

S. R. SHOUP.
VOTING MACHINE.

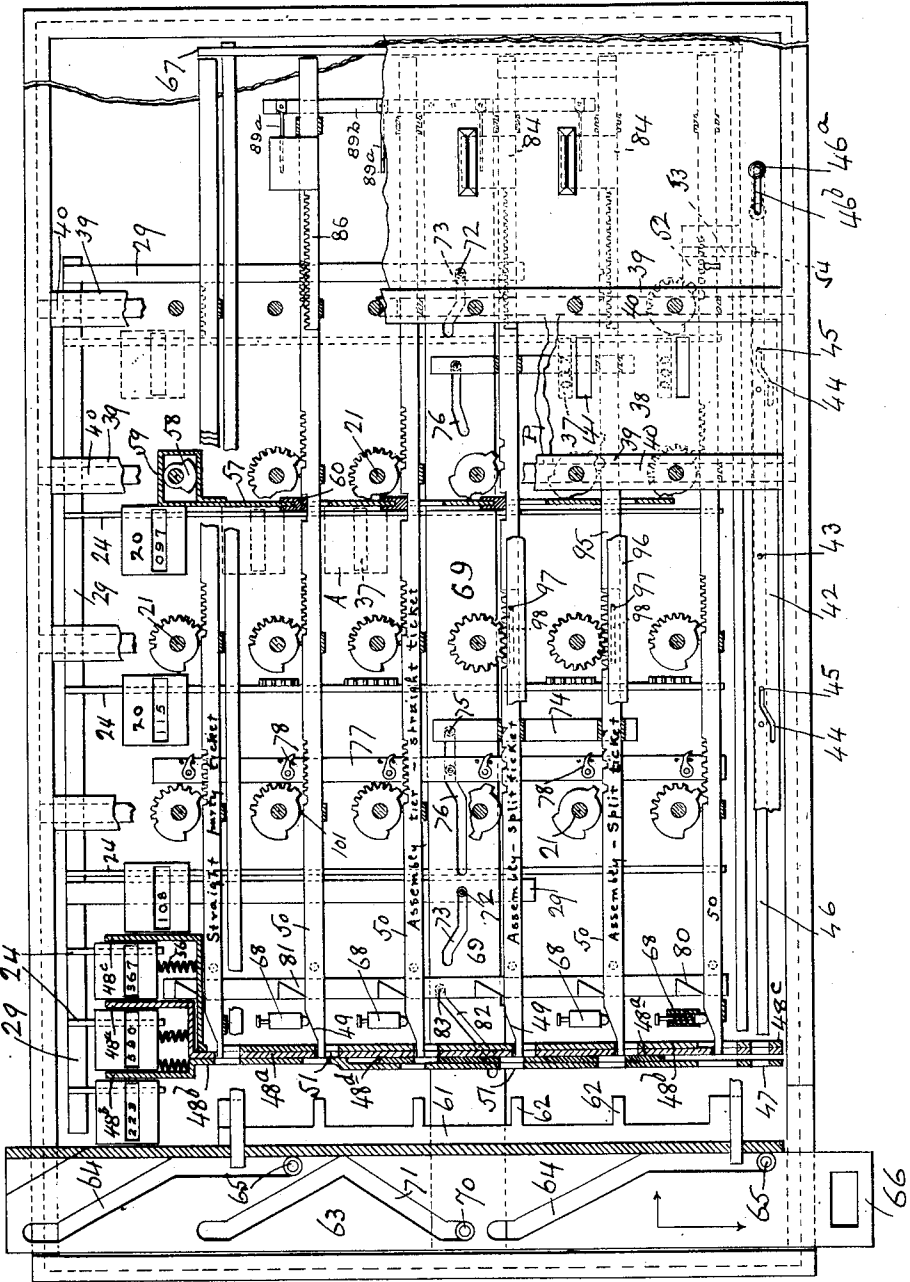
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1,084,585.

4 SHEETS—SHEET 1.

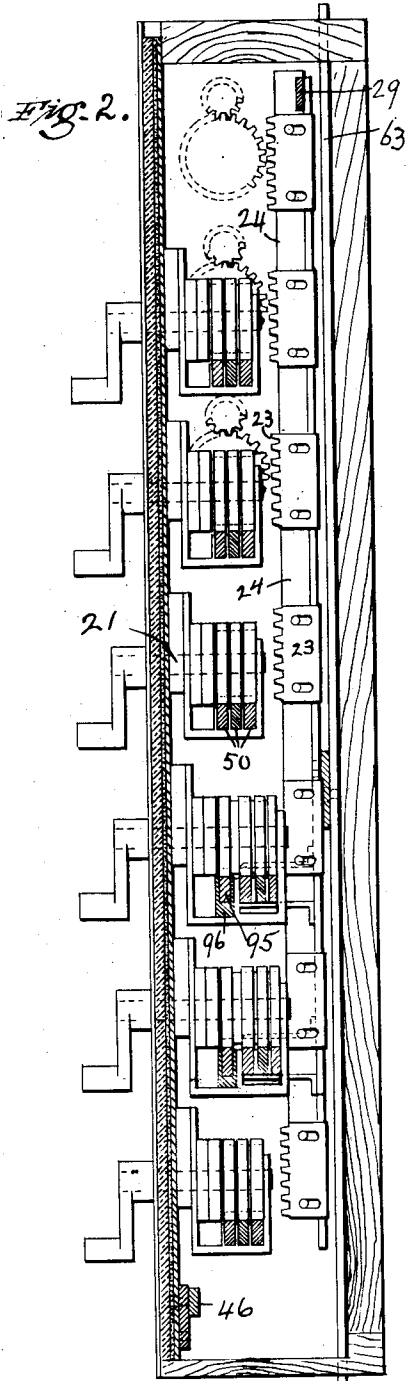
FIG. 1.



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FIG. 3.

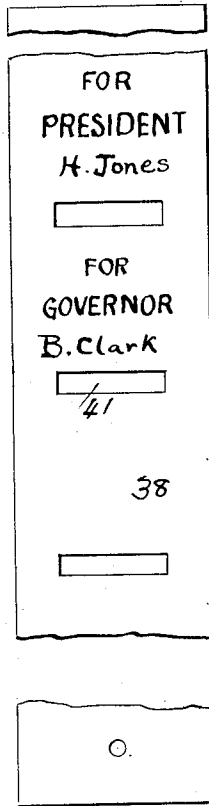


FIG. 4. FIG. 5.

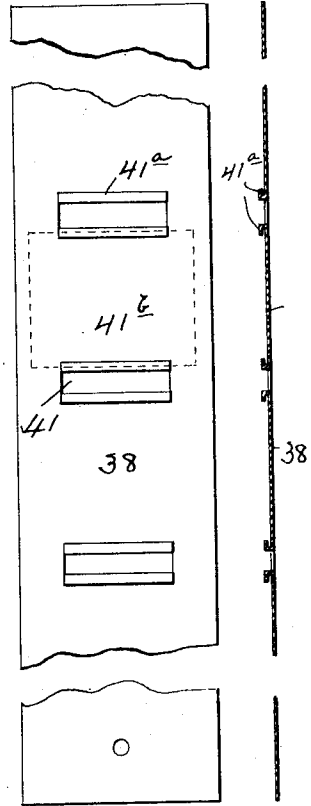


FIG. 19

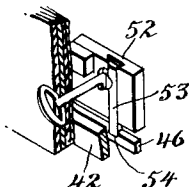
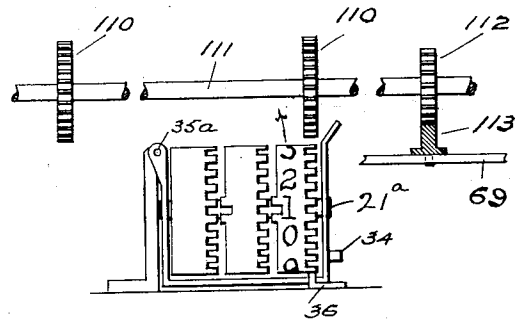


FIG. 20.

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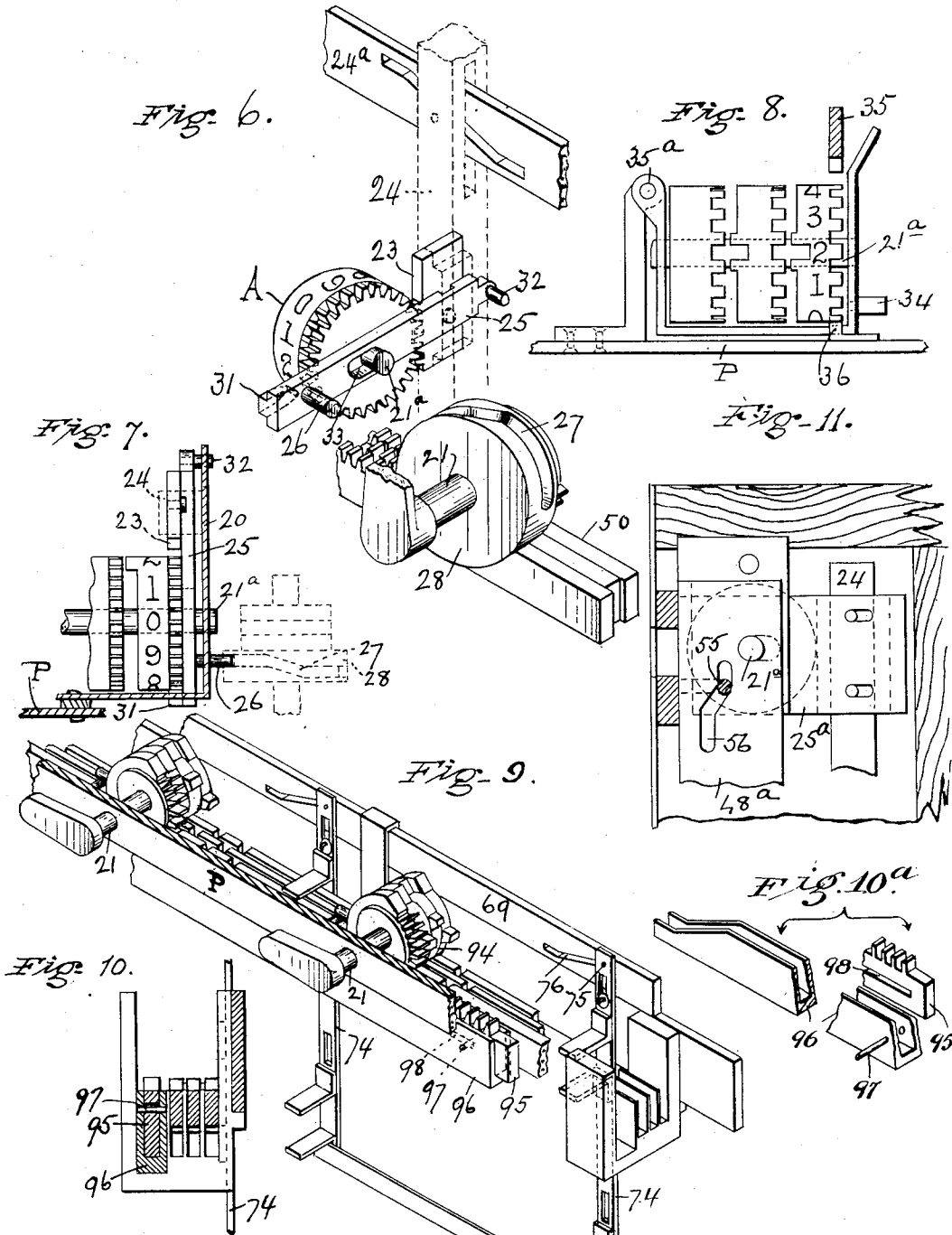
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4 SHEETS—SHEET 3.



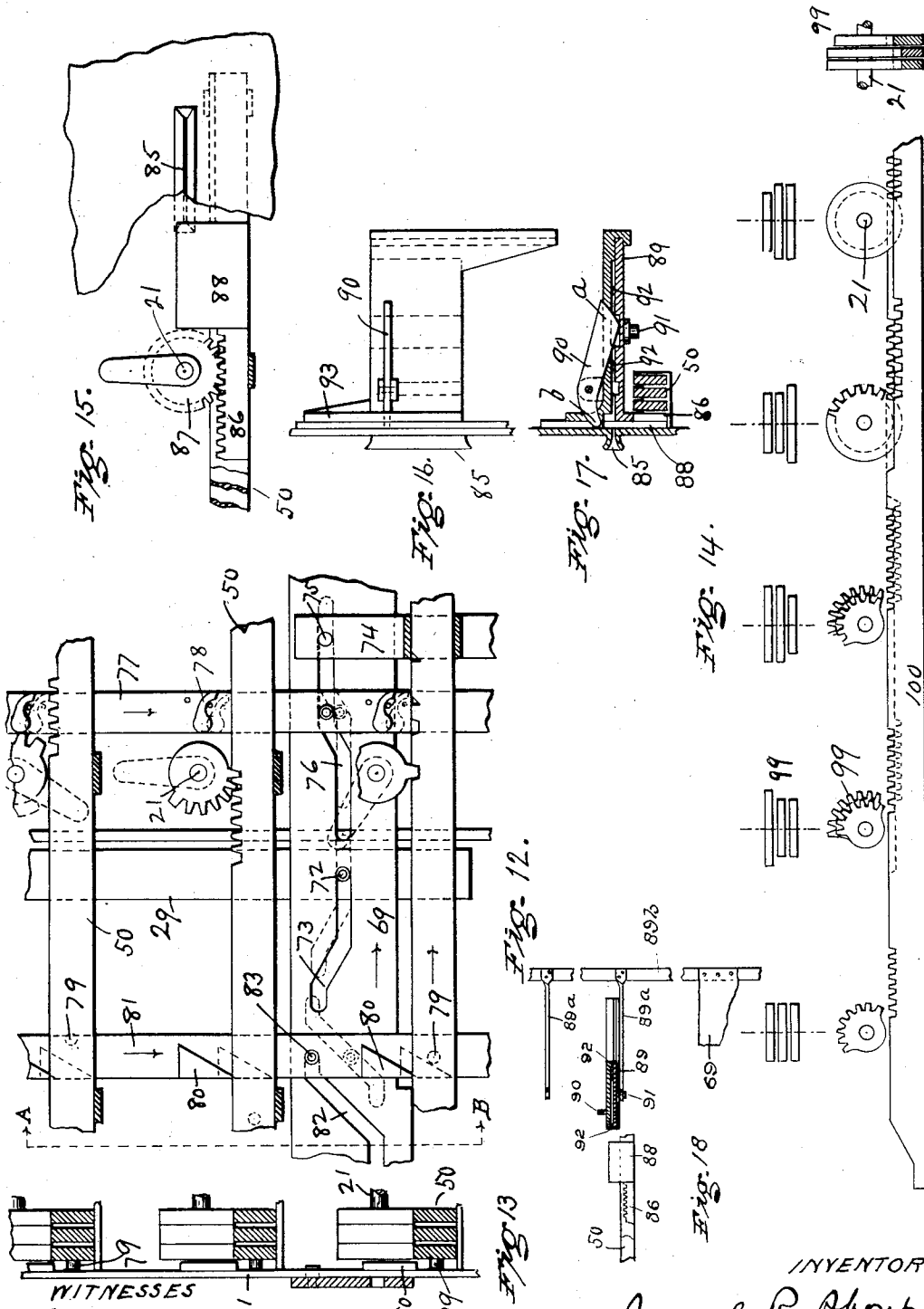
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VOTING-MACHINE.

1,084,585.

Specification of Letters Patent.

Patented Jan. 13, 1914.

Application filed September 29, 1908. Serial No. 455,317.

To all whom it may concern:

Be it known that I, SAMUEL R. SHOUP, a citizen of the United States of America, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Voting-Machines, of which the following is a specification.

My invention relates to voting machines, and particularly of the type described in my Patents Nos. 852,911, 853,127 and 932,915.

The object of my present invention is to perfect the machines there described by modifying and improving somewhat the construction there shown.

In the accompanying drawings in which my improvements are illustrated, Figure 1 is an elevation partly broken away and partly in section of a diagrammatic machine in which my improvements are embodied; Fig. 2 is a cross section of a machine showing a vertical rack bar; Fig. 2^a is a broken perspective showing the arrangement of the key lock 52; Figs. 3 and 4 are front elevations of different forms of ticket slide; Fig. 5 is a cross section of Fig. 4; Fig. 6 is a perspective of a portion of the machine showing my new arrangement of the numbering head and its related parts, some of the latter being placed out of position for the sake of clarity; Fig. 7 is a plan view of the same with the parts assembled; Fig. 8 is a plan of a modified arrangement of the registering head; Fig. 9 is a perspective of a modified arrangement of the interlocking bars in the two or more vote tiers; Fig. 10 is a cross section showing the arrangement of the interlocking bars; Fig. 10^a is a broken perspective with parts detached showing the manner of assembling the section rack 95 in the U-bar 96; Fig. 11 is a section showing means for operating the registering head for the total vote count; Fig. 12 is a broken elevation showing a new safety device; Fig. 13 is a section on the line A—B, Fig. 12; Fig. 14 is an elevation showing a new interlocking method; Fig. 15 is a broken elevation showing the independent ballot device; Fig. 16 is a plan view of the details thereof; Fig. 17 is a cross section showing further features; Fig. 18 is a broken vertical section illustrating the connection of the slide to the operating rod; and Fig. 19 is a broken plan of a modified arrangement for actuating a numbering head.

In order to make my machine more com-

compact and lighter as well as to increase its efficiency in other respects, I now propose to mount the registering heads A parallel to the face of the machine instead of on the voting spindle or parallel thereto as in my earlier machine. To this end the frame 20, carrying the registering head, see Figs. 1, 6 and 7, is mounted on the front plate P between adjacent columns of voting spindles 21 so that the spindle 21^a, on which the counting wheels rotate, lies in a horizontal plane parallel to the front plate. To actuate the unit wheel, I arrange the section racks 23 on vertical bars 24, by means of a pin and slot connection and move the same into or out of gear with the unit wheel by means of a carrier bar 25, Fig. 7, which is provided at its front end with a pin 26, adapted to engage in a cam slot 27, in the periphery of the disk 28 mounted upon the voting spindle. The rotation of the voting spindle moves the bar 25 backward or forward and thus moves the section rack into or out of gear with the teeth on the unit wheel. The vertical bar 24 may be given a vertical reciprocating movement by a pin and slot connection with a horizontally reciprocating bar 24^a actuated by the resetting mechanism of the machine hereafter described. If the section rack 23 has been moved into engagement with the unit wheel by the rotation of the voting spindle, the upward movement of the vertical bar 24 will lift the section rack and thus rotate the unit wheel of the counting head. The section rack is moved out of engagement before the descending movement of the bar 24, by the return of the voting spindle to its original position through the resetting mechanism hereafter described. Instead of horizontally reciprocating the bar 24^a, I prefer to employ a frame 29 (Fig. 1) to which the several vertical bars 24, for each column of registering heads is attached and which itself received motion from a single horizontally reciprocating bar 69. The mechanism of the machine is thereby materially simplified.

In order to lock the registering head against possible tampering or accidental rotation, a tooth 31, Fig. 6, is formed on the bar 25 and moves into engagement with the gear on the registering head as the section rack is withdrawn. The bar 25 may be guided in its horizontal reciprocating movement by a pin 32 working in a slot in the frame 20

which carries the registering head and also by the spindle 21^a which passes through the slot 33 in the bar.

In the present arrangement it is quite as
 5 convenient to swing the registering head
 into gear with the vertical rack as to move
 the rack into engagement with the unit
 wheel of the registering head. This modifi-
 10 cation is shown in Fig. 8. The frame of
 the registering head is provided with a pin
 34 which engages the cam slot 27 in the disk
 28, and the entire frame is thereby swung
 backward and forward upon the hinge 35^a
 15 as the voting spindle is rotated. With this
 arrangement, it is not necessary to use inde-
 pendent section racks carried by a vertical
 bar, but the bar 35, which corresponds to
 the vertical bar 24, in the construction above
 20 described, has teeth formed thereon adapted
 to mesh with the teeth of the unit wheel.
 The locking tooth 36 may be affixed to the
 front plate of the machine adapted to en-
 gage with the teeth of the unit wheel as the
 latter is moved out of engagement with the
 25 rack bar 35. The registering heads may be
 actuated equally well by pinions 110 (Fig.
 19) on horizontal spindles 111 the latter be-
 ing rotated through pinions 112 engaged by
 a vertical rack 113 vertically reciprocated
 30 by a pin and slot connection with the bar 69
 in the same manner as frame 29.

The arrangement of the registering head,
 parallel to the face of the machine, makes it
 possible to count the vote polled for each
 35 candidate after the poll is closed without
 opening the machine. This is accomplished
 by cutting a series of slots 37, Fig. 1, in the
 front plate of the machine so as to render
 visible the row of numerals indicating the
 40 total count of each registering head. These
 slots are covered while the poll is opened
 for voting, by a series of movable sheets 38,
 Figs. 3, 4 and 5 held beneath flanges 39 on
 the ribs 40 which divide the faces of the ma-
 45 chine into party columns. The sheets 38 are
 provided with slots 41 corresponding to the
 slots in the front plate and are vertically re-
 ciprocated by the movement of the bar 42 to
 which said sheets may be secured by means
 50 of pins 43. The bar 42 is provided with
 cam slots 44 in which pins 45, carried by the
 lock bar 46, engage. A button 46^a at one
 end of the bar 46 projects through slot 46^b
 in the front plate of the machine and affords
 55 means for horizontally reciprocating the bar
 46. It will be readily understood that the
 movement of the bar 46 lifts or lowers the
 bar 42, by the travel of the pin 45 through
 the cam slot 44 and the sheets 38 are thus
 60 raised or lowered so that the slot 41 registers
 with the slot 37, thus disclosing the count of
 the registering head or is lowered so that the
 slot 37 is covered.

Sheet 38 is shown in Figs. 1 and 3 as a
 65 strip of card-board from which the slots 41

are punched and which are printed with
 office and candidates' names for the guidance
 of the voter. In Figs. 4 and 5 a modified
 form of sheet is illustrated comprising a
 70 strip of thin metal in which the holes 41 are
 formed by cutting the metal and turning it
 back to form flanges 41^a adapted to receive
 a series of cards 41^b on which may be print-
 ed the offices and candidates' names.

The bar 46 has been denominated the lock
 75 bar by reason of its further function where-
 by it serves to lock the interior machine
 against actuation. This is accomplished
 through its engagement by means of the
 slots 47 in the vertical bars 48 *a, b, c*. The
 80 latter, as will be seen from Fig. 1, are ar-
 ranged in front of the cam faced ends 49 of
 the interlocking bars 50. To actuate the lat-
 ter they must pass through the slots 51 in
 the vertical bars 48 *a, b, c*, and in so doing
 85 must lift the same. Consequently if the bar
 46 is passed through the slots 47 and the
 bars 48 are thus restrained from the vertical
 movement, it is impossible to actuate any of
 the voting spindles, since the interlocking
 90 bars which are engaged by gears on the vot-
 ing spindles and have a horizontal reciprocating
 movement, as explained in my prior
 patents above mentioned, are held immov-
 95 able. A common lock 52 may be arranged
 in connection with the bar 46 so as to throw
 its bolt 53 into engagement with notches 54,
 in the bar 46, when the latter is either in or
 out of engagement with the vertical bars 48.

The vertical bars 48 afford a convenient
 100 means of securing the tally of total votes
 cast, total split tickets, total straight tickets,
 etc. For instance, in order to register the
 total number of votes cast, the slots in the
 vertical bar 48^a are so arranged that one or
 105 more of the interlocking bars in each tier
 must engage the upper edge of said slot and
 lift the bar. At the upper end of the bar is
 arranged a registering head similar to those
 used throughout the machine and provided
 110 with a rack bar and carrier substantially
 similar to that shown in Figs. 1, 2, 6, 7 and
 11. The carrier 25^a (see Fig. 11) is provided
 with a pin 55 which works in a cam slot 56
 115 in the upper end of the bar 48^a and thus
 serves to move the rack into engagement
 with the unit wheel of the registering head
 as the vertical bar 48^a is lifted by the inter-
 locking bar 50. The vertical bar 24 is actu-
 120 ated from the frame 29 in precisely the same
 way and at the same time it actuates the
 bars 24 throughout the machine.

The total number of straight ticket votes
 cast is registered by the vertical bar 48^b, the
 slots in which are so arranged as to permit
 125 the passage therethrough of the interlocking
 bars 50 in all the tiers except that one in-
 tended to record the straight ticket votes.
 The slot opposite the interlocking bars for
 this tier, however, are so arranged that the
 130

cam face of the interlocking bar impinges against the upper edge of the slot and lifts the bar 48^b. A counting mechanism similar to that just described in connection with the total vote tally, is also arranged for this bar. The bar 48^b affords not only means for the straight vote tally, but also serves as means to lock the machine against split votes after a voter has already voted the straight ticket, since the arrangement of slots is such that the interlocking bars on the tiers of the split ticket cannot be advanced when the bar 48^b has once lifted.

The total split ticket tally may be obtained through the third vertical bar 48^c which is arranged to permit the interlocking bars for the straight ticket vote to pass through the same without affecting it, while none of the split ticket interlocking bars can be moved forward without lifting the same as clearly shown in Fig. 1. In case of a split ticket, the voter may nevertheless wish to vote a straight group of candidates for particular office, as for instance, candidates for assembly. In such case an additional tier of racks must be inserted as indicated for the straight assembly vote. To lock the machine against a split assembly vote, after a straight assembly ticket has been voted, a supplemental vertical bar 48^a is arranged adjacent the split ticket vertical bar 48^c, and the slots therein are so arranged that the supplemental bar is lifted by the interlocking bars for the straight assembly tier, thus blocking the interlocking bars for a split assembly ticket, while on the other hand, straight assembly bars are locked by the passage of the split assembly bars through the slots in bar 48^a which cannot then be raised.

In connection with the vertical bars 48 *a*, *b*, *c*, I may, if desired, provide springs 56 to assist in returning the bars to their original position, although they will under ordinary circumstances be of sufficient weight to return by gravity.

In some cases an entire ticket is not nominated by a party and consequently the locking of the voting mechanism for all offices by the lifting of the vertical bar 48^b, upon the vote of the straight ticket spindle for the deficient ticket, deprives the voter of his right to vote for candidates on other tickets for the particular offices for which no candidate has been nominated on the straight ticket which he has voted. To avoid this difficulty, I provide in cases of this sort, a different locking mechanism shown in Fig. 1. This comprises a vertical bar 57 through the various tiers pass, the latter being notched at this point so that upon the downward movement of the bar 57 the same are engaged thereby. The vertical bar 57 is actuated by means of a cam 58 on the voting spindle for the deficient straight ticket, said

cam working in a box 59 formed at the upper end of the bar 57. When the straight ticket is voted, the bar is lowered by the rotation of the cam so that the upper edges of the slot therein engage the notches in the interlocking bars of all candidates nominated on the deficient ticket, while in the case of the interlocking bars for offices for which no nominations have been made on this ticket, the slots on the vertical bar 57 are made of such length that its vertical movement does not bring the upper edge of the slot into engagement with the notches in the interlocking bar. This is preferably accomplished by making the slots in the bars 57 all of a size and attaching filling pieces or riders 60 to the upper edge of the slot to close the same where desired, to such an extent that they engage the notches in the interlocking bars when the vertical bar 57 is lowered. The voter is thus at liberty to vote for candidates of any other party who may have been nominated for offices left vacant in the straight ticket which he has just voted, since the interlocking bars for such offices are not opposed either by the vertical bar 57 or by the straight ticket bar 48^b.

If the total straight ticket tally bar 48^b be actuated say by but one of the three interlocking bars in the straight ticket tier, for instance, the foremost, the interlocking system may still be preserved by utilizing for the deficient ticket only the remaining two of the interlocking bars and omitting the gear on the voting spindle which would engage the front interlocking bar. The movement of the two rear interlocking bars would be sufficient to actuate the total vote bar 48^a and the vote of the deficient straight ticket would thus be counted even were the voter to omit his vote for the offices for which no nominations are made on the deficient ticket.

The arrangements above described demand a new resetting mechanism and for which I have provided a return bar 61 having arms 62, adapted to engage the ends of the interlocking bars which have been moved forward by the actuation of the voting spindles and push the same back. This return bar is mounted in sliding engagement with the resetting plate 63 which is provided with cam slots 64 in which work roller pins 65 carried by the frame of the machine. The resetting plate 63 may be actuated by any suitable means, as for example, manual operation by the handle 66, moves the same toward the interlocking bars through the action of the stationary pins 65 on the cam slots 64. The return bar 61 which has a horizontal movement only is carried forward thereby and pushes the interlocking bars back into approximately their original position, the latter being trued beneath the gear on the

voting spindles by the action of the re-
truing bar 67 described in my previous pat-
ents. Spring pins 68, working against the
cam faces of the interlocking bars, may as-
5 sist in the precise location of the same be-
neath the gears on the voting spindle.

The resetting plate effects the registering
of the vote by a preliminary movement im-
parted to the cam bar 69, through pin 70
10 thereon, working in a cam slot 71 in the re-
setting plate. It will be noted from the
length and angles of the cam slot 71 that
the bar 69 completes its lateral movement,
before the resetting plate and the return
15 bar begin their horizontal travel under the
influence of the pins 65, working in the
slots 64, and therefore effects its function
before the interlocking bars have begun
their return movement. During the lateral
20 movement of the resetting plate, the pin 70
travels through the second half of the cam
slot 71 unaffected, since the slot follows
exactly the angle of the slot 64 by which
the plate 63 is given its lateral movement.
25 Similarly upon the return movement of
the resetting plate 63, the cam bar 69 is
stationary until the resetting plate 63 has
retraced its lateral movement and the pin 70
has started on its way again through the
30 first half of the slot 71.

The cam bar 69 is utilized for several pur-
poses, one of the most important of which
is the actuation of the registering mecha-
nism. This comprises, as has been pre-
35 viously explained, vertical gears (either
sectional racks 23 or rack bars 35) engaging
the unit wheels of the registering head.
These are lifted and lowered with the frame
29 to which they are attached and to which
40 movement is imparted by pins 72 thereon
engaging in cam slots 73 in the cam bar.
The horizontal movement of the latter on
the outward stroke of the resetting plate
lifts the frame 29 and with it the various
45 racks so that those of the latter which are
in engagement with the unit wheels on
the registering heads rotate the latter to
the extent of one numeral. As the reset-
ting plate continues its downward stroke,
50 the interlocking bars are pushed in by the
return bar 61, and through their engage-
ment with the gears on the voting spindles
rotate the latter back to their original po-
sition and in doing so break the engagement
55 between the vertical racks and unit wheels
through the operation of the cam 27, so
that on the subsequent downward movement
of the former, the unit wheels are not affect-
ed, being at the time out of gear therewith.
60 The cam bar 69 is also utilized to lower
the interlocking bars out of engagement
with the gears on the voting spindle of the
two or more vote tiers (fourth and fifth
from the top, Fig. 1, see also Fig. 9). The
65 frame 74 is substantially similar to that

shown in my Patent 932,915 and carries
pins 75 working in cam slots 76 in the bar
69, and is thus lowered on the outward
stroke of the cam bar before the interlock-
ing bars have started their return move- 70
ment.

The same slot 76, which serves to actuate
one of the pins 75, may be utilized to actuate
the safety bar 77, Fig. 1, which carries de-
75 tents 78 normally held out of engagement
with the interlocking bars, but adapted when
lowered to engage the same and prevent
tampering with the machine during the re-
setting operation. The shape of the detents
is such that they do not interfere with the
80 return movement of the interlocking bars,
while on the other hand they oppose the
forward movement which might be given
the same for the purpose of securing an
illegitimate vote during the resetting opera- 85
tion.

To avoid the possibility of jamming the
machine, in case the voter fails to turn a
voting spindle a sufficient distance to prop-
erly set the machine for voting, as illus- 90
trated by the third rack in Fig. 12, I pro-
vide one of the interlocking bars, preferably
the innermost of the three, with an inwardly
projecting pin 79 adapted, when the inter-
locking bar has not been moved its full dis- 95
tance, to be engaged by a cam lug 80 on a
vertically reciprocating bar 81 which takes
its movement from a cam slot 82, in the
cam bar 69, through a pin 83 working there-
in. As will be noted from the location and 100
angle of the slot 82, the bar 81 is actuated
at the outset of the resetting movement and
through cams 80, such interlocking bars as
have not been moved into the proper po-
sition to establish correct relation between 105
the various gears are moved back to the un-
voted position. It will of course be readily
understood that the motion imparted to the
innermost interlocking bar is transmitted
through the pinions on the voting spindle 110
which are in gear therewith to the other in-
terlocking bars and to the registering mecha-
nism controlled by the rotation of the vot-
ing spindle. All imperfect connections are
thus completely broken before any strain 115
is put upon the gears by the movement of
the frame 29 or the return bar 61.

I propose further to provide means for
voting by ballot independent candidates
whose names do not appear upon regular 120
tickets and I utilize the cam bar 69 also in
connection with the ballot box mechanism.
I arrange (see Figs. 1, 15, 16 and 17) a
column of ballot boxes 84, the openings 85
to which are controlled by the movement of 125
a voting spindle for each office that is to be
voted. The interlocking mechanism pro-
vided for the other spindles is extended also
to the spindles in this column. In front of
the interlocking bars I arrange a supple- 130

mental sliding rack 86 engaged by a supplemental pinion 87 on the voting spindle. The door 88 carried by the supplemental rack 86 closes the slot 85 which is of just sufficient width and height to admit a single ballot. Upon the actuation of the voting spindle the door 88 moves from in front of the slot 85 and a ballot may be inserted. To prevent the stuffing of the ballot box, I arrange in the top of the box a slide 89 which receives the ballot as it is shoved in through the slot and is subsequently moved from beneath it by means of a link 89^a engaging the lug 91 on the slide and carried by a vertical bar 89^b which is fast to the cam bar 69 of the resetting mechanism. As the cam bar moves across the machine in its horizontal travel, it carries the slide 89 with it and the ballot, retained by lugs 92 on each side of the top of the box, remains stationary until it finally tips off the side of the slide and drops into the lower part of the box. An extension 93 on the slide forms a secondary door which closes the slot as the slide moves across the box and thus prevents the insertion of additional ballots. Both slide 89 and rack 86 are eventually returned to position by the resetting mechanism.

To prevent the return of the ballot box spindle after a ballot has been inserted, thus permitting the voter to vote a listed candidate for the same office, I arrange in the top of the box a pawl 90, the end *a* of which is engaged by the entering ballot tipping the end *b* forward into position to oppose the side of the door 88 on its return so long as the ballot is inserted, therefore, the ballot box spindle cannot be returned. As soon as the ballot has dropped into the box, the pawl 90 automatically resumes its original position and the door 88 is free to travel during the resetting operation.

It will be readily understood that the extension of the interlocking bar system to the spindles for the ballot boxes prevents the actuation of the latter in case a nominated candidate has already been voted in one of the party columns. It is to be noted also that the connection of the ballot box spindles with the interlocking bars insures the actuation of the total vote registering mechanism so that in case a voter decides to vote but a single office and votes for that office a candidate whose name does not appear on any of the party tickets, his vote would be counted in the total vote tally since he could not insert a ballot until the voting spindle for the office for which said candidate is voted has been actuated and the interlocking bars controlled thereby move forward into engagement with the bar 48^a.

In my present machine I have simplified the mechanism in the two or more vote tiers for securing the return of the voting spindles through their engagement with the gear

bars as described in my Patent 932,915. Instead of arranging a separate bar for each spindle in addition to the three main interlocking bars which I use to secure the interlocking combination, I now propose to mount beneath the supplemental pinion 94, on each spindle, a section rack 95, sliding in a U-bar 96, and attached thereto by a pin 97 passing through a slot 98, in the section rack. The U-bar is formed with an end adapted to pass through the slots in the vertical bars 48 *a, b, c*, and to be engaged by the arms 62 on the return bar 61. It will be readily understood that upon the rotation of the voting spindle not only the section rack is moved forward but also the U-bar 96, since the pin 97 is engaged by the section rack. The resetting movement returns the U-bar and such section racks as have been moved forward by the actuation of the voting spindle. It is thus obvious that by replacing the gear bars of my former construction, by a single bar engaged with lost motion by each of the voting spindles 21 through the racks 95, I accomplish the same results with a much lighter and simplified arrangement, at the same time retaining also the essential interlocking system through the regular interlocking bars 50, so that but a single spindle in a tier can be actuated.

While the interlocking bars of the style described in my previous patent may be used in connection with my improved machine, I have found that an equally efficient interlocking system may be secured by making the pinions 99 on the voting spindle of different diameters, Fig. 14. The interlocking bars 100 which gear therewith are stepped (as indicated at 100^a, Fig. 14) to correspond with the diameter of the pinions employed. By a suitable arrangement of the pinions on the various spindles, the interlocking bars are made to move at varying speeds which differ with each spindle. In each case the interlocking bar, which is in gear with the larger pinion, moves at a greater speed than the interlocking bar which is in gear with the smaller pinion. It is thus impossible to move the bars when engaged by two sets of pinions. With this arrangement it is unnecessary to have the gear teeth of different sizes.

I have found it advantageous to place a lug 101 on the interlocking bars which will engage the pinions on the voting spindle during the resetting operation and assure the breaking of the gear connection between the pinion and the interlocking bar.

The constructions shown may be varied in detail without departing from my invention and I do not limit myself to the precise details shown.

I claim as my invention:

1. A voting machine having a voting spindle for each candidate, a gear actuated

counting head for each candidate having its axis substantially parallel to the face of the machine, a gear for each counting head and normally out of engagement therewith for actuating the same, cam means actuated by each voting spindle for bringing its respective counting head and actuating gear into engagement and means for simultaneously moving with relation to each other, in all parts of the machine said parts thus operatively engaged so as to actuate the respective counting heads.

2. A voting machine having a voting spindle for each candidate, a gear actuated counting head for each candidate having its axis substantially parallel to the face of the machine, a vertical gear for each counting head and normally out of engagement therewith for actuating the same, means actuated by each voting spindle for bringing said gear into engagement with its respective counting head, and means for simultaneously moving with relation to each other in all parts of the machine, said parts thus operatively engaged to secure the actuation of said connecting heads.

3. A voting machine having a gear-actuated counting head for each candidate, having its axis substantially parallel to the face of the machine, a gear normally out of engagement with said counting head for actuating the same, a cam on the voting spindle adapted to effect a movement substantially parallel to the axis of said spindle for bringing said counting head and actuating gear into engagement and means for simultaneously moving with relation to each other in all parts of the machine said parts thus operatively engaged to actuate the counting head.

4. In a voting machine, a voting spindle for each candidate, a pivoted registering head for each spindle, said registering head having its axis substantially parallel to the face of the machine, a gear for actuating said registering head, means in connection with the actuation of each voting spindle to bring its registering head into engagement with its cooperating gear, and means in connection with the resetting mechanism of the machine for actuating said gear, in combination with an apertured casing inclosing said registering heads, the apertures in the casing being aligned with the count on said registering heads, for the purpose described.

5. In a voting machine, tiers of voting spindles, visible registering heads adapted to be actuated thereby, tiers of interlocking bars engaged by said voting spindles, a bar arranged transversely of and adapted to be actuated by said interlocking bars upon the operation of any of said voting spindles, movable cover sheets adapted to obscure the registering heads during voting and means to shift said cover sheet and simultaneously

engage said transverse bar whereby said registering heads are rendered visible and the machine simultaneously locked against further voting, substantially as described.

6. In a voting machine, tiers of voting spindles provided with pinions, series of interlocking bars provided with gear adapted to be engaged by said pinions, a slotted vertical bar actuated upon the actuation of any of the voting spindles and means in connection with said vertical bar for locking the machine against voting, together with registering mechanism adapted to be set in motion by the movement of said vertical bars.

7. In a voting machine, a registering mechanism, voting spindles and means in connection with the actuation of any of said voting spindles for operating said registering mechanism, and means in connection with said registering mechanism for locking all of said spindles against actuation, substantially as described.

8. A voting machine having voting spindles and interlocking bars actuated by the actuation of said spindles, in combination with a straight ticket vote registering head and means in connection with said bars for actuating the same to count the total straight ticket vote.

9. A voting machine having voting spindles and interlocking bars actuated by the actuation of said spindles, in combination with means in connection with said bars for counting the total split ticket vote.

10. In a voting machine, tiers of voting spindles provided with gears and corresponding tiers of interlocking bars adapted to be actuated through said gear, in combination with a transverse locking bar adapted to engage certain of said tiers of interlocking bars and means in connection with only one of said voting spindles for moving said transverse locking bar into engagement with said tiers upon the actuation of said spindle and means simultaneously actuated by said spindle for setting in motion a registering mechanism, substantially as described.

11. In a voting machine, tiers of voting spindles provided with gear, corresponding tiers of interlocking bars adapted to be actuated through said gear, in combination with a transverse locking bar adapted to engage certain of said tiers of interlocking bars and a cam on one of the voting spindles adapted to actuate said locking bar, and means simultaneously actuated by said spindle for setting in motion a registering mechanism, substantially as described.

12. In a voting machine having tiers of interlocking bars adapted to be engaged by gear on the voting spindles, a transverse locking bar adapted to be actuated by one of the spindles and provided with cuts through which said tiers of interlocking bars may

- freely pass and filler pieces adapted to be attached to the edges of said cuts whereby the same may be narrowed and said bar be thereby brought into engagement with the interlocking bars upon the actuation of the spindle controlling said transverse bar, and means simultaneously actuated by said spindle for setting in motion a registering mechanism, substantially as described.
- 10 13. In a voting machine, a tier of voting spindles, a series of interlocking bars extending longitudinally of said tier of voting spindles and provided with rack teeth at each spindle, in combination with a corresponding series of segmental pinions of different diameters arranged on each of said voting spindles and adapted to mesh with the rack teeth on said interlocking bars when the latter are in reset position whereby said bars are shifted at different speeds on the rotation of any one voting spindle, the arrangement of said segmental pinions varying on the several voting spindles of the tier, for the purpose specified.
- 20 14. In a voting machine, a voting spindle provided with gear, interlocking bars adapted to be engaged thereby, a slidable member and section racks supported thereby beneath each spindle, a supplemental pinion on each spindle to engage said section rack and means in connection with the resetting mechanism for moving said interlocking bars out of engagement with the gear on the spindle and means for returning said movable member and section racks while the latter are engaged by the supplemental pinions whereby the voting spindles are returned to their original position through said section racks.
- 30 15. In a voting machine, a voting spindle provided with gear and interlocking bars adapted to be engaged thereby, a section rack having limited motion with relation to its carrier and a slidable carrier therefor, a supplemental pinion on said voting spindle to engage said section rack and means in connection with the resetting mechanism of the machine for returning said spindle to position through its engagement with said section rack.
- 40 16. In a voting machine, a voting spindle provided with gear, and interlocking bars adapted to be engaged thereby, a section rack, a supplemental pinion on said spindle adapted to engage said rack, a U-bar carrying said section rack and a pin and slot connection between the same, in combination with means in connection with the resetting mechanism of the machine for returning said spindle to position through its engagement with said section rack.
- 50 17. In a voting machine, a series of interlocking bars, a voting spindle provided with a gear adapted to engage said interlocking bars, in combination with pawls adapted to engage said interlocking bars and means for bringing said pawls into engagement with said interlocking bars on the actuation of the resetting mechanism, substantially as described.
- 60 18. In a voting machine, a series of gear-actuated registering heads arranged vertically above each other, vertical racks normally out of but adapted to be brought into engagement with the gear of the unit wheel thereof by the actuation of their respective voting spindles, and means in connection with the resetting mechanism of the machine for actuating said racks to effect the register of the vote, substantially as described.
- 70 19. In a voting machine, a series of gear-actuated registering heads arranged vertically above each other, vertical racks normally out of but adapted to be brought into engagement with the unit wheel thereof by the actuation of their respective voting spindles, and means in connection with the resetting mechanism of the machine for moving said racks in one direction to effect the register of the vote while in engagement with said unit wheel together with means to move said racks out of engagement with said unit wheel before the return movement of the rack, substantially as described.
- 80 20. In a voting machine, a voting spindle, a system of interlocking bars, gears on the voting spindle adapted to engage the same, means for returning said interlocking bars through said engagement upon the resetting of the machine, and lugs on said interlocking bars to insure the breaking of the engagement between said interlocking bars and gear upon the voting spindles.
- 85 21. In a voting machine, a voting spindle, a system of interlocking bars, gears on the voting spindle adapted to engage and move the same, in combination with means in connection with the resetting mechanism for returning such interlocking bars as have been but partially actuated by the voting spindle, before the vote is registered, substantially as described.
- 90 22. In a voting machine, a series of gear actuated registering heads adapted to be arranged vertically above each other, gearing adapted to engage the unit wheels thereof, a vertically reciprocating member adapted to actuate said gearing and means in connection with the resetting mechanism of the machine for operating said vertically reciprocating member to effect the registry of the vote, substantially as described.
- 95 23. In a voting machine, a voting spindle provided with gears, interlocking bars adapted to be engaged thereby, a slidable member adjacent said spindle, engaging means arranged between said slidable member and voting spindle, resetting mechanism and means in connection therewith for moving said interlocking bars out of engage-
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ment with the gear on the spindle and means for moving said slidable member while engaged with said voting spindle to return the latter to original position.

5 24. In a voting machine, a system of interlocking bars, gears on the voting spindle adapted to engage and move the same in combination with resetting mechanism and means in connection therewith for returning
10 such interlocking bars as have been but partially actuated by the rotary spindle, before the fully actuated bars are moved, together with means for registering the vote cast.

15 25. In a voting machine, tiers of voting spindles, corresponding tiers of interlocking bars operated thereby, a cross plate lying in the path of said interlocking bar and normally displaced by the movement thereof, a supplemental bar to engage said plate and
20 hold the same against displacement whereby the voting spindles are restrained against operation and a key lock controlling said independent bar.

26. In a voting machine, tiers of voting spindles, and for each spindle a counting head on an axis substantially parallel with the face of the machine, tiers of interlocking bars adapted to be engaged and displaced thereby on the actuation of the voting spindle, a gear for each counting head normally out of engagement therewith for actuating said counting head, means operated by each voting spindle for bringing its respective actuating gear and counting head into operative engagement and means simultaneously operative throughout the machine for moving said interengaged parts to actuate the operatively engaged connecting heads.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

SAMUEL R. SHOUP.

Witnesses:

WALTER ABBE,
WILLIAM ABBE.