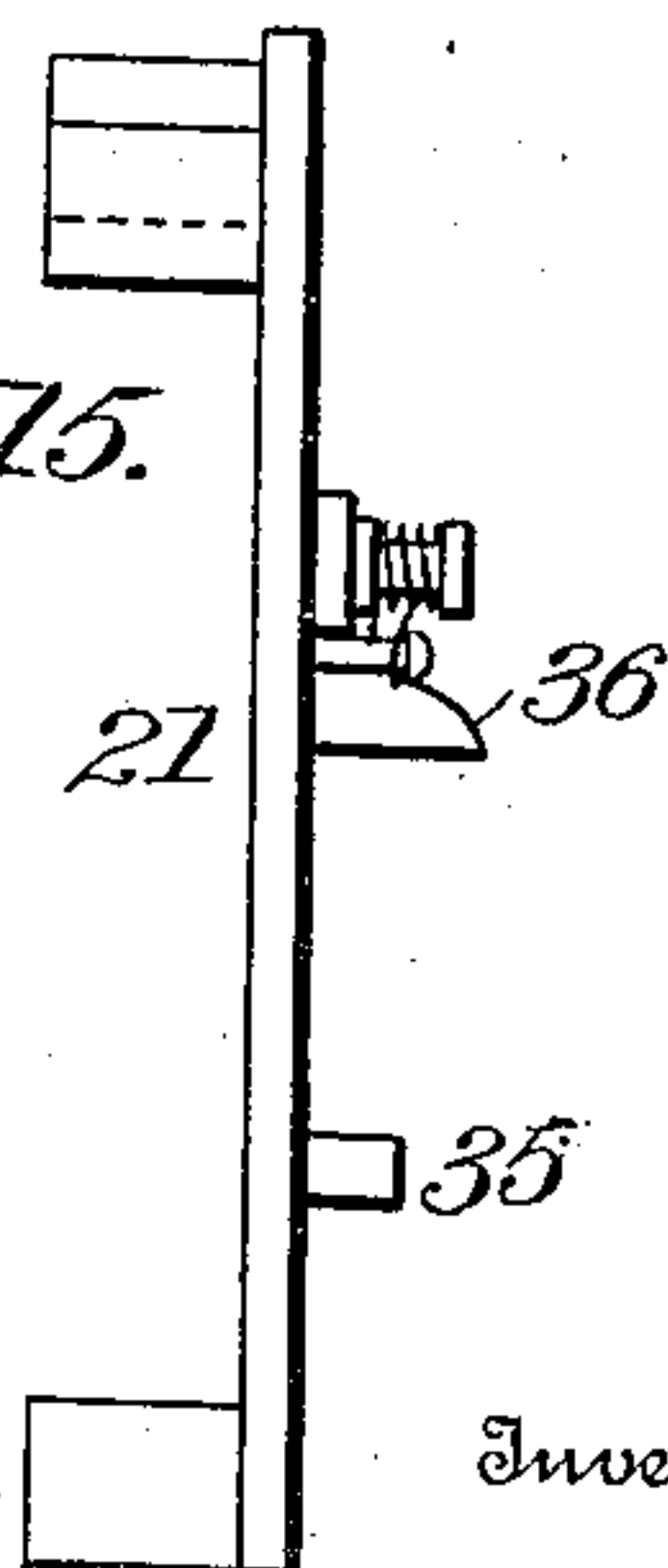


Fig. 15.



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4 SHEETS--SHEET 4.

Fig. 16.

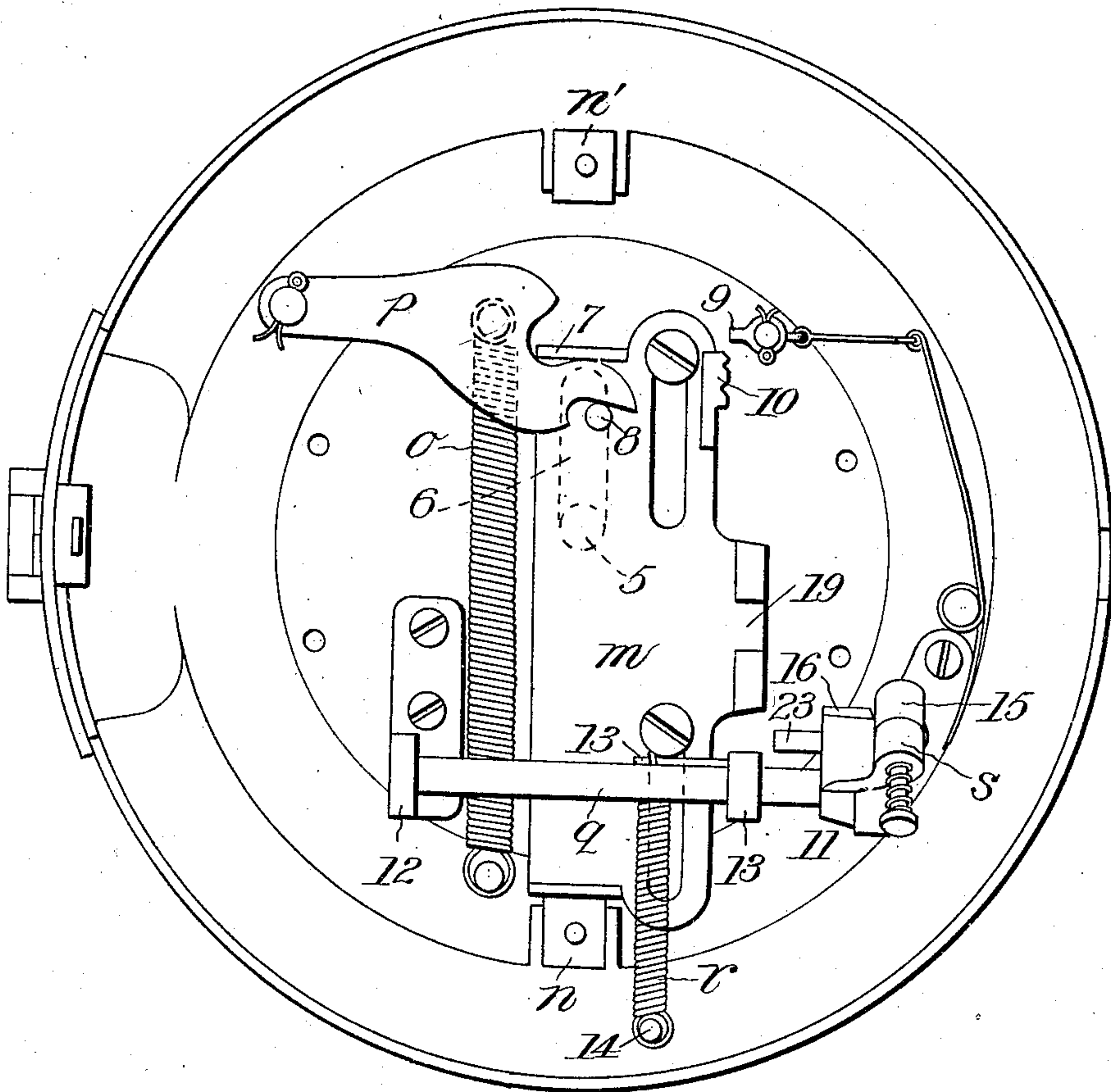
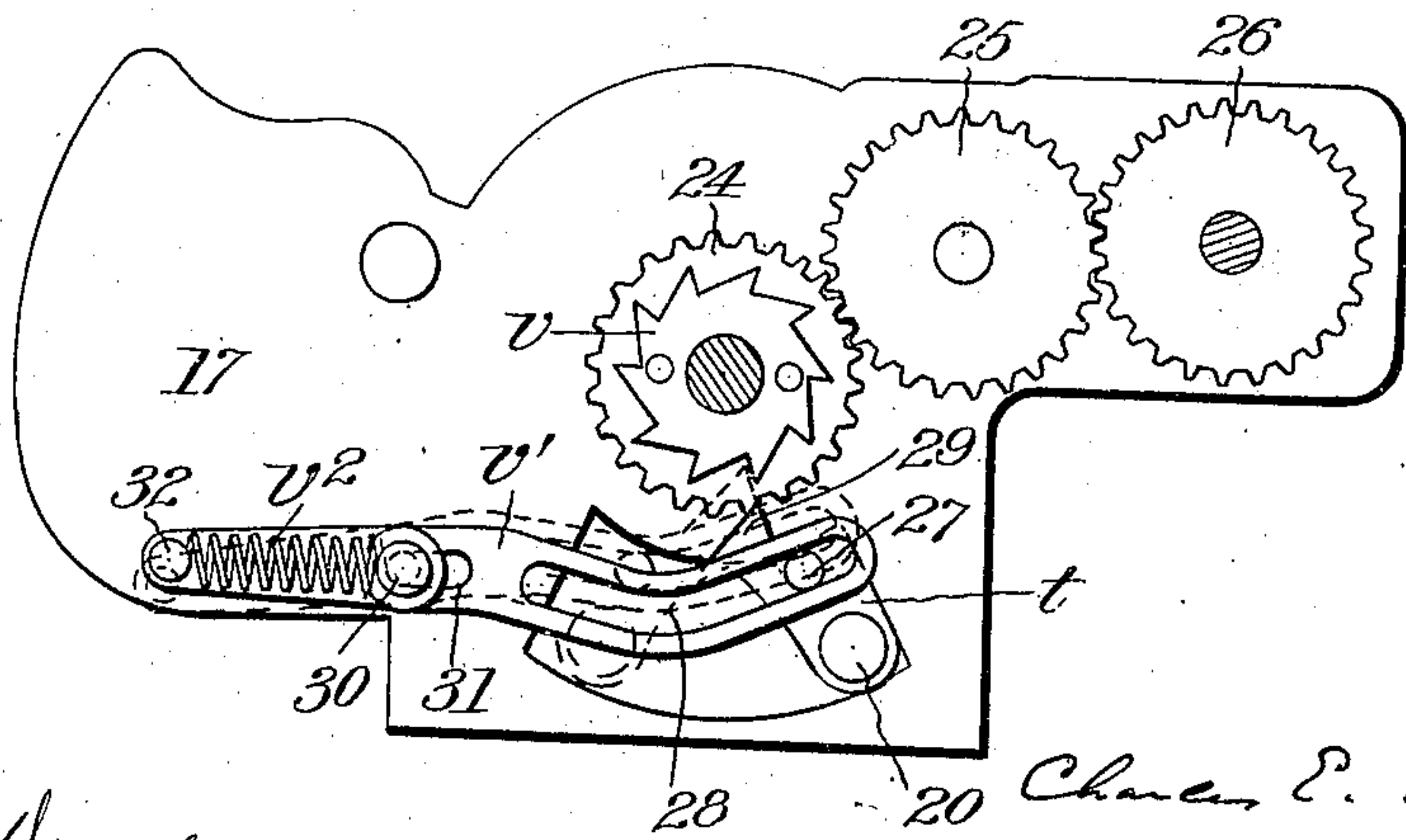


Fig. 17.



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UNITED STATES PATENT OFFICE.

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FARE-REGISTER.

No. 834,118.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed January 13, 1906. Serial No. 295,932.

To all whom it may concern:

Be it known that I, CHARLES E. GIERDING, a citizen of the United States of America, and a resident of Newark, in the State of New Jersey, have invented a new and useful Improvement in Fare-Registers, of which the following is a specification.

This invention relates to those fare-registers in which numeral-wheels are employed in the trip-register at least, and preferably in a permanent register or totalizer also, the axes of both sets of wheels being parallel with each other, and to those fare-registers having such trip-register numeral-wheels in which provision is made for indicating each registration of a fare by an actuation-indicator moving with the actuating mechanism and in which a reset flag or "not-set indicator" conceals the indication of the trip-register or a portion thereof during the setting operation as an aid to insure completely resetting the trip-register to zero at each setting operation.

The leading object of the present invention is to simplify and strengthen to the utmost means for actuating the trip-register and totalizer numeral-wheels and the numeral-printing wheels, if there be a printing device, and for moving the actuation-indicator in the operation of registering fares.

Other objects of the invention are to prevent over movements in the registering operation by means of a cushioned momentum-controlling device, to simplify and strengthen to the utmost means for operating and controlling an endwise-movable setting-shaft and for operating the not-set indicator, to adapt the same to lock the actuating mechanism in a new and effective way, and to adapt the improved register to be made either single or double and with or without a printing device.

Four sheets of drawings accompany this specification as part thereof.

Figures 1 and 2 are respectively a face view and an edge view of a single register with printing device embodying the present invention. Figs. 3 and 4 are outline front views of the inner mechanism of the same with certain parts omitted, illustrating, respectively, the registering operation and the setting operation. Fig. 5 is a face view of the register with the front of its casing, including the dial-plate, removed, showing the inner mechanism as a whole on a larger scale with the setting-key in effective position. Figs. 6

and 7 are detail views of the rocking pawl-carrier of the actuating mechanism, and Figs. 8 and 9 are like views of the actuator-locking bolt on the same scale as Fig. 5. Figs. 10 and 11 are sectional edge views on the same scale as Fig. 5 and projected therefrom, showing one and the same side of the inner mechanism with the setting-key only removed in Fig. 10 and with other parts omitted and broken away in Fig. 11. Figs. 12 and 13 and Figs. 14 and 15, respectively, are detail views of the locking-collar and adjacent parts shown in the foreground in Fig. 11, on the same scale. Fig. 16 is a face view, on the same scale, of the back of the register-casing, showing the main actuating-slide and its appurtenances, together with the bell mechanism in part; and Fig. 17 is a sectional elevation showing the inner side of the main frame-piece that is in the foreground in Figs. 10 and 11 and illustrating the operation of the numeral-wheels of the totalizer and printing device and means for preventing over movements by momentum in the registering operation.

Like reference characters refer to like parts in all the figures.

The external characteristics of the improved fare-register as it is shown in the drawings include, preferably and conveniently, a circular drum or casing shown complete in Figs. 1 and 2 and composed of separable back and front parts 1 and 2, made respectively, of cast metal and sheet metal, together with a transparent dial-cover 3, of glass, behind which the indications of trip-register numeral-wheels *a*, totalizer numeral-wheels *b*, and a direction-indicator *c* are exposed to view through the respective apertures *a'*, *b'*, and *c'* of an apertured dial-plate 4, as in Fig. 1.

An actuation-indicator *d* is also periodically exposed to view through said aperture *a'* during the registering operation to show that the registration of a fare is in progress, and a not-set indicator *e* is exposed to view through the same aperture during the setting operation to show that the operation of resetting the trip-register to zero is begun and is not fully completed.

Other external characteristics are means for actuating said trip-register and totalizer wheels to register each fare on both and for attesting each registration by ringing an inclosed bell *f*, such actuating means being represented by the customary protruding stud

5, Figs. 2, 10, and 11, means for periodically resetting the trip-register wheels to zero, operating said direction-indicator *c* and not-set indicator *e* and operating an inclosed printing device, such as is represented by its numeral-printing wheels *g*, trip-indication printing device *h*, movable frame *i*, and record-drum *j* in Fig. 5, such resetting and operating means being represented by the customary external resetting knob or key *k*, and, finally, a door *l* in the register-casing affording access to said record-drum *j* of the printing device. Said back part 1 of the register-casing is provided internally, as best seen in Fig. 16, with a vertically-movable main slide *m*, from the back of which said actuating-stud 5 projects through a slot 6 in said back part, as shown in dotted lines in Fig. 16, also a pair of buffers *n* and *n'*, formed by rubber blocks fastened within rectangular sockets, between which buffers said slide *m* reciprocates, also a retracting-spring *o* and amplifying-lever *p*, interacting with an end flange 7 and an adjacent stud 8 on said slide *m* at its upper end and serving to hold said slide normally in contact with the bottom buffer *n*, also the several parts of a full-stroke device, said parts including a dog 9, having a fixed pivot and interacting with a ratchet-flange 10 on said slide *m*, and, finally, a rock-shaft *q*, its bearings 11 and 12, and a tensile spring *r*, stretched from an arm 13 of said rock-shaft to a stud 14 on said back part, said rock-shaft *q* carrying the bell-hammer *s*. This bell-hammer, as shown, is characterized by a detached and spring-retracted face part 15, which is projected into contact with the bell *f* by momentum when a pair of stop-shoulders 16 and 16', Fig. 10, on the bell-hammer *s* and its right-hand bearing 11 come in contact. The instantaneous retraction of said face part 15 by its spring insures clear and sharply-defined strokes of the bell.

The other parts of the mechanism of the register are supported by a pair of frame-pieces 17 and 18, parallel with each other, perpendicular to the face of said back part 1 and rigidly attached thereto in the working register. These frame-pieces 17 and 18 and the parts supported by them are shown in place in Figs. 5, 10, and 11 and detached in Figs. 3, 4, and 17, which see. When the main slide *m* is "pulled" through the medium of the customary operating-back and the said stud 5, its motion toward the top buffer *n'* is transmitted primarily and directly through a knuckle-joint, the respective parts of which are shown at 19 and 20, to a pawl-carrier *t*, on which said part 20 is formed and which rocks on an axis concentric with that of said trip-register wheels *a*. Said pawl-carrier *t* is mounted on the outer end of the hub of a ratchet-wheel *u* and is further supported by a bracket or bridge-piece 21, fixedly attached to the right-hand

frame-piece 17, and it carries in addition to the main pawl *u'* said actuation-indicator *d*, which projects rigidly therefrom over the units-wheel of the trip-register wheels *a* and in its effective position, Fig. 3, shows instead of that wheel and of a contrasting color through the dial-aperture *a'*, as above stated.

A spring-pressed detent-pawl *u''*, pivotally attached to said right-hand frame-piece 17, interacts with said ratchet-wheel *u*, as shown in dotted lines in Fig. 10, and by means of a heel end 22, protruding from behind the bell *f* and interacting with a stud 23 on the bell-hammer *s*, retracts and trips the latter in the act of riding over each ratchet-tooth, so as to ring the bell *f* upon the completion of each one-tooth movement of the ratchet-wheel *u*. Such movement of the ratchet-wheel is transmitted directly to the units-wheel of the trip-register wheels *a* and to the first of a train of spur-wheels 24 25 26, Fig. 17, by which the units-wheel of the totalizer-wheels *b* is simultaneously actuated to permanently register the same fare, and the units-wheel of the numeral-printing wheels *g* is or may be correspondingly set for the next printing operation. Interposed between said first spur-wheel 24 and the trip-register units-wheel and doweled through said spur-wheel to the ratchet-wheel *u* is the wheel *v*, Fig. 17, of a momentum-controlling device in the form of a reversed ratchet-wheel. When the main slide *m* is pulled, a stud 27, Figs. 6 and 7, on the pawl-carrier *t* interacts with a cam-slot 28, Fig. 17, in a momentum-dog *v'* and presses its tooth 29 into one of the interdental notches of said wheel *v*, so that its square end will contact with the square end of the approaching tooth of the wheel, and thus prevent an over movement of the numeral-wheels. Said dog *v'* is pivoted on a stud 30, Fig. 17, within a longitudinal slot 31 and is cushioned by a tensile spring *v''*, which is stretched from said stud 30 to a stud 32 on the dog *v'*, so as to hold said dog *v'* up to its work by spring-pressure. In the registering operation said ratchet-wheel *u*, spur-wheels 24 25 26, momentum-controlling wheel *v*, and the units-wheels of the trip-register wheels *a*, totalizer-wheels *b*, and numeral-printing wheels *g* turn together step by step. The units numeral-printing wheel is actuated by spur-gear connections 33, Fig. 5, with the shaft of the totalizer spur-wheel 26, and the totalizer units-wheel, and motion is or may be transmitted by the several units-wheels to the respective tens-wheels, and so on, by known spur-gear connections.

The setting-key *k* is screwed directly into the right-hand end of a horizontal shaft *w*, upon which the trip-register wheels *a* are normally loose and which serves conveniently to support the bell *f* by its right-hand end and by its protruding left-hand end the record-drum *j* of the printing device. The several

trip-register wheels *a* may be clutched to said momentum-controlling wheel *v* and to their respective spur-gear connections and unclutched therefrom, and motion may be transmitted to each from said shaft *w* when it is turned by the key *k* in the manner and by the means set forth in my specifications forming part of United States Letters Patent Nos. 800,565 and 800,567, dated September 26, 1905.

The shaft *w* is normally locked against rotation by a notched collar 34, Fig. 5 and Figs. 11-13, fast on the right-hand end of the shaft adjacent to the bridge-piece 21, Fig. 5 and Figs. 11, 14, and 15, which is provided with a stud 35 to interlock with the locking-notch of said collar and with a spring-pressed pawl 36, having an extended lip to interact with ratchet indentations 37 in the periphery of said collar 34 for controlling the direction of the setting rotation. When the key *k*, and therewith the shaft *w*, is pulled to unlock the shaft for the setting operation, said collar 34 interacts with the inner edge of a lever *x*, Figs. 3, 4, 5, 10, and 11, having a fixed pivot 38 near the bottom of the mechanism and acted on near the top of the mechanism by a strong tensile spring *x'*, stretched horizontally therefrom through a hole in the right-hand frame-piece 17 and fastened to the other frame-piece 18, said spring serving to hold said lever, and therewith the collar 34 and the shaft *w*, in normal position as regards the endwise movement of said shaft until overcome by pulling the key *k*. A bolt *y*, Figs. 3-5 and Figs. 8-11, pivotally attached to said lever *x* near its spring-engaging end and extending to the left therefrom through holes in the bridge-piece 21 and the right-hand frame-piece 17, is constructed with a lug 39 to engage with the inner side of said frame-piece 17 as means for limiting the outward movement of the key *k* and is farther provided with a notch 40, which in the registering operation, Figs. 3 and 5, coincides with a peripheral flange 41 on the pawl-carrier *t* and is traversed by said flange when the main slide *m* is pulled, and when the key *k*, shaft *w*, and lever *x* are pulled said bolt *y* is pulled into the position in which it is shown in Fig. 4 and opposes a solid portion to said flange 41, so as to lock the pawl-carrier *t*, and therewith the whole of the registering mechanism. At another point said lever *x* carries a stud-pin 42, interacting with the longitudinally-slotted heel end 43 of a bell-crank lever *z*, the other extremity of which, 44, is also longitudinally slotted or forked and engages with a stud 45 on the back of the not-set indicator *e* at the front of the mechanism. (Compare Figs. 3, 4, 5, 10, and 11.) The pivots 38 38' 38'' of said lever *x*, bell-crank lever *z*, and not-set indicator *e* are in common perpendicular to the back of the register, and the indicator *e* is pivoted to the front edge of the left-

hand frame-piece 18, so as to swing in front of the units and tens wheels of the trip-register wheels *a*, as in Fig. 4, when the key *k* is pulled.

A slight turn of the key *k* in the direction of least resistance after it is pulled interlocks the flat inner face of the collar 34 with the end of the stud 35, so as to prevent the return of the shaft *w* and lever *x* and the other parts thus shifted until the rotation of the key to reset the trip-register wheels *a* is completed. The ratchet indentations 37 in the periphery of the collar 34, interacting with the pawl 36, prevent reverse rotations of the key *k* and the shaft *w* in the customary way, and the indentations may extend around the periphery, if preferred.

The bell mechanism *f q r s* is not claimed herein, because it belongs to a separate subclass and may be of any known or improved construction for the purposes of the present invention.

The key *k*, shaft *w*, and lever *x*, with their immediate appurtenances, may be common to two sets of trip-register wheels *a* for different kinds of fares, arranged side by side in customary manner.

The direction-indicator *c* and printing devices *g h i j*, together with the means for operating both, may for the purposes of the present invention be of any known or improved kind, or either or both of them may be omitted.

The means for clutching and unclutching the trip-register wheels *a* and for transmitting motion from the respective units-wheels to the tens-wheels, and so on, and the means for transmitting the setting motion from the shaft *w* to the individual trip-register wheels may obviously be modified without affecting the operation, and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention, and desire to patent under this specification—

1. The combination, in a fare-register, of a back plate and a frame-piece perpendicular to said back plate, rigidly united with each other, a main slide guided on said back plate and adapted to be pulled for the registration of fares, means for retracting said slide, a rocking-pawl carrier coupled to said slide, a spring-pressed pawl upon said carrier, a ratchet-wheel, interacting with said pawl, mounted on said frame-piece and having a hub upon which said pawl-carrier is mounted, a bridge-piece attached to said frame-piece and forming in connection therewith a pair of supports for said pawl-carrier and ratchet-wheel, a spring-pressed detent-pawl in mesh with said ratchet-wheel and supported by said frame-piece, and a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled.

2. The combination, in a fare-register, of a back plate and a frame-piece perpendicular to said back plate, rigidly united with each other, a main slide guided on said back plate and adapted to be pulled for the registration of fares, means for retracting said slide, a rocking pawl-carrier coupled to said slide, a spring-pressed pawl upon said carrier, a ratchet-wheel, interacting with said pawl, mounted on said frame-piece and having a hub upon which said pawl-carrier is mounted, a bridge-piece attached to said frame-piece and forming in connection therewith a pair of supports for said pawl-carrier and ratchet-wheel, a spring-pressed detent-pawl in mesh with said ratchet-wheel and supported by said frame-piece, a train of spur-gearing the first gear of which is concentric with said ratchet-wheel and rotatable therewith, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, and a totalizer the units-wheel of which is actuated by said spur-gearing.

3. The combination, in a fare-register, of a back plate and a frame-piece perpendicular to said back plate, rigidly united with each other, a main slide guided on said back plate and adapted to be pulled for the registration of fares, means for retracting said slide, a rocking pawl-carrier coupled to said slide, a spring-pressed pawl upon said carrier, a ratchet-wheel, interacting with said pawl, mounted on said frame-piece and having a hub upon which said pawl-carrier is mounted, a bridge-piece attached to said frame-piece and forming in connection therewith a pair of supports for said pawl-carrier and ratchet-wheel, a spring-pressed detent-pawl in mesh with said ratchet-wheel and supported by said frame-piece, a train of spur-gearing the first gear of which is concentric with said ratchet-wheel and rotatable therewith, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, a totalizer the units-wheel of which is actuated by said spur-gearing, and a printing device the units numeral-printing wheel of which is actuated by the shaft of said totalizer units-wheel and spur-gear connections therewith.

4. The combination, in a fare-register, of a back plate and a frame-piece perpendicular to said back plate, rigidly united with each other, a main slide guided on said back plate and adapted to be pulled for the registration of fares, a pair of buffers between which said slide reciprocates, a tensile spring and an amplifying-lever for retracting said slide, a rocking pawl-carrier coupled to said slide, a pawl upon said carrier, a ratchet-wheel, interacting with said pawl, mounted on said frame-piece and having a hub upon which said pawl-carrier is mounted, a bridge-piece attached to said frame-piece and forming in connection therewith a pair of supports for said pawl-

carrier and ratchet-wheel, a detent-pawl in mesh with said ratchet-wheel and supported by said frame-piece, and a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled.

5. The combination, in a fare-register, of a back plate and a frame-piece perpendicular to said back plate, rigidly united with each other, a main slide guided on said back plate and adapted to be pulled for the registration of fares, means for retracting said slide, a rocking pawl-carrier coupled to said slide, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, mounted on said frame-piece and having a hub upon which said pawl-carrier is mounted, a bridge-piece attached to said frame-piece and forming in connection therewith a pair of supports for said pawl-carrier and ratchet-wheel, a detent-pawl in mesh with said ratchet-wheel and supported by said frame-piece, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, and an actuation-indicator carried by said pawl-carrier and projecting rigidly therefrom across the periphery of said units numeral-wheel.

6. In a fare-register, the combination with actuating means and suitable supports of a rocking pawl-carrier, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, a detent-pawl in mesh with said ratchet-wheel, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, a momentum-controlling wheel interposed between said ratchet-wheel and said units-wheel, and a cushioned momentum-dog interacting with said momentum-controlling wheel to prevent overmovements of said numeral-wheels in the registering operation.

7. In a fare-register, the combination with actuating means and suitable supports of a rocking pawl-carrier, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, a detent-pawl in mesh with said ratchet-wheel, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, a momentum-controlling wheel in the form of a reversed ratchet-wheel interposed between said ratchet-wheel and said units-wheel, a momentum-dog interacting with said momentum-controlling wheel and pivoted to a relatively fixed support by a stud within a longitudinal slot, and a spring interacting with said dog for cushioning it.

8. In a fare-register, the combination with actuating means and suitable supports of a rocking pawl-carrier, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, a detent-pawl in mesh with said ratchet-wheel, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, a momentum-controlling wheel in the form of a reversed ratchet-wheel

interposed between said ratchet-wheel and said units-wheel, a momentum-dog having a tooth which is pressed into one of the interdental notches of said momentum-controlling wheel during each registering operation to prevent overmovements, said dog being in the form of a lever pivoted to a relatively fixed support by a stud within a longitudinal slot, and a tensile spring stretched from said stud to a stud on said dog, for cushioning the momentum-controlling device.

9. In a fare-register, the combination with actuating means and suitable supports of a rocking pawl-carrier, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, a detent-pawl in mesh with said ratchet-wheel, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, a momentum-controlling wheel in the form of a reversed ratchet-wheel interposed between said ratchet-wheel and said units-wheel, and a momentum-dog having a tooth which interacts with one of the interdental notches of said momentum-controlling wheel during each registering operation to prevent overmovements, said dog being in the form of a lever pivoted to said frame-piece and constructed with a cam-slot which interacts with a stud on said pawl-carrier to adapt the latter to operate said dog.

10. In a fare-register, the combination with actuating means and suitable supports of a rocking pawl-carrier, a pawl upon said carrier, a ratchet-wheel interacting with said pawl, a detent-pawl in mesh with said ratchet-wheel, a set of trip-register numeral-wheels to the units-wheel of which said ratchet-wheel is coupled, spur-gearing connecting said units-wheel with the units-wheel of a totalizer, the same including a spur-wheel interposed between said ratchet-wheel and said trip-register units-wheel, a momentum-controlling wheel in the form of a reversed ratchet-wheel interposed between this spur-wheel and said trip-register units-wheel and doweled through said spur-wheel to said ratchet-wheel, a momentum-dog interacting with said momentum-controlling wheel during each registering operation to prevent overmovements, means for pressing the tooth of said dog into one of the interdental notches of said momentum-controlling wheel during each registering operation to prevent overmovements, and means for cushioning said dog.

11. In a fare-register, the combination with trip-register numeral-wheels and means for actuating the same to register fares of a longitudinally-movable and rotatable shaft upon which said wheels are loose in the registering operation and the right-hand end of which protrudes therefrom, a collar fast on said protruding end and provided with a locking-notch and a flat inner face, a relatively fixed stud interacting with said notch and

said face, a lever having a fixed pivot and interacting with said collar, a tensile spring and a relatively fixed support to which the same is fastened interacting with said lever to keep said notch interlocked with said stud, and a key interlocked with the protruding extremity of said shaft by which to pull the same to unlock it and to turn the shaft to reset said numeral-wheels.

12. In a fare-register, the combination with trip-register numeral-wheels and means for actuating the same to register fares of a longitudinally movable and rotatable shaft upon which said wheels are loose in the registering operation and the right-hand end of which protrudes therefrom, a collar fast on said protruding end and provided with a locking-notch and a flat inner face, a relatively fixed stud interacting with said notch and said face, a lever having a fixed pivot and interacting with said collar, a tensile spring and a relatively fixed support to which the same is fastened interacting with said lever to keep said notch interlocked with said stud, a key interlocked with the protruding extremity of said shaft by which to pull the same to unlock it and to turn the shaft to reset said numeral-wheels, a not-set indicator having a relatively fixed pivot and arranged to swing in front of said numeral-wheels during the setting operation, and a bell-crank lever having longitudinal slots in its heel end and its other extremity engaged respectively by studs on said lever and said indicator, whereby said indicator is moved into effective position by the interaction of said lever and bell-crank lever when said key is pulled.

13. In a fare-register, the combination with trip-register numeral-wheels and means for actuating the same to register fares of a longitudinally movable and rotatable shaft upon which said wheels are loose in the registering operation and the right-hand end of which protrudes therefrom, a collar fast on said protruding end and provided with a locking-notch and a flat inner face, a relatively fixed stud interacting with said notch and said face, a lever having a fixed pivot and interacting with said collar, a tensile spring and a relatively fixed support to which the same is fastened, interacting with said lever to keep said notch interlocked with said stud, a key interlocked with the protruding extremity of said shaft by which to pull the same to unlock it and to turn the shaft to reset said numeral-wheels, and a bolt coupled to said lever movable endwise when the latter is pulled and provided with a stop-lug which interacts with a relatively fixed part to limit the outward movement of said key and shaft.

14. In a fare-register, the combination with trip-register numeral-wheels and means for actuating the same to register fares of a longitudinally movable and rotatable shaft upon which said wheels are loose in the registering

operation and the right-hand end of which protrudes therefrom, a collar fast on said protruding end and provided with a locking-notch and a flat inner face, a relatively fixed stud interacting with said notch and said face, a lever having a fixed pivot and interacting with said collar, a tensile spring and a relatively fixed support to which the same is fastened interacting with said lever to keep said notch interlocked with said stud, a key interlocked with the protruding extremity of said shaft by which to pull the same to unlock it and to turn the shaft to reset said numeral-wheels, a bolt coupled to said lever movable endwise when the latter is pulled and constructed with a lateral notch, and a flange carried by a movable part of the actuating mechanism and arranged to traverse said notch in the registering operation and to interact with a solid portion of said bolt when said bolt is shifted by pulling said key and lever.

15. The combination, in a fare-register, of trip-register numeral-wheels, means for actuating the same to register fares including a movable part having a flange, means for resetting said numeral-wheels to zero including an endwise movable and rotatable horizontal shaft on which said wheels are loose during the registering operation, a key interlocked with the protruding right-hand end of said shaft for pulling and rotating the same, a collar fast on said protruding end and constructed with a locking-notch, a lever interacting with said collar, a tensile spring stretched from said lever, a relatively fixed locking-stud arranged to interlock with said notch and a bolt coupled to said lever and constructed with a lateral notch arranged to be traversed by said flange during the registering operation, a solid portion of said bolt interlocking with said flange after the parts are shifted for the resetting operation.

16. The combination, in a fare-register, of trip-register numeral-wheels, means for actuating the same to register fares including a

movable part having a flange, means for resetting said numeral-wheels to zero including an endwise movable and rotatable horizontal shaft on which said wheels are loose during the registering operation, a key interlocked with the protruding right-hand end of said shaft for pulling and rotating the same, a collar fast on said protruding end and constructed with a locking-notch and a flat inner face, a lever interacting with said collar, a tensile spring stretched from said lever, a relatively fixed locking-stud arranged to interlock with said notch and said inner face, and a bolt coupled to said lever and constructed with a lateral notch arranged to be traversed by said flange during the registering operation, a solid portion of said bolt interlocking with said flange after the parts are shifted for the resetting operation.

17. The combination, in a fare-register, of trip-register numeral-wheels, means for actuating the same to register fares including a rocking pawl-carrier having a peripheral flange, means for resetting said numeral-wheels to zero including an endwise movable and rotatable horizontal shaft on which said wheels are loose during the registering operation, a key interlocked with the protruding right-hand end of said shaft for pulling and rotating the same, a collar fast on said shaft and constructed with a locking-notch, a lever interacting with said collar, a tensile spring stretched from said lever, a relatively fixed locking-stud arranged to interlock with said notch, and a bolt coupled to said lever and constructed with a lateral notch arranged to be traversed by said peripheral flange on the pawl-carrier during the registering operation, a solid portion of said bolt interlocking with said flange after the parts are shifted for the resetting operation, substantially as hereinbefore specified.

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Witnesses:

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