

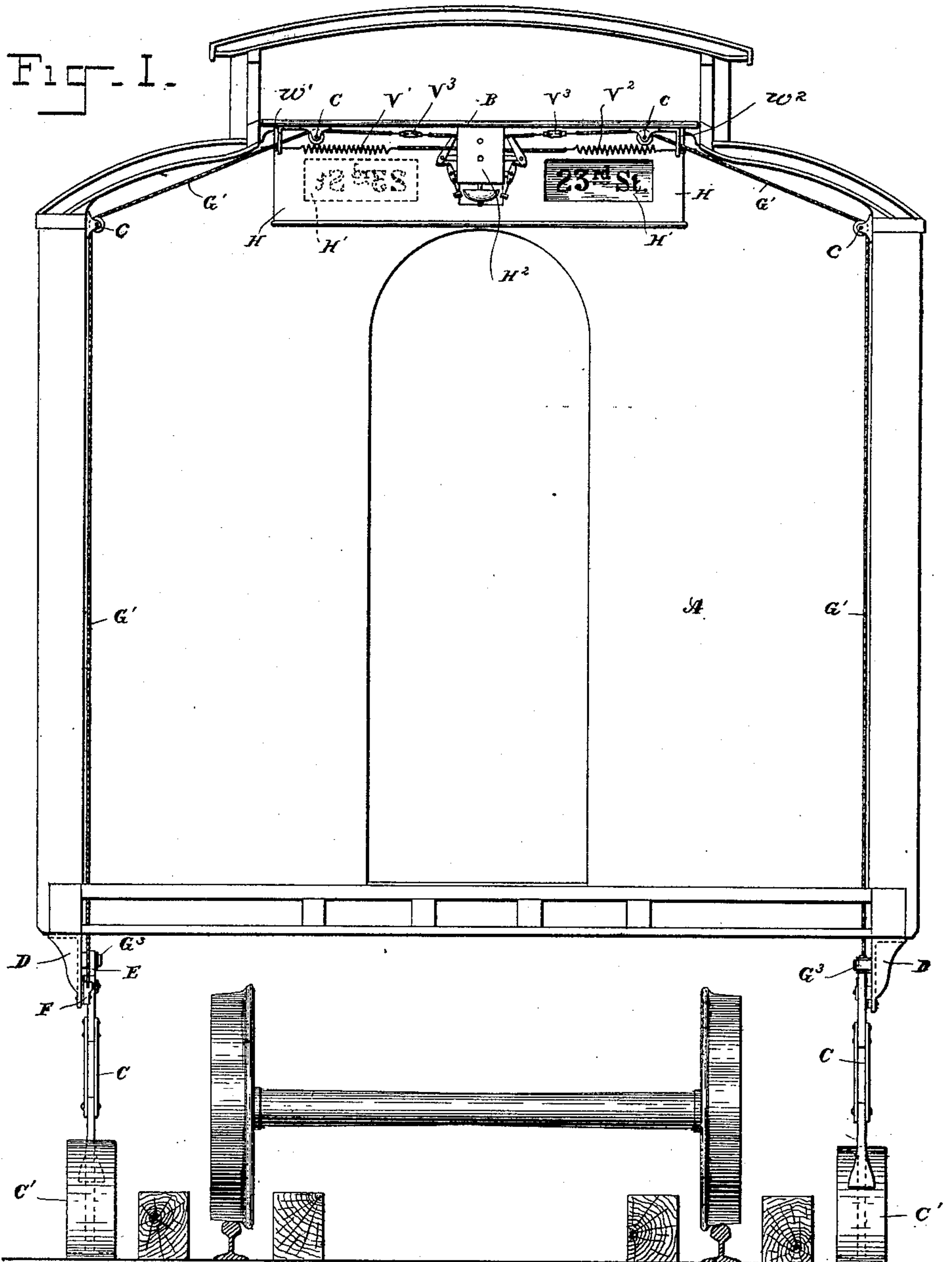
(No Model.)

4 Sheets—Sheet 1.

F. ROCHOW.  
STATION INDICATOR.

No. 437,001.

Patented Sept. 23, 1890.



Witnesses.

*John F. Nelson*  
*Wm. A. Baker*

Inventor.

*Ferdinand Rochow*  
by *Joseph R. Roy*  
Atty.

(No Model.)

4 Sheets—Sheet 2.

F. ROCHOW.  
STATION INDICATOR.

No. 437,001.

Patented Sept. 23, 1890.

Fig. II.

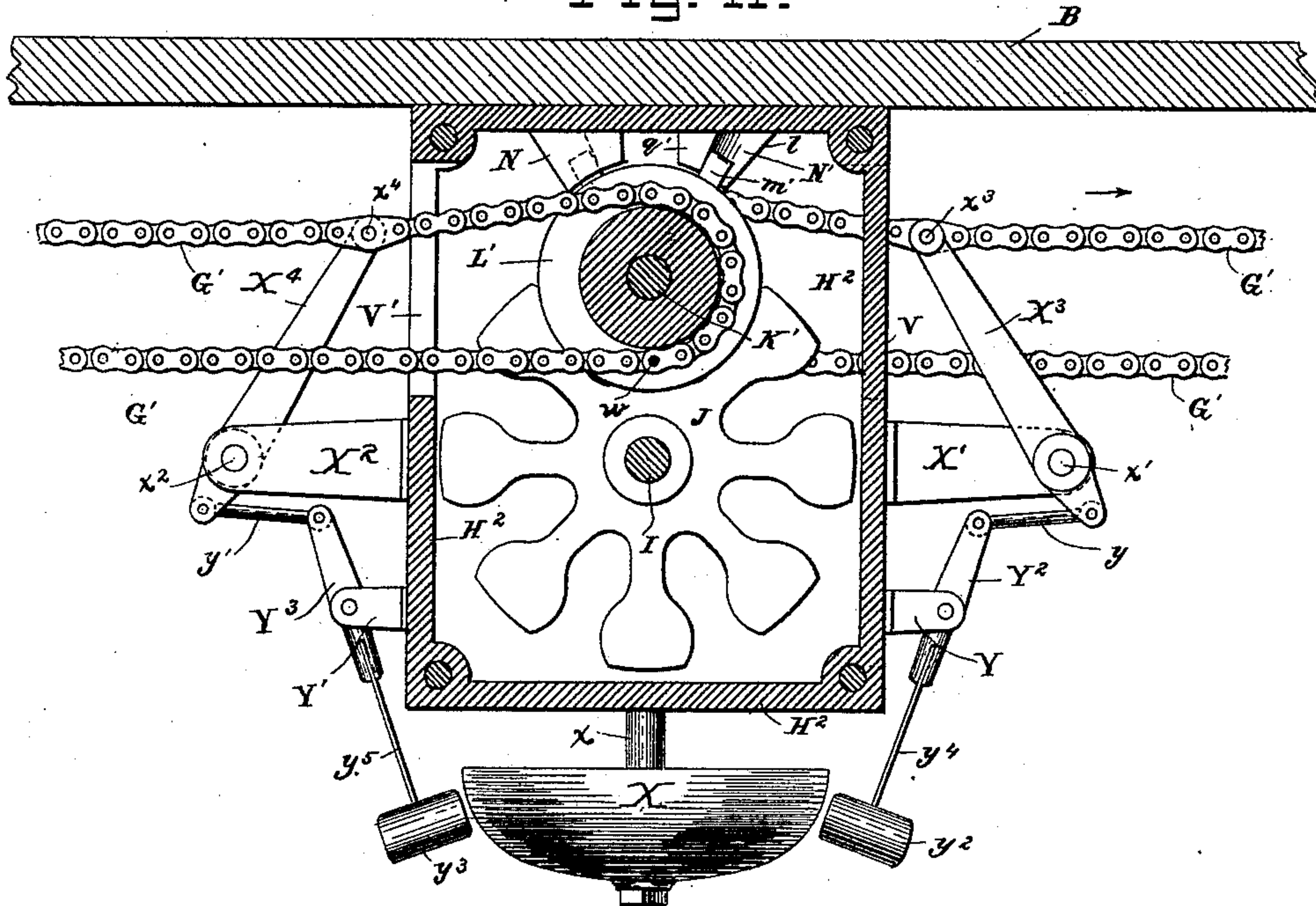
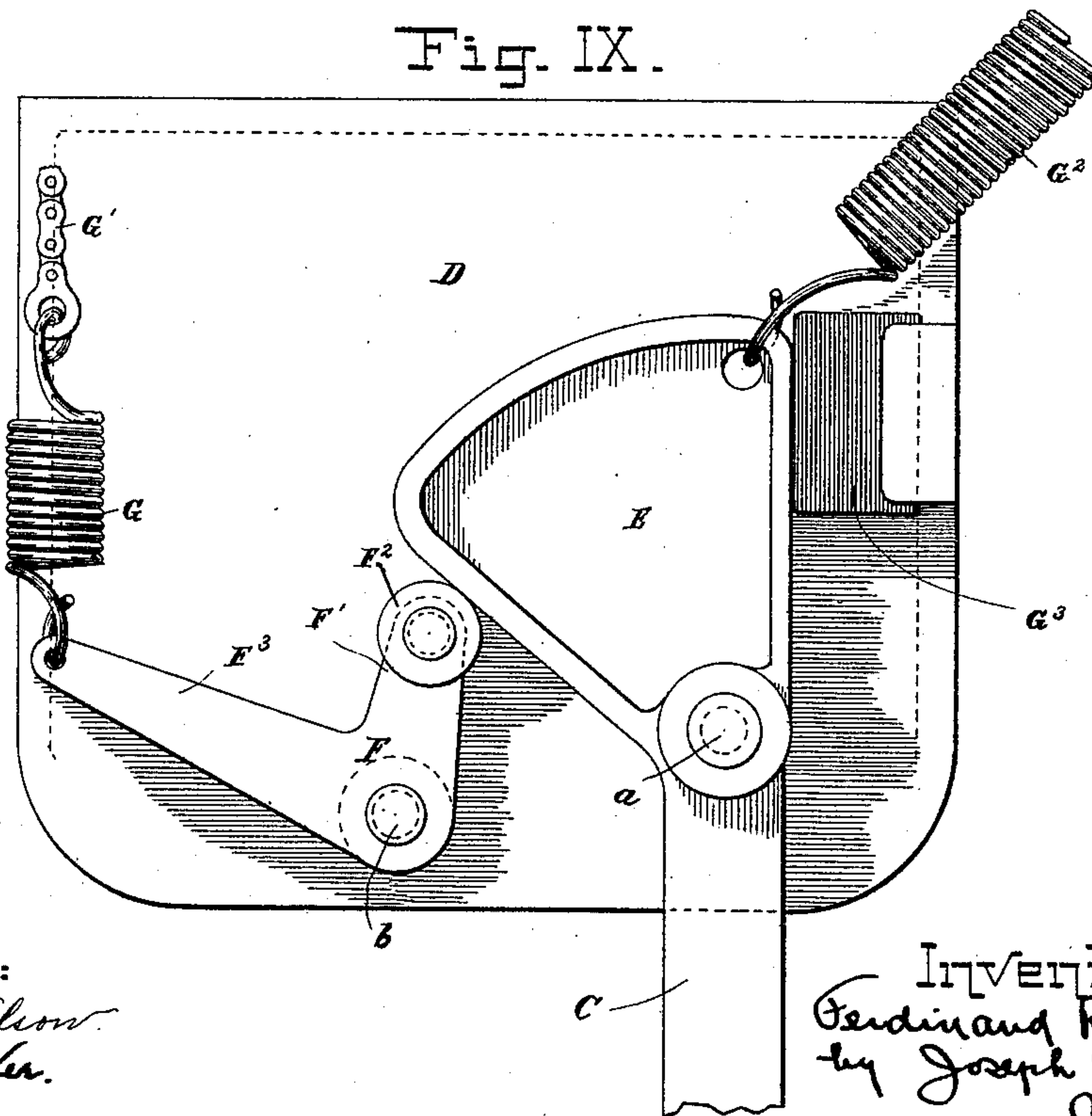


Fig. IX.



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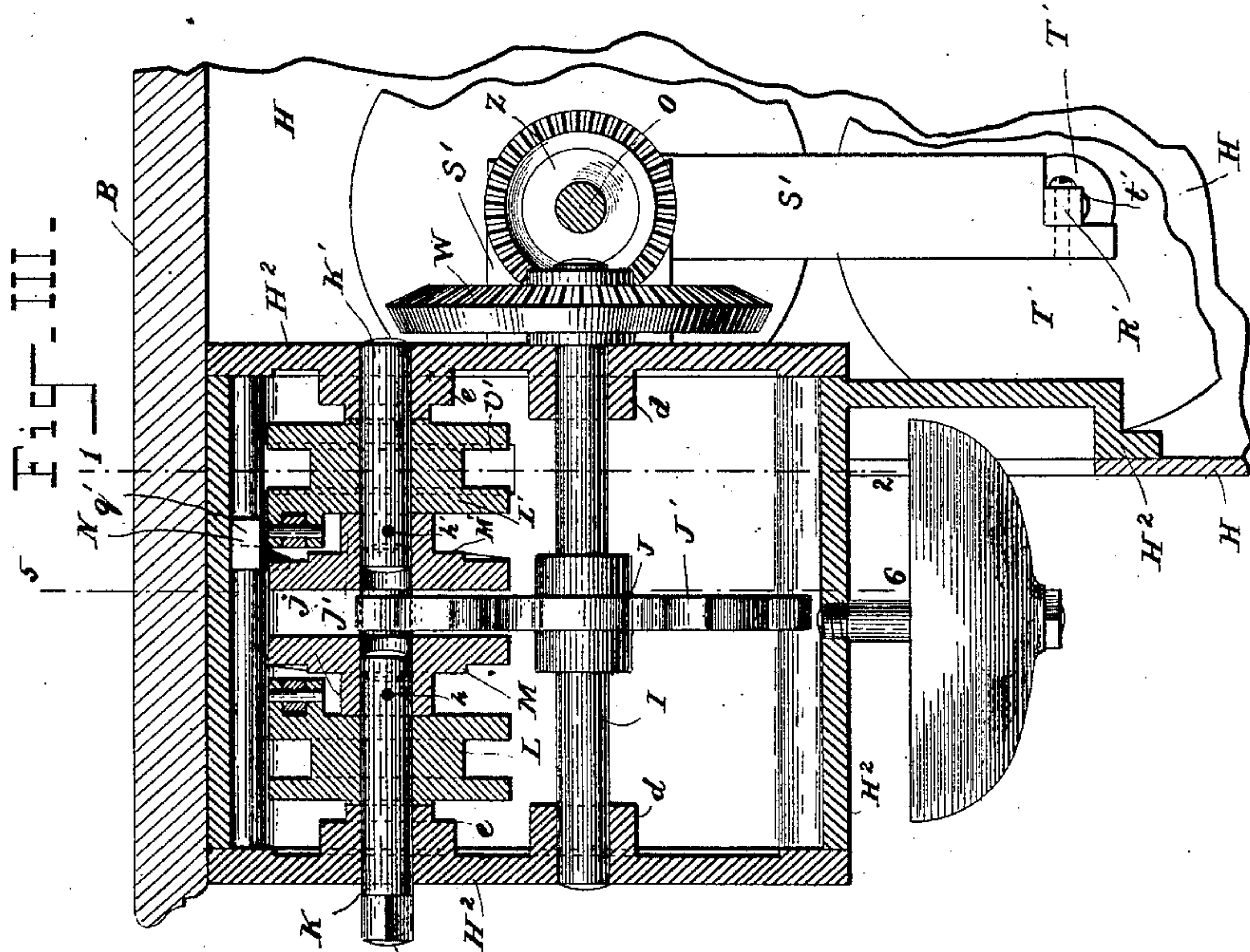
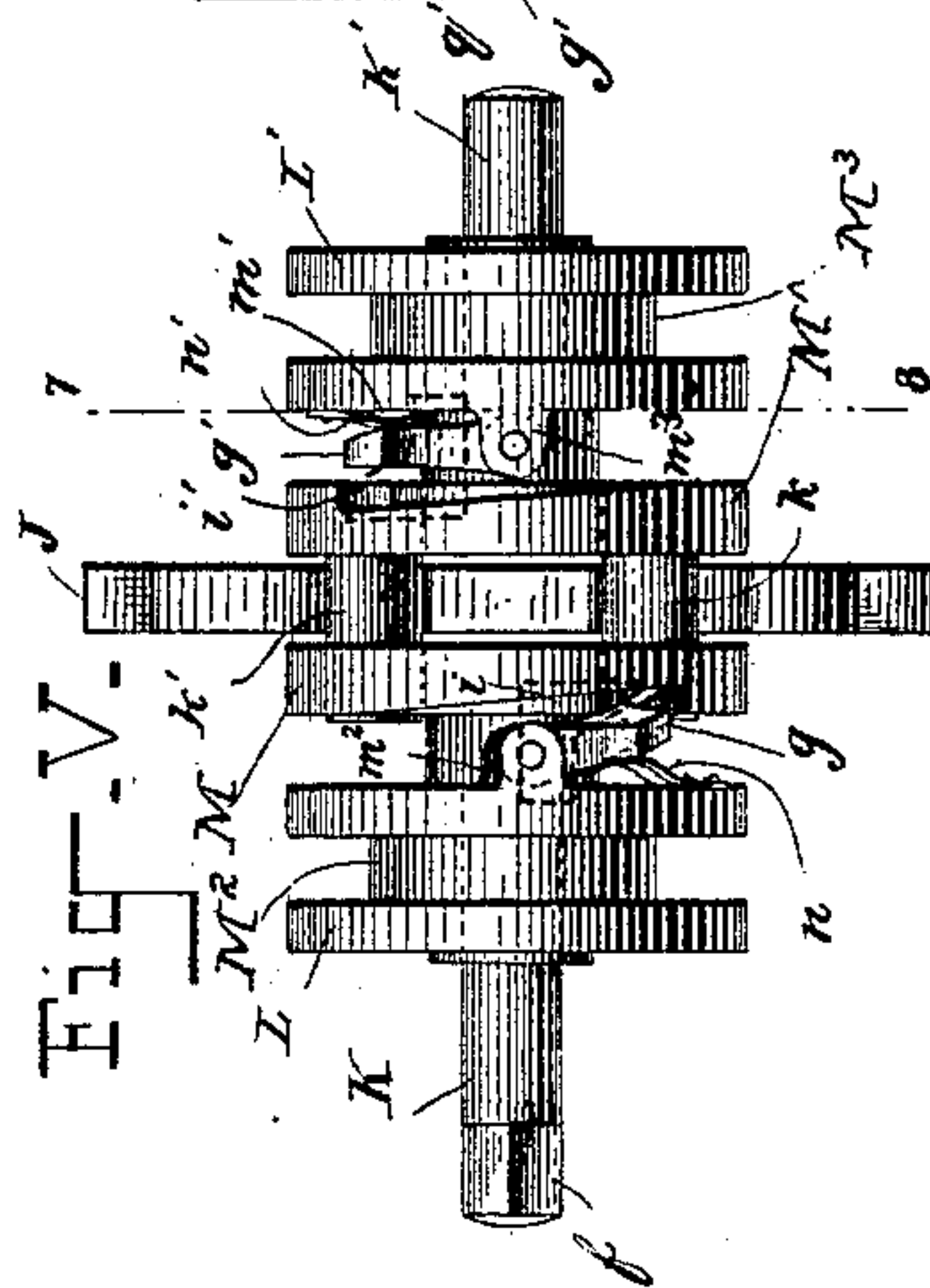
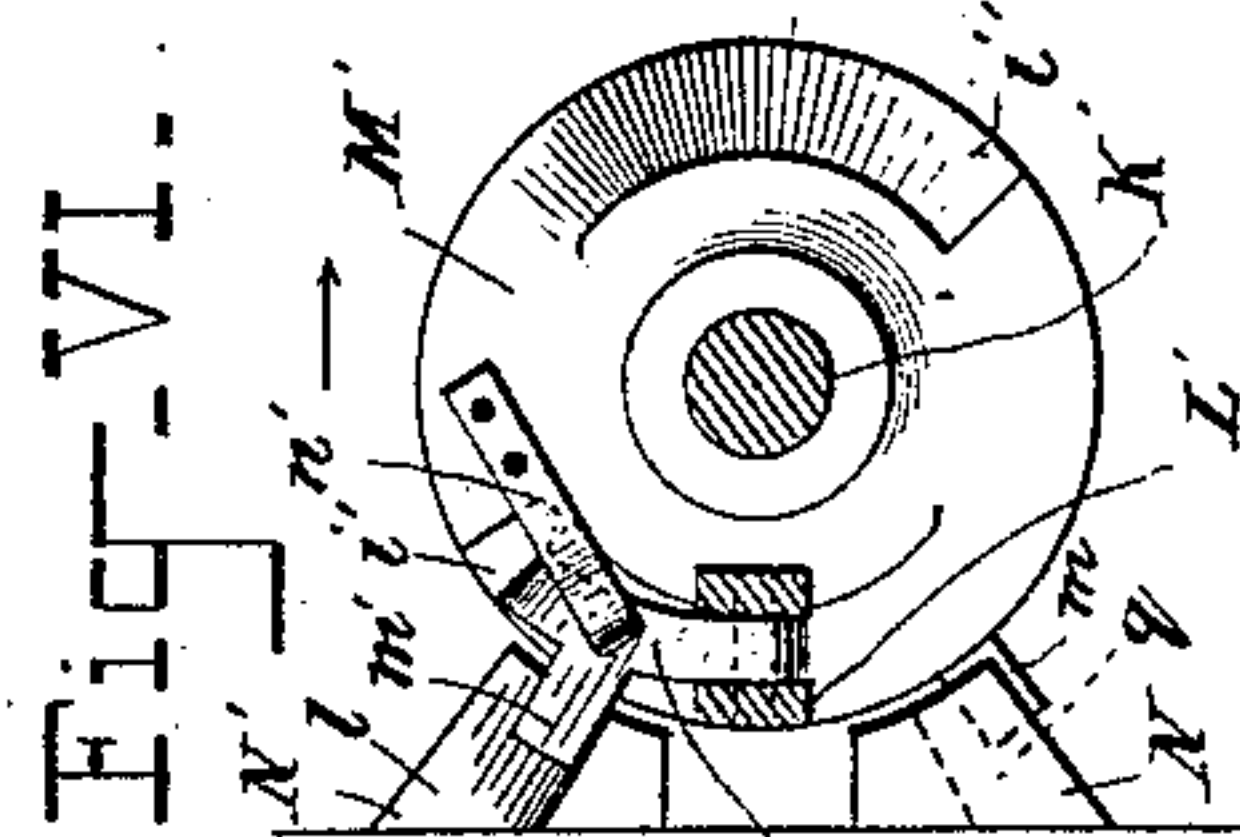
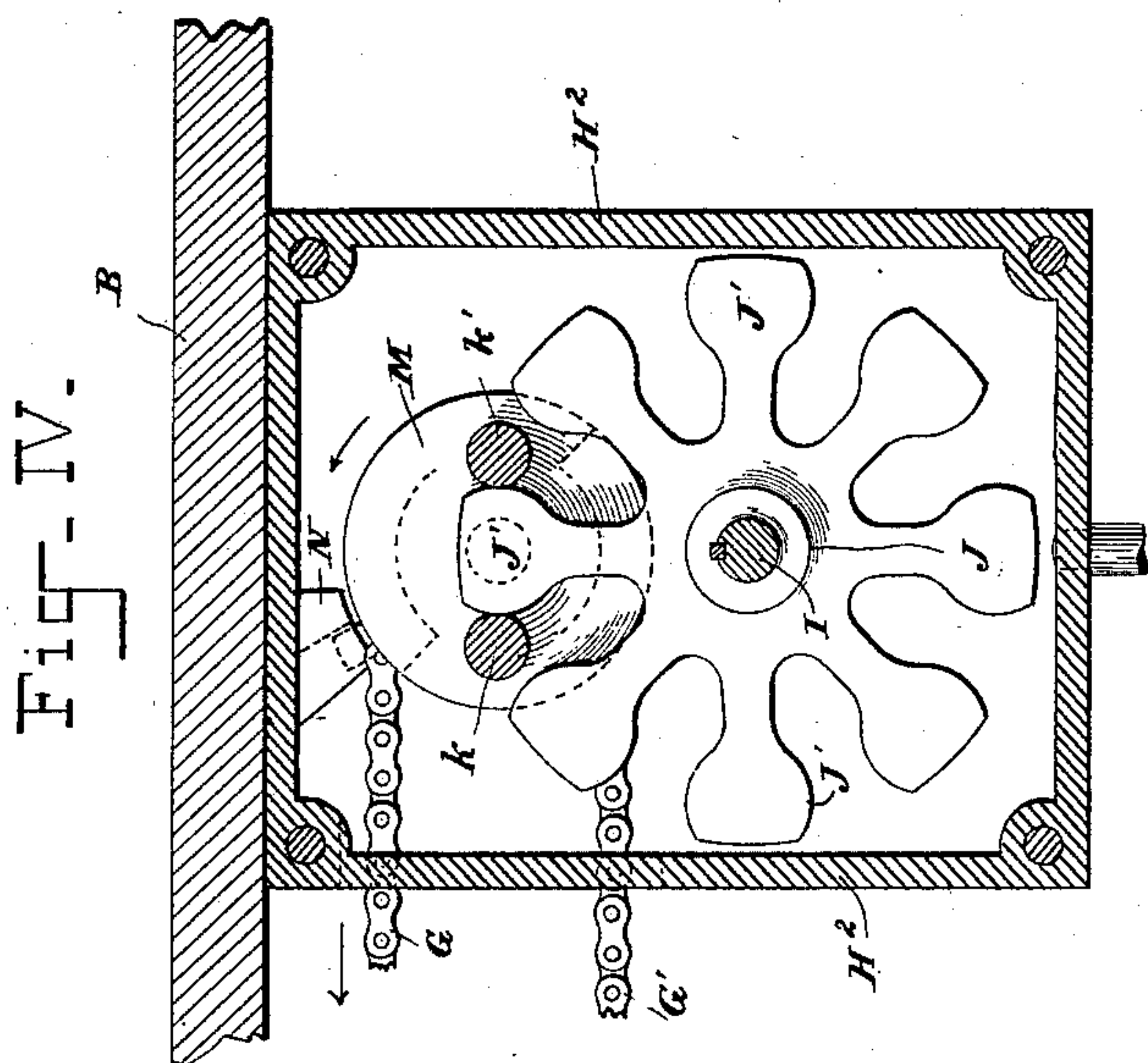
(No Model.)

4 Sheets—Sheet 3.

F. ROCHOW.  
STATION INDICATOR.

No. 437,001.

Patented Sept. 23, 1890.



Witnesses.

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(No Model.)

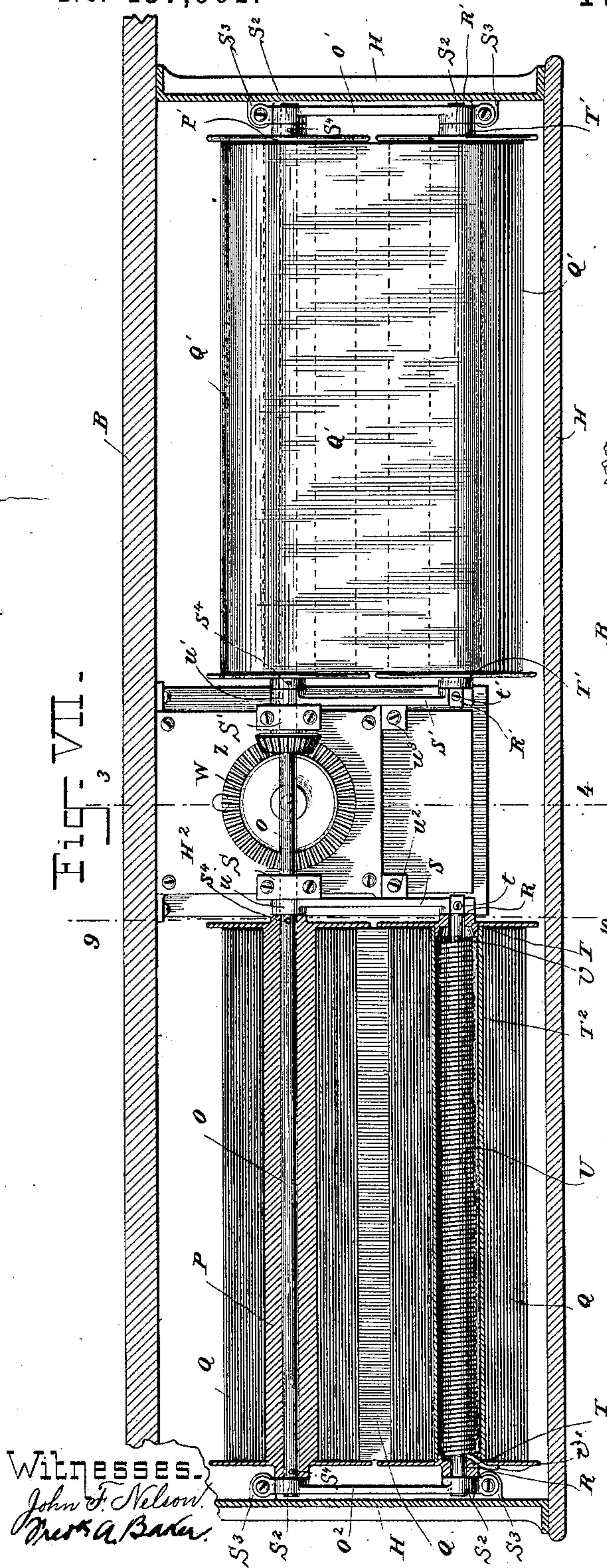
4 Sheets—Sheet 4.

F. ROCHOW.  
STATION INDICATOR.

No. 437,001.

Patented Sept. 23, 1890.

Fig. VII.



Witnesses.  
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Merrill A. Baker.

Fig. X.

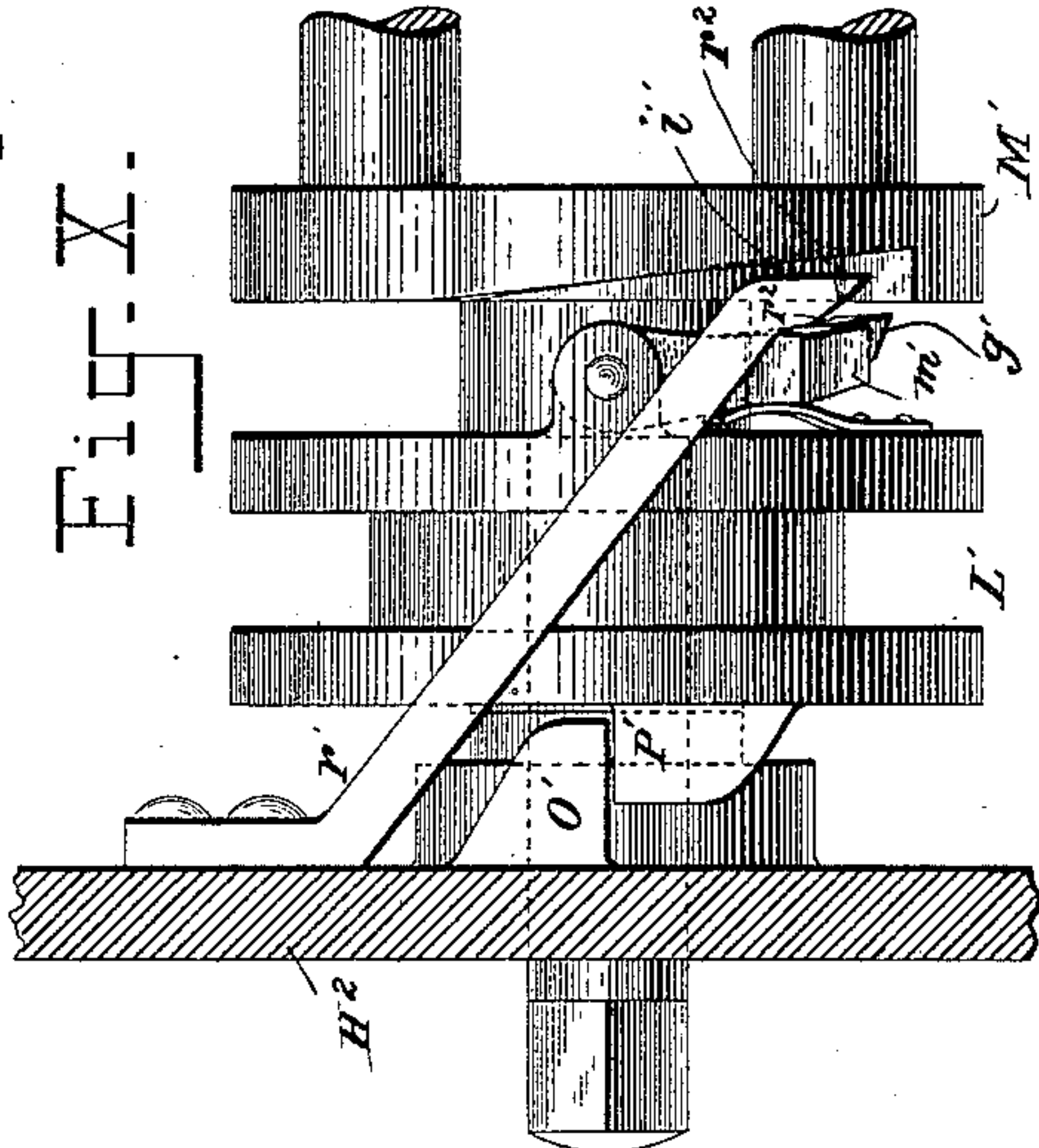
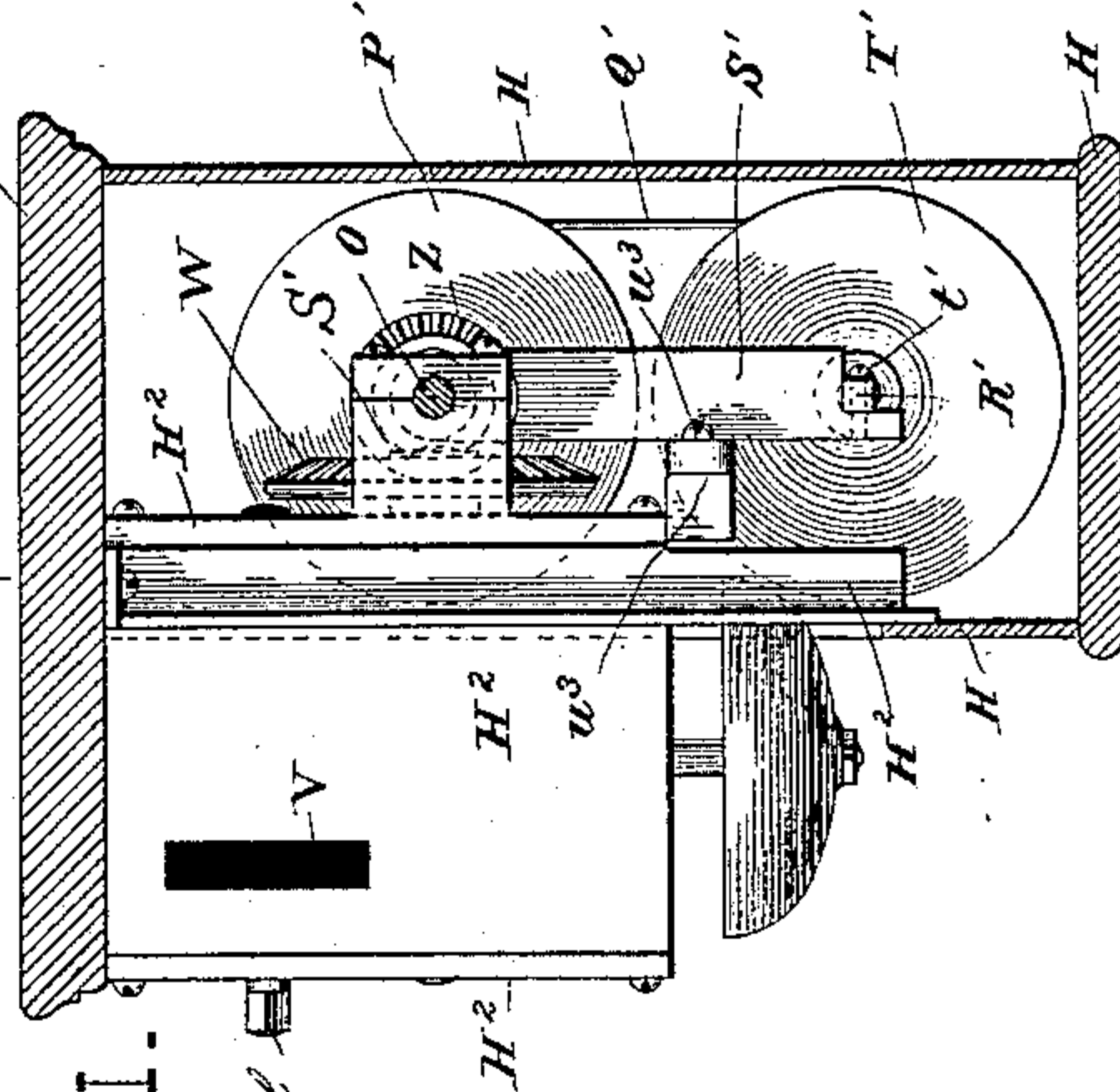


Fig. VIII.



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by Joseph H. Roy  
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# UNITED STATES PATENT OFFICE.

FERDINAND ROCHOW, OF BROOKLYN, NEW YORK, ASSIGNOR TO ROBERT  
SENFOTNER, OF SAME PLACE.

## STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 437,001, dated September 23, 1890.

Application filed January 9, 1890. Serial No. 336,441. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND ROCHOW, a subject of the Emperor of Germany, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Station-Indicators, of which the following is a specification.

My invention has for its object the automatic indication, by means of an indicator in which rolls having printed or otherwise produced upon their exposed surface the names of the stations, and which is to be placed conspicuously in a car or other vehicle, of the station to which said vehicle is approaching, either as it departs from or arrives at a station on the line, as may be desired, and for other purposes of like nature to which it may be advantageously applied.

My invention essentially consists of the combination of two specific devices, each separate device having its own sub-combinations, and therefore for the better identification of such specific devices I shall in the following description term them, respectively, the "striking" and "indicator-operating" mechanism, and as such they will be known in the description and claims.

While I have described in detail the mechanism shown in Figs. II, III, IV, V, VI, and X of the drawings, I do not herein claim it, as the same forms the subject-matter of another application filed by me June 6, 1890, and given Serial No. 356,775.

I attain the before-mentioned objects by the mechanisms herein described and claimed, and further illustrated by the accompanying drawings, forming part of this specification, in which—

Figure I is a vertical cross-section of a car, showing the manner of using my invention; Fig. II, a central cross-section through the indicator-operating mechanism on the line 1 2, Fig. III, showing the bell-acting mechanism; Fig. III, a like view, partly in section, on the line 3 4, Fig. VII; Fig. IV, a like view on the line 5 6, Fig. III; Fig. V, a front elevation of the pawl and ratchet and detent of the indicator-operating mechanism. Fig. VI is a view, partly in section, taken on the line 7 8, Fig.

V, but reversed, the top being at the left-hand side; Fig. VII, a front elevation, partly in section, of the case containing the indicator-rolls, showing the indicator-operating mechanism operatively attached thereto; Fig. VIII, a section of the same, taken on the line 9 10, Fig. VII; Fig. IX, a front elevation of the striking mechanism with a portion of the striking-lever broken away; Fig. X, a plan view of a portion of the indicator-operating mechanism, showing a modified construction.

Similar letters refer to similar parts throughout the several views.

Referring now to Fig. I, A is a car or other conveyance upon which my device is placed, and as its particular construction forms no part of my invention it is not necessary to describe it in detail. I suspend, preferably, in the center of the car by means of a straddle B, or in any other desirable manner, my automatic indicating device, which can either be placed facing the ends or the sides of the car, whichever way may be desired to use it.

For actuating the indicator-operating mechanism, I use the striking mechanism shown and described in Letters Patent to Robert Senftner, No. 379,292, March 13, 1888, and No. 392,693, November 13, 1888, to which reference is here had for a full and clear description thereof. As the operation of such mechanism is clearly set forth in the before-mentioned patents, I shall only briefly refer to it herein.

Reference will now be had to Fig. IX, in which the striking mechanism is shown. This consists, substantially, of a pendent lever C, pivoted at *a* to a block D, fastened to the body of the car, and which carries at its upper end a cam-shaped block E. Pivoted at *b* is a bell-crank lever F, which may be adjustably secured as in the before-mentioned patents or as here shown. One arm F' of the lever F carries a roller or other friction-reducing point F<sup>2</sup> for contact with the cam E, the other arm F<sup>3</sup> being connected to the take-up spring G, and that to the linked chain G', which is led up into the car A over pulleys *c c* to the indicator-operating mechanism. A spring G<sup>2</sup> is fastened at one end of the cam E and at the other to the body of the car, and serves to return the pendent lever to its position of rest.



$G^3$  is an elastic abutment-block secured to the block D, and held in position in any desired manner, and which arrests the recoil of the lever C.

5 In actual use I place a striking mechanism on both sides of the car at or near its center, and connect them by a chain with the indicator, and locate at any suitable place on the line of track the stationary striking-blocks  
10  $C'$ , upon which the lever C rides, and by its deflection actuates the indicator-operating mechanism, as will be hereinafter set forth.

The indicator-operating mechanism consists of devices for operating the rolls bearing the necessary inscriptions and a detent  
15 for staying and regulating any inopportune action of the rolls.

By reference to Figs. I and VII it will be seen that the indicator-operating mechanism  
20 and the indicating-rolls are both located within a case H, which is suspended from the straddle B across the top of the car A. The case H has apertures  $H'$ , Fig. I, through which the names of the stations on the indicating-rolls may be seen from both sides of the case.  
25 These rolls find bearings in the sides of the case H and on the case  $H^2$  containing the indicator-operating mechanism, which case  $H^2$  is also suspended from the straddle B within  
30 the case H.

By reference to Fig. III it will be seen that the case  $H^2$  is provided with bearings  $d d$ , through which a spindle I is passed and which is free to turn therein. Upon this spindle is  
35 rigidly and preferably centrally affixed a detent-wheel J, having radial teeth  $J'$ , with segmental surfaces on their ends, which serves both for the purpose of holding the rolls in the position assumed after their operation  
40 and for actuating them.

Directly above the bearings  $d d$  are bearings  $e e$ , in which are mounted to rotate spindles K  $K'$ , the spindle K being squared, as at  
45  $f$ , for engagement with a key, as will be hereinafter set forth.

Upon the spindles K  $K'$  are rotatably mounted two wheels L  $L'$ , having outwardly-extending lugs  $m^2 m^3$ , carrying pawls  $g g'$ , and which will be called "pawl-wheels," Fig. V.  
50 The pawl-wheels have the peripheral grooves  $M^2 M^3$ , in which the chain  $G'$  rests. Upon the same spindles are rigidly secured by pins  $h h'$  two wheels M  $M'$ , which have ratchets  $i i'$  (which are inclined inwardly and are concentric with the periphery of their respective wheel) formed within their inner peripheries for engagement with the pawls, and which will be called "ratchet-wheels." There are two  
60 ratchets formed exactly opposite each other on each wheel or the pawl-wheels. The ratchet-wheels are provided with hubs  $j j'$ , which serve to keep them the requisite distance apart.

The spindles K and  $K'$ , carrying the pawl-  
65 and-ratchet wheels, are united together by the pins  $k k'$ , which not only serve to unite the two sets of pawl-and-ratchet wheels into one in-

tegral system, but act intermittently as the detent and roll-propelling mechanism, and they will be hereinafter known as the "detent." 70

Located at any convenient place, either on the case  $H^2$  or on the spindle I, are two deflectors N  $N'$ , used for deflecting the pawls  $g$  and  $g'$  out of contact with the corresponding ratchets and having an inclined surface  $l$ ,  
75 Figs. II and VI, upon which the arms  $m$  and  $m'$  of the pawls slide, the said arms when moving over the deflector-surface withdrawing the pawl from its ratchet against the pressure of a spring  $n n'$ , located on the pawl-wheels. 80

In combination with the last-stated arrangement the following may be used, thus insuring absolute certainty of operation and relieving the parts of undue strain. On the walls of the case  $H^2$  are produced stops  $o o'$ ,  
85 (but one set being shown,) which are intended to engage like stops  $p p'$  (but one set being shown) on the pawl-wheel, and prevent, in conjunction with a like engagement of the arms  $m m'$  of the pawls with the stops  $q q'$  on  
90 the deflectors N  $N'$ , the further rotation of the pawl-wheels in the direction opposite to that in which the indicator-rolls are being moved.

Instead of the foregoing arrangement of  
95 stops and deflectors being used, I can use separately that shown in Fig. X, in which but one set of pawl-and-ratchet wheels is shown. In this modification it will be seen that the construction of the pawl-and-ratchet  
100 wheels is the same and that the stops  $o'$  and  $p'$  are used in the same manner as before set forth; but instead of using the deflectors before shown and described, a deflector constructed as here shown at  $r'$ , fastened to the  
105 wall  $H^2$ , may be used. It is provided with an inclined face  $r^2$ , by which the pawl is removed from the ratchet.

Instead of the arm  $m'$  of the pawl being used to assist the stops  $o' p'$  in arresting the  
110 motion of the pawl-wheels, as before described, the stops  $o'$  and  $p'$  may be set in advance in relation to the deflector  $r'$  and arm  $m'$ , so that the rotation of the pawl-wheel will be entirely arrested before the deflector and  
115 arm  $m'$  come together, thus relieving the pawl of any undue strain.

Having thus far described the means whereby the spindle I is rotated, I will now describe its mode of connection with and op-  
120 eration of the rolls having the names of the stations printed upon them.

Referring to Figs. VII and VIII, it will be seen that the rear wall of the case  $H^2$ , containing the indicator-operating mechanism,  
125 is provided with bearings  $S' S'$ , in which a shaft O finds bearings. This shaft extends completely across the case H and finds further bearings in the journals  $S^2 S^2$ , carried by the hangers  $O' O^2$ , said hangers being de-  
130 tachably attached to the lugs  $S^3 S^3$  on the walls of the case H.

Rigidly affixed, as at  $S^4$ , to the shaft O, are two spools P  $P'$ , (which I term in the claims



as the "primary spools," which are adapted to have the ribbons  $Q Q'$ , bearing the names of the stations, wound upon or unwound from them. These ribbons are made of any suitable material which is sufficiently strong and flexible, and are securely fastened at both their ends to their respective spools.

Located below the shaft  $O$  are two other and distinct shafts  $R R'$ , rigidly affixed at  $t$  to the bearings  $S S'$  at one end, and finding a support in the hangers  $O' O^2$  at the other. The hangers  $S S'$  are held in position by encircling the shaft  $O$  at  $u u'$ , and by being screwed to the case  $H^2$  at  $u^2 u^3$ . The shafts  $R R'$  carry spools  $T T'$ , (which I term in the claim as the "companion spools,") mounted to turn free upon them, and to which one end of the ribbons  $Q$  and  $Q'$  are rigidly affixed. The spools have their cylindrical portions  $T^2$  (only one is shown) made hollow, either by casting the spool or by constructing it in sections and then assembling it; and within this tubular portion  $T^2$  is located a spiral spring  $U$ , (but one is shown,) wound around the shaft  $R$ , and made fast to it at  $v$ . The other end of the spring  $U$  is made fast to the spool  $T$  at  $v'$ .

As will now be seen, the springs  $U$  are fastened respectively to their shafts  $R R'$  at one end, and to the spools  $T T'$ , carrying the ribbons  $Q Q'$ , at the other, the points of connection of the springs with the shafts being on their inner ends, and the points of connection of the springs with the spools being on their outer ends. As a result of this arrangement the springs, when the shaft  $O$ , spools  $P P'$ , and the ribbons  $Q Q'$  are turned, imparting a like motion to the spools  $T T'$ , act in a direction exactly opposite to each other—that is, when one spring is being wound by the rotation of the spools the other is being unwound—and as it is intended that the springs should be long enough to permit this being done for the length of any journey undertaken by a car having the indicator on it, this will continue during the whole of such journey. The spools unwind in opposite directions, and as a result of this, if some resisting medium were not placed within their moving parts the lower spools would unwind indefinitely at each turn of the upper spools, thereby incurring danger of tearing or snarling up the ribbons, and confusion would result. By providing the rolls with springs, as shown, this is prevented, and the ribbons (particularly the one fastened to the spool in which the spring is being unwound) after they are loosened by their rotation are brought up taut by their respective springs.

A further object is attained by the presence of these springs. As before stated, they are made sufficiently long, so that they can perform their simultaneous winding and unwinding operation for the whole journey, and when that is completed and the return journey commenced that roll which was previously wound will be unwound and the un-

wound spring will then begin to wind again by its own resiliency, the reverse happening to the previously-wound spring and spool, thus making the operation both continuous and automatic.

As before stated, the linked chains  $G' G'$ , Fig. I, pass up into the car from the striking mechanism over the pulleys  $c c$ , then through the slots  $V$ , cut into the case  $H^2$ , around the ratchet-wheels  $L L'$ , to which they are rigidly secured by the pin  $w$ , Fig. II, thence out through the same slots, and are linked to the retracting-springs  $V' V^2$ , Fig. I, which are held at one end by brackets  $w' w^2$ . Turn-buckles  $V^3$  are placed in the linked chain  $G'$  to adjust its length. By this means the striking and indicator-operating mechanism are operatively connected.

On the end of the shaft  $I$  of the indicator-operating mechanism is rigidly secured the large bevel-gear wheel  $W$ , which meshes with the smaller bevel-pinion  $Z$  on the shaft  $O$  of the upper indicator-rolls, and in this way the indicator-operating mechanism and the indicator-rolls are operatively connected together.

The ratchet-wheels  $M M'$  require two operations in order to give them a complete revolution; the detent-wheel  $J$ , eight. The gear  $W$  makes two revolutions to one of the pinions  $Z$ .

In Fig. II is shown a device used in conjunction with the indicator-operating mechanism, whereby the attention of the passenger is attracted to the indicator whenever the same is operated. A bell  $X$  depends from the case  $H^2$  by means of the rod  $x$ . Extending outwardly from the case  $H^2$  and fastened thereto are brackets  $X' X^2$ , provided with holes in their outer ends for the reception of pins  $x' x^2$ , and below these brackets smaller brackets  $Y Y'$  are fastened to the case  $H^2$ . Arms  $X^3 X^4$  are pivotally connected to the brackets  $X' X^2$  at  $x' x^2$ , and at their upper ends are also pivotally connected at  $x^3 x^4$  to the linked chains  $G' G'$ . Upon the brackets  $Y Y'$  are pivotally supported hammer-arms  $Y^2 Y^3$ , having spring-extensions  $y^4 y^5$ , provided with hammers  $y^2 y^3$ . The arms  $X^3 X^4$  are pivotally connected to the hammer-arms by means of the links  $y y'$ . Each hammer being operatively connected to its individual link-chain, it will operate independently of the other. These parts in Fig. I are not lettered, for the purpose of avoiding confusion.

Having thus described the construction of my device, I will now proceed to describe the operation of the same.

The car in passing over the line of track either direction necessarily carries with it the striking-lever  $C$ , and when this lever encounters one of the stationary striking-blocks  $C'$  it is vibrated and the cam  $E$  with it. This sets the striking mechanism in motion, as described in the patents before referred to, and by which the chain  $G'$  is moved. This movement of the chain, which passes around the pawl-wheels and is fastened to them at  $w$ ,



Fig. II, gives the pawl-wheels one-half a revolution, and in turning, the pawls being freed from the deflectors  $N$  or  $r'$ , Fig. X, are forced by the springs  $n$  on the pawl-wheels into the ratchets  $i$  in the ratchet-wheel, carrying the ratchet-wheel with it, thereby giving it one-half a revolution. The two ratchet-wheels being connected together by the pins  $k$   $k'$  both ratchet-wheels and but one pawl-wheel move together, the pawl-wheel, which the chain  $G'$  does not rotate, by reason of its not having been actuated by its respective striking-lever coming in contact with the projection on the track, being held in its normal position (it being loose on its shaft) by the springs  $V'$ . The release of the striking-lever from the block  $C'$  and the recoil of the striking mechanism releases the strain on the retracting springs  $V'$ , which then retracts and rotates the pawl-wheels in a direction opposite to that which they previously had been moved, the movement in a measure being assisted by the spring  $G^2$  of the striking mechanism. This return rotation of the pawl-wheels brings the stops  $o'$  and  $p'$  or the arm  $m$  on the pawl and stops  $q$  in contact, thereby arresting the further rotation of the latter mechanism at the same time the arm  $m$  on the pawl passes over the inclined deflector-surface  $l$  or  $r^2$ , and thereby removes the pawl from contact with its ratchet. In Fig. X the stops  $o'$   $p'$  arrest the motion of the mechanism before the arm  $m$  comes in contact with the deflector  $r'$ , and, as before stated, the same can be done in the other arrangement, there being two ratchets on each ratchet-wheel exactly opposite each other, so that as the wheel makes one half-turn each time it is operated a ratchet will be presented in the proper position for co-operation with its respective pawl. The rotation of the pawl-and-ratchet system brings the pins  $k$   $k'$  in contact with the segmental surface of the teeth  $J'$  of the detent-wheel  $J$ , and as the pin  $k$  moves farther into the space between the respective teeth  $J'$  it rotates the detent-wheel  $J$  in the opposite direction, and before the pin  $k'$  has entirely left the segmental surface opposite to that which the pin  $k$  is operating on, and on the same tooth, the pin  $k$  has entered the space between that tooth and the one following it, thus locking the mechanism and holding it until the pin  $k'$  has rotated and entered another space between the teeth, when it is more firmly held by both, besides rotating the wheel  $J$ . It will be seen that the segmental surfaces of the teeth  $J'$  are parts of a circle struck from the same center as the spindles  $K$  or  $K'$ , the same point being the center of the circle from which the pins  $k$   $k'$  are struck, thereby insuring the absolute certainty of co-operation of the pins  $k$   $k'$  with the teeth  $J'$  at all times, and securing the double function of operation and detention for one and the same device. The rotation of the wheel  $J$  rotates the shaft  $I$  and with it the gear  $W$  fast on it, which in its turn rotates the pinion  $Z$  fast upon the

shaft  $O$ . This winds up the spool  $P$ , carrying with it the ribbon  $Q$ , unwinding the spiral spring  $U$ , at the same time unwinding the spool  $P'$  and its ribbon  $Q'$ , and unwinding the spring contained in the lower spool  $T'$ . When the recoil of the striking and indicator-operating mechanism has taken place, the detent-wheel  $J$ , in combination with the pins  $k$   $k'$  and ratchet-wheels, will hold or detain the rolls from further rotation, and any slack which may have been caused in the ribbons will be taken up by the springs in their respective spools. In this way a complete and automatic indication of the station will be made.

If at any time it should be found necessary to turn the spools by hand without vibrating the striking-lever  $C$ , a key or other tool may be placed on the squared end  $f$  of the spindle  $K$ , Fig. III, and the rolls turned or operated as desired.

The bell  $X$ , Fig. II, is sounded as follows: When the chain  $G$  is moved in the direction of the arrow, the lever  $X^3$ , which is fast to the chain  $x^3$  and pivoted at  $x'$  will be vibrated. This will push forward the link  $y$  and vibrate the hammer-arm  $Y^2$ , and upon the recoil of the chain  $G'$ , assisted, as before stated, by the spring  $V'$ , the hammer  $y^2$  will be forcibly brought into contact with the bell, thus sounding it.

I have used in the specification the words "rolls" and "indicator-rolls." By that I mean the assemblage of the spools, their contained springs and ribbons, and their means of connection with the indicator-operating mechanism. I use the word "disk" as measuring the body of the pawl or ratchet-wheel, wherever used, free from its contained mechanism. I have also used the words "spindle" and "shaft" alternately in referring to the same thing.

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

1. In a station-indicator, the combination of the striking mechanism on the body of the car, the indicator-operating mechanism suspended with the car, and a chain passing from the striking mechanism to, over, and fast to the pawl-wheel of the indicator-operating mechanism, ending in a coiled spring made fast, substantially as described.

2. In a station-indicator, a pawl-wheel loosely mounted upon a rotating spindle, and means for rotating it, in combination with a chain fast to the pawl-wheel, and a spring itself held and fast to the chain for returning the pawl-wheel, substantially as described.

3. In a device for ringing a bell, in connection with a station-indicator, the combination of the chain  $G'$ , means for supporting and operating the same, rocker-arm  $X^3$ , fast to the said chain and pivotally supported, hammer-arm  $Y^2$ , pivotally supported, and bell  $X$ , the rocker-arm and hammer-arm being connected by link  $y$ , substantially as described.



4. In a station-indicator, the combination of a supporting-plate D, adjustably-pivoted lever F, cam E, lever C, pad G<sup>3</sup>, spring G<sup>2</sup>, attached to said cam E, spring G, attached to the lever F, chain G', attached to the spring G, spring V', attached to the chain at one end and secured at the other, and a turn-buckle V<sup>3</sup>, interposed in said chain G', substantially as described.

5. The combination, with the indicator-rolls, the pawl-wheel L, loosely mounted on the spindle K, and means for operating it, of a chain G', fast to the pawl-wheel, a spring V<sup>2</sup>, fast to the said chain, and bracket w<sup>2</sup>, the said pawl-wheel and indicator-rolls being operatively connected, substantially as described.

6. In a station-indicator, the combination, with a pawl-wheel loosely mounted upon a rotating shaft, a ratchet-wheel fast upon and rotating with said shaft, pin extending from said ratchet-wheel, a detent-wheel provided with radial arms for engagement with said pins, and means for operating the same, of a primary spool mounted upon a spindle, a companion spool rotatively suspended and connected to the primary spool by means of a ribbon, a spring for returning the companion spool, the said primary spool and detent being operatively connected, substantially as described.

7. In a station-indicator, the combination, with a pawl-wheel loosely mounted upon a rotating shaft, a ratchet-wheel fast upon and rotating with said shaft, pins extending from said ratchet-wheel, a detent-wheel provided with radial arms for engagement with said pins, and means for operating the same, of a primary spool mounted upon a spindle, a companion spool comprising a hollow cylindrical portion, a shaft or spindle passing centrally through the cylindrical portion and finding suitable bearings, a coiled spring encircling said spindle and fast to it at one end and to the spool at the other, both spools being operatively connected by means of a ribbon, the said primary spool and detent-wheel being operatively connected, and the pawl-wheel operatively connected with the striking mechanism, substantially as described.

8. In a station-indicator, the combination, with a pawl-wheel L, loosely mounted upon a rotating shaft K, a ratchet-wheel M, fast upon said shaft, pins k k', extending from

said ratchet-wheel, a detent-wheel J, provided with radial arms J' for engagement with said pins, and means for operating the same, of a primary spool P, mounted upon a spindle O, a companion spool T, rotatively suspended and connected to the primary spool by means of a ribbon Q, a spring U for returning the companion spool, the primary spool and detent-wheel being operatively connected, and the pawl-wheel operatively connected with the striking mechanism, substantially as described.

9. In a station-indicator, the combination, with a pawl-wheel L, loosely mounted upon a rotating shaft K, a ratchet-wheel M, fast upon said shaft, pins k k', extending from said ratchet-wheel, a detent-wheel J, provided with radial arms J' for engagement with the said pins, and means for operating the same, of a primary spool P, mounted upon a spindle O, a companion spool T, comprising a hollow cylindrical portion T<sup>2</sup>, a spindle R for rotatively supporting said spool, a spring U, fast to the spindle at one end and to the spool at the other, both of said spools being operatively connected by means of a ribbon Q, and the gear-wheels W and Z for operatively connecting the detent-wheel and spindle O, substantially as described.

10. In a station-indicator, the combination, with a pawl-wheel loosely mounted upon a rotating shaft, a ratchet-wheel fast upon and rotating with said shaft, pins extending from said ratchet-wheel, a detent-wheel provided with radial arms for engagement with said pins, and means for operating the same, of a primary spool mounted upon a spindle, a companion spool rotatively suspended and connected to the primary spool by means of a ribbon, a spring for returning the companion spool, and detachably-secured hangers for rotatively suspending the rolls, the said primary spool and detent being operatively connected, substantially as described.

Signed at New York, in the county of New York and State of New York, this 16th day of December, A. D. 1889.

FERDINAND ROCHOW.

Witnesses:

JOSEPH L. LEVY,  
GEORGE W. BORCHERS.