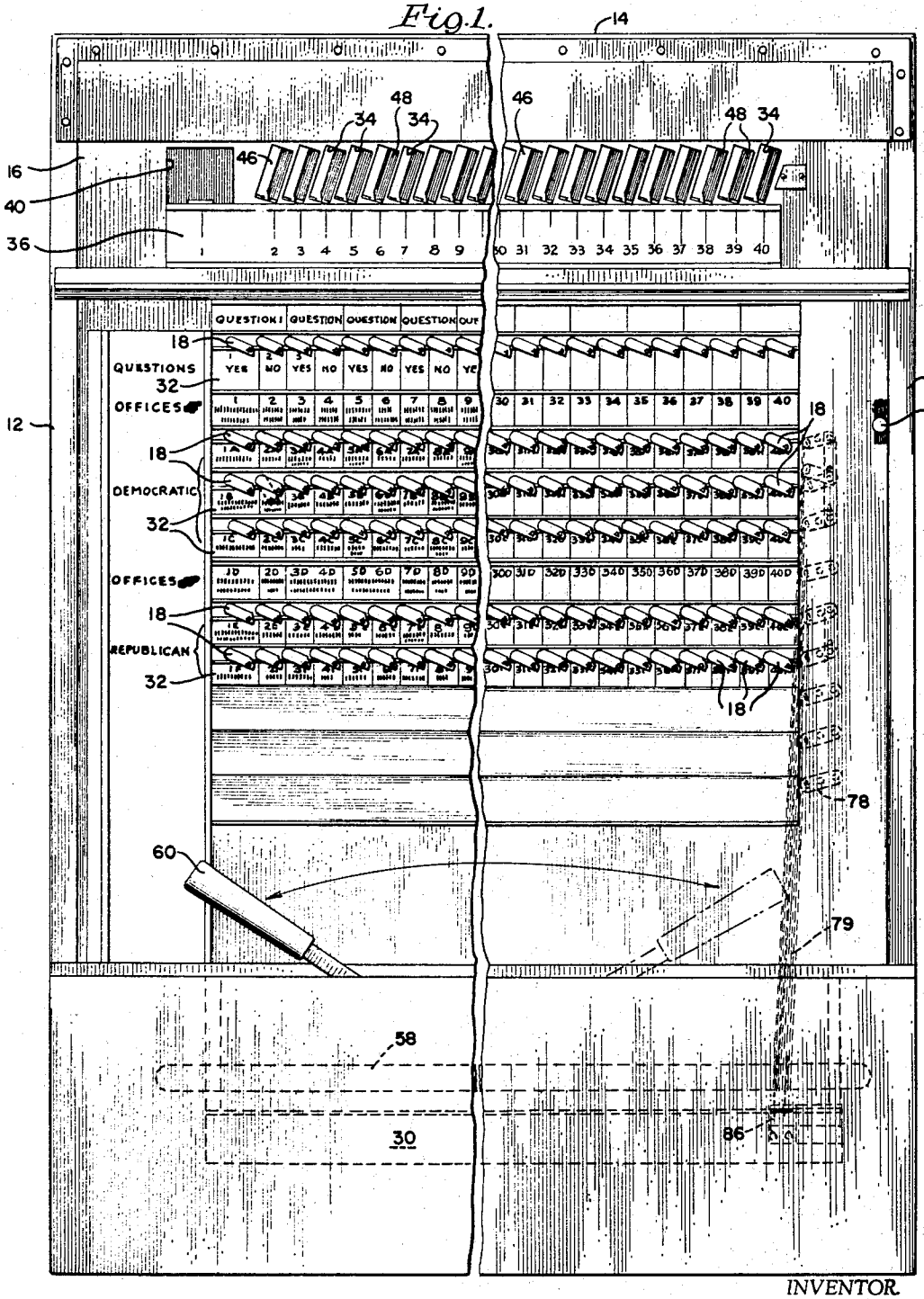
Oct. 29, 1968 A. V. MARTIN 3,408,002

VOTING MACHINE

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Fig. 1.



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Fig. 2.

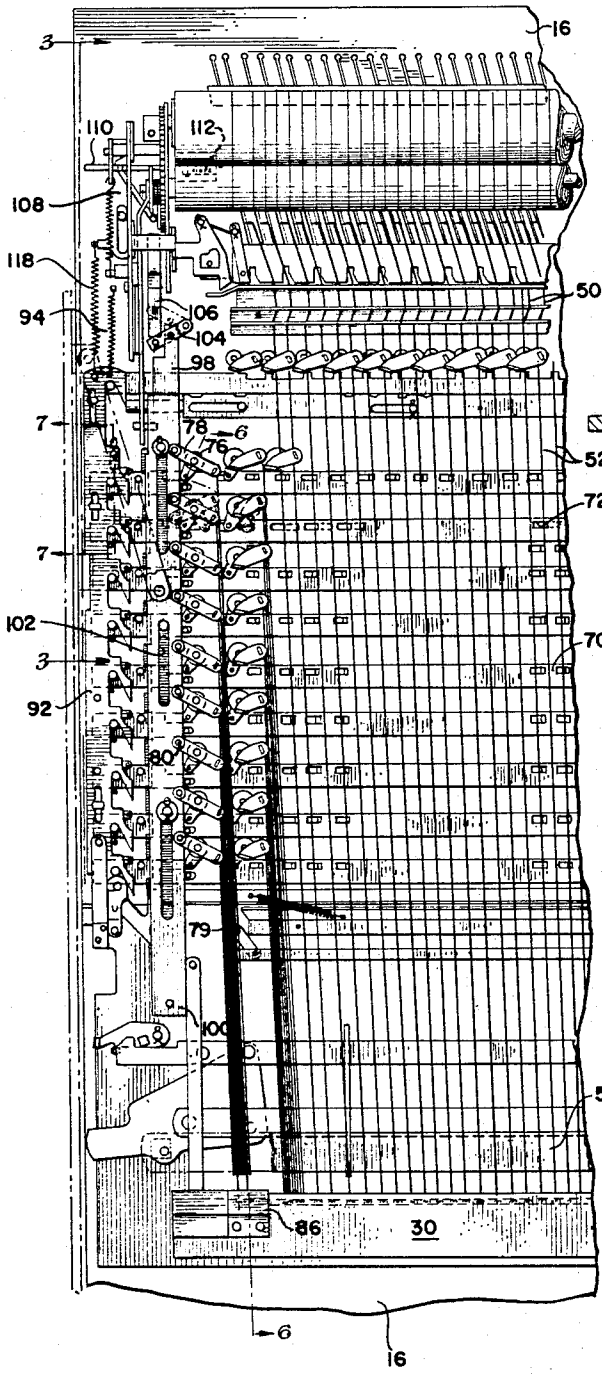
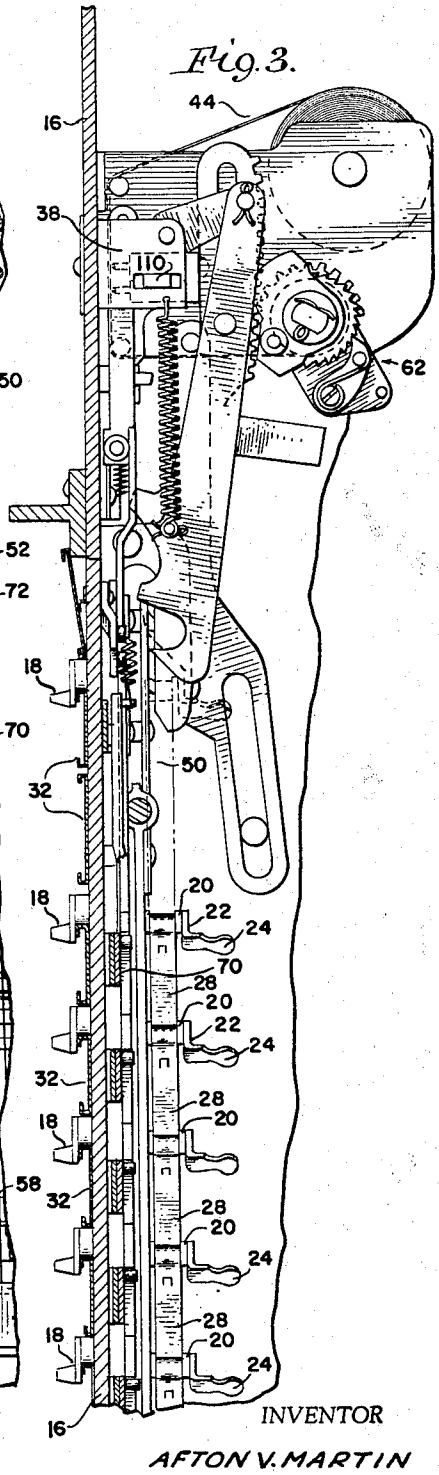


Fig. 3.



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Fig. 5.

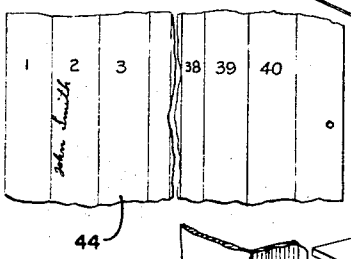


Fig. 4.

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VOTING MACHINE

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Fig. 6.

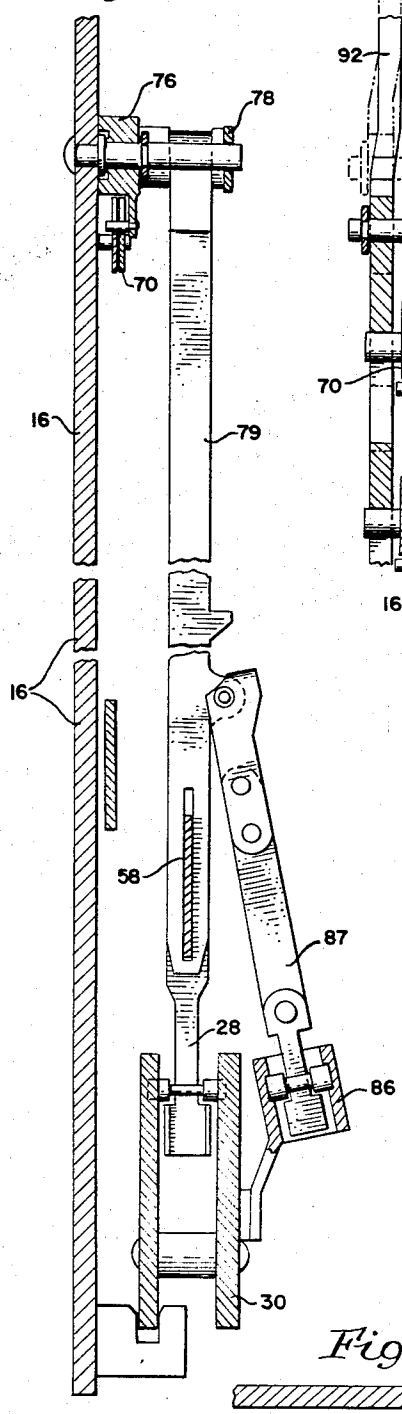


Fig. 7.

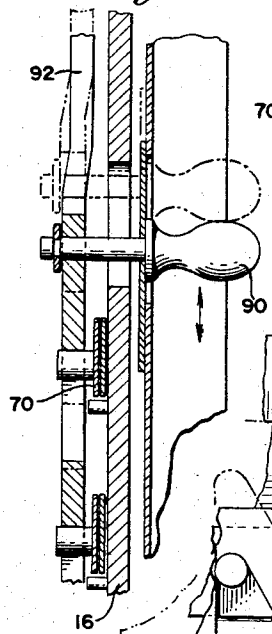
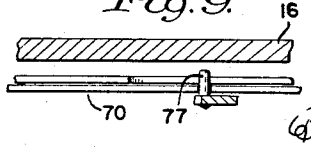


Fig. 8.

Fig. 9.



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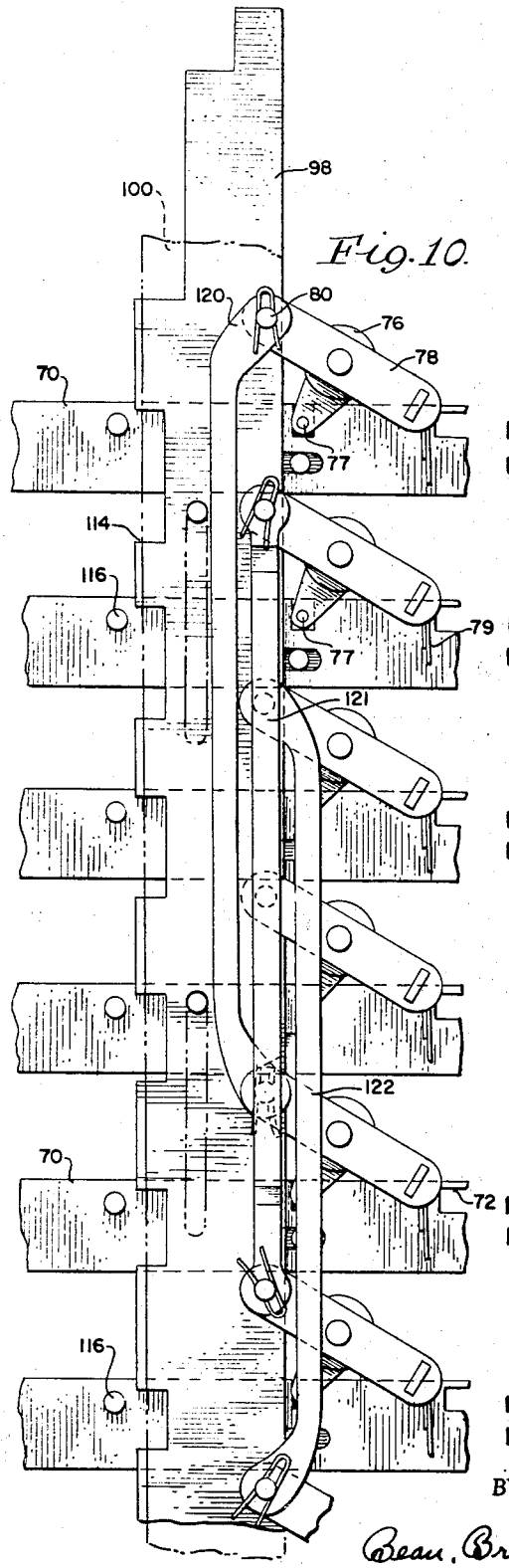


Fig. 10.

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United States Patent Office 3,408,002
Patented Oct. 29, 1968

3,408,002

VOTING MACHINE

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Filed Mar. 6, 1967, Ser. No. 621,059
7 Claims. (Cl. 235—54)

ABSTRACT OF THE DISCLOSURE

A voting machine including improved means reacting automatically to the voter's first candidate selection to henceforth limit his voting operation to that candidate's party only; thereby simplifying the voting process while insuring that proper voting procedures are maintained in accordance with the applicable election codes. The mechanism includes means whereby the voter may revise his party and/or candidate selection, in case of an erroneous first selection or change of mind. Also, the mechanism includes provisions whereby the above operational features are attainable when the ballot presentation displays a group of party candidates in a plurality of adjacent rows, and/or when the ballot presentation displays party candidates on alternately disposed rows.

This invention relates to voting machines of the type disclosed for example in U.S. Patents 1,194,332, 2,787,414, and 3,174,684, and more particularly to improved means therein for simplifying voting procedures in connection with primary elections, when it is permissible for the voter to secretly affiliate with his preferred party.

It is a primary object of the present invention to provide an improved machine as aforesaid whereby the voter is no longer required to perform a separate party designation step prior to voting, such as by manipulation of a party designation lever or the like; thereby shortening the voting cycle time and increasing the overall voter capacity of the machine.

Another object is to provide improvements in machines as aforesaid whereby to simplify the mechanisms thereof and to thereby reduce their costs of manufacture and maintenance.

Another object is to provide in a machine of the type aforesaid an improved interlock control system to render the machine fraud-proof, yet at the same time more versatile and applicable to a variety of voting procedures.

Other objects and advantages of the invention will appear from the specification hereinafter.

In the drawing:

FIG. 1 is a fragmentary front elevational view of a voting machine embodying the present invention;

FIG. 2 is a fragmentary rear elevational view of a portion of the machine of FIG. 1;

FIG. 3 is a fragmentary sectional view, on enlarged scale, taken along line 3—3 of FIG. 2;

FIG. 4 is a fragmentary front perspective view thereof with portions broken away to reveal interior mechanisms;

FIG. 5 illustrates fragmentarily a typical personal choice paper ballot as delivered by the machine;

FIG. 6 is a fragmentary sectional view, on enlarged scale, taken on line 6—6 of FIG. 2;

FIG. 7 is a fragmentary sectional view on enlarged scale, taken on line 7—7 of FIG. 2;

FIG. 8 is an enlarged scale and more detailed view of a portion of FIG. 2, showing one form of voting spindle control interlocking arrangement therewith;

FIG. 9 is a fragmentary sectional view taken on line 9—9 of FIG. 8; and

FIG. 10 is a view corresponding to FIG. 8 but showing an alternative voting spindle control interlock arrangement.

In some machines of the previous design, upon entering the machine the voter was required to manually "set" his preferred party selection lever, so that he could make subsequent vote selections only in his selected party such as either the Republican, Democratic, or some other party. However, in accordance with the present invention this requirement of a separate manual selection by the voter is eliminated. Upon closing of the privacy curtain he starts his voting operation simply by pulling down the lever corresponding to his first candidate choice, thereby automatically selecting his party preference and setting up and interlock system which restricts his further voting to within his selected party. Hence, it will be understood that the improved machine of the present invention reacts automatically to the voter's preference, thereby simplifying the voting procedures while at the same time insuring that proper voting procedures are maintained in accordance with the applicable election codes. This operational simplification in turn results in overall increased capacity of the machine to accommodate the maximum number of voters, thereby effecting substantial investment and operational economies.

As shown in the drawing herewith the invention may be incorporated in a voting machine including a basic frame structure comprising side walls **12—12** (FIG. 1) and top and bottom sills **14**. A front panel plate **16** is carried by the frame structure to hang in vertically standing position thereon and in turn mounts the multiple banks of voting levers or selectors **18** and their associated mechanisms. FIGS. 1 and 4 by way of example only, show a typical ballot presentation involving a bank of three rows of voting selectors designated for the Democratic party and a bank of two rows of voting selectors designated for the Republican party; but it will be appreciated that any other number of rows and/or combinations of selector designations may be provided as may be required for any given balloting problem.

It will also be understood that each selector **18** extends from a spindle **20** (FIGS. 3, 4) which journals in the front panel plate **16** and carries therebehind a crank arm **22**. The arm **22** includes an actuator arm portion **24** which engages a voting counter (not shown) for preparing it to operate whenever the selector **18** is manually turned down by the voter. The arm **22** also includes a yoke-shaped hanger portion **26** (FIG. 4) from which the upper end of an interlock strap **28** suspends for actuation of an interlock channel as indicated generally at **30**; as explained in detail in the earlier referenced patents.

As indicated at **32** (FIGS. 1, 3, 4) card holders of channel form are mounted on the face of the panel **16** to extend horizontally across the voting format between the horizontal rows of voting levers, whereby candidate names and referendum question labels may be inserted in appropriate positions below the voting levers. Thus, the voter is instinctively guided to turn down the correct lever to "point" to and partially cover each label designating his choices. Also, as indicated at **34** (FIGS. 1, 4), the front panel plate **16** is apertured to provide openings through which the voter may "write-in," on a paper sheet carried inside the machine, the name or names of candidates he may prefer over the candidates listed on the "candidate labels," whenever such "write-in" privileges are available.

In the case of the voting machine construction as shown herein, arrangements are provided whereby two write-in votes may be cast in connection with any one vertical column of candidates, without additional interlock arrangements; thereby doubling the write-in capacity of a given machine while still requiring use of only one write-in paper ballot sheet. As illustrated herein these features

and advantages may be obtained by constructing the voting machine to include as indicated at **36** (FIGS. 1, 3) an identification card carried by a holder of channel form mounted to extend horizontally across the voting panel just below the line of write-in shutters. Hence, the machine custodian inserts an appropriate card having numbers printed thereon corresponding to numbers carried on the related office caption strips therebelow. As shown in FIG. 5, the write-in paper ballot is ruled lengthwise into segments corresponding width-wise to the write-in apertures, and the segments are numerically identified in correspondence with the office caption numbers presented below the write-in shutters. FIG. 5 also indicates how a write-in vote will appear to the vote canvasser when the voter has elected to write-in his choice for the office No. 2, by raising shutter No. 2 and writing-in the name of his preference. In primary elections each paper ballot entry will be further identified as to party affiliation as by means of a marginal punch device as illustrated at **38** (FIG. 3) which will be described in detail hereinafter.

As shown in FIG. 1, the front panel is apertured as indicated at **40** to provide a window of such size as to permit writing-in a plurality of names, such as in connection with an election for President-Vice President and/or for his electors. As shown at **34** the machine front panel is also formed with rectangular shaped windows through which a voter may write-in single personal choice names on a "write-in" ballot sheet as indicated at **44** (FIGS. 3, 4, 5). These write-in apertures are disposed above each vertical column of voting levers and are obliquely disposed as shown to render the writing-in operation more convenient to the voter. As shown in the drawing herewith, each window is provided with a pair of shutters as indicated at **46, 48**; the shutters **46** in the drawing herewith being unlined and showing white, while the shutters **48** are lined to show dark to facilitate shutter identification. It is to be understood however, that each aperture may accommodate only one write-in entry.

As shown herein each shutter **48** connects through an interlock strap system to the main interlock channel **30** (FIGS. 2, 4, 6). This strap system includes an upper strap **50** (FIGS. 2, 4), to which is riveted a lower strap **52** which terminates at its lower end in a wedge portion **54** (FIG. 4) engaged in the interlock channel **30**. Hence, it will be understood that each write-in shutter will be operationally interlocked in association with its corresponding voting lever interlock strap **28**, as shown in FIGS. 2, 4, to prevent overvoting. The machine also includes the conventional strap restoring or "return" bar as shown at **58** (FIGS. 1, 2, 4, 6) which passes through apertures in all of the interlock straps, which serves to restore all interlock straps to "home" position at the end of the voting cycle.

When a voter first enters the machine the main operating control lever **60** (FIG. 1) stands at the left hand position on the voting unit. He moves this handle to the right to set up the machine for voting: the "return" bar **58** being thereby shifted to its uppermost position whereby the voting lever interlock straps and the write-in shutters and their interlock straps are all freed for vertical displacements. The voter than makes his voting selections by turning down the appropriate voting levers and/or by opening appropriate shutters and writing in his preferred selections under control of the interlock systems as explained hereinabove.

Then, to register his selections and to exit from the machine the voter pulls the master control lever **60** towards the left as viewed in FIG. 1. During the initial stage of this lever motion the counter mechanisms are actuated in accordance with the voting lever selections; and then further progress of the master control lever **60** towards the left drives the lower "return" bar **58** to move down and to return the voting levers and interlock and shutter straps to "home" positions. Also, during the last phase of travel of the lever **60** a ratchet type linkage system as indicated at **62** (FIG. 3) will cause the mechanism to operate for advancing the write-in ballot sheet **44** thereby restoring the machine in preparation for the next voter.

A party primary control bar **70** (FIGS. 1–4, 6–10) is slidably supported on the panel **16** to extend horizontally below each row of voting spindles and is notched as indicated at **72** to receive pins **75** (FIG. 4) which are selectively insertable in crank arm portions **76** of the voting lever units whereby to operatively interconnect any desired voting lever or levers with its related party control bar **70**, as may be prescribed by the ballot format. The parts are so arranged that turning of any voting lever (which is connected to its bar **70**) will cause the bar **70** to shift horizontally. It will be understood that each crank arm **76** includes a stud **77** (FIGS. 8, 9, 10) for engagement in the associated notch portion of the corresponding bar **70** to operably interconnect the parts.

Corresponding to each party row bar **70** a control spindle **76** (FIGS. 2, 4, 6, 8, 10) is carried by panel **16** in operative engagement with the party bar so as to be rotated in response to lateral shifts of the bar. Each spindle **76** carries a rocker arm **78** (FIGS. 1, 2, 6, 8, 10) connecting at one end to a control strap **79** which hooks at its lower end with the return bar **58** (FIG. 4). At its other end each rocker arm **78** carries a monitoring stud **80** (FIGS. 2, 8, 10) for connection to tie straps as indicated at **82–84** if and when needed. As shown in FIG. 8, the tie straps **82–84** pivotally connect to the uppermost control spindle of each group, but have lost motion connections with the other spindles of that group. In vertical alignment with the control spindles **76** an auxiliary interlock channel module **86** (FIGS. 1, 2, 4, 6) is attached to the main channel **30** to receive auxiliary straps **87** depending from the control straps **79** when required according to the dic-

To program the machine, for example in accordance with the ballot arrangement shown in FIG. 1, and to permit secret Primary voting, the custodian will interconnect the control spindles **76** of the top three rows by means of the tie strap **82** and will interconnect the next two spindles by a tie strap **84**. Also, he will hang auxiliary straps **87** from the control straps **79** of spindles numbered **1** and **5**; thereby limiting the voter to make selections in only one of the Party groups. When the voter makes his initial selection within either Party group by turning any voting lever **18** he automatically selects his Party group, and activates the interlocks described hereinabove and prevents his voting outside this group.

Should the voter inadvertently turn a wrong party spindle or change his mind and wishes to reselect another Party, he may do so by pulling down on a "retractor knob" **90** (FIGS. 1, 4, 7) which drives a comb bar **92** (FIGS. 2, 4, 7, 8) down against the action of a return spring **94** (FIG. 2). The comb bar is formed with cam surfaces engaging studs **96** carried by each primary bar **70** to restore the latter and all previously selected candidate levers and controls to home positions. The voter is now free to commence his voting operation anew.

To cause write-in selections to be properly identified as to party affiliation, a perforator control bar **98** (FIGS. 2, 4, 8, 10) is slidably mounted alongside a side bar **100** (FIGS. 2, 8, 10) which shifts vertically in response to movements of the master control lever **60**. The bar **98** is connected to the side bar **100** by means of a lost-motion stud and slot device as indicated at **102** (FIGS. 2, 8) so that whenever the side bar rises (upon motion of lever **60**) it forces the perforator control bar **98** to rise also. At its top end the bar **98** bears upwardly against a pivot arm **104** (FIGS. 2, 4) which bears upwardly against the bottom end of a strut **106** depending from a cam plate **108**. Hence movement of lever **60** prepositions a perforator control bar **110** to become engaged with all of the punches **112**. Bar **98** is notched as shown at **114** (FIGS. 4, 8, 10) to receive studs **116** carried by primary bars **70** when the latter are displaced laterally in response to any voter selection within that party group.

If and when the voter lifts a write-in shutter to write-in a voting selection, he automatically causes the paper ballot perforating mechanism to be engaged as explained hereinabove. However, upon turning of a voting lever **18** he will thereby automatically select his party preference as described hereinabove. At the same time the lateral shifting of his selected primary bar **70** will cause its stud **116** to draw into vertical supporting engagement with the corresponding notch **114** of bar **98**. Then upon completion of his voting cycle, restoration of lever **60** to the left will permit bar **98** to lower to a degree corresponding to the position of the blocking primary bar, thereby causing the perforation bar **110** to withdraw to an appropriate degree so as to set the perforator to punch the paper ballot with the appropriate number of perforations, according to the party group selected. A spring as indicated at **118** (FIG. 2) is provided to maintain the members **98–104–106–108** in relative bearing relationships throughout their operations.

As shown by way of further example in FIG. 10, the machine may be readily programmed to accommodate an entirely different ballot requirement, such as whenever the ballot requires presentation of an unusual number of voting lever columns on the machine. In such case two or more banks of voting levers and office designations must be presented to the voter. Thus, as shown in FIG. 10, party A candidates may for example be assigned to rows **1** and **5**; party B candidates to rows **2** and **6**; and so on. Then to complete the appropriate interlock arrangements tie straps **120, 121, 122** are interconnected between the studs **80** of the rocker arm **78** of rows **1** and **5**, and of rows **2** and **6**, and rows **3** and **7**, respectively, and so on, as shown in the drawing herewith. To complete the interlocking arrangement auxiliary straps **87** (FIG. 6) are attached to control straps **79** at positions **1, 2, 3**, to engage in the auxiliary interlock control **86**.

Thus it will be appreciated that the machine may be easily and quickly reprogrammed at any time by the machine custodian to suit the machine to a large variety of secret and automatically selected party choices and/or offices, as may be prescribed by various ballot requirements.

What is claimed as my invention is:

1. In a voting machine having a face panel,

a plurality of rows of candidate levers on said face panel,

a party primary control bar slidably mounted on said face panel in parallel association with each of said plurality of rows of candidate levers, said party primary control bars being movable between first and second positions,

interlock means connected to said party primary control bars and actuated in response to movement of at least one of said party primary control bars from its first position to its second position to prevent movement of at least some of the other party primary control bars,

connector means for selectively interconnecting any of said candidate levers in a row to its corresponding party primary control bar as required by a primary ballot format, said connector means being operable to shift the associated party primary control bar from its first to its second position in response to actuation of the interconnected candidate lever, thereby permitting a voter automatically to select his party choice upon making his initial candidate selection without publicly declaring his party affiliation.

2. A voting machine as set forth in claim **1** wherein a paper ballot strip is provided, and means for exposing successive increments thereof are available to the voter for writing-in his personal choice vote selections on said paper ballot strip, a ballot strip marking device under control of said party primary control bar for automatically marking each write-in vote on said paper ballot strip with a party affiliation identification.

3. In a voting machine having a face panel, a plurality of rows of candidate levers on said face panel, a party primary control bar slidably mounted on the face panel in parallel association with each row of levers, means for selectively interconnecting any of said levers to its corresponding control bar as required by the primary ballot format, means operably interconnecting each said control bar with an interlock means, thereby permitting the voter to automatically select his party choice upon making his initial candidate selection without publicly declaring his party affiliation while automatically setting up interlocks to limit all of his candidate selections to within the selected party only, and a manually operable vote selection retraction device to permit the voter to restore a previously shifted party primary control bar to its home position thereby restoring all voted levers and said interlock mechanism to inoperative conditions.

4. In a voting machine having a face panel, a plurality of rows of candidate levers on said face panel, a party primary control bar slidably mounted on the face panel in parallel association with each row of levers, means for selectively interconnecting any of said levers to its corresponding control bar as required by the primary ballot format, means operably interconnecting each said control bar with an interlock means, thereby permitting the voter to automatically select his party choice upon making his initial candidate selection without publicly declaring his party affiliation while automatically setting up interlocks to limit all of his candidate selections to within the selected party only, and an interconnect device to adapt the machine to a ballot format wherein more than one row of voting levers are assigned to a single party, said interconnect device comprising means coupling party-associated of said party primary control bars to said interlock system so that the initial vote selection on any party-associated row of voting levers will automatically set up the interlock system so as to prevent subsequent voting of levers outside of the party group.

5. In a voting machine having a face panel, a plurality of rows of candidate levers on said face panel, a party primary control bar slidably mounted on the face panel in parallel association with each row of levers, means for selectively interconnecting any of said levers to its corresponding control bar as required by the primary ballot format, means operably interconnecting each said control bar with an interlock means, thereby permitting the voter to automatically select his party choice upon making his initial candidate selection without publicly declaring his party affiliation while automatically setting up interlocks to limit all of his candidate selections to within the selected party only, the office designations and party-affiliated candidates appearing in a plurality of alternatively disposed rows, an interconnect device provided to comprise means operatively coupling together alternative party primary control bars so as to shift in consonance upon the initial vote selection whereby only one interlock connection device for each party is required to prevent subsequent voting of levers outside of the party group.

6. In a voting machine having a face panel and a plurality of rows of candidate levers on said face panel, in which different rows are assigned to different political parties, the improvement comprising,

a political party control bar slidably mounted in association with each row of levers,

interlock means actuated in response to movement of the first moved one of said control bars to block movement of the remainder of the bars excepting those which may be associated with the political party to which the first moved bar is assigned,

and means for shifting each control bar in response to actuation of any of the candidate levers in its associated row and including mechanism for preventing candidate lever actuation except incidental and

subsequent to shifting of the associated bar whereby selected actuation of the first candidate lever restricts subsequent voting to the political party with which the selected candidate is associated.

7. In a voting machine having a face panel provided with a plurality of rows of candidate levers in which different rows are assigned to different political parties, the improvement comprising,

interlock means connected to individual candidate levers for limiting voting within each political party,

and interlock means interconnecting the rows of candidate levers assigned to different political parties and actuated in response to actuation of the first selected candidate lever for limiting subsequent voting to that political party with which said first selected candidate lever is associated.

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S. A. WAL, *Assistant Examiner.*

U.S. DEPARTMENT OF COMMERCE

PATENT OFFICE

Washington, D.C. 20231

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,408,002 October 29, 1968

Afton Virgil Martin

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 14, "and" should read -- an --. Column 4, line 35, after "dic-" insert -- tates of a given primary ballot. --.

Signed and sealed this 10th day of March 1970.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents