

(No Model.)

4 Sheets—Sheet 1.

T. G. FERGUSON.
VOTE REGISTER.

No. 542,881.

Patented July 16, 1895.

FIG. 1.

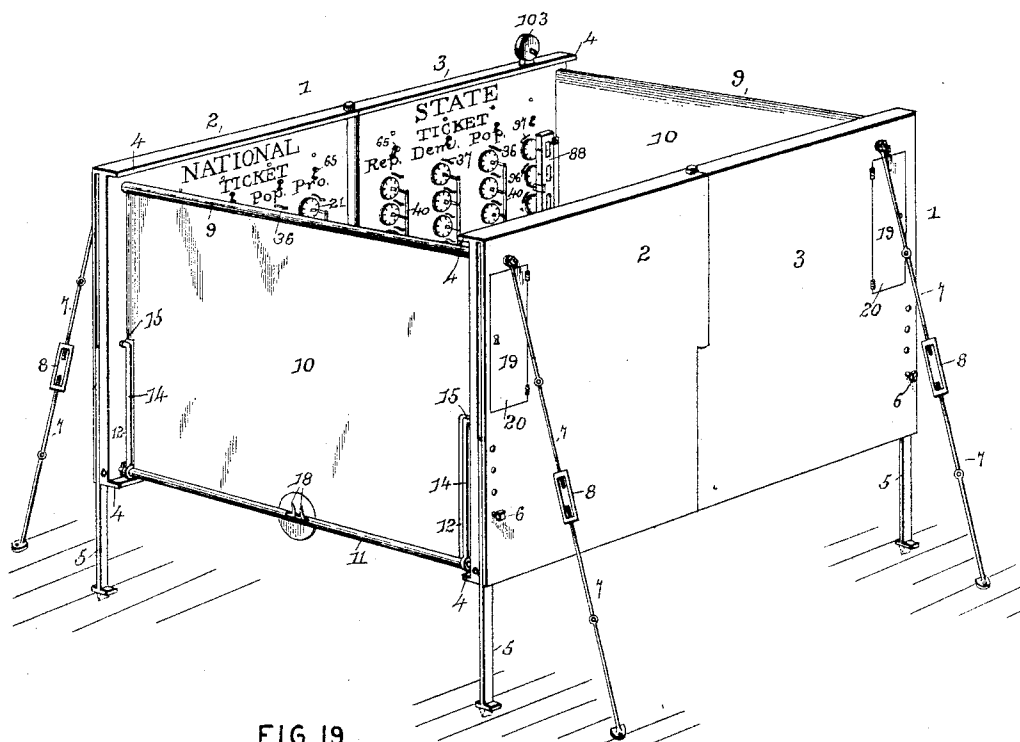


FIG. 19.

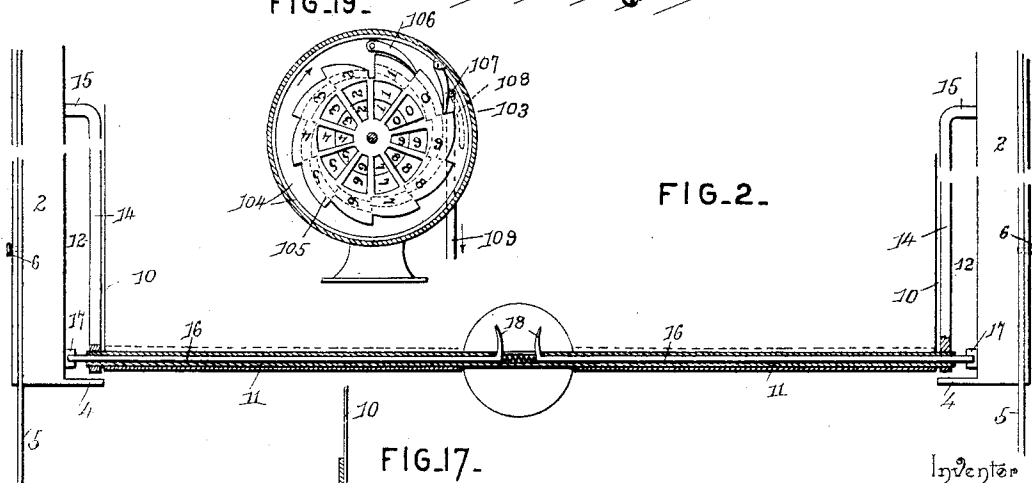


FIG. 2.

FIG. 17.

Witnesses

Jas. H. McLaughlin
[Signature]

By his Attorneys.

Thomas G. Ferguson

[Signature]

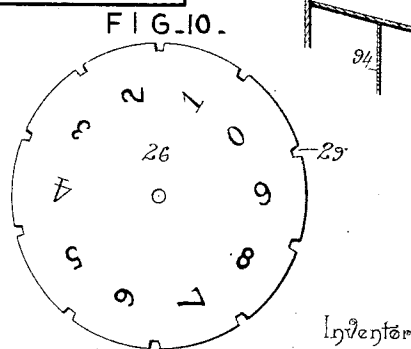
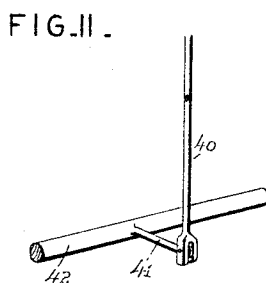
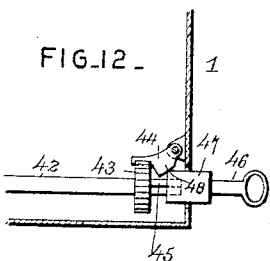
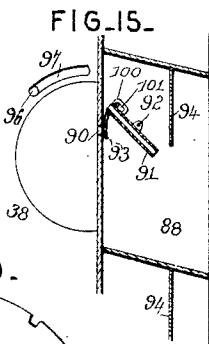
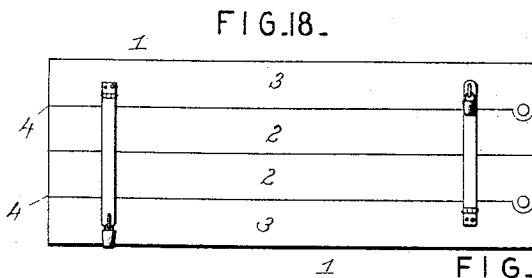
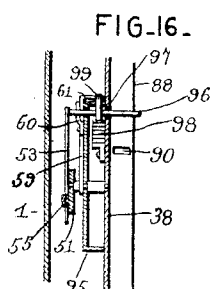
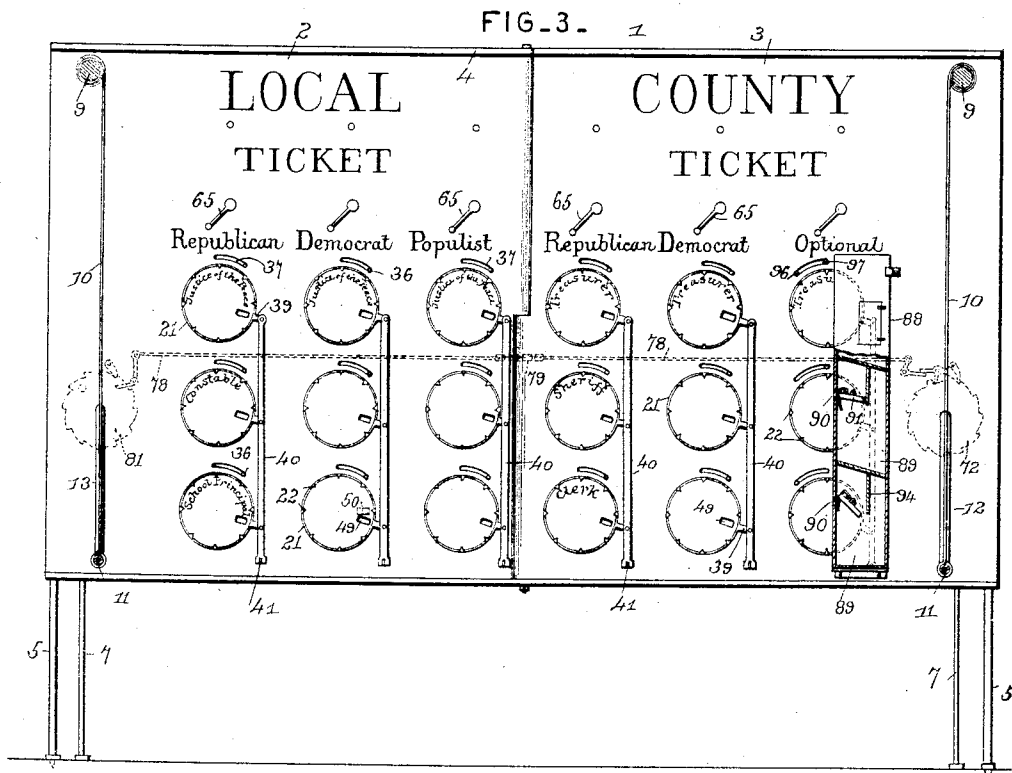
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4 Sheets—Sheet 2.

T. G. FERGUSON.
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No. 542,881.

Patented July 16. 1895.



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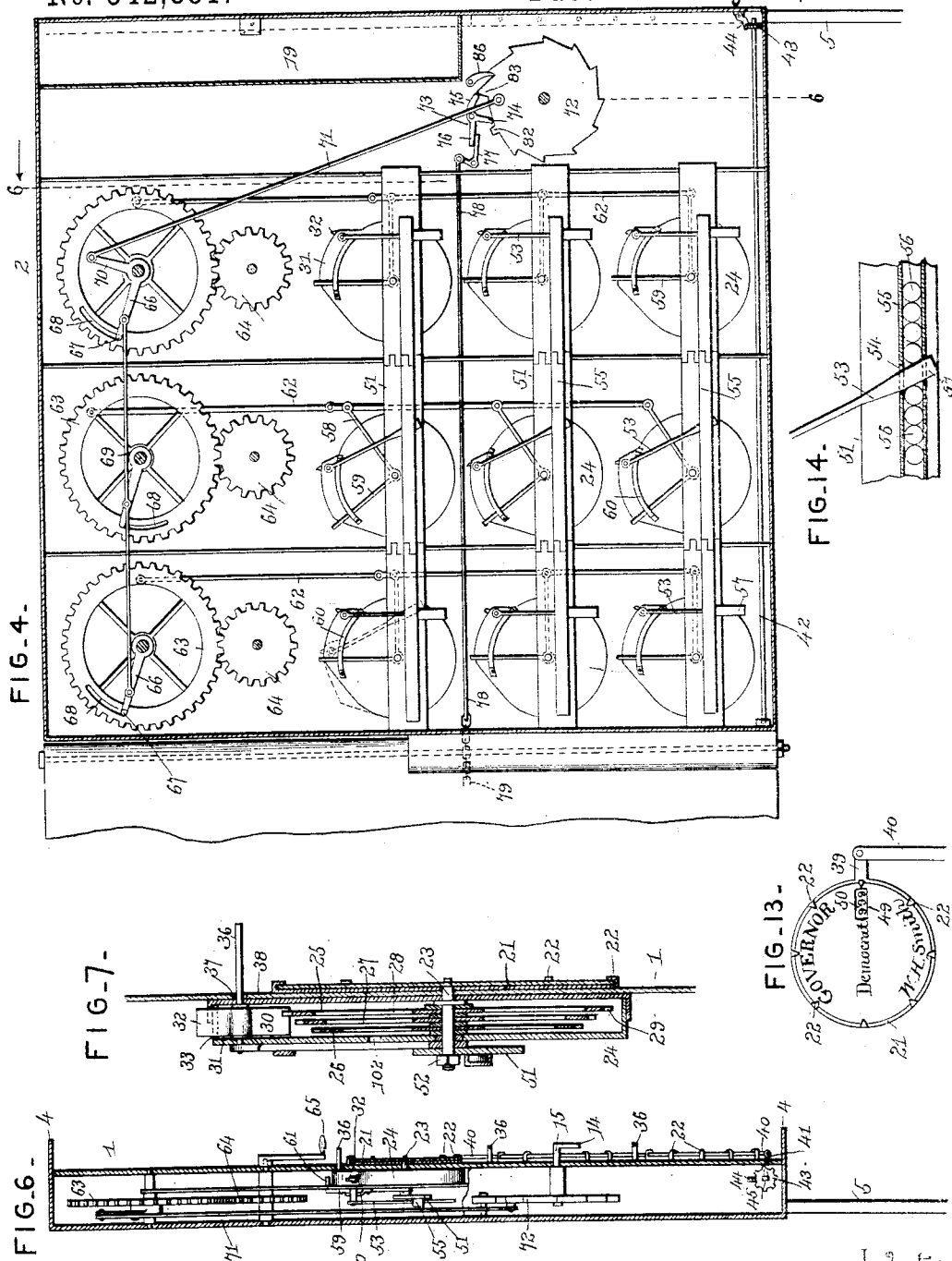
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4 Sheets—Sheet 3.

T. G. FERGUSON.
VOTE REGISTER.

No. 542,881.

Patented July 16, 1895.



Inventor

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CA Snow & Co.

(No Model.)

4 Sheets—Sheet 4.

T. G. FERGUSON.
VOTE REGISTER.

No. 542,881.

Patented July 16, 1895.

FIG. 8.

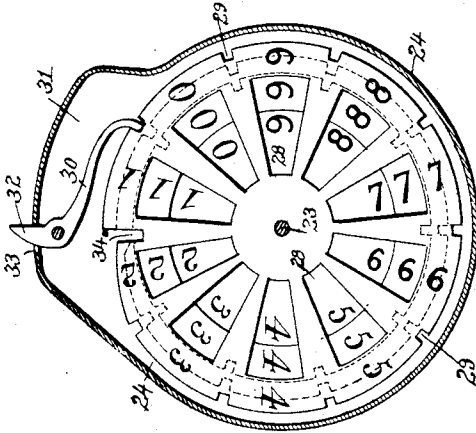


FIG. 9.

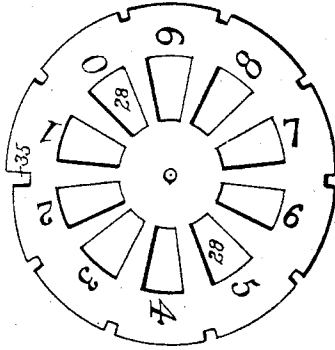
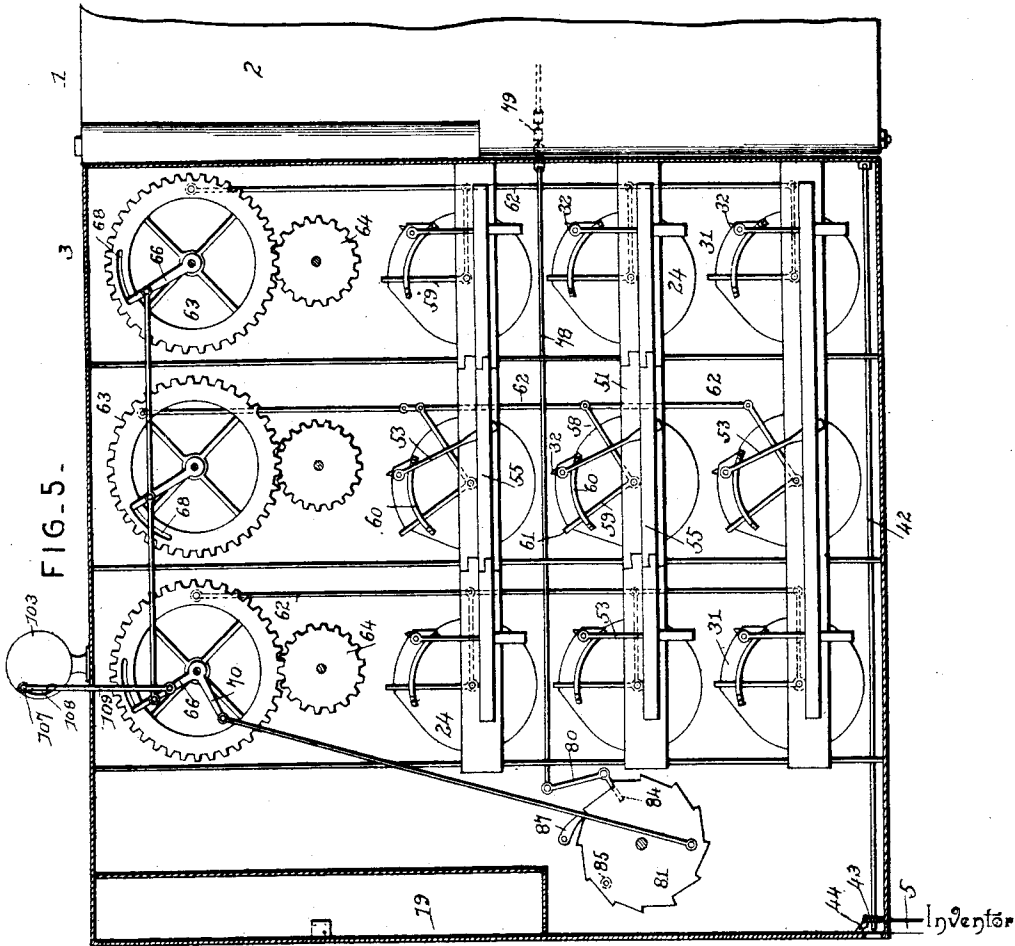


FIG. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS G. FERGUSON, OF COLBY, KANSAS.

VOTE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 542,881, dated July 16, 1895.

Application filed September 19, 1894. Serial No. 523,482. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. FERGUSON, a citizen of the United States, residing at Colby, in the county of Thomas and State of Kansas, have invented a new and useful Voting-Machine, of which the following is a specification.

My invention relates to an automatic voting-machine adapted for registering ballots my means of counting devices, and the objects in view are to provide a booth which is capable of being folded into a compact form for transportation; to provide entrance and exit doors and connecting devices, including locking mechanism, whereby the entrance-door is locked after a voter has entered the booth and remains locked until he has passed out through the exit-door, thus preventing a second or succeeding voter from entering while the former occupies the booth; to provide means whereby the counting devices may be turned backward to cancel the vote, after having been turned forward to register the same, in order that a mistake made by a voter may be corrected at once without affecting the former record; to provide means for preventing the forward movement of the counting mechanisms beyond that which is necessary in each mechanism to register one vote; to provide means for locking all of the counting mechanisms which are set aside for registering the votes cast for different nominees for the same office; to prevent a voter from casting ballots for two or more nominees on different tickets for the same office; to provide means whereby the counting mechanisms relating to an entire ticket may be operated simultaneously, and to provide means whereby each counting mechanism may be operated separately when it is desired to cut a ticket; to provide means whereby a ballot or ballots for a certain office may be cast for a person other than one of the nominees, the adjustment of the box for the reception of such ballot locking all of the counting mechanisms relating to the same office in the several tickets, and to provide means whereby the operation of the exit-door readjusts all of the counting mechanisms and at the same time registers the number of the voter.

Further objects and advantages of the in-

vention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a voting-booth constructed in accordance with my invention arranged in the operative position. Fig. 2 is a detail sectional view, partly broken away, of one of the end doors. Fig. 3 is a front view of the inside of one of the walls of the booth, the optional-ballot box being partly broken away. Fig. 4 is a detail view taken from the outside of one of the members of a side wall of the booth, the outer plate of such wall being omitted. Fig. 5 is a similar view of the connected member of said side wall. Fig. 6 is a vertical section on the line 6 6 of Fig. 4. Fig. 7 is a detail section of one of the counting mechanisms. Fig. 8 is a detail front view of one of the counting mechanisms. Fig. 9 is a similar view of one of the registering-wheels detached. Fig. 10 is a similar view of another of the registering-wheels, being that of smallest diameter. Fig. 11 is a detail view in perspective to show the connection between a rock-shaft and one of the connecting-rods. Fig. 12 is a detail view of one end of a rock-shaft to show the means for unlocking and turning the same to expose the sum of the votes cast and registered by each counting-mechanism. Fig. 13 is a face view of one of the counting mechanisms, showing the rotary plate for bearing the name of the nominee and the adjacent end of the connecting-rod, whereby motion is imparted to said plate for disclosing the record of the votes cast. Fig. 14 is a detail view in section of a locking device whereby the counting mechanisms relating to other nominees for the same office are locked when one of said mechanisms is operated. Fig. 15 is a detail view in section of a part of the optional-ballot box to show the connection between a rotary part of a counting mechanism and the receptacle for the tickets. Fig. 16 is a detail sectional view of the rotary part and connections whereby motion is imparted to the ticket-receptacle of the optional-ballot box. Fig. 17 is a detail view in section of the transverse bar of one of the doors of the booth to show the connection of the shade or guard

thereto. Fig. 18 is a view of the booth folded. Fig. 19 is a view of a device for numbering the voters.

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

The side walls 1 of the booth each comprises two pivotally-connected members or sections 2 and 3, provided at their upper and lower edges with inwardly-extending flanges 4, which are adapted to lie in contact when said members are folded in parallel planes, as indicated in Fig. 18. Fitting in suitable pockets at the outer extremities of these members are the supporting-legs 5, which are held at the desired extension, as shown in Fig. 1, by means of set-screws 6. When the set-screws are loosened, the supporting-legs may be pushed upward into the pockets and thereby concealed. Braces 7 are connected at their upper extremities to the outer surfaces of the members of the side walls and may be anchored in any suitable manner at their lower ends, said braces being provided at intermediate points with right and left adjusting-nuts 8.

Mounted in the side walls near their outer extremities and extending transversely therebetween are spring-rollers 9, carrying the shades or guards 10, which are adapted to be rolled upon said rollers when their lower extremities are released or allowed to ascend. Said lower ends of the shades or guards are attached to the cross-bars 11 of crank-shafts 12 and 13. These crank-shafts have their side arms 14 mounted by means of lateral trunnions 15 in bearings in the side walls of the booth, whereby, when a crank-arm is swung around its trunnions as a center, the cross-bar 11 will pass close to the spring-roller and thus allow said roller to take up the major portion of the shade or curtain. The cross-bars 11 are tubular, and in the bores thereof are mounted spring-actuated locking-bolts 16, adapted to engage catches 17, arranged upon the side walls of the booth, and the inner ends of said locking-bolts are fitted with finger-holes 18, those of the entrance-gate 12 being arranged upon the outside of the curtain or guard and those of the exit-gate being arranged at the inside of the curtain or guard. Small cupboards 19 are formed in the thickness of the walls of the booth near the outer ends of the wall-sections, said cupboards being provided with closures 20 and being adapted to receive the braces 7, which are jointed to enable them to be folded, and other articles necessary in the manipulation or adjustment of the apparatus.

Each section or member of the walls of the booth is designed to carry the tickets of a particular election—for instance, national, State, county, and local—and the counting devices which are arranged upon each of said members or sections are provided with rotary face-plates 21, which are adapted to carry the names of the nominees for the several offices

in their respective tickets. In the construction illustrated said rotary plates are provided with peripheral spurs 22 to engage the edges of a pasteboard or other card bearing the name of the nominee, as indicated clearly in Fig. 13. Arranged in rear of each of these face-plates and mounted upon the spindle 23, which is concentric with said plate, is a rotary shell or casing 24, the front side of which, or the side adjacent to the said face-plate, is open. Mounted rotatably in this shell or casing and upon the spindle 23 is a series of registering-wheels consisting of terminal front and rear wheels 25 and 26 and the intermediate wheel or wheels 27. Any desired number of these registering-wheels may be employed; but in the construction illustrated in the drawings I have shown three, of which the front or largest wheel 25, which is shown clearly in Fig. 8, is provided near its periphery with a series of numerals ranging from "0" to "9," and is provided with a series of radial slots or openings 28, whereby the numerals on the other registering-wheels may be viewed simultaneously with that on the wheel 25. The registering-wheels are graded in size from the front or largest wheel through the intermediate wheels to the inner and smallest, and each wheel is provided with a series of peripheral notches 29, adapted to be engaged by the free end of the pawl 30, said pawl being mounted in an enlargement 31 of the shell or casing and having a terminal stud 32, which projects through an opening 33 in said shell or casing, for a purpose hereinafter explained. Inasmuch as the registering-wheels are of graded diameters, it will be seen that when the pawl 30 is in engagement with the peripheral notches of the front or units-wheel it is held out of engagement with the notches of the other wheels, and in order to impart motion to the tens-wheel, in order that it may register a "10" after the units-wheel has made one complete revolution, one of the notches of said units-wheel is made of sufficient depth, as shown at 34, to enable the pawl to drop sufficiently to engage the registering-notch of the tens-wheel. When the tens-wheel has been advanced a distance sufficient to cause it to register the "10" just counted by the units-wheel, the pawl in returning to engage a succeeding notch of the units-wheel will be removed from engagement with the notch of the tens-wheel. In the same way motion is communicated to the hundreds-wheel after the tens-wheel has made one complete revolution. Said tens-wheel is provided with an extended notch 35, and when the notch 34 of the units-wheel registers with the notch 35 of the tens-wheel the pawl 30 is allowed to drop sufficiently to engage a notch of the hundreds-wheel. Such a registration of the notches is shown in Fig. 8.

Attached to the rotary part consisting of the shell or casing 24 is an operating-pin 36, which projects forward through an arc-shaped slot 37 in the front or inner plate 38, whereby

the rotary movement of said part 24 is limited. The rotary face-plate 21, which carries the name-card, is provided with a lateral arm 39, to which is connected a rod 40. This rod is adapted to be connected to the arms 39 of all of the rotary face-plates which belong to a given ticket, as shown clearly in Fig. 3, and the lower extremities of all of the connecting-rods 40, which are arranged upon a given member or section of the booth, are pivotally connected to the arms 41 of a rock-shaft 42. This rock-shaft is mounted in suitable bearings near the bottom of the member or section and extends longitudinally between the inner and outer plates thereof, and fixed to said shaft near one end, preferably the end adjacent to one of the gates, is a ratchet-wheel 43 engaged by a locking-pawl 44. Said shaft is provided with an angular extremity 45, forming a post, which is adapted to be engaged by a key 46, and said key is provided with a barrel 47, which is adapted to engage an enlargement 48 on the locking-pawl, whereby said locking-pawl is raised out of engagement with the ratchet-wheel when the key is inserted and engaged with said post. By means of this key the rock-shaft may be turned through a part of a revolution and the motion thus imparted to the rock-shaft is communicated by means of the connecting-rods 40 to the rotary face-plates 21, and the latter are turned sufficiently to bring slots 49 therein opposite corresponding slots 50 in the inner plate 38, whereby the vote already cast for the several nominees is visible.

In order to prevent looseness of the registering-wheels and prevent a voter from moving the same through a distance greater than that which is necessary to register one vote, I employ a tension device consisting of a cushion 51 and one or more adjusting-nuts 52, threaded upon the rear end of each spindle. Furthermore, the pawl 30 is bent to form a nose which is substantially in alignment with the radii of the registering-wheels, and the notches of said wheels are square. This construction provides for imparting either forward or backward movement to the registering-wheels by means of the shell or casing 24. The operator cannot reach the pawl and the pawl cannot be disengaged from a given tooth except by raising the engaging end of the pawl. Thus when a vote has been cast upon a certain counting mechanism it may be withdrawn or canceled by turning the shell or casing in the opposite direction. Inasmuch as the length of the slot 37 limits the movement of the shell or casing it will be seen that a voter cannot cast more than one ballot in a given counting mechanism.

In order to prevent a voter from casting ballots in two or more counting mechanisms relating to the same office, but in different tickets, I provide a locking-tongue 53, which is pivotally connected to the shell or casing and operates in an opening 54, formed in a guide or way 55. This guide or way is ar-

ranged horizontally adjacent to the line or series of counting mechanisms belonging to each office, and it contains a series of spherical rollers or balls 56. The tongues 53 are provided with shouldered or enlarged lower ends 57, and the number of spherical rollers 56 in each guide or way is such that one of the tongues 53 may be drawn up to the position shown in Fig. 14; but when in this position the rollers are forced into contact with the tongues connected with the shells or casings of the other counting mechanisms in the same line, and any effort to move one of said shells or casings is rendered ineffective by the contact of the enlarged or shouldered portion of the tongue with the contiguous rollers 56.

In order to set the counting mechanisms after each operation by a voter, I employ a bell-crank lever 58, mounted upon the spindle of each of the counting mechanisms and provided with an arm 59, which operates in a guide 60 and is provided with a terminal stud 61 to engage the outer projecting end of the pawl. When this bell-crank lever is swung in the direction opposite to that which is necessary to advance the registering-wheels, said arm 59 trips the pawl 30 and carries the rotary shell or casing back to its initial position. The other arms of the bell-crank levers are connected to a rod 62, which in turn is connected to a gear 63, meshing with an operating-pinion 64. This operating-pinion is provided, adjacent to the inner plate 38, with a crank-arm or handle 65, and it will be obvious that by turning said crank or handle motion may be imparted to the gear 63 and therethrough to the rod 62, which is connected to the bell-crank levers. By the means just described an entire ticket may be voted or the parts may be returned to their initial position after having cast a vote.

Mounted loosely upon the shafts of the gear 63 are the loose arms 66, provided at their extremities with lateral studs 67, which fit in arc-shaped slots 68 in the gears 63, and by operating the said swinging arms motion may be communicated to the gears 63. These arms are connected in series by the rods 69, and the arm 66 on the spindle of the gear adjacent to each of the gates is provided with an extension 70, connected by means of a rod 71 to a ratchet-wheel 72, which is fixed to the adjacent trunnion of the gate. Arranged in operative relation with said ratchet-wheel is a pawl 73, having a locking-arm 74, an operating-arm 75, and a communicating arm 76. Said communicating arm is in operative relation with one arm of a bell-crank lever 77, the other arm of said lever being connected by means of rods 78 and an interposed chain or flexible connection 79 with a similar bell-crank lever 80, which is disposed in operative relation with a ratchet-wheel 81, fixed to the trunnion of the exit-gate. The locking-arm 74 of the pawl 73 is adapted to engage a square tooth 82 on the ratchet-wheel 72, and said locking-arm is brought into such engagement with

the tooth 82 by means of a cam 83 on the ratchet-wheel, which engages the operating-arm 75. Thus, when the entrance-gate is operated to admit a voter, rotary motion is imparted to the ratchet-wheel 72, and when it has made a complete revolution the cam 83 elevates the free end of the operating-arm 75, and thereby depresses the free end of the locking-arm 74 and brings it into engagement with the tooth 82. This locks the entrance-gate, and the parts remain in such locked position until the voter who has entered the booth shall have passed out. At the same time that the above operation takes place the bell-crank lever 77 has been moved, and its motion has been communicated through the connecting-rod to the lever 80, thus disposing the latter so that one of its arms, as shown at 84, is in the path of a pin 85 on the ratchet-wheel 81. When the voter operates the exit-gate in leaving the booth, said pin 85 strikes the arm 84 of the bell-crank lever 80 and, through the connecting-rod 78 and the bell-crank lever 77, returns the pawl 73 to its normal position and releases the entrance-gate. Dogs 86 and 87 are employed, respectively, in connection with the ratchet-wheels 72 and 81, to prevent the movement of either gate in a direction opposite to that indicated by the arrows on said ratchet-wheels.

Owing to the connection of the ratchet-wheels with the above-described gears 63, it will be seen that the opening and closing, respectively, of the entrance and exit gates cause the resetting of the counting mechanisms. If the parts are in the positions shown in Fig. 4, in which the ticket marked "Democrat" has been voted "straight," the opening of the entrance-gate, which carries the ratchet-wheel 72, will cause the arms 66 to swing in the direction indicated by the arrows adjacent thereto. The stud on the end of the arm 66 of the Democratic-ticket mechanism is in contact with the upper end of the slot 68 of the adjacent gear 63, and hence the motion imparted to the said arms by the means hereinbefore described will be communicated directly to the gear 63 of said Democratic-ticket mechanism. The other arms 63 will move independently of their respective gears until the upper ends of the slots 68 are reached. The movement of the ratchet 72 will cause a greater movement of the swinging arms than will be accommodated by the length of said slots, and hence motion will be communicated to all of the gears 63, and hence to all of the bell-crank levers 58. The movement of those bell-crank levers which belong to counting mechanisms in their initial or normal positions, as shown by the mechanisms on opposite sides of the Democratic-ticket mechanism in Fig. 4, will be insufficient to bring the arms 59 thereof in contact with the ends of the guides 60, and therefore the shells or casings will remain in said initial or normal positions; but those bell-crank levers which belong to the counting mechanisms moved by

the voter will have double the motion received by the other bell-crank levers, and hence after the arms 59 have reached the ends of the guides 60 and have tripped the pawls 30 they will be carried a distance sufficient to return the shells or casings to their initial or normal positions.

In connection with the above-described mechanism I employ means whereby a voter may cast an optional ballot in a local election, or may name any person for a given office outside of the regular nominees when those nominees are not satisfactory to him, and the construction of this device is shown in Figs. 3, 15, and 16. Said device consists essentially of a box 88, having a series of compartments 89 for the reception of ballots. In the side of each compartment is formed a narrow slot 90, through which the ballot may be inserted, and arranged close to this slot is a pivotal chute 91, adapted to normally occupy an inclined position out of alignment with the slot, but capable of adjustment to align therewith. The chute is pivoted at an intermediate point, as shown at 92, and it is provided at its front end with a depending curved guard 93 to close the slot 90 when said front end of the chute is elevated. A stationary stop-plate 94 is arranged in such a position as to close the rear end of the chute when the latter is arranged in alignment with the inlet-opening 90.

The means for operating the chute to bring it into alignment with the opening in the side of a compartment correspond in general construction with the counting mechanisms above described in that they comprise a rotary shell or casing 95, provided with a forwardly-extending pin 96, which operates in a slot 97, whereby the movement of said rotary part is limited, a segmental ratchet 98, secured to the front plate 38 in position for engagement by a gravity locking-pawl 99, said pawl being adapted by engagement with the ratchet to lock the rotary part from backward movement when it has been turned to depress the front end of the chute into alignment with the opening 90, and a pin 100, carried by the rotary part and fitting in a slot 101, near the front end of the chute. When the operating-pin 96 is moved in the direction indicated by the arrow in Fig. 15, the front end of the chute is depressed, and when such chute reaches a position in alignment with the opening 90 the pawl 99 locks the parts in this position. The interior of the chute is just sufficient in size to receive an authorized ballot, and as the rear end of the chute is closed when the chute is in alignment with the opening 90 it will be seen that only one ballot can be introduced. The same means for locking the counting mechanisms relating to a given office is used in connection with the shell or casing 95, whereby, when said shell or casing is turned to operate the chute, all of the locking mechanisms in the several tickets relating to the same office are locked, and when any one of said counting mechanisms relat-

ing to a particular office is operated to register a vote the shell or casing of this optional-voting device is locked against movement. Furthermore, the same means for readjustment and including the bell-crank levers 58, provided with a lateral projection for engaging a projecting extremity of the pawl 99, the connecting-rod 62, the gear 63, arms 66, and connections with the gate-operated ratchet-wheels are employed in connection with this optional-voting apparatus, and a pinion 64, as hereinbefore described, is arranged in engagement with said gear 63 to provide for the simultaneous opening of all of the compartments of the optional-voting mechanism when it is desired to vote an entire new ticket.

To provide for setting the wheels of the counting mechanisms, I form an opening 102 in the rear or outer side of the shell or casing, through which a pin may be inserted to arrange all of the registering-wheels to indicate zero.

103 represents the casing of a device for registering the number of voters, the same being connected for operation with the exit-gate. The construction of this device is identical with that of the counting mechanisms above described in that it is provided with a series of registering-wheels operated by a pawl carried by a rotary part, but differs from the construction of said counting mechanisms in the form of the teeth of said registering-wheels and the form of the pawl for engaging the same.

104 represents the rotary part; 105, the registering-wheels of graded diameters; 106, the pawl for engaging the teeth of said wheels; 107, a pin projecting through a slot 108 in said casing 103, and 109 represents a rod by which said pin is connected to one of the arms 66. It will be seen that each time the exit-gate is operated the motion of the ratchet 81 will be communicated to the said arm 66, and thence to the pin carried by the rotary shell or casing 104.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A voting booth having side walls constructed of folding sections, and swinging end gates having horizontal fulcrums and journaled at their extremities, respectively, in the side walls to form the connection therebetween, substantially as specified.

2. A voting booth having side walls constructed of connected folding sections each provided contiguous to its outer end with an extension leg to hold the lower edge of the section above the surface upon which the legs rest, and means for locking the legs at the desired extension, and swinging end gates having their journals arranged in a common horizontal plane and mounted, respectively, in the end walls and forming the connections therebetween, substantially as specified.

3. A booth having side walls and end gates constructed of crank shafts journaled in the

side walls, and spring actuated guards or curtains attached to the crank shafts and mounted upon spring rollers, substantially as specified.

4. In a voting booth, the entrance and exit gates having spring-rolled guards or curtains connected at one end to spring-actuated rollers, and rotary members or frame-pieces connected to the other ends of said guards or curtains to extend the latter and hold them in their normal position, substantially as specified.

5. In a voting booth, the entrance and exit gates comprising spring-actuated rollers, guards or curtains attached at their upper ends to said rollers and adapted to be reeled thereon when released, and frame-pieces connected to the lower ends of the guards or curtains to normally hold the latter extended and to return the same to their extended position after having been reeled, and connections between said gates, whereby the entrance gate is locked after each operation and is released by the subsequent operation of the exit gate, substantially as specified.

6. The combination with a booth having entrance and exit gates including rotary members, of ratchet wheels carried by the rotary members, a locking pawl arranged in operative relation with the ratchet wheel carried by the entrance gate, a projection on said ratchet to engage the locking pawl and move the same to its locking position, and connections between said locking pawl and the ratchet wheel of the exit gate, whereby the movement of the latter trips said pawl, substantially as specified.

7. The combination with a booth having entrance and exit gates, of ratchet wheels carried by said gates, a locking pawl having a locking arm to engage a projection on the ratchet wheel carried by the entrance gate, and an operating arm arranged in the path of a cam on said ratchet wheel, a bell crank lever having one of its arms arranged in the path of a pin on the ratchet wheel carried by the exit gate, and connections between said bell crank lever and the locking pawl whereby when the exit gate is operated the locking pawl is moved to disengage its locking arm from the projection on the ratchet wheel of the entrance gate, substantially as specified.

8. A counting-mechanism having a rotary part or member consisting of a pivoted shell or casing, means for limiting the rotary movement of this shell or casing, a series of disks arranged within and inclosed by the shell or casing, and a single pawl mounted within and carried by the shell or casing and adapted to engage one or more of the disks to communicate forward or backward rotary movement thereto from the shell or casing, and means for tripping the pawl to disengage it from all of the disks, substantially as specified.

9. A counting mechanism having a rotary part or member, means for limiting the rotary movement thereof, a registering wheel con-

centric with the rotary part and provided with parallel sided peripheral notches, a pawl carried by the rotary part and provided with a radially disposed nose for engagement with said notches, whereby the registering wheel may be turned in either direction by the manipulation of the rotary part, and means for tripping the pawl, substantially as specified.

10. A counting mechanism having a rotary part or member, means for limiting the rotary movement thereof, a series of co-axially mounted registering wheels of graded diameters provided with peripheral parallel sided notches, the major and intermediate wheels having elongated notches which extend inward to the depth of the notches in the minor wheel, a pawl carried by said rotary part for engagement with said notches, and means for tripping the pawl, substantially as specified.

11. A counting mechanism having a rotary part or member, means for limiting the rotary movement thereof, co-axially mounted registering wheels of graded diameters provided with peripheral parallel sided notches, a pawl carried by the rotary part to engage said notches, means for communicating motion to the wheels of higher denomination when those of lower denomination have completed a revolution, and a tension device for preventing excessive movement of the wheels, substantially as specified.

12. In a voting apparatus, the combination with counting mechanisms arranged in operative relation with slots for exposing the registered numbers, of rotary face plates adapted to close said openings and provided with slots to register therewith, means for attaching a designating card to each face plate, and means for turning the face plates simultaneously to cause the registration of said openings, substantially as specified.

13. In a voting apparatus, the combination with a booth and counting mechanisms arranged therein in operative relation with openings for exposing the registered numbers, slotted plates arranged adjacent to said openings to normally close the same, and capable of adjustment to cause registration of their slots with the openings, a rock-shaft, connections between said rock-shaft and the plates, a pawl arranged in operative relation with a ratchet wheel on the rock shaft, and means for tripping said pawl and turning the rock-shaft to expose the registered numbers, substantially as specified.

14. In a voting apparatus, the combination with a plurality of counting mechanisms arranged in horizontal series and having rotary shells or casings, inclosed registering wheels, and pawls carried by the shells or casings to engage said wheels, of a horizontal closed guide arranged contiguous to and equal in length with each series of counting-mechanisms, balls or rollers arranged loosely in said guide and limited in movement by the ends of the latter, locking tongues connected, respectively, with said shells or casings, extend-

ing through openings in the upper and lower sides of the guide and provided with enlarged lower extremities, whereby when one of the rotary parts is operated the enlarged end of the tongue connected thereto is brought between contiguous balls or rollers in the guide and forces said balls or rollers into locking engagement with the tongues connected to the other shells or casings of the series, and connections between each shell or casing of a series and corresponding shells or casings of the other series, whereby the corresponding mechanisms of a plurality of series may be simultaneously operated, substantially as specified.

15. In a voting apparatus, the combination of counting mechanisms having rotary parts, means for operating said rotary parts independently, rotary registering wheels, pawls carried by said rotary parts to engage the registering wheels, bell crank levers mounted co-axially with the rotary part and provided with projections to engage projecting extremities of said pawls, and connections between said levers, substantially as specified.

16. In a voting-apparatus, the combination with counting-mechanisms having rotary parts capable of a limited rotary movement, means for operating said parts independently, rotary registering-wheels co-axial with the rotary parts, and pawls carried by the rotary parts to engage the registering wheels and communicate forward and backward movement thereto, of limiting guides secured to the rotary-parts, bell-crank levers mounted co-axially with the rotary-parts, with one arm operating in said guides and capable of movement through an arc of double the extent of the guides, whereby said levers or the rotary parts may be moved independently through an arc equal to the length of said guides and whereby motion may be communicated from the levers to the rotary parts when the arms of the levers, which are arranged in the guides, come in contact with the extremities of such guides, means carried by the bell-crank levers to engage and trip said pawls when backward motion is communicated by said levers to the rotary-parts, and connections between the levers whereby they may be operated simultaneously to communicate simultaneous forward or backward movement to the rotary-parts, substantially as specified.

17. In a voting-apparatus, the combination with counting-mechanisms having rotary parts capable of a limited rotary movement, means for operating said parts independently, rotary registering-wheels co-axial with the rotary-parts, and pawls carried by the rotary-parts to engage the registering-wheels and communicate forward and backward movement thereto, of limiting guides secured to the rotary-parts, bell-crank levers mounted co-axially with the rotary-parts, with one arm operating in said guides and capable of movement through an arc of double the extent of the guides, whereby said levers or the rotary

parts may be moved independently through an arc equal to the length of said guide and whereby motion may be communicated from the levers to the rotary-parts when the arms of the levers, which are arranged in the guides, come in contact with the extremities of such guides, means carried by the bell-crank levers to engage and trip said pawls when backward motion is communicated by said levers to the rotary-parts, rods connecting the other arms of said bell-crank levers, gears connected, respectively, to said rods, means for communicating forward or backward rotation to one of the gears to actuate the series of bell-crank levers connected with the rod affected by said gear, and thereby communicate motion to the rotary parts in connection with which the several bell-crank levers are arranged, said means consisting of pinions meshing, respectively, with the gear-wheels and having exposed cranks, and said pinions being adapted to communicate motion to the gears through the arc of a circle, swinging-arms mounted co-axially with said gears and having slotted connections with the gears, whereby a gear and the swinging-arm with which it is connected are capable of independent relative movement through an arc of one-half the extent of rotation of the gear, and connections between said swinging-arms, whereby they may be operated simultaneously to return the gears to their normal positions and thereby re-set the counting-mechanisms, substantially as specified.

18. In a voting apparatus, the combination of a booth having a gate, a rotary-wheel connected with the gate and adapted to be turned through a complete revolution when the gate is opened and closed, counting-mechanisms having rotary-parts capable of a limited rotary movement, registering-wheels, means for communicating motion from the rotary parts to the registering-wheels, levers mounted co-axially with the rotary-parts and having a limited movement independently of such parts, said levers being arranged in operative relation with the means for communicating motion from the rotary-parts to the registering-wheels and being capable of movement through an arc of double the extent of movement of the rotary parts, rods connecting said levers in series to communicate simultaneous motion thereto, gears connected to said rods and capable of limited rotary movement, independent means for communicating motion to said gears, swinging-arms mounted co-axially with the gears and provided with studs engaging slots in the gears, said slots being adapted to allow independent movement of the gears and the swinging-arms through an arc of one-half the extent of movement of the gears, a rod connecting said swinging arms, whereby simultaneous motion may be communicated thereto and from them to the gears, and a connecting-rod between one of said arms and the wheel which is actuated by the gate, said wheel being adapted

to impart to the swinging-arms, during each revolution, a forward movement through an arc which is equal in extent to the movement of the gears and a subsequent return movement of equal extent, whereby each rotation of the wheel, which is actuated by the gate, returns all of the gears which are in operative relation with the connected swinging-arms to their normal positions, and then moves the swinging-arms forward a distance equal to the length of the slots, by which, connection is effected between the swinging-arms and the gears to provide for subsequent forward movement of the gears independently of said swinging-arms, substantially as specified.

19. In a voting apparatus, the combination with counting mechanisms, levers, and connections between the levers and the counting mechanisms, of a gear, connections between the gear and said levers, an arm mounted co-axially with the gear and having a sliding connection with the gear, and means for operating the gear, substantially as specified.

20. In a voting apparatus, the combination with a gate, counting mechanisms, and levers arranged in operative relation with the counting mechanisms and having limited movement independently thereof, of a gear connected with said levers, an arm mounted co-axially with said gear and having a limited movement independently of the gear, and connections between said arm and the gate, substantially as specified.

21. The combination with counting mechanisms having rotary parts capable of limited movement, said counting mechanisms being arranged in parallel series, and locking devices for said rotary parts, whereby when the rotary-part of one counting mechanism of a series is actuated the rotary-parts of the other counting mechanisms in the series are locked, said locking devices comprising a guide or way, a plurality of balls or rollers arranged in the guide or way, and locking tongues connected, respectively, to the rotary parts of the counting mechanisms and provided with shouldered or enlarged portions which are adapted to enter the guide or way and expand the contained balls or rollers when the rotary part, to which the tongue is connected, is operated, of a ballot-box having an inlet opening, a chute adapted to register with said opening and normally held out of registration therewith, a rotary-part operatively connected with said chute to adjust the latter in or out of registration with the inlet opening, and a locking tongue corresponding in construction with those connected with said counting-mechanisms and arranged in operative relation with the said guide, whereby when the rotary part of a ballot box mechanism is operated to cause registration of the chute with the inlet opening of the box, the rotary parts of the counting mechanisms are locked against movement, a ballot-box and connections, as described, being arranged in connection

tion with each series of counting-mechanisms, substantially as specified.

22. The combination with a ballot box having a horizontally elongated inlet opening, of
5 a pivotal chute adapted to register with said opening and mounted upon a horizontal pivot whereby when out of alignment with the opening it is inclined downward toward its inner end to discharge a contained ballot, a
10 stationary stop-plate adapted to close the inner end of the chute when the outer end of the latter is in communication with the open-

ing, a guard depending from the outer end of the chute to close the opening when the chute is out of alignment therewith, and 15 means for operating the chute, substantially as specified.

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

THOMAS G. FERGUSON.

Witnesses:

JOHN H. SIGGERS,
E. G. SIGGERS.