No. 692,581. Patented Feb. 4, 1902.

C. M. WRIGHT.

VOTING MACHINE.

(Application filed Apr. 5, 1900.)

(No Model.) 7 Sheets—Sheet 1.

Fig. 1.

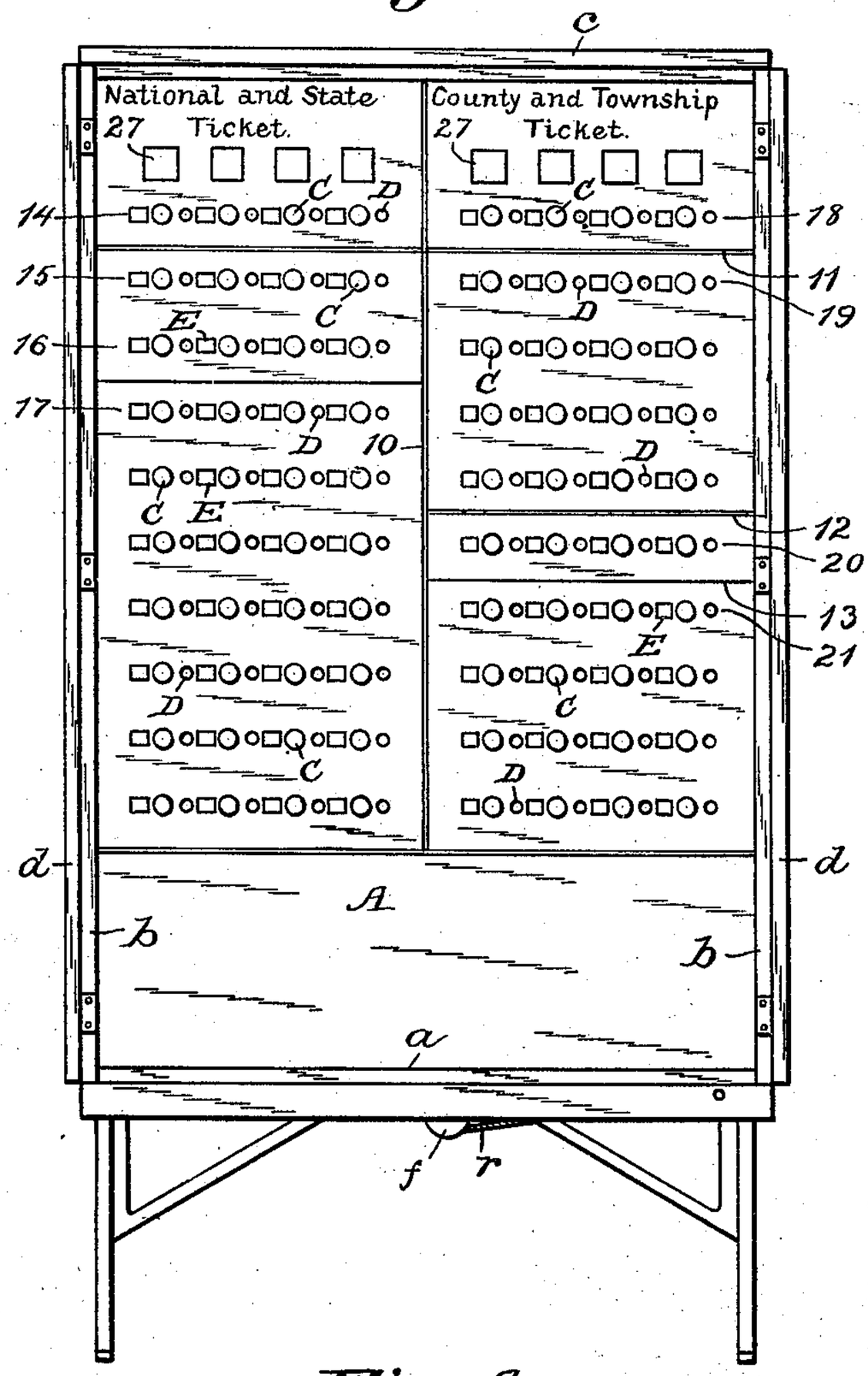


Fig. 2.

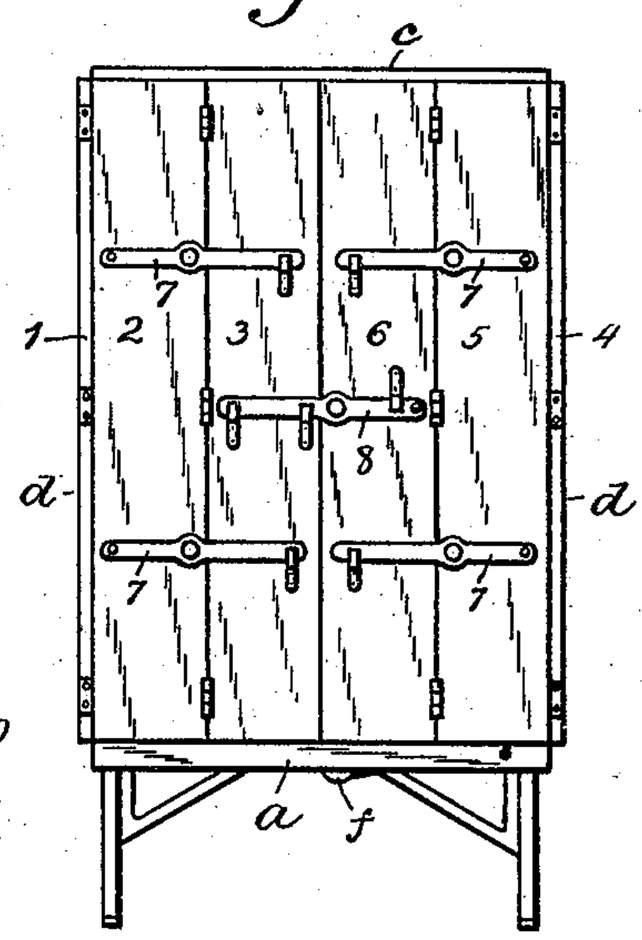


Fig. 3.

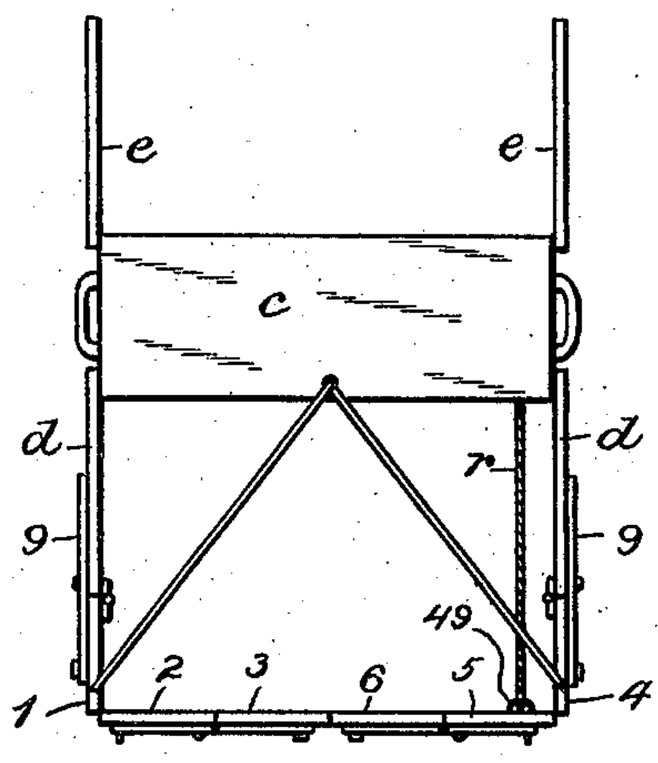
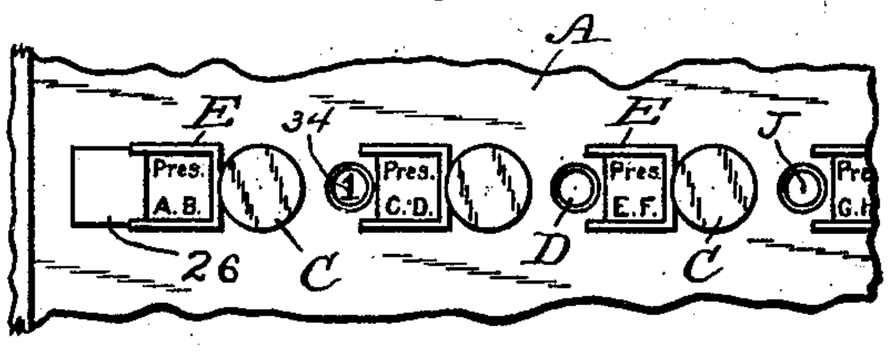


Fig. 4.



WITNESSES:

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Sara Alexander.

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Fig. 5.

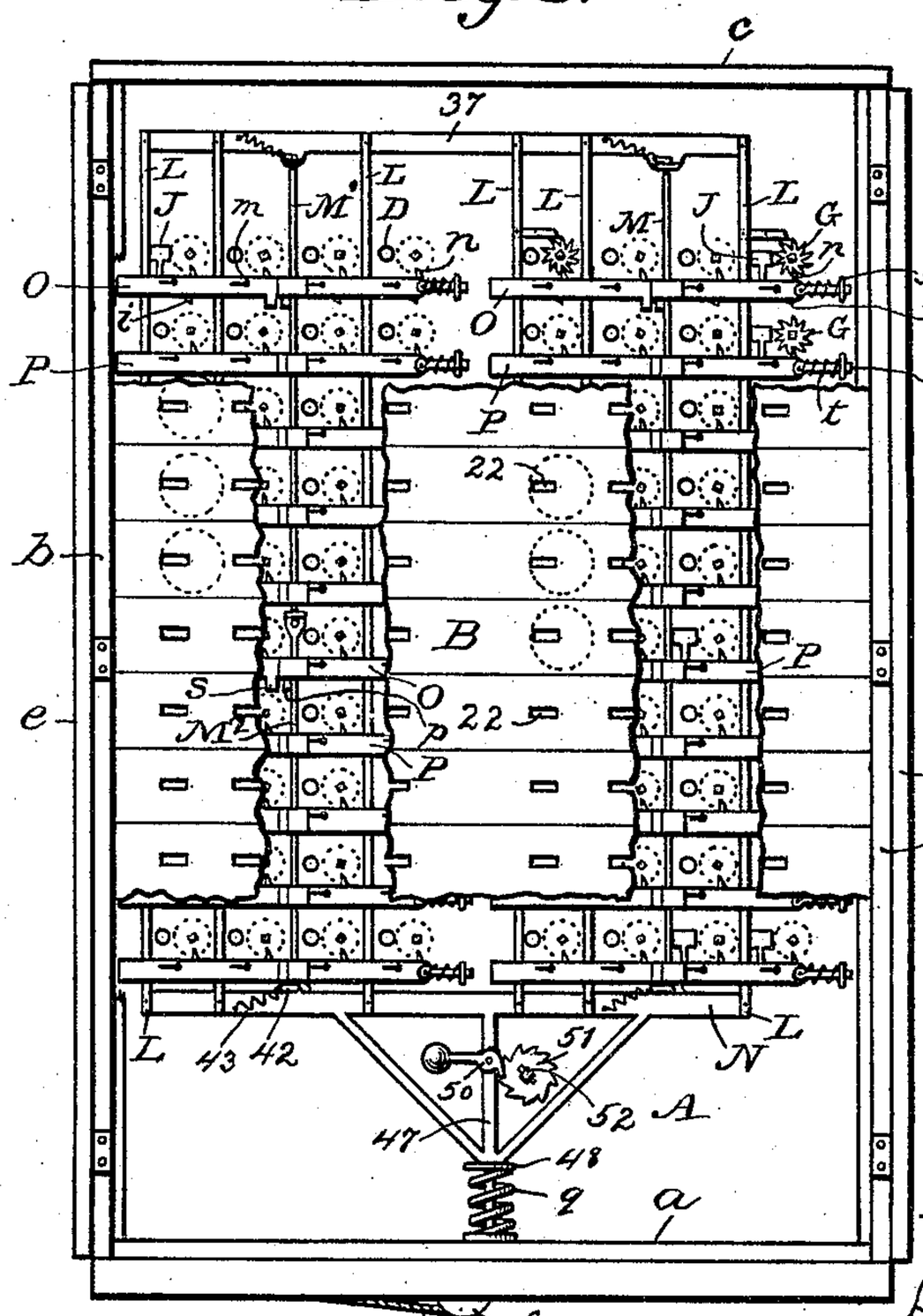
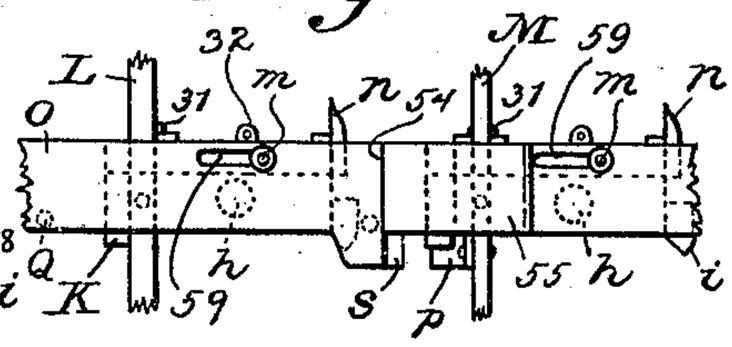


Fig. 6.



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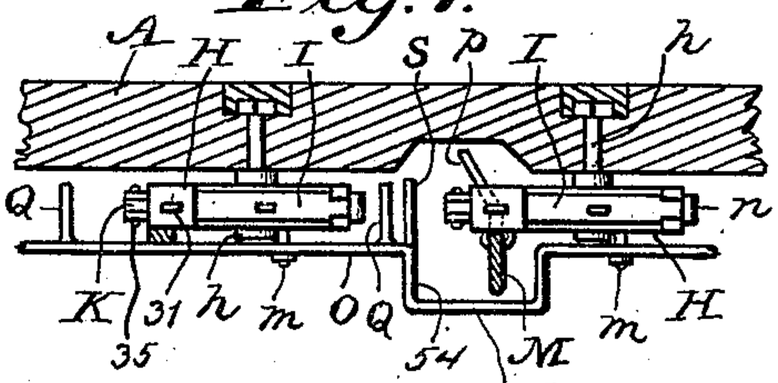

Fig. 8.

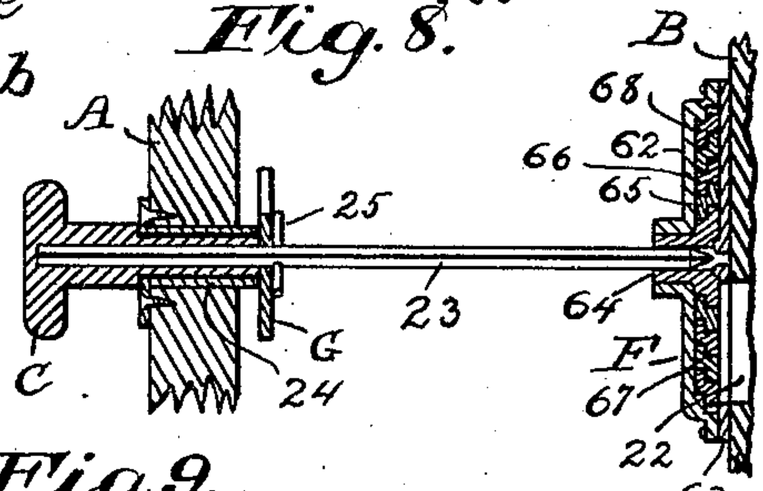

Fig. 9.

Fig. 10.

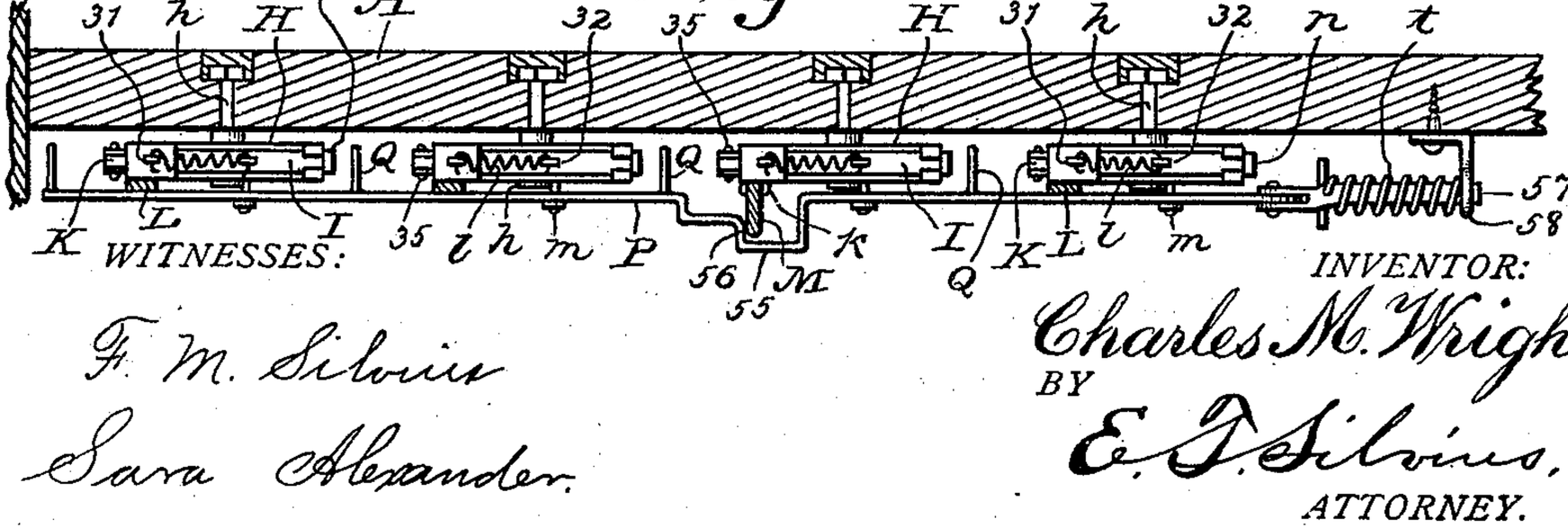

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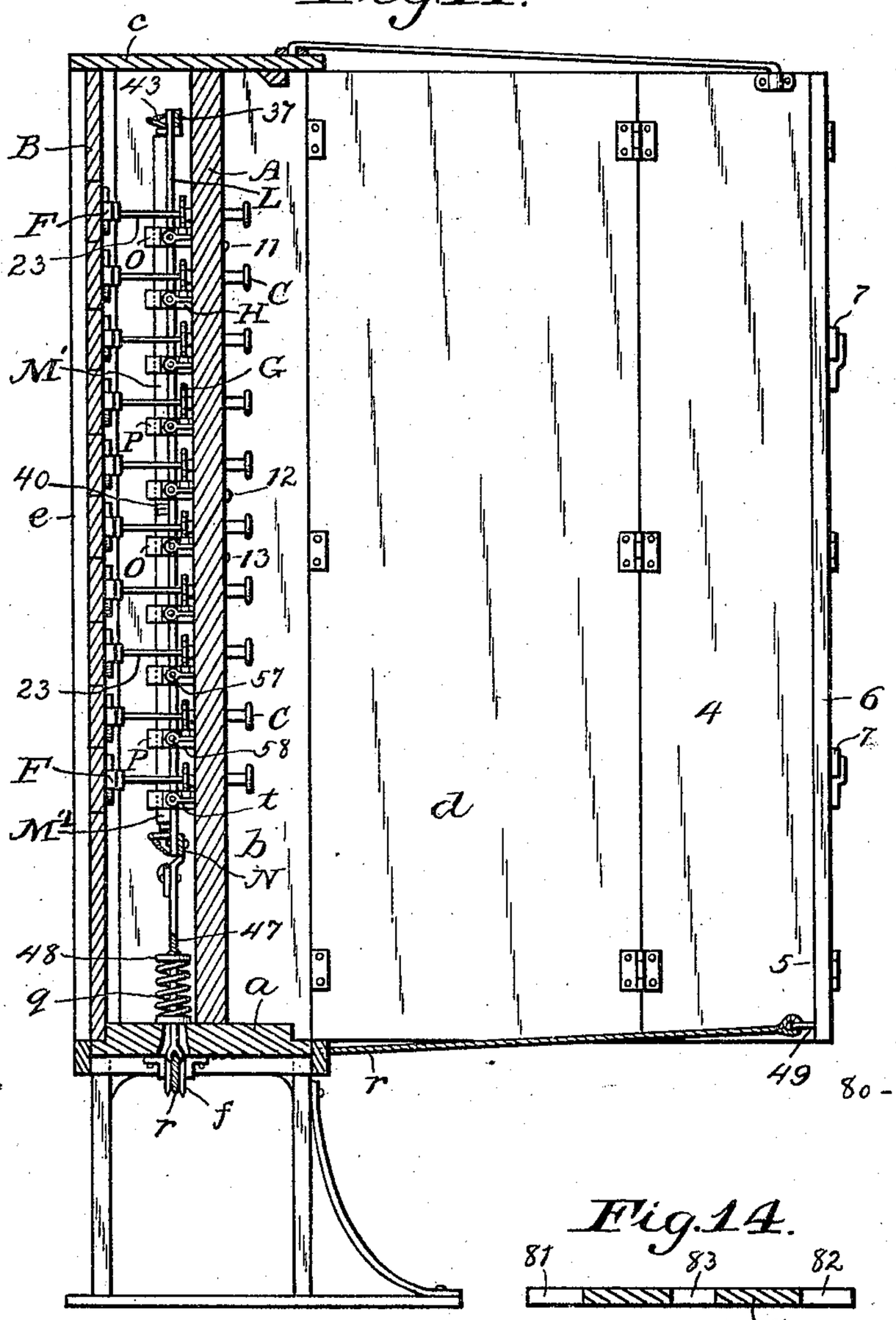
Fig. 11.



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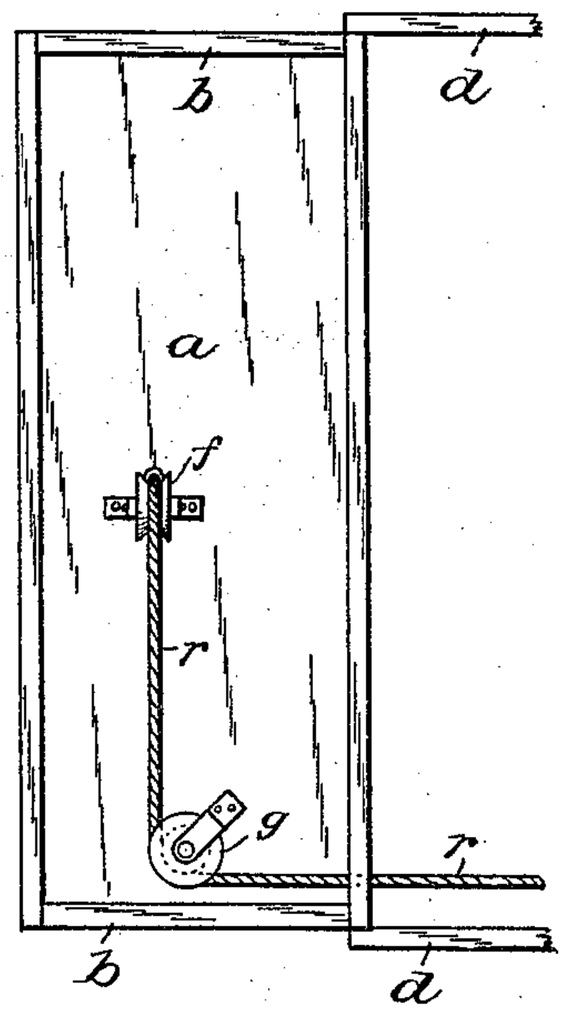

Fig. 13.

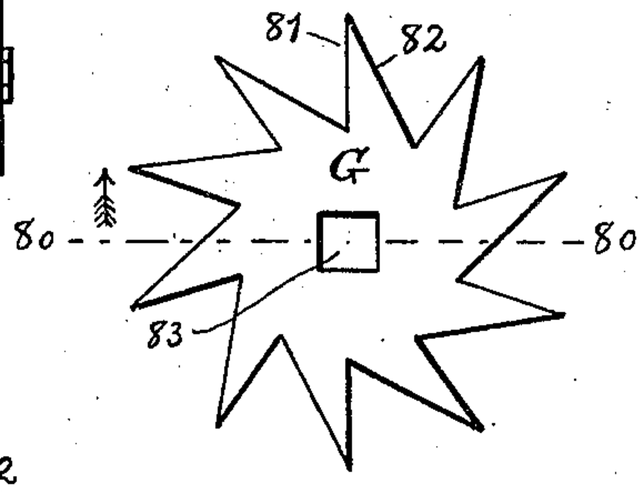

Fig. 14.

Fig. 15.

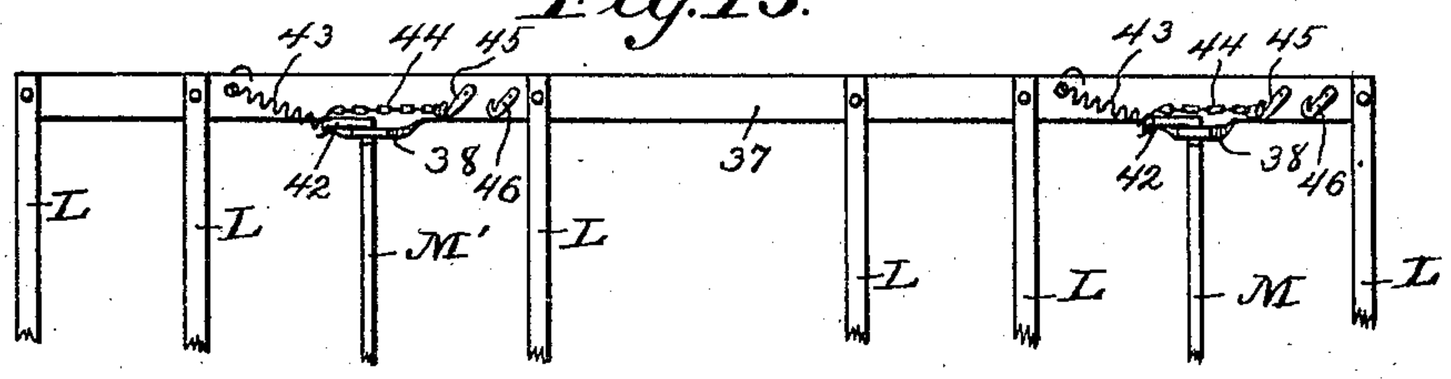

Fig. 16.

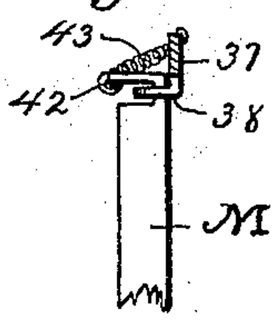

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Fig. 17.

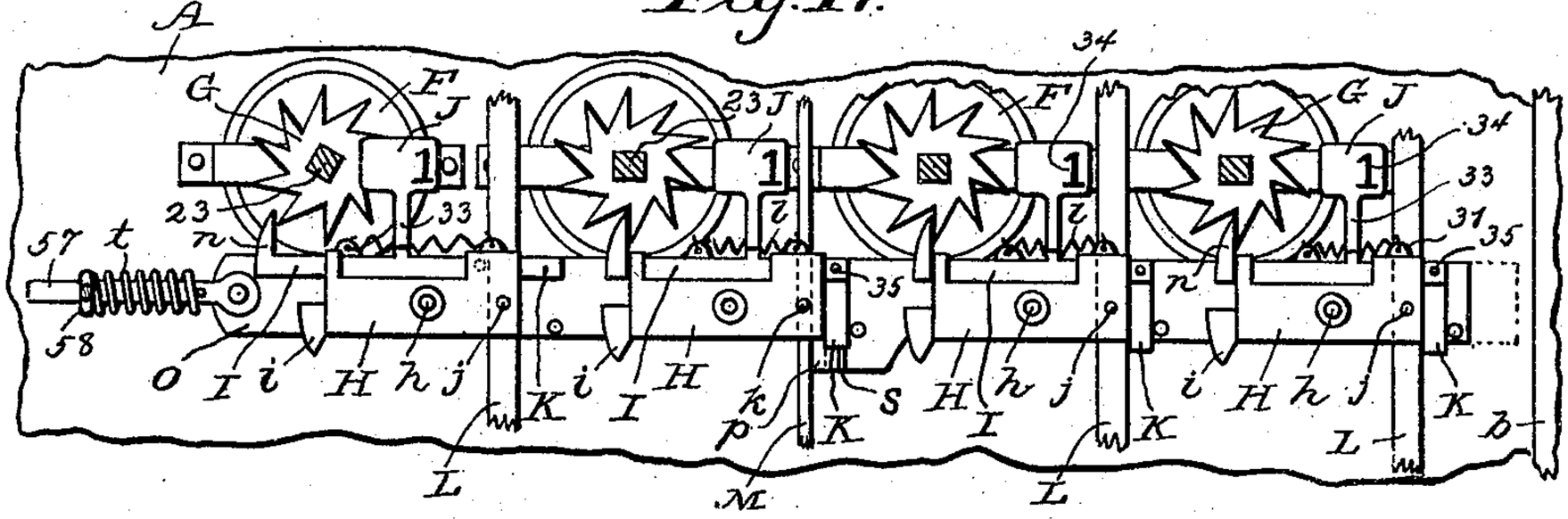
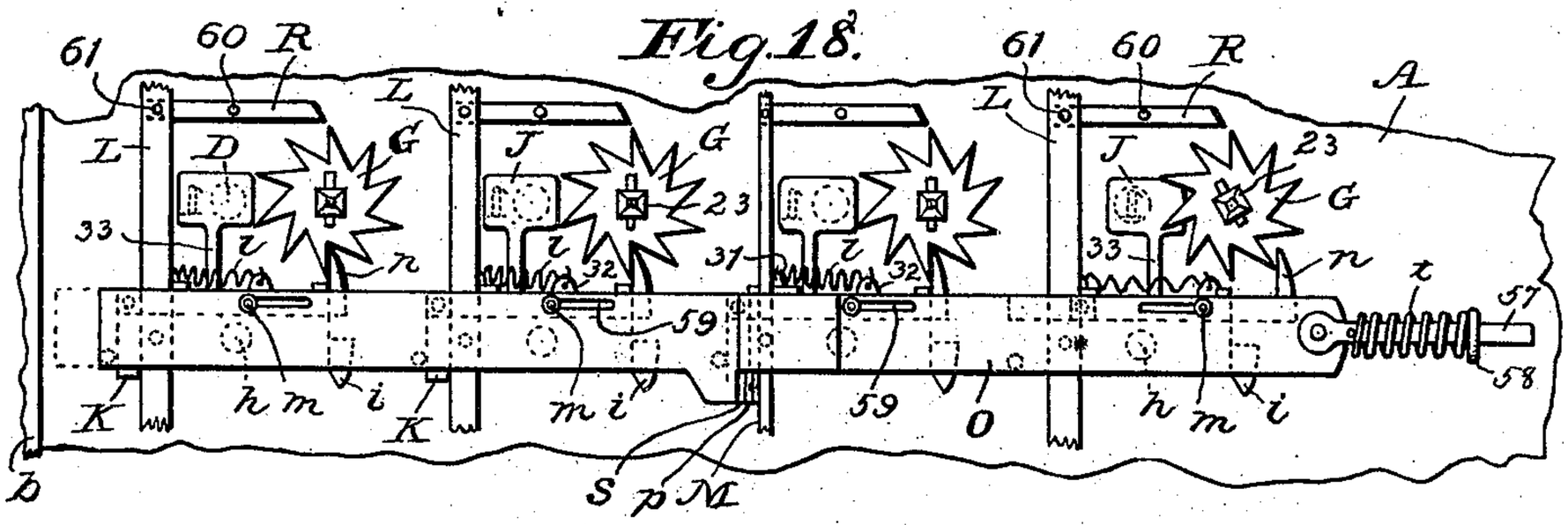


Fig. 18.



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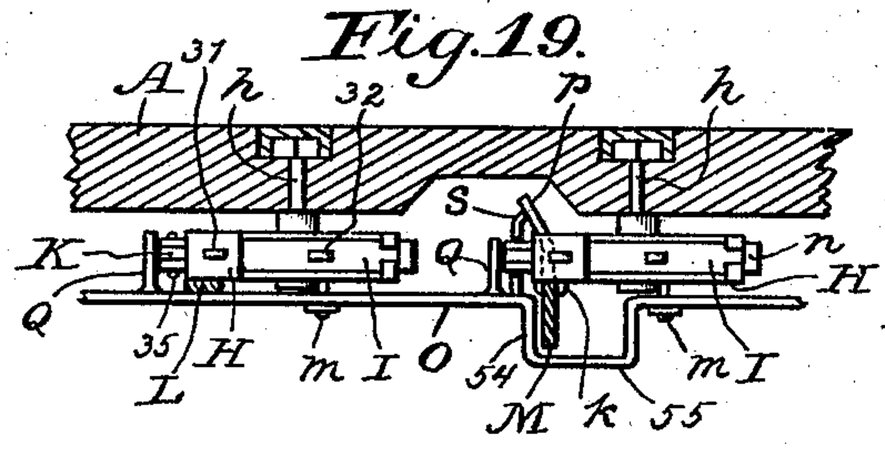
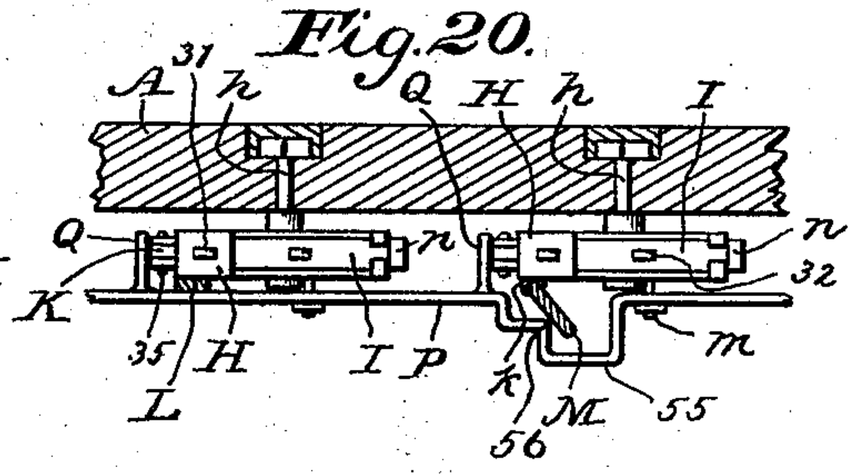


Fig. 20.



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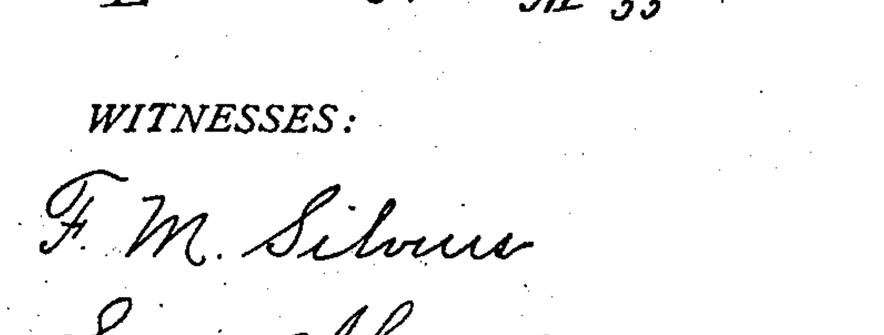

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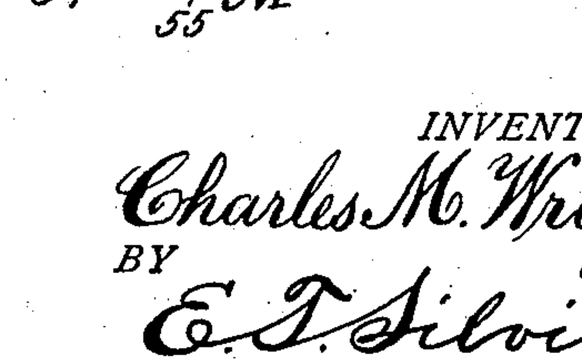

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Fig. 23.

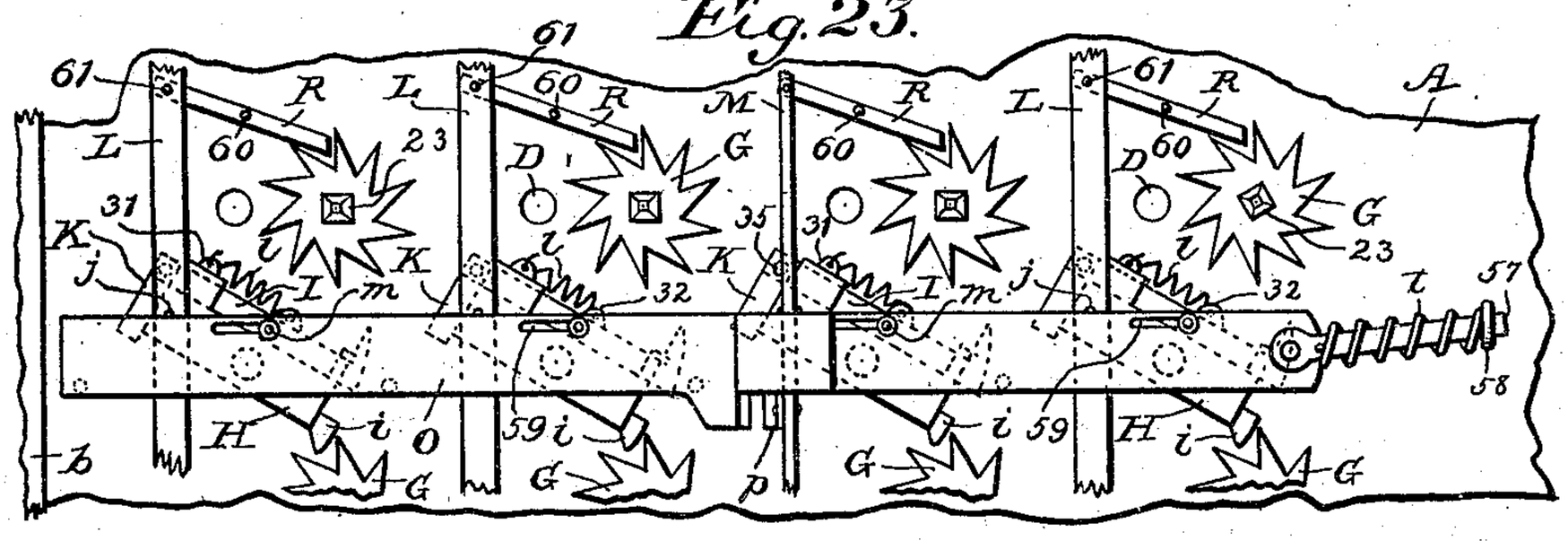
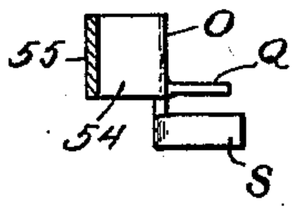


Fig. 24.



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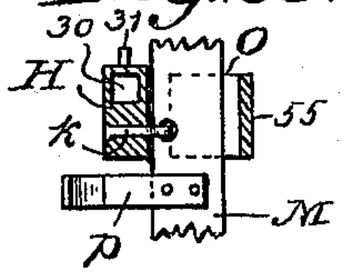

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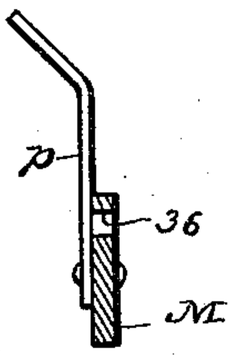
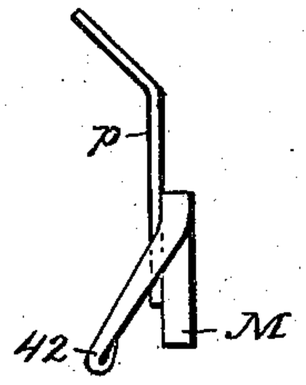


Fig. 27.



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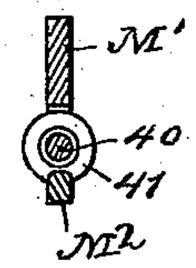

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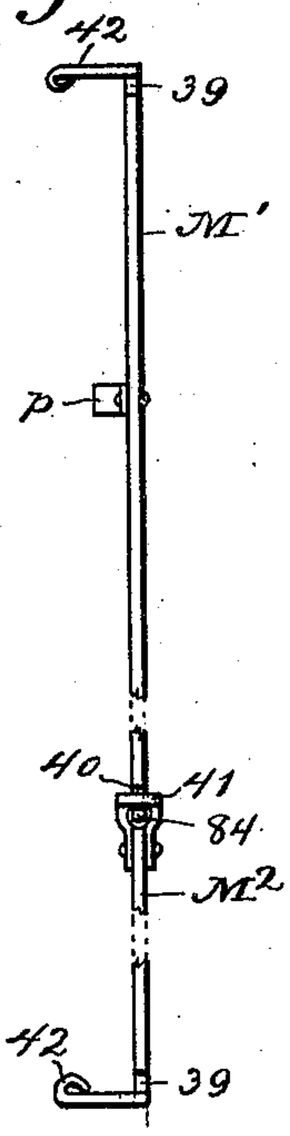

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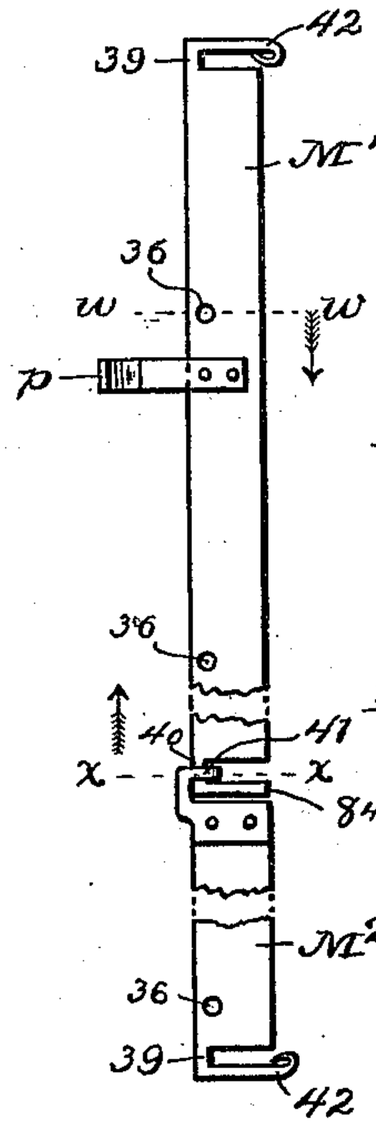

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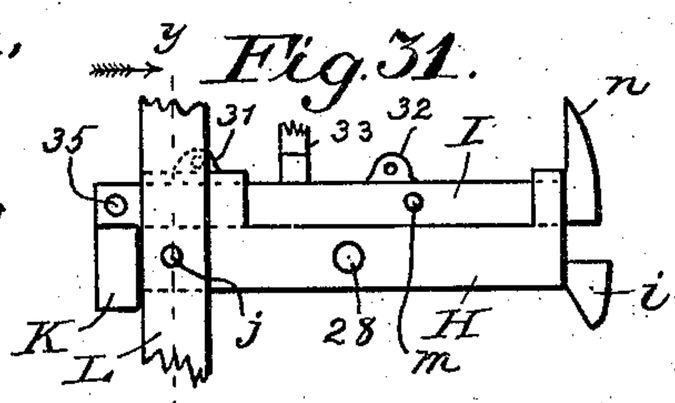


Fig. 32.

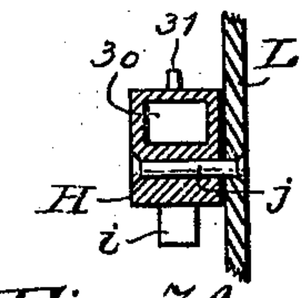
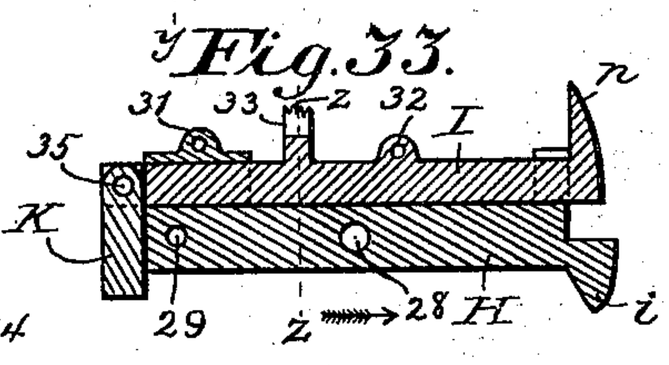


Fig. 33.



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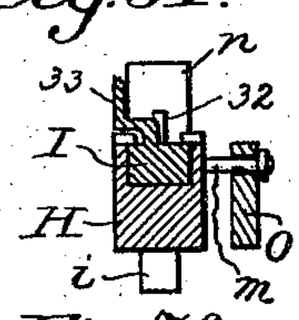

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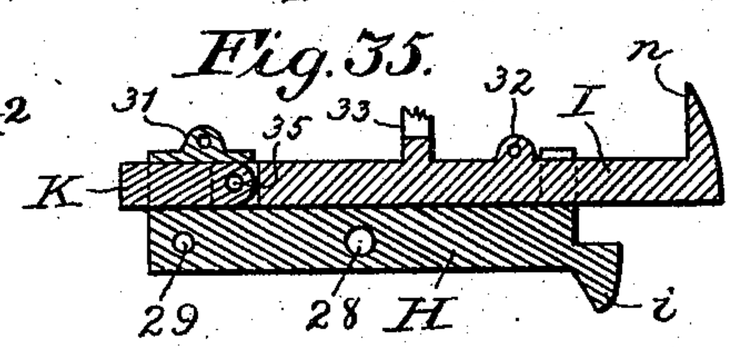

Fig. 36.

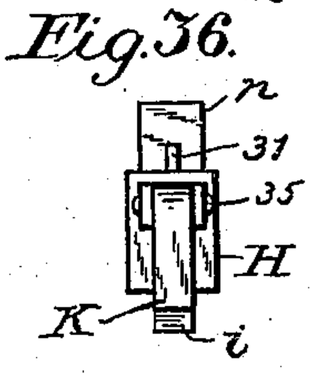

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Fig. 37.

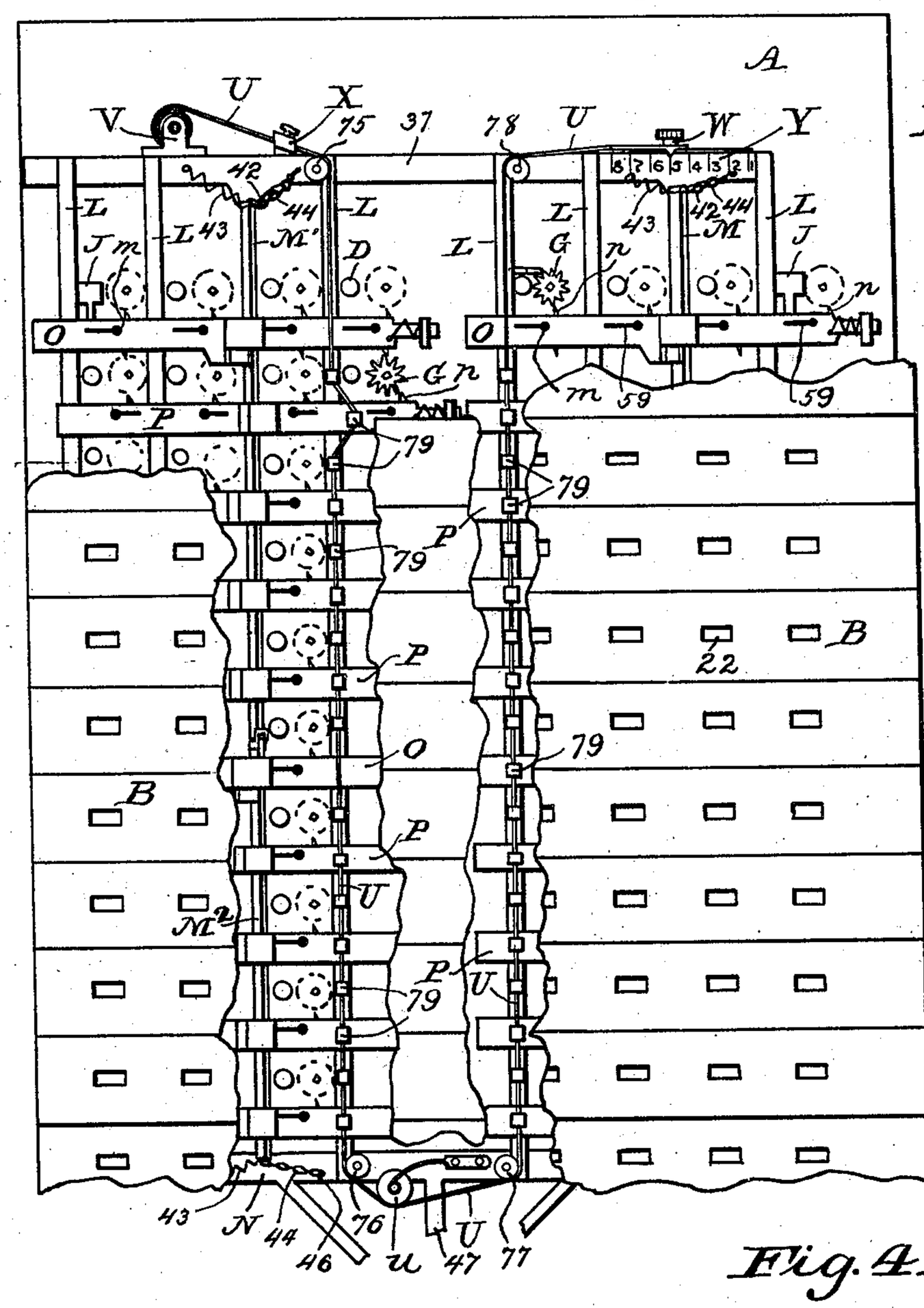

Fig. 38.

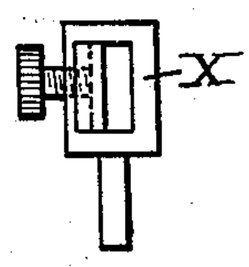

Fig. 39.

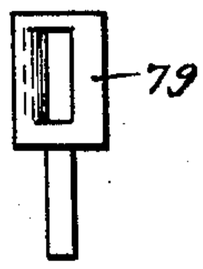

Fig. 40.

Fig. 41.

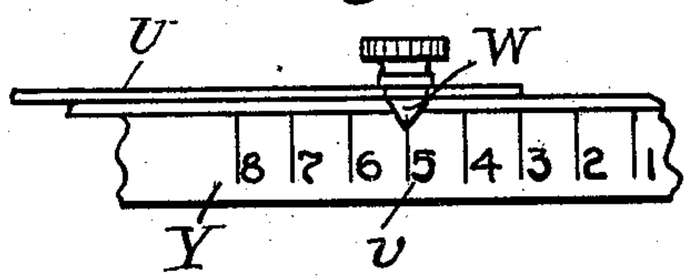

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Fig. 42.

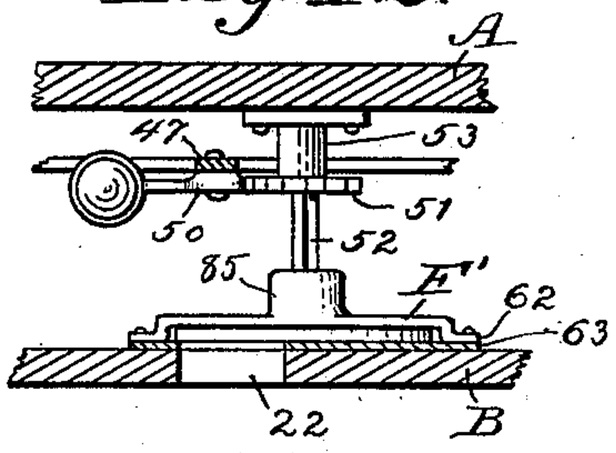


Fig. 43.

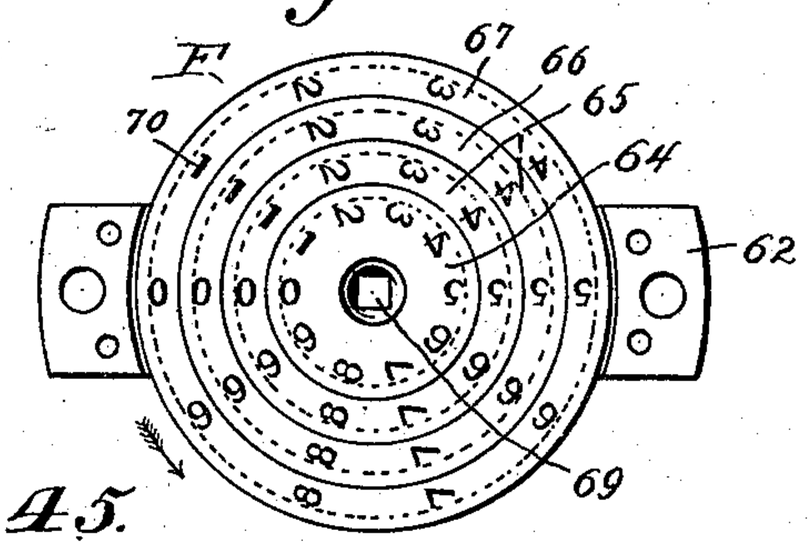
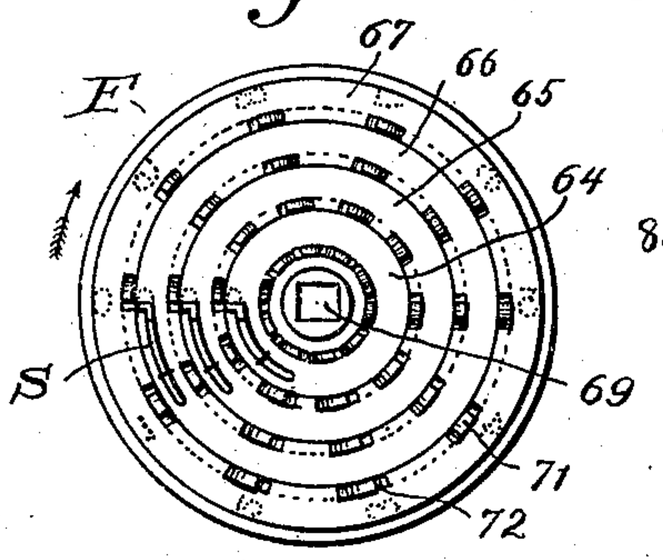


Fig. 44.



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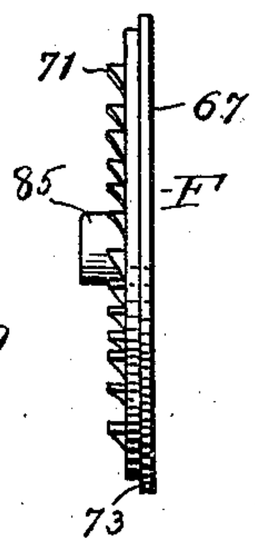


Fig. 46.

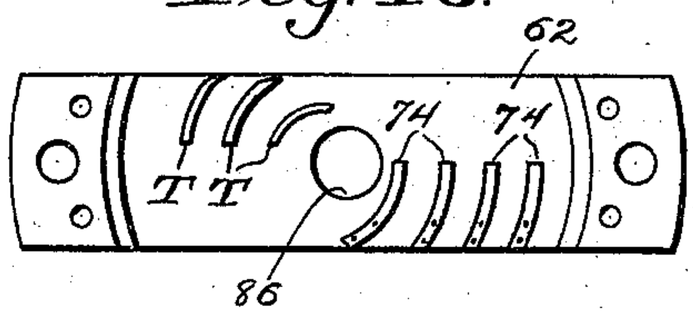


Fig. 47.

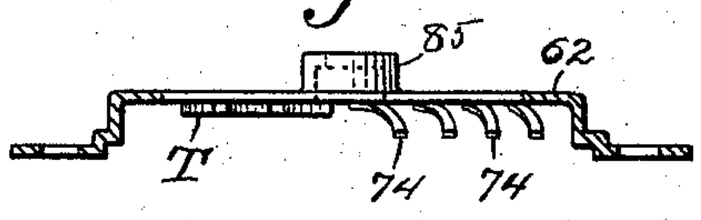


Fig. 48.

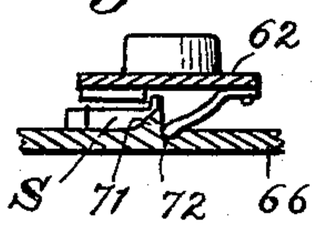


Fig. 49.

Fig. 50.

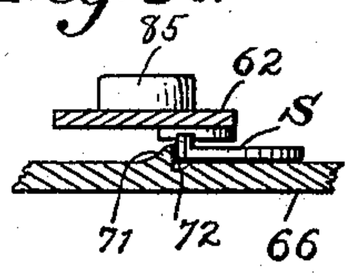


Fig. 51.

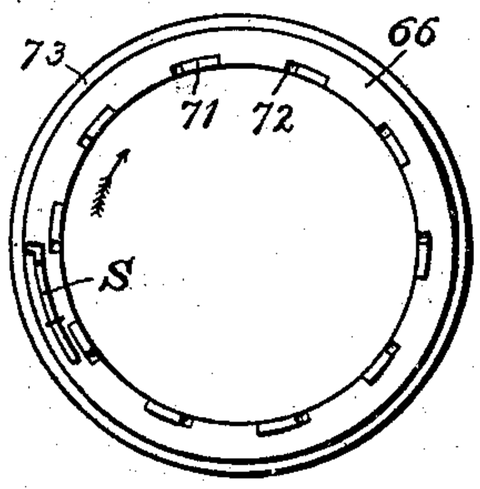
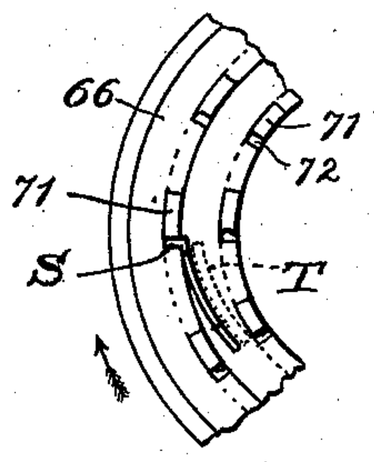


Fig. 52.



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UNITED STATES PATENT OFFICE.

CHARLES M. WRIGHT, OF ANDERSON, INDIANA.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 692,581, dated February 4, 1902.

Application filed April 5, 1900. Serial No. 11,733. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. WRIGHT, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Voting-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to apparatus and mechanism, which combined are known as "voting-machines," whereby officials may be chosen from a number of candidates; and the object of the invention is to provide a durable machine of this character at the least possible expense to the public and which to this end may be constructed as far as possible of parts which shall operate accurately without requiring exact fitting and adjustment and consequently be reliable at all times without necessitating repairs and readjustment.

The invention consists in certain new and novel features in the details of construction and in the parts and combination and arrangement of parts hereinafter fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 represents a front elevation of my invention, in which parts of the booth are omitted; Fig. 2, a diminutive front elevation of the complete machine with the booth in proper position for use; Fig. 3, a top plan view showing the booth in position and the rear doors open, as when reading the results of an election; Fig. 4, a fragmentary enlarged view of the front face of the keyboard; Fig. 5, a view in elevation of the rear part of the machine, which is partly broken away and showing the internal mechanism; Figs. 6, 7, 8, 9, and 10, enlarged detail views; Fig. 11, a vertical central sectional view; Fig. 12, a bottom plan view; Fig. 13, a plan of an escapement-wheel; Fig. 14, a sectional view taken on a line 80 80 in Fig. 13; Figs. 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, and 25, enlarged detail views; Fig. 26, a sectional view on a line *w w* in Fig. 30; Fig. 27, an end view of the bar shown in Fig. 30; Fig. 28, a transverse sectional view taken on a line *x x* in Fig. 30; Figs. 29, 30, and 31, detail views; Fig. 32, a transverse sectional view on a line *y y* of Fig. 31; Fig. 33, a vertical central longitudinal sectional view of members shown in elevation in Fig. 31; Fig. 34, a transverse sectional view on a line *z z* in Fig. 33; Fig. 35, a sectional view similar to Fig. 33, showing changed positions of the members; Fig. 36, an end elevation of parts shown in Fig. 31; Fig. 37, a view in elevation of the rear part of the machine, which is partially broken away and exposing portions of the internal mechanism; Figs. 38, 39, 40, and 41, detail views of parts shown in Fig. 37, and Figs. 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, and 52 detail views of the counters or registering devices.

Similar letters and numerals of reference throughout the drawings designate similar parts.

In construction I provide an inclosing case for the mechanism, which also is adapted to be opened out to provide a booth in which a secret ballot may be cast, the whole being provided with suitable legs or a stand which may be designed to be stored either beneath or within the case when not in use.

The portion which mainly supports the principal mechanism is a vertically-disposed rectangular slab or keyboard A, attached to a base *a* and side case-boards *b b*, having a roof-board *c*. The keyboard is set back somewhat from the front faces of the case members *a b b c*, the latter extending rearwardly beyond the rear of the keyboard A. The rear part of the case is inclosed by a tally-board B, built, preferably, in sections, which supports the counters and parts of the other mechanism between itself and the keyboard. The front of the case has hinged double doors *d d*, one of which has hinged folding sections 1 2 3 and the other of which has similar sections 4 5 6, suitable latches 7 8 9 being provided for transforming the sections 1 and 3 into one section or door, and also the sections 5 and 6 into one, and for preventing the sections 1 and 4 from folding over when in the form of a booth. Suitable braces are provided for maintaining the several sections of the booth in proper positions to form the inclosure at the front of the case. The door-sections are adapted to fold in and

permit the doors to be closed, and suitable locks therefor may be employed. The rear part of the case has doors *e e*, normally covering the tally-board B, but which are to be opened when reading the results of an election, and suitable locks may be provided therefor. Under the base *a* of the case is a pulley *f*, mounted on a horizontally-disposed shaft or axle situate near the center of and secured to the base, and near one side *b* is a similar pulley *g*, mounted on a vertically-disposed axle supported by the base, each axle having a suitable housing.

The face of the board A may be planned and marked to suit any requirements, and the mechanism is adapted accordingly with reference to the number of votes that may be cast and recorded thereby. Figs. 1 and 5 illustrate approximately the usual plans required.

At the face of the board A is a vertical line or bead 10, dividing the face into two sections, one of which is arranged for voting, for instance, a National and State ticket, with four or any desired number of parties in the field, and the other of which sections is arranged for a county and township ticket. The mechanism for both sections is connected, but the voting operations for each section are independent of the other. A suitable number of knobs C or keys are mounted at the front face of the keyboard A, projecting therefrom sufficiently to be grasped and rotated by the fingers of the operator. The knobs are arranged in rows both vertically and horizontally and spaced at uniform distances apart. At the right-hand side of each knob is a sight-aperture D, extending through the board, and at the left-hand side of each knob the title of an officer and the name of a candidate may be placed, preferably in a frame E, having a glass slide 26, which may cover a printed slip of paper and prevent meddling therewith. Above each vertical row of knobs the name and emblem, as at 27, of the party having candidates for office may be placed. Below the upper horizontal rows 14 and 18 of knobs is a line or bead 11, extending entirely across the face of the board A. It is designed that the knobs above the line 11 are to be manipulated when voting "straight" tickets, while those below the line, as rows 15, 16, 17, 19, and 21, are for "scratch" voting, except those in row 20 between the lines 12 and 13 at the right of the line 10, which are for straight voting for township officers.

At the inner side of the tally-board B a series of counters F are secured thereto, each operated by a suitable connection with a knob and arranged so that the reading thereof may be made through a sight-aperture 22 in the board B. Each knob C has a stem 23, suitably engaging a counter, and is journaled in a sleeve-box 24, secured to the board A, and a slight rotation of the knob causes the addition of a unit on the counter, the latter being adapted to prevent a reverse movement of the knob, as well as subtraction by the counter. An escapement-wheel G is attached to the stem 23 near the inner face of the board A and suitably held in place, as by a pin 25. Preferably the stem 23 is square in cross-section, while the wheel G has a square center hole 83, fitting thereto. Each wheel G is preferably stamped from sheet metal and has ten teeth, each having a working face 81 corresponding to radial lines from the center of the wheel and having sloping backs 82.

A series of rocking bolt-carriers H are mounted below each horizontal row of wheels G on axle-studs *h*, journaled in holes 28 and secured to the board A somewhat at one side of a vertical line drawn through the centers of the wheels G. Each carrier also participates in the function of locking the devices operating therewith. The carrier is substantially rectangular in cross-section and is of suitable length to afford leverage and a bearing and support for a sliding bolt I, retained thereon by suitable guides. The hole 28 is approximately at the center of the carrier, and the latter has a projecting lug *i* at one end thereof, adapted to engage a tooth of a wheel G below the carrier when the latter is tilted. Near the opposite end of the carrier is a pivot-hole 29, in which is a pivot-pin *j* or *k* and above which is a bolt-guide 30, having at the top thereof a lug 31.

Each bolt I is adapted to slide longitudinally upon the top of its carrier H and is approximately equal thereto in length or slightly longer, one end thereof being bifurcated or having jaw-blades. Near the middle of the bolt at its top is a lug 32, to which a coiled spring *l* is connected, the spring also being connected to the lug 31, so that the bolt I is normally retained against suitable stops in a position permitting its bifurcated end to project beyond the adjacent end of its carrier, in which the pivot-hole 29 is situate. A rigid stud *m* projects from one side of the bolt I, and a lug *n* projects above the bolt at the end opposite the bifurcated end thereof. Near the bifurcated end the bolt has a stem 33 rising from the top thereof, having a tablet J, on one face of which is an indicating character 34, which may suitably be the numeral "1." When mounted, the tablet covers a sight-aperture D, and when sliding with the bolt the character is brought in register with the aperture. In the bifurcated end of the bolt I is a pendent bar K, pivoted at one end by a pin 35 and preferably extending below the bottom of the carrier H when suspended and is adapted to be extended horizontally and be drawn partly upon the top of the carrier by the sliding bolt I, as shown in Fig. 35.

A series of bars L are connected operatively so as to be shifted in unison and are connected to the carriers H, whereby the latter are controlled. A bar L extends across the front of one end of each of the carriers that are situate in a vertical row and is connected

therewith by the pivot-pin *j*. With each series of bars L is a bar M or a connected pair M′ M², similarly situate relatively to the carriers in another vertical row and having eyes 36, engaged by eyebolts *k*, swiveled in the holes 29 in the carriers H, so that the bar is not only pivoted, but is also hinged to each carrier. The bar M may extend as a single member across all the carriers in a row, as when adapted for the section arranged for voting one straight ticket, as that to the left-hand side of the board A; but when adapted for voting straight at two or more places, as in the rows 18 and 20, the similar bar M′ has a joint at a suitable point, permitting the connected lower portion or bar M² to rock independently on its hinges. The upper end of the bar M has a journal or axle 39 and an arm 42, as has also the upper end of the bar M′ and the lower end of the bar M², the lower end of the bar M having the journal and may also have the arm, as shown. The jointed connection of the bars M′ and M² comprise an axle 40 and hook 84 as parts of one bar and an eye 41 as part of the other bar and engaging the axle and hook. Each bar has an arm *p* suitably situate with relation to another feature, to be hereinafter described. Each arm *p* extends as a lever beyond the edge of the bar having the eyes 36.

A horizontal bar 37 extends across the upper ends of all the vertical bars L and M and M′ and has ear-like housings 38, in which the axles 39 are mounted, the bars L being rigidly secured to the bar 37. A horizontal bar N is secured to the lower ends of the bars L and has housings for the lower ends of the rocking bars, so that the bars L, 37, and N together comprise a shifting frame in which the rocking bars are supported and which altogether control all the carriers H. The bars 37 and N have springs 43 connected therewith, engaging the arms 42 to retain the bars in positions in which their broader side faces shall be approximately at right angles to the inner face of the board A. A chain or links 44 is also attached to each arm 42, and when not in use may hang on hooks 45, but which may be employed in drawing the bar over into an oblique-angled position and also retaining the same by connecting the chain with a hook 46, attached to the bar 37. The bar N has a stem 47 extending to the base *a* and having a spring-seat 48, between which and the base a spring *q* is seated, the stem being connected by a cable *r* or a chain passing through an opening in the base and extending over the pulleys *f* and *g* to a point 49 at the bottom of the door-section 5, to which it is suitably connected, the door performing the function of a lever to draw the bar N and its frame down against the reverse action of the spring *q*. A pawl 50 is pivoted to the stem 47 and engages a ratchet-wheel 51, secured to a rotating shaft 52, which is mounted in a housing 53, secured to the inner side of the board A, and engages a counter F′, whereby the total number of votes cast may be read. This counter is in all respects like the counters F and is read through a sight-opening 22 in the board B.

A horizontally-sliding locking-bar O extends across each series of sliding bolts I, that are designed for use in voting straight party tickets, and a somewhat similar bar P extends across each series of bolts, that are designed for voting scratch or mixed tickets. The bars O and P are in the main identically formed, each having an offset clearance part 55 and also a series of slots 59, through which the studs *m* project, the studs having retaining-heads and sliding in the slots, whereby also the bars are supported. The bar O has a shoulder 54 in the offset part adapted to clear the side of a rocking bar M and M′ or M², and it also has a lug *s*, adapted to oppose the arm *p*. The bar P has a knee 56 in the offset part adapted to bear against the rocking bars and to cause them to lean over, so as to form a contact between the arm *p* and the lug *s*. When the bar M is in normal position and the lug *s* is brought into engagement with the arm *p*, the bar M is prevented from rocking. Each bar O and P has a series of studs Q projecting across the lower ends of the pendent bars K, but somewhat removed therefrom, so as to normally clear them, and one end of each bar O and P has a guide-rod 57, pivoted at one end thereof and extending through a guiding abutment 58, against which a spring *t* is seated, and normally forcing the sliding bar from the abutment, which is secured to the board A.

Above the upper horizontal row of wheels G are a series of pawls R pivotally mounted on studs 60, and which are connected to the bars L and M by pivots 61 and adapted to engage the wheels whereby the same may be locked against advance movements when disengaged with the lugs *n*.

The counters F or F′ each comprise a suitable case 62, having a base-plate 63, suitably connected, the case having a central hub 85, in which is a journaled bearing 86 and a series of rotating plates having numerals on the faces thereof and mounted in the case. The central plate 64 is disk-like in form, having a central hub 85, journaled in the bearing 86, and having a square hole 69, in which the stem 23 or 52 is inserted, whereby the plate is caused to rotate. The other plates, as 65 66 67 68, are formed as rings, each preferably having peripheral flanges 73, matching adjacent rings and assembled concentrically with the outer faces disposed in one plane, and the numerals 70 are arranged so as to be read horizontally across the faces of the plates at one side of the center of the center plate. As shown, the plates are designed to rotate in the direction indicated by the arrows. At the back of each plate is a series of lugs 71, at the base of which is a recess 72. Each circular plate except the outer one of a complete counter has a spring-catch S attached to the back part thereof and adapted to be pressed over in the path of the lugs on the

adjacent plate, as indicated in Fig. 52. The inner side of the case 62 is provided with a spring-tongue 74 for each plate, adapted to engage the lugs 71 and to enter the recesses 72, thus preventing reversing of the plate and also preventing the plate being dragged forward by the friction of an adjacent plate. Cam-like guides T are also attached to the inner side of the case, which are adapted to be engaged by the spring-catches S, so that the latter are pushed over to engage a lug at the proper time to cause a count of each vote, it being understood that the plate 64 shall rotate a unit at a time as the voting occurs until the "0" is about to be exposed at the sight-aperture 22, when the adjacent plate is caused to move one unit, and this in turn after making a complete cycle moves the next outer plate, and so on, as is generally understood.

In order to adapt the machine for voting for any given number of candidates to be selected individually and promiscuously from a greater number (usually non-partisan) of nominees, I provide the attachments illustrated in Figs 37 to 41, inclusive. A bar L in each series of fields of candidates is provided with a suitable number of guides 79, there being one above and one below each locking-bar P, except that it may not be necessary below the lower one of the series by reason of the pulleys 76 and 77 performing the desired function. These pulleys are mounted on the bar N. Each bar P also has a like guide 79 in vertical alinement with the others. Between the pulleys 76 and 77, but on a line somewhat below them, is a pulley u, mounted on a spring attached to the bar N. Pulleys 75 and 78 are mounted on the bar 37 above the rows of guides. A ribbon U (preferably of metal) is partially wound in a case V, secured to the bar 37, and the ribbon leads therefrom through a binding-head X, attached to the bar 37, and thence through all the guides 79 and over the pulleys 75, 76, 77, and 78 to an indicator-head W, adjustably secured to an indicator Y, having numerals v arranged on a suitable scale. When the ribbon is drawn taut, none of the knobs C may be rotated, neither may any of the bars P be moved longitudinally a sufficient distance to make a record. The scale on the indicator Y is so calculated that when the head W indicates "5," for instance, there shall be slack enough in the ribbon to permit five of the bars P to be moved, and consequently the same number of the knobs to be manipulated, and no more. In such voting the bars O are not brought into action and are locked by the tilted bars M′ M².

In practical use the machine may be set up substantially as shown in Figs. 2, 3, and 11, and the doors e being first closed and locked a voter may enter. The counters may be set so as to register zero, or their readings may be taken and recorded. When the doors 5 6 are pushed inwardly and the cable r is slack, the mechanism is not in proper arrangement for action, the vital parts being in the positions indicated in Fig. 23, the knobs and their connections being locked. After a voter enters the booth the doors are locked in the positions indicated in Fig. 3, the tightening of the cable r causing the stem 47 and the connected frame to be drawn down a proper distance to disengage the pawls R and lugs i from the escapement-wheels and allowing the bars O and P and the carriers H to remain in horizontal positions with the lugs n engaging the wheels G, the voter or operator facing the keyboard A, and the mechanism being in proper positions for operation. Now suppose that the left section, properly labeled for four parties, is to be operated and that it is desired to vote a straight ticket for one party. One of the knobs C or stems 23 in the row 14 is turned to the right, the wheel G pressing against a lug n and sliding the bolt I, causing the pendent bar K to be drawn up and onto the carrier H, while the locking-bar O is drawn by the stud m along with the bolt I until the studs Q are brought into contact with the remaining bars K in the row, thus locking all other stems and counters representing the office voted for. Therefore but one straight ticket may be voted. To prevent further voting, the bar O in its movement brings the lug s into contact with the arm p, thus preventing the tilting of the bar M, without which none of the bars P can be operated. Suppose that instead of voting straight it is desired to vote a mixed or "scratched" ticket. Then the stems controlling the bars O must not be manipulated; but any of those controlling the bars P may be used, limited, however, as above explained, to but one stem in each horizontal row, which of course represents the office to be filled, while each knob or stem to which it may be attached represents a party's candidate for such office, as illustrated in Fig. 4. When the first scratch-vote is made, a knee 56 bears against and throws the bar M (or M′) over, as indicated in Fig. 20, which brings the curved end of the arm p against the lug s, as shown in Fig. 21, thus preventing a movement of the bars O, while each remaining bar P may be operated. As each knob is turned a tablet J is shifted, exposing its indicating character and proving that a vote has been cast, while the vote is added to those already showing on the counters F. The voting having been concluded, the doors 5 6 are opened inwardly, releasing the tension on the cable r, which permits the spring q to push up the skeleton framework of shifting bars, which tilt all the carriers H, as indicated in Fig. 23, and locking all the wheels G, while also releasing the lugs n from the wheels G and permitting the springs l to draw the bolts I back to their resting positions, while the springs t force the bars O and P back to their resting or normal positions. In its movement the stem 47 causes the wheel 51 to rotate, and thereby a count to be made on the counter F′. In voting for a limited number selected from a greater number of nominees (as for a

board of directors) the bars M M′ and M² are tilted and retained thus by the chains 44 and hooks 46, thus locking the bars O, and the knobs for the bars P are labeled accordingly. Then any of the knobs controlling the bars P may be manipulated, but only one knob in each horizontal row of a series, until the limit is reached, governed by the amount of slack in the tape U, which has been previously adjusted, the pulley *u* taking up the loose tape until it is drawn taut by the movement of the bars P which is illustrated in Fig. 37, in which the upper bar P has been operated. The mechanical movements and functions will be understood from the foregoing description of the details of construction.

It will thus be seen that every provision is made for a secret reliable ballot, and it will be apparent that no nice adjustment of parts is required, and therefore no liability to derangement.

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

1. A voting-machine provided with a toothed escapement-wheel rotatably mounted, a sliding bolt having a lug engaging a tooth of the wheel, and a carrier whereby the lug may be disengaged from one tooth and engaged with an adjacent tooth of the wheel.

2. A voting-machine provided with a toothed escapement-wheel rotatably mounted, a knob whereby the escapement-wheel may be rotated, movable stops for the escapement-wheel, means whereby the movable stops may be controlled and operated, and a counter operated by the knob.

3. A voting-machine provided with a pivoted carrier, and a sliding bolt mounted on the carrier having a depending bar pivoted thereto and having a lug projecting therefrom.

4. A voting-machine provided with a rotating knob having a stem attached thereto, a toothed wheel attached to the stem, a sliding bolt drawn by the toothed wheel, and an indicator attached to the sliding bolt and operating at a sight-aperture.

5. A voting-machine provided with a pivoted carrier disposed horizontally, a bolt slidingly mounted upon the carrier, a vertical bar pivoted to the carrier, a rotatably-mounted toothed wheel engaging the bolt operatively, and means whereby the bolt may be locked to prevent rotation of the wheel.

6. A voting-machine provided with a series of pivoted carriers, a sliding bolt mounted on each carrier, a series of knobs having each a rotatably-mounted stem, a toothed wheel on each stem and engaging a sliding bolt, a bar pivoted to a series of pivoted carriers, a rocking bar pivoted and hinged to another series of the pivoted carriers and having an arm thereon, a series of sliding bars carried and operated by the rocking bolts and having each a lug adapted to oppose and also adapted to be opposed by the arms of the rocking bars, and a spring for the rocking bar.

7. A voting-machine provided with a series of pivoted carriers having each a sliding bolt mounted thereon, means for operating the bolts slidingly, indicators operated by the sliding bolts, a frame controlling the pivoted carriers and comprising a series of bars pivoted to numbers of the carriers and a rocking bar journaled in the frame and connected to other numbers of the carriers, restraining-springs for the sliding bolts, means for locking the sliding bolts whereby operation of the indicators is prevented, and means whereby the frame may be controlled.

8. A voting-machine including a series of sliding bolts, means for operating the sliding bolts, carriers for the sliding bolts, a frame connected to the carriers, sliding bars whereby the bolts may be locked, a ribbon guided by the frame and engaged operatively by the sliding bars whereby the operation of a limited number of sliding bars may be determined, and a gage for the ribbon.

9. A voting-machine including a case, a keyboard, a tally-board, knobs at the front of the keyboard having each a stem extending through the space between the keyboard and the tally-board, counters operated by the stems, toothed escapement-wheels attached to the stems, pivoted carriers mounted on the keyboard, sliding bolts mounted on the carriers and operated by the escapement-wheels and having each a pendent bar pivoted thereto and having also a stud projecting therefrom, sliding locking-bars extending across series of the sliding bolts longitudinally therewith and having slots engaged by the studs on such bolts whereby any one of the sliding bolts may move a sliding bar, studs or lugs attached to the sliding bars adapted to engage the pendent bars whereby the sliding bolts and the knobs may be locked, a skeleton frame connected to all the pivoted carriers and controlling their movements, and means for operating the frame.

10. A voting-machine including a knob having a stem rotatably mounted, a toothed wheel secured to the stem, a counter operated by the stem, a sliding bolt so engaging the toothed wheel as to stop the same without disengagement therewith, a stop for the sliding bolt, and means whereby the sliding bolt may be disengaged from one tooth and engaged with an adjacent tooth of such toothed wheel.

11. A voting-machine including a rotatably-mounted toothed wheel, a sliding bolt having a lug normally inserted between two teeth of such wheel, a sliding bar adapted to be moved by the sliding bolt and also adapted to lock the sliding bolt against movement thereof, and means whereby the sliding bolt is prevented from moving while being locked.

12. A voting-machine including a case, a keyboard and a tally-board inclosed within the case, counters and operating mechanism

therefor, locking mechanism for the operating mechanism, a frame connected to the locking mechanism, a spring operating upon the frame whereby the operating mechanism is held and locked in inoperative positions, and means whereby the frame may be shifted and release the locking and operating mechanism.

13. A voting-machine including a keyboard, a series of rotating keys mounted on the keyboard, a label-frame at each key, a sight-aperture at each key, an indicator behind the keyboard at each sight-aperture, a stem for each key, an escapement-wheel on each stem, and a sliding bolt operated by the escapement-wheel and controlling the indicator.

14. A voting-machine including a keyboard divided into vertical sections, mechanism for each section divided into horizontally-disposed sections and comprising rotating keys and stems, escapement-wheels on the stems, counters operated by the stems, pivoted carriers, a frame controlling the carriers, sliding bolts on the carriers engaging the escapement-wheels, an indicator carried by each sliding bolt, a sliding bar whereby the operation of one sliding bolt in a section shall lock all other sliding bolts and rotating keys in such horizontal section, and means whereby the operation of one sliding bar shall lock other sliding bars against operation thereof.

15. A voting-machine including a rotatably-mounted toothed escapement-wheel, means for rotating the escapement-wheel, a sliding bolt operatively engaging a tooth of the escapement-wheel, a counter operatively connected with the escapement-wheel, a sliding bar adapted to be moved by the sliding bolt and also adapted to lock the sliding bolt against movement thereof, a pivoted carrier for the sliding bolt, stops for the sliding bolt, stops for the sliding bar, means whereby the sliding bar may be normally held against one of the stops therefor, and means whereby the sliding bolt may be shifted from one tooth to another tooth of the escapement-wheel.

16. A voting-machine including toothed escapement-wheels rotatably mounted, means for rotating the escapement-wheels separately, a sliding bolt for each escapement-wheel and operatively engaging a tooth thereof whereby the movement of the wheel may be limited, a counter for each escapement-wheel and operatively connected therewith, stops automatically locking the counters and the escapement-wheels against backward movement thereof, pivoted carriers supporting the sliding bolts, a frame connecting all the pivoted carriers whereby the sliding bolts may be disengaged from the teeth of the escapement-wheels and again engaged with other teeth thereof, sliding bars adapted to be moved by the sliding bolts and also adapted to lock other sliding bolts, and means whereby the frame may be controlled.

17. In a voting-machine, the combination with the keyboard, of the axial studs secured to the keyboard, carriers pivotally mounted on the studs and each consisting of a bar provided with guides at the top thereof and a projecting lug at one end thereof and having the centrally-disposed journal-bearing engaging one of such studs, a pivot-pin at the end of the carrier opposite the lug, bolts slidingly mounted in the guides upon such carriers and each consisting of a bar having an upturned lug at one end thereof and a bar pivoted to the opposite end thereof and normally hanging over the end of the carrier having the pivot-pin, an escapement-wheel operating to slide such bolt and draw such pivoted depending bar upon the carrier, and a locking-bar adapted to operate against such depending bars whereby such sliding bolts and such connecting escapement-wheels may be locked.

18. In a voting-machine, the combination with the keyboard, of pivoted carriers mounted on the board, sliding bolts mounted on the carriers, rotating toothed wheels engaging the sliding bolts operatively and secured each to a rotating stem or shaft, counters connected with the stems, bars included in a frame and pivoted to a series of the carriers, rocking bars also included in the frame and pivoted to other series of the carriers, pendent bars pivoted to the sliding bolts, arms attached to the rocking bars, sliding locking-bars adapted to engage the pendent bars and having lugs adapted to oppose and be opposed by the arms on the rocking bars, and pivoted pawls connected operatively with the bars included in the frame and adapted to lock such toothed wheels.

19. In a voting-machine, the combination with the keyboard, of pivoted carriers, a frame comprising bars pivoted to carriers and end coupling-bars and jointed rocking bars journaled in the end coupling-bars and pivoted also to other carriers and provided with extending arms, sliding bolts on the carriers, toothed wheels engaging the sliding bolts, locking-bars controlled by the sliding bolts and also adapted to lock the sliding bolts whereby the toothed wheels are locked and having lugs or studs adapted to engage the extending arms, and means whereby the frame may be operated and controlled.

20. In a voting-machine, the combination of the case, the keyboard, the tally-board, the knobs, the stems, the escapement-wheels, the counters, the pivoted carriers, the sliding bolts having the lug and the pendent bar, the indicators carried by the sliding bolts, the restraining-springs for the sliding bolts, the sight-apertures in the keyboard and in the tally-board, the frame connected to the pivoted carriers and including the rocking bars having the extending arms, the sliding locking-bars having the lugs or studs adapted to engage with the extending arms and having also the studs adapted to bear against and restrain the pendent bars, the springs at the

ends of the locking-bars, the spring acting upon the frame, the cable connected to the frame, and the folding door connected to the cable, substantially as set forth.

21. In a voting-machine, the combination with the locking-bars and the shifting frame, of the ribbon whereby the locking-bars are stopped, the guides for the ribbon, and the gage for the ribbon, substantially as set forth.

22. In a voting-machine, the combination of a case, a keyboard, a tally-board, a series of counters, rotatably-mounted keys operatively connected with the counters and provided each with an escapement-wheel, sliding bolts engaging the escapement-wheels and adapted to be moved thereby to permit the counters to register, stops whereby each movement of an escapement-wheel shall limit the movement of a counter, stops for preventing reverse movements of the counters, rocking carriers supporting the sliding bolts whereby the bolts may be disengaged from the escapement-wheels after a partial rotation thereof and be permitted to shift to new positions to again engage such wheels at different points, locks whereby the counters may be prevented from advance movements while such sliding bolts are being shifted, indicators operatively connected with such keys, a frame connected to all the rocking carriers whereby they may be controlled and operated so as to permit movement of such sliding bolts, means whereby such sliding bolts may be automatically shifted when released from such escapement-wheels to their normal positions for reëngagement with such wheels, stops for such sliding bolts, means whereby such frame may be held in a position whereby such sliding bolts shall be disengaged from such escapement-wheels, a counter operated by such frame, and means whereby such frame may be shifted to cause such sliding bolts to engage such escapement-wheels, substantially as set forth.

23. In a voting-machine, the combination of a case, a keyboard, a tally-board, a series of counters, knobs or keys for operating the counters, escapement-wheels operated by the knobs, sliding bolts operating with the escapement-wheels, pivoted carriers supporting the sliding bolts, a frame connected to the pivoted carriers, a spring acting against the frame, a door hinged to the case, a cable attached to the frame and to the door, and pulleys for the cable, substantially as set forth.

24. In a voting-machine, the combination of a case, a keyboard, knobs or keys rotatably mounted in the keyboard, labels for the keys, counters for the keys and operated thereby, indicators for the keys and operated thereby, escapement-wheels operated by the keys, sliding bolts operating with the escapement-wheels, carriers whereby the sliding bolts may be engaged and disengaged with the escapement-wheels, a frame connected to all the carriers, means acting upon the frame so as to normally prevent engagement of the sliding bolts with the escapement-wheels, and means whereby the frame may be forcibly shifted so as to cause the sliding bolts to engage the escapement-wheels and maintain such engagement while such counters are being operated, substantially as set forth.

25. In a voting-machine, the combination of a case, a keyboard having sight-apertures, a tally-board having sight-apertures, counters operating at the sight-apertures in the tally-board, knobs or keys rotatively mounted in the keyboard, label-frames on the keyboard, indicators operated by the keys at the sight-apertures in the keyboard, means whereby the rotation of the keys may be limited to predetermined distances of travel, locks for the keys whereby reverse movements thereof shall be prevented, a frame operatively acting to prevent rotation of the keys and whereby the keys may be released and permitted to operate the counters, and a counter operated by the frame, substantially as set forth.

26. In a voting-machine, the combination of of a case, a keyboard, a tally-board, counters connected with the tally-board, keys rotatively mounted in the keyboard and having each a stem connected with a counter, escapement-wheels attached to the stems, bolts engaging the escapement-wheels and limiting the movement thereof, locks adapted to secure the keys after having been rotated, locks whereby the operation of one escapement-wheel shall lock a predetermined number of other escapement-wheels, and means whereby the bolts may be disengaged from the escapement-wheels and again placed in engagement therewith at differing points of contact, substantially as set forth.

27. In a voting-machine, the combination of a case, a keyboard, a tally-board, a series of counters provided each with a knob or key rotatably mounted in the keyboard, a series of toothed escapement-wheels each operatively connected with a counter, a series of pivoted carriers each provided with means whereby the teeth of the escapement-wheels may be successively engaged as the wheels are intermittently rotated, a frame connected to all the pivoted carriers, means for controlling the carriers so that the escapement-wheels may be engaged by the means employed therefor, and locks whereby the operation of one escapement-wheel shall prevent the operation of other escapement-wheels, substantially as set forth.

28. In a voting-machine, the combination with a rotating counter, of a rotating stem or shaft operatively connected to the counter, frictional stops whereby the counter shall be prevented from accidentally operating, stops whereby the counter shall be prevented from operating backward, a toothed escapement-wheel mounted so as to rotate in unison with

the counter, means whereby the stem may be rotated manually, a pivoted carrier, a sliding bolt supported by the carrier and operating in connection with the escapement-wheel, stops for the bolt, a spring connected to the carrier and also to the bolt, and an indicator controlled by the stem and operating simultaneously with the counter, substantially as set forth.

29. In a voting-machine, the combination with a series of counters, of a series of knobs or keys rotatably mounted and having operative connections with the counters, toothed escapement-wheels, a series of pivoted carriers, a series of sliding bolts on the carriers provided each with a pendent bar pivoted at one end thereof and normally hanging over an end of the carrier, locking-bars extending longitudinally with a series of the carriers and adapted to be shifted by either of the sliding bolts in the series, and lugs or arms attached to the locking-bars and adapted to engage the pendent bars and retain them against the ends of the carriers whereby operation of the counters connected with such bolts having the locked bars shall be prevented, substantially as set forth.

30. In a voting-machine, the combination of a case, a keyboard, a tally-board, counters mounted on the tally-board and comprising each a series of concentric rings and a central disk having a projecting hub, a rotating stem for each counter and connected therewith and extending through the keyboard, a knob or key attached to each stem, an escapement-wheel for each stem or knob, a lug operating with each escapement-wheel, a carrier and controller for each lug, a frame connected to all the carriers and controllers, a locking-bar for a series of lugs adapted to be operated by the action of any one lug of a series whereby the remaining lugs of the same series shall be locked, a door acting as a lever, and a cable connected to the frame and also to the door or lever, substantially as set forth.

31. In a voting-machine, the combination of a pivoted carrier, a bolt slidingly mounted on the carrier, a bar attached to the bolt whereby the same may be locked, a rotatably-mounted toothed wheel engaging the bolt operatively, a stop for the bolt whereby the movement of the wheel shall be limited, and a counter operatively connected with the toothed wheel.

32. In a voting-machine, the combination of a case, a keyboard, a tally-board, counters mounted on the tally-board, knobs or keys mounted on the keyboard and operatively connected with the counters, escapement-wheels operated by the knobs or keys, lugs operating with the escapement-wheels, carriers for the lugs, locking-bars for the lugs, and means whereby the operation of a predetermined number of locking-bars shall cause the remaining locking-bars to be locked.

33. In a voting-machine, the combination with the counters, of the keys operatively connected with the counters, the escapement-wheels, the lugs operating with the escapement-wheels whereby movement of the counters shall be limited, carriers for the lugs, a frame connected to all the carriers, locking-bars sliding across the frame and operated by movement of the lugs and also adapted to prevent movement of the lugs and also of the escapement-wheels, guides attached to the frame, guides attached to the locking-bars, and a ribbon or its equivalent anchored to the frame and extending through the guides and adjustably secured so as to provide more or less slack therein whereby the operation of a limited predetermined number of the locking-bars may be permitted and the remaining locking-bars be locked.

34. In a voting-machine, the combination of the case, the keyboard, the tally-board, the counters, the keys, the escapement-wheels, the sliding bolts, the pivoted carriers, the indicators, the frame connected to the carriers, the doors inclosing the tally-board, the doors covering the keyboard, the cable connected to said frame and also to one of said doors, and the guide-pulleys for the cable, substantially as set forth.

35. In a voting-machine, the combination of a keyboard, a tally-board, counters mounted on the tally-board, rotative stems mounted in the keyboard and connected with the counters, escapement-wheels operated by the rotative stems, means whereby portions of the escapement-wheels may be intermittently engaged, indicators controlled by the stems, and means whereby the stems may be actuated.

36. In a voting-machine, a plurality of series of ballot-counters, each series independently interlocked, in combination with a series of movable parts, one for each series of interlocking devices and coöperating therewith and actuated in unison with any one of the counters in the series therewith, a flexible ribbon so mounted as to provide a variable length between its supports and connected with said movable parts so that a predetermined number of said movable parts may be permitted to operate and the remainder be locked, whereby the number of counters operated in a given number of series collectively may be limited.

37. In a voting-machine, the combination of a plurality of series or rows of counters, independent interlocking devices for the counters of each series including movable bars each actuated in unison with any one of the counters in the series with said bar, a series of independent stops for the movable bars whereby the number of counters operated in a series or row may be limited, and a flexible ribbon slidingly mounted in fixed guides and slidingly connected with said movable bars and so anchored at the ends thereof that a predetermined number of said bars may be operated and the remainder thereof

be locked together with corresponding numbers of the counters in a given number of series or rows collectively.

38. In a voting-machine, a plurality of series of ballot-indicators, each series independently interlocked, in combination with a series of movable parts, one for each series of interlocking devices and coöperating therewith, a flexible chain controlling said movable parts, whereby the number of ballot-indicators operated by the voter in a given number of series collectively may be limited.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES M. WRIGHT.

Witnesses:

ALFRED ELLISON,

M. V. HUNT.