

Feb. 10, 1942.

F. H. M. HART ET AL

2,272,371

VOTING MACHINE OF THE RECORDING TYPE

Filed Dec. 30, 1939

6 Sheets-Sheet 1

FIG. 1.

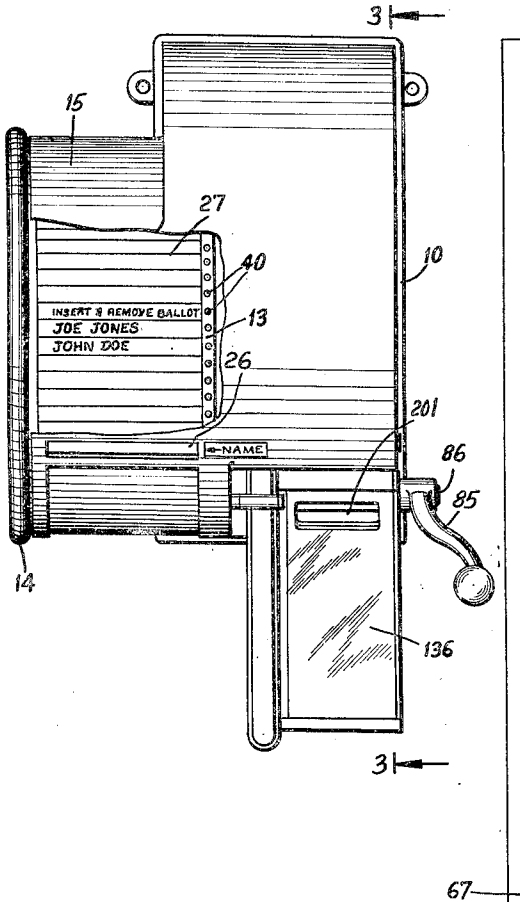


FIG. 2.

OFFICIAL COUNCILMANIC BALLOT for the GENERAL ELECTION November 2000 CITY OF PACIFIC Atlantic County 135th Election District 1411th Assembly District	
CANDIDATES FOR THE COUNCIL	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

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6 Sheets-Sheet 2

FIG. 3.

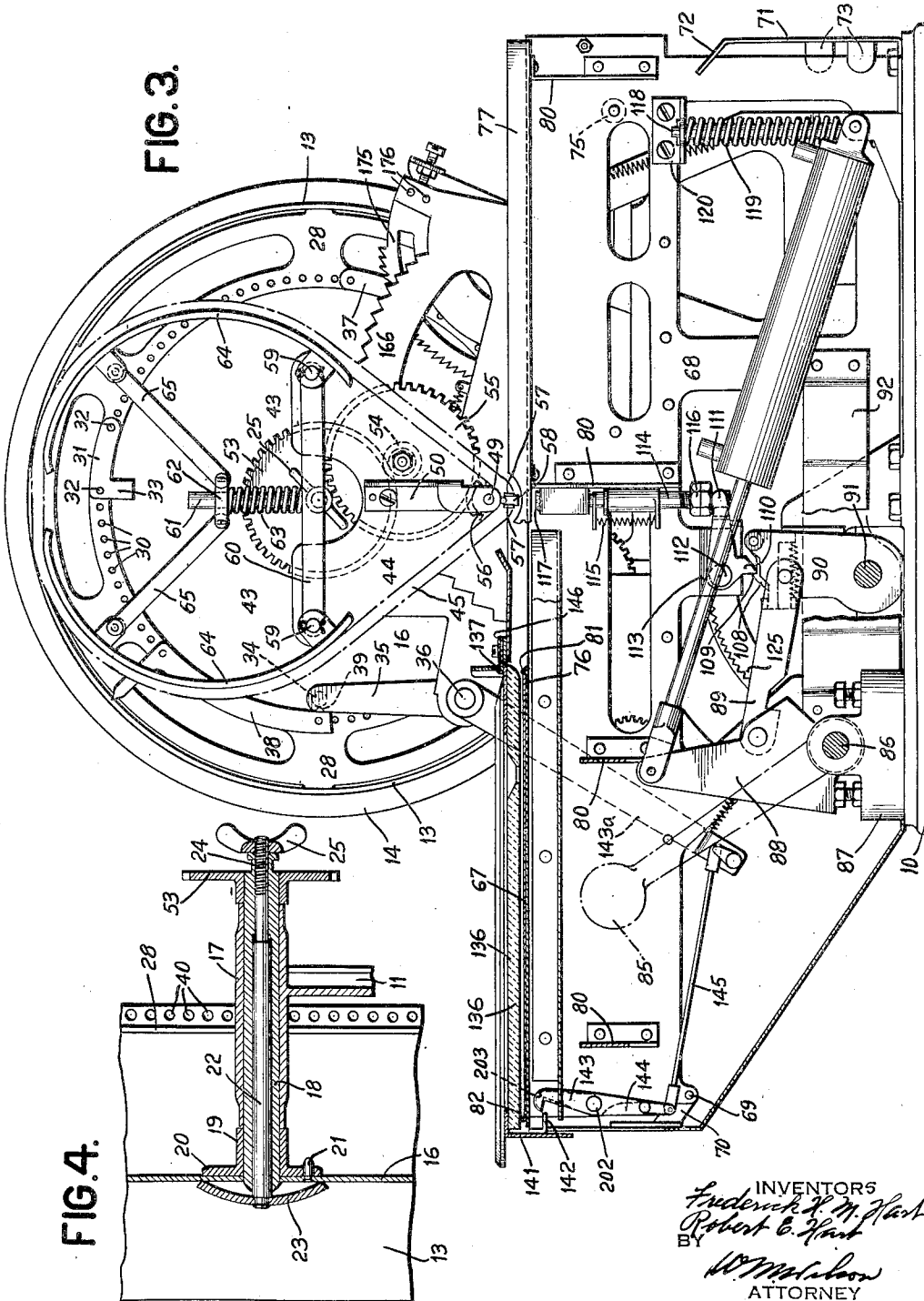
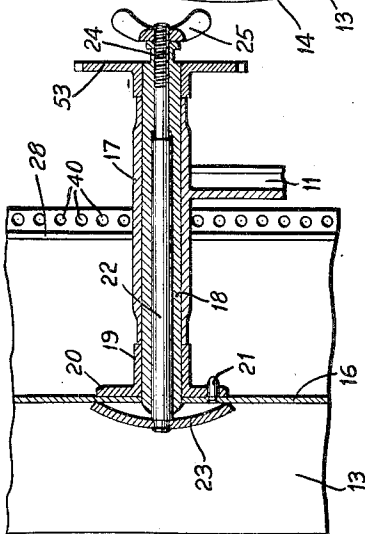


FIG. 4.



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6 Sheets-Sheet 3

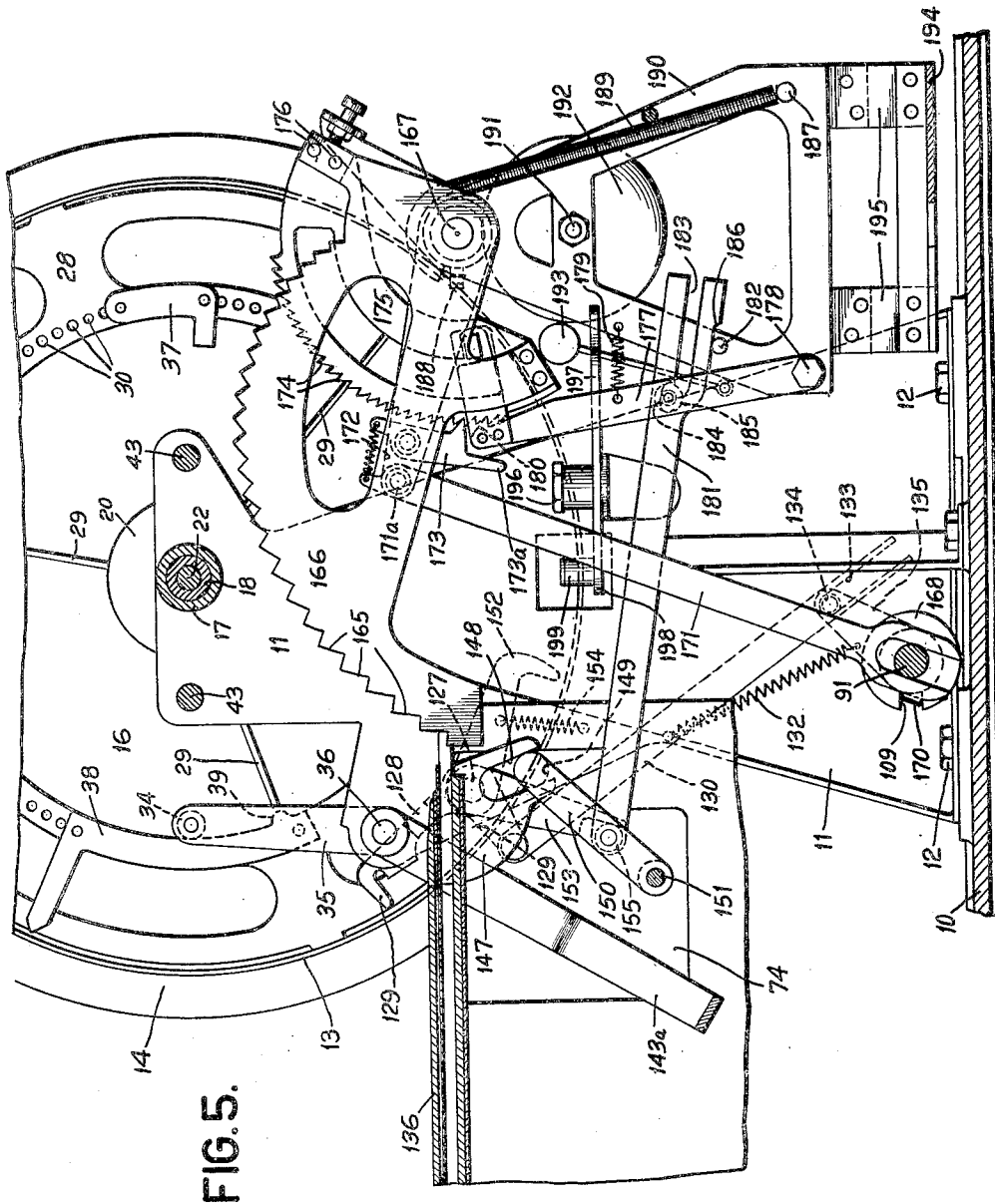


FIG. 5.

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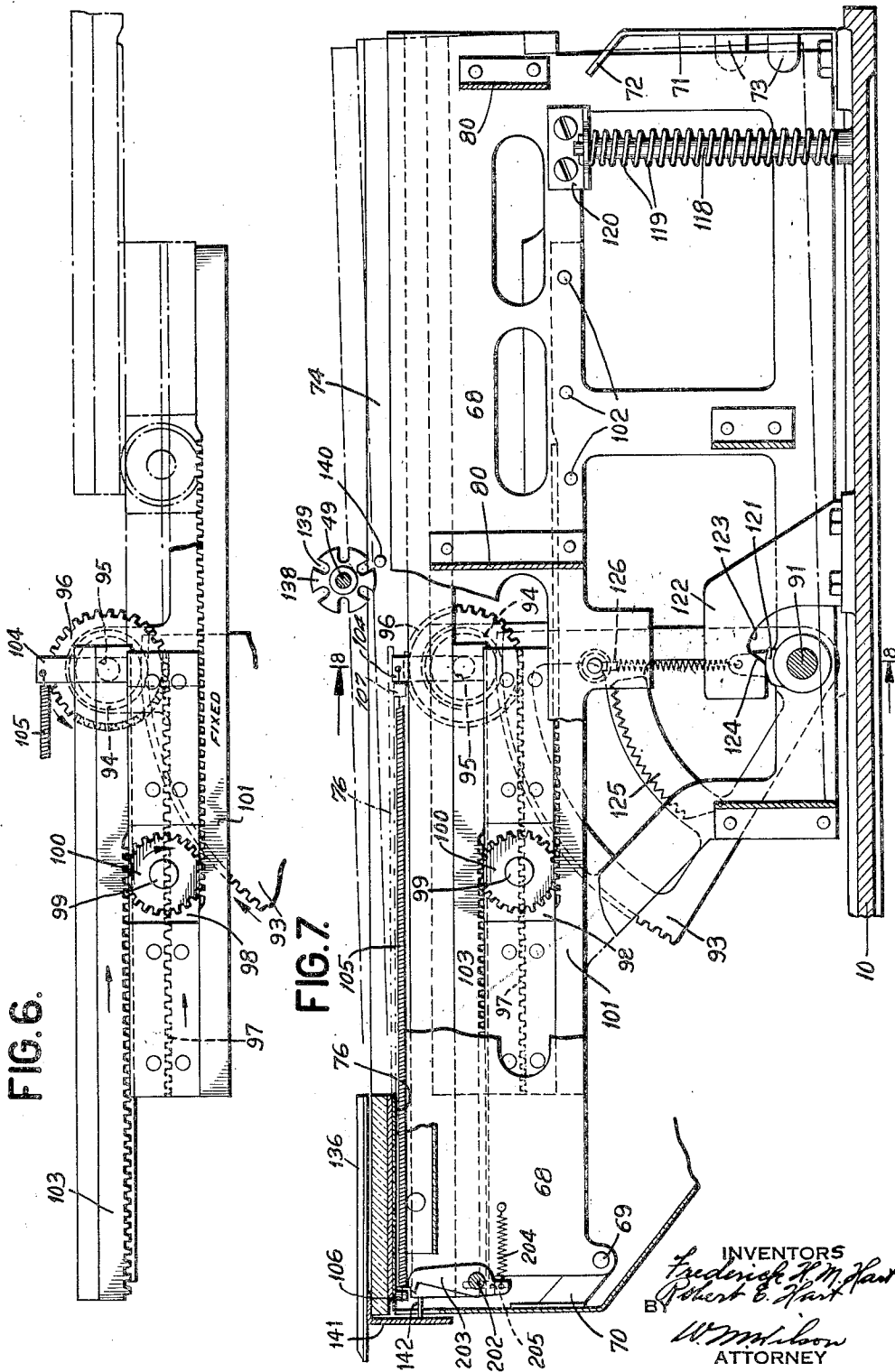
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VOTING MACHINE OF THE RECORDING TYPE

Filed Dec. 30, 1939

6 Sheets-Sheet 5

FIG. 9.

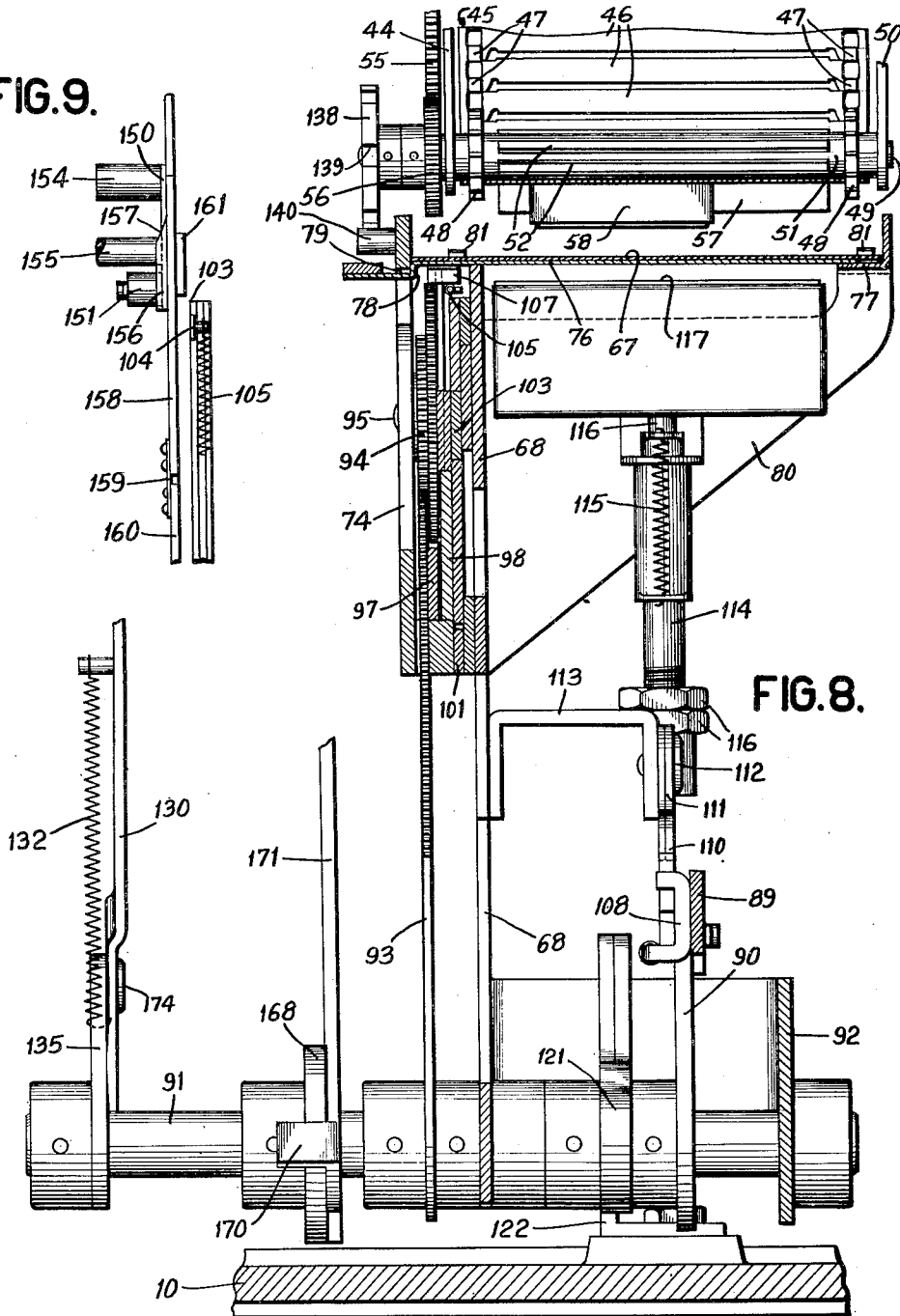


FIG. 8.

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VOTING MACHINE OF THE RECORDING TYPE

Filed Dec. 30, 1939

6 Sheets-Sheet 6

FIG. 11.

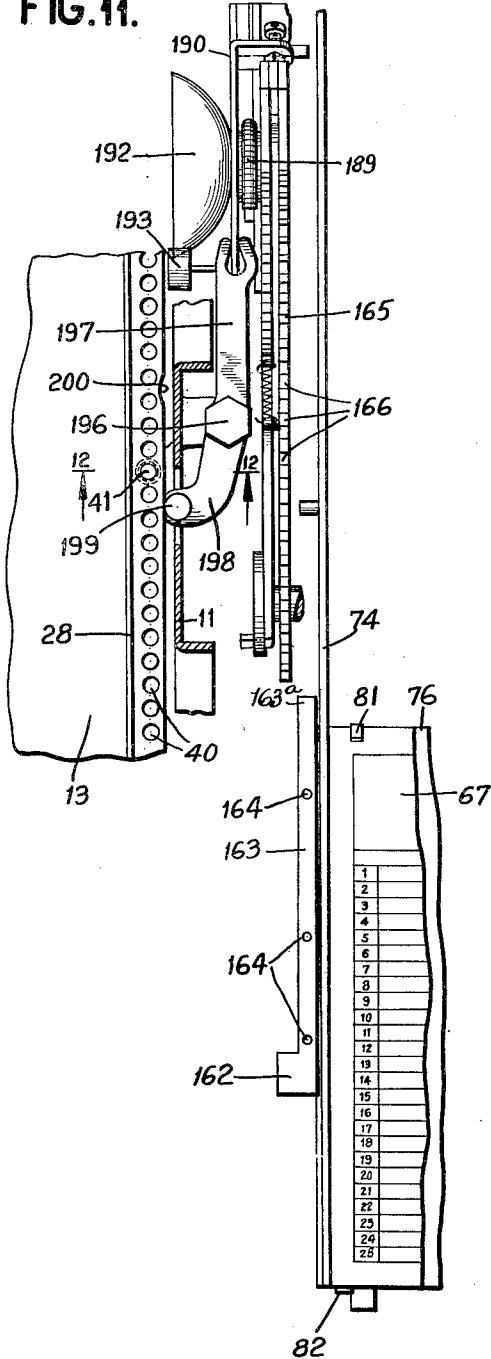


FIG. 10.

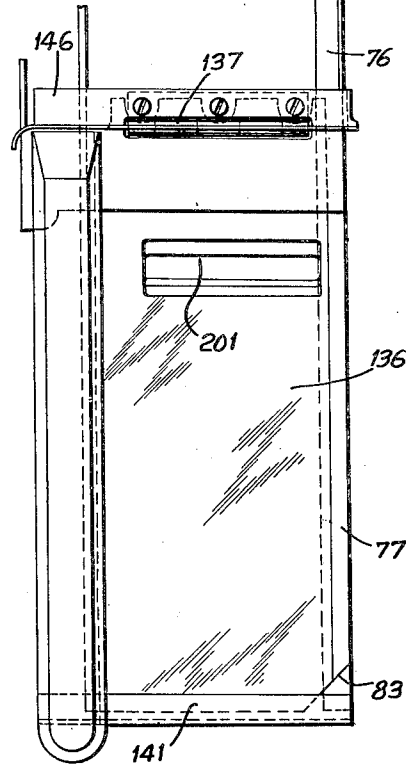
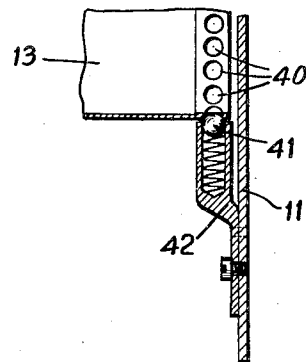


FIG. 12.



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UNITED STATES PATENT OFFICE

2,272,371

VOTING MACHINE OF THE RECORDING
TYPE

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Application December 30, 1939, Serial No. 311,846

14 Claims. (Cl. 101—94)

This invention relates to voting machines and, more particularly, to machines of the recording type wherein the selected candidates' names are recorded upon a ballot inserted in the machine.

In former procedures for voting, the selection and designation of the candidates' names running for election has been accomplished by having the voter designate the selected candidates by writing their names on successive lines of the ballot. The objection to such form of designation is that, while the voter may personally choose his candidates and designate them in the form of handwriting, in many instances such handwriting is illegible and would thereby subject the ballot to the possibility of being thrown out on the ground that the designation has not been legally made. In addition to the above objection the writing of the candidates' names on the ballot is not an effective guard against the tampering of votes since erasures may be readily made and the ballot otherwise changed or marked, permitting dishonesty in the election.

It has, heretofore, been the object of prior inventions to overcome the last named objections by providing means whereby the selection of candidates' names previously printed on the ballot is designated by marks which are not capable of change or alteration without detection. Such marks are usually made by the punching of holes aside of the names of the candidates. Another form of machine, where the importance of printing candidates' names on successive lines of a ballot is recognized, constitutes an arrangement whereby printing members in the form of hand operated stamps are utilized. Where the selection involves a large number of candidates obviously such a system leads to confusion and to a great loss of time in voting.

The broad object of the present invention is to provide an improved construction of a voting machine which incorporates the provision of a series of printing members representing candidates' names which are easily selectable by the operator and from which selected printing members successive recordings may be effected on a plurality of lines of a ballot.

More specifically, it is an object of the present invention to provide a voting machine of the recording type wherein the printing members may be selected by the operator by an arrangement which will facilitate their selection and which operation of the machine may be performed without a great deal of skill on the part of the voter. In this connection, it is a still further object of the invention to provide a simple

and effective means whereby printing from the selected printing members may be performed speedily and by operations of the machine which are simple to effect and which do not necessitate knowledge of, and skill and experience by the voter.

Summarizing the last named objects of the invention, it is evident that the main object of the invention is to provide a voting machine of the recording type, the use of which for voting by selection of candidates' names is so simplified as to reduce to a minimum the possibility of the voter failing to record his choice of candidates' names. This is attained in the present machine by following principles of operation which require a minimum number of settable parts and involve the utilization of certain novel precautionary devices which insure a perfectly operating machine at all times.

While the voting machine, hereinafter to be described in detail, is generally useful in different forms of voting requiring a selection of candidates' names, propositions, or proposed amendments, the present machine is particularly designed for use in a procedure of voting designated, at the present time, as voting according to "proportional representation." In this form of voting there is a selection of candidates in the usual manner but with respect to a particular office the voter may, at will, select a plurality of candidates in their order of choice. The selection of candidates in this manner gives a wider expression of the minds of the voters and more clearly represents the choice by the voters made with regard to the particular qualifications of the candidates running for an office. The summarizing of the results of the election also requires, for voting according to the proportional representation system, the sorting out of the ballots so as to be able to determine the particular candidates representing the first, second, third, etc. choices of the voters.

In the form of voting where candidates' names are written on the ballot, obviously illegible handwriting greatly increases the time required for sorting of the ballots. In the present machine the printing of the ballots in a legible and in an unalterable manner permits of the speeding up of sorting operations and greatly insures honesty in the election by the elimination of fraud and dishonesty.

In voting according to the proportional representation system, provision is made in the law, in some instances, for the voting of candidates' names not previously selected and which are not

represented on the candidate sheet presented to the operator. While this may, ordinarily, be attained by simply removing the ballot before or after the printing of the candidates' names by the machine it is essential that the selection of such candidates' names be also designated on the ballot in their order of choice. If the voter comes to that part of the selection of candidates which requires the selection of candidates in order of choice and he finds that his choice is not represented on the candidates' names already selected, the voter should be permitted to exercise his franchise by writing in at such line of the ballot a candidate which would be more desirable to him and which would represent his first, second or third choice.

As previously stated the selection of the candidates' names is effected by the operator and the present improvement comprises a drum which upon its rotation brings to a printing line a selected printing member so as to print upon the ballot sheet the name of the desired candidate. An operation of the operating lever of the machine will effect the printing impression on the ballot and for successive operations of the operating lever the ballot is moved step by step to present successive lines to the printing position. Obviously, where a candidate's name is to be written the ballot should not be presented to the printing position and in the present improvement is so located that the name of the candidate may be written on the line which would ordinarily be printed.

It is, therefore, a more specific object of the invention to provide an arrangement whereby the voter may indicate his choice of a candidate which has not been presented for his consideration by writing the candidate's name at a line of the ballot sheet which will not only designate the candidate but will also indicate the order of choice.

While the construction of the machine is based upon principles of operation which lead to a simple embodiment and which permit the efficient use of the machine without a great deal of knowledge and skill by the voter it is preferable to incorporate in the voting machine certain devices, which are in the nature of precautionary devices, to insure the proper performance of the machine regardless of the improper acts of the operator, which may be intentional or accidental.

It is, therefore, an object of the invention to provide interlocking devices between the operating parts of the machine and among the various interlocking devices provided there may be mentioned, without regard to their importance, the provision of; an interlocking device to prevent positioning of the candidates' names indicator drum during the operation of the operating lever which effects the candidate name printing operation; a printing control device which prevents a printing operation if a selected type member is not at the exact printing position; a means which releases the lid when the drum is only at a certain position; an interlocking means which provides for the locking of the candidate's name indicator drum when the lid which gives access to the ballot is raised; a locking means which prevents elevation of the lid when the drum is at a certain position when the operating lever has been partially operated, and an interlocking means to lock the operating lever when the aforementioned lid is elevated to enable the insertion or removal of the ballot. Also associated with the above described interlocking devices and

also forming part of the means incorporated in the machine to insure the proper performance of the manually operated parts is a full stroke mechanism for the operating lever. This is, however, of the customary construction and will be recognized when the specification progresses to that point where its description is involved.

Other objects of the invention, and which are relatively important, is the provision of an alarm which designates when the operator has made a full and complete recording of the selected candidates, and the provision of a construction whereby the ballot, as it is successively printed, is brought to a position where it is visible by the operator so that the latter may know the progress he is making in recording the selection of candidates by him.

Other constructions of the machine which are provided for the purpose of enhancing the value of the machine and which insure its proper performance and efficient operation will be clearly recognized as the construction of the machine is understood by reference to the following specification.

It should also be understood that while the present machine has been especially designed for use as a voting machine many of the novel arrangements disclosed herein may be found applicable to machines of the same, or other types. It should, therefore, be understood that the present disclosure is illustrative and should not be considered as restrictive.

The description of the machine which is contained in the following specification is divided into sections relating to the different features of the machine and which, in effect, also constitute objects of the invention.

Other objects of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose, by way of example, the principle of the invention and the best mode, which has been contemplated, of applying that principle.

In the drawings:

Fig. 1 is a plan view of the assembled voting machine, the cabinet being partly broken away to disclose a part of a printed candidate sheet.

Fig. 2 is a representation of the preferred form of ballot.

Fig. 3 is a longitudinal sectional view of the voting machine on an enlarged scale and is taken on the line 3—3 of Fig. 1.

Fig. 4 is a detail sectional view showing the manner of removably attaching the indicator drum to the machine and also the means for rotatably mounting the same.

Fig. 5 is a partial longitudinal sectional view of the machine showing particularly the means for controlling the step by step movement of the carriage carrying the ballot.

Fig. 6 is a detail view, in side elevation, showing the gear and rack connections between the operating lever of the voting machine and the carriage containing the ballot, whereby a small movement of the operating lever will cause the carriage carrying the ballot to be moved an increased extent.

Fig. 7 is a longitudinal sectional view of the parts provided at the lower part of the voting machine and shows, particularly, the reciprocable frame which carries the ballot to be printed, and the means whereby the reciprocation of the frame is effected to cause the candidate name printing operation.

Fig. 8 is a cross sectional view taken on the

line 8—8 of Fig. 7 and is shown on an enlarged scale.

Fig. 9 is a detail plan view showing the preferred form of interlocking device which prevents the operation of the operating lever of the voting machine when a lid which provides access to the ballot is elevated.

Fig. 10 is a detail view showing in plan the construction of the lid of the machine which provides access to the ballot and to the carriage on which the ballot is placed.

Fig. 11 is a detail view showing the preferred form of construction wherein as determined by the position of the indicator drum the carriage carrying the ballot may be stopped to bring the selected printing line to position for an autographic notation, instead of to a position whereby an imprint of a candidate's name would ordinarily be effected.

Fig. 12 is a detail view disclosing the preferred form of aligning device for the candidates' name indicator drum.

The various parts of the machine rest upon a base plate 10, best shown in Figs. 3, 5 and 8. Secured to the base plate 10 is a vertically arranged frame plate 11 which is secured to the base plate 10 by means of bolts 12 which pass through the web feet of the frame plate 11 and into the base plate 10. The frame plate 11 carries and supports many parts of the machine and projecting from the frame plate 11 are other supporting frame plates and members which will be referred to as the specification progresses to the point where their reference and description is necessary.

Candidate name selecting drum

The candidate name selecting drum consists of a circular band 13 (Figs. 4 and 5) which is formed at the left end with an overturned portion forming a ring 14. As best shown in Fig. 1, when the cabinet 15 is in position to cover the machine, the ring 14 extends outside of the cabinet so that it may be manually grasped by the person operating the machine to rotate the drum to select a desired candidate's name for printing upon a ballot. The band 13 and ring 14 are carried by a disc 16 which is arranged within the band 13 substantially centrally of the width of the band 13. As best shown in Fig. 4 the supporting plate 11 carries a hub 17 in which fits a tube 18 to which is secured a tube 19 which overlies the tube 18. The tube 19 is provided with a flanged portion 20 having a hole which receives a pin 21 carried by the disc 16. In order to retain the pin 21 in registry with the hole in the flange 20 there is provided a rod 22 which has a circular cup-shaped disc 23 secured at one end, the rod 22 fitting within the bore of the tube 18. The right end of the rod 22 is threaded as designated by the reference numeral 24 (Fig. 4) and the threaded portion extends beyond the right end of the tube 18 so that a winged nut 25 may be screwed thereon.

The above construction is formed for the purpose of enabling the candidate name selecting drum to be removed from the machine as the necessity comes about. The candidate name selecting drum is placed in operative position by causing the pin 21 to register with the hole in the flange 20 of the tube 19. Thereafter the rod 22 is inserted in the bore of the tube 18 and the winged nut 25 is rotated to place the parts in the assembled position shown in Fig. 4. By the above arrangement the drum is rotatively mounted and

firmly supported for such rotation by the frame plate 11.

As best shown in Fig. 1 carried by the band 13 is an indicator sheet 27 upon which is imprinted the names of the candidates running for the particular offices involved in the election. By the rotation of the drum a selected candidate's name may be brought into view in a window 26 formed in the cabinet 15. As will be subsequently described hereinafter by bringing each candidate's name into view a ballot printing device will be adjusted so that a printing member or slug corresponding to the name selected will be brought to a printing line. In order that there may be no allegations of favoritism it is preferable to arranged the names of the candidates on sheet 27 in alphabetical order. This orderly arrangement also facilitates the selection of candidate's names desired by the voter operating the machine.

Mounted within the band 13 at the right-hand end thereof is a centrally apertured disc 28 (Figs. 3 and 5) and said disc is attached to the band 13 by any suitable fastening means. As diagrammatically shown in Fig. 5, extending between the discs 16 and 28 are radially extending ribs 29 which further provide rigidity to the candidate name selecting drum.

The candidate name selecting drum is rotated, as previously described, to select the different candidates names and in order to provide a stop for the drum the disc 28 is provided with a series of holes 30 extending completely around. The stop member for the drum when rotated in a counterclockwise direction comprises a plate 31 carrying studs 32 fitting in the aforementioned holes 30 and secured thereto by some suitable means so that the stop member 31 may be located on the disc 28 in any desired position. In the rotation of the candidate name selecting drum in a counterclockwise direction a depending projection 33 of the stop member 31 coacts with the upper side of a stud 34 carried by an arm 35 secured to a rock shaft 36. During the rotation of the drum the arm 35 is in the position shown in Fig. 3 so that its stud 34 may be engaged by projection 33 to effect the stopping of the drum. In order to stop the drum in its clockwise movement a stop member, similar to the stop member 31 is provided, and is designated in Fig. 5 by the reference numeral 37. This stop member coacts with the underside of stud 34 so as to stop the drum in its clockwise rotation. The stop members 31 and 37 are positioned so that only the names printed upon the candidate name printing sheet 27 may be brought into view.

Also adjustably mounted on the disc 28 is a supplemental plate 38 which has a downwardly extending cam finger 39 the function of which will be hereinafter described. It is pointed out at this time that upon the candidate name printing sheet 27, there is a special designation labeled "Insert and remove ballot" and the plate 38 just referred to is so adjusted upon disc 28 that when the label "Insert and remove ballot" is brought into view the cam finger 39 will be operative to effect a function which will be more clearly described hereinafter.

In order to hold the drum in the position to which it is adjusted, the circular band 13 is formed at its extreme right-hand end with a series of circular apertures 40 (Figs. 11 and 12) with which a spring pressed ball 41 engages. The spring pressed ball 41 constitutes an aligning means of a construction which is well known

and the above described aligning means is carried by a plate 42 secured to the frame plate 11.

Candidate name printing mechanism

The machine is provided with a printing mechanism capable of printing in succession upon a ballot sheet the names of the candidates selected by the adjustment of the candidate name indicator drum. This printing mechanism is preferably constructed in a manner which will now be described in detail.

Extending from the frame plate 11 are a plurality of supporting studs 43 two of which are shown in Fig. 5 and such studs form the supporting means for a vertically arranged frame plate 44.

The means for carrying the printing slugs for printing the candidates' names comprises an endless band designated generally by reference numeral 45 (Fig. 8). The endless band is made up of a series of interconnected links 46 which are pivoted together so as to form a flexible chain. The links 46 are so formed that when interconnected they will provide a series of tooth spaces 47 formed at each end of the links 46, the tooth spaces 47 being received by the teeth of a pair of pinions 48. The pinions 48 are carried by a shaft 49 and the latter is journaled at one end of the frame plate 44 and at the other by means of a bracket 50 (see Fig. 3) which is secured to the frame plate 44. Secured to the shaft 49, as best shown in Fig. 8, is a tube 51 which is fluted so as to provide teeth 52 which fit in between the longitudinal spaces formed between the links 46. The member 51 and the pinions 48, are therefore, the driving members for the endless band and to rotate such members the shaft 49 has a driving connection to the candidate indicator drum.

As best shown in Figs. 3 and 4, secured to the tube 18, which it will be recalled, is rotated by the turning of the drum, is a gear 53 which meshes with a pinion 54 pivotally mounted on the frame plate 44. The pinion 54 is secured to a gear 55 and the latter rotates a pinion 56 which is secured to the shaft 49. Obviously, by the positioning of the drum the shaft 49 will be rotated through the train of gears and pinions 53, 54, 55 and 56.

As best shown in Figs. 3 and 8 each link 46 is provided with a pair of outwardly turned portions 57 providing a channel in which there is inserted a printing slug 58. The latter may be formed of any desirable material but is preferably formed of rubber since a printing impression from the latter may be effected by a light impression against the printing type thereof. It is understood, of course, that the type on the printing slugs 58 correspond to the names on the indicator drum so that by positioning the indicator drum a candidate's name may be selected and a corresponding type slug will be brought to the printing position.

In order that the printing band may be properly supported at its upper end and, furthermore, held rigid, so as to facilitate the rotation of the band, the following means is preferably utilized.

Carried by the studs 59 extending from the frame plate 44 is a bar 60 and said bar carries a rod 61, and between the bar 60 and a collar 62 surrounding the rod 61 is a compression spring 63. Pivotally mounted on the rods 59 are circular supporting plates 64. The collar 62 is connected to the supporting plate 64 by a pair of links 65. From the above described construction

it will be apparent that the extension of the compressed spring 63 will urge the collar 62 upwardly thereby forcing the links 65 outwardly to increase the internal angle between the links 65 thereby spreading the plates 64 outwardly and placing tension upon the printing band. The above described structure supports the printing band in such a way that in contour it is substantially heart-shaped, the upper portion of the printing band being spread outwardly and the lower portion converging towards an apex so as to bring the selected printing slug 58 to printing position to enable a printing impression therefrom without interference from adjacent printing slugs.

Printing of the candidate's name in the order of selection is effected upon a ballot, the preferred form of which is shown in Fig. 2 and identified by reference numeral 67. Reference to the preferred form will disclose the provision of twenty-five printing lines for receiving a like number of lines of printing of the candidates' names. The number of printing lines may be varied in accordance with the different requirements and the number shown herein is to be considered as merely illustrative. As will be more clearly understood as the specification progresses, the printing of the candidates' names is effected in succession in numerical order of printing lines and in accordance with the choice of the voter.

In view of the fact that the ballot is inserted by the operator in the machine at a location removed from the printing line, the machine is provided with an arrangement whereby the ballot is moved from the point of insertion to the printing position, at which time printing operations are effected from the selected type slug. Thereafter, the printed ballot is returned to its normal position for a reason which will be made clearer hereinafter. The printing of the successive lines on the ballot is effected by a repetition of the operation just described. The printing from the selected printing slug is effected by an upward movement of the ballot against the inked type faces and previous to the printing operation the type faces of the selected printing slug are inked. With the above general description in mind, the details of construction of the machine whereby the above functions are performed will now be given.

Referring to Fig. 7, there will be seen a vertically arranged frame plate 68 which is located centrally of the base 10 of the machine. The frame plate 68 is pivotally mounted by a stud 69 which is carried by a bracket 70. For guiding the reciprocating movement of the frame 68, there is secured to the base plate 10 a guide plate 71 which has a slot intermediate of a bent over portion 72 (Fig. 7) which receives the right or rear end of the frame plate 68. In addition to this guide, the plate 71 is also provided with a pair of lugs 73 bent so as to be received at opposite sides of the plate 68. Mounted adjacent the plate 68, as best shown in Figs. 7 and 8, is a supplemental frame plate 74. The frame plate 74 is carried by the plate 68 and is spaced therefrom by suitable spacing members and a number of supporting and spacing studs, one of which is shown in Fig. 3 and designated by reference numeral 75.

The carriage which holds the ballot to be printed comprises a plate 76 and said plate in its reciprocation is guided by an angle plate 77 at its right end as shown in Fig. 8 and is bent at its left end at 78 so as to be guided by a longi-

tudinal slot 79 formed in the frame plate 74. The angle plate 77 is supported by the plate 88 by a plurality of supporting brackets 80, the outline of one of which is shown in Fig. 8. Fig. 3 shows that the angle plate 77 is carried by two pairs of bracket plates 80. It is obvious, therefore, that the longitudinal movement of the ballot carrying plate 76 is suitably guided for a reciprocable movement to position the card from its position of insertion to the printing line. When the ballot is manually inserted in the machine, the rear edge is placed beneath a pair of lugs 81 (Figs. 8 and 11). For suitable locating the ballot on the plate 76 at its forward end, the plate 76 is provided with a pair of bent lugs, one of which is shown in Fig. 11, and designated by reference numeral 82.

While ordinarily, the ballot would be placed upon the carriage plate 76 in the proper printing position with the printed face upwardly, it is preferable to provide means to insure that it is properly located. To this end as best shown in Fig. 2, the angle plate 77 is provided with a plate 93 which is triangular in shape and which registers with the cut corner 84 (Fig. 2) of the ballot 67. Obviously, the ballot 67 cannot be properly placed until there is a registration between the diagonal corner 84 and the member 93.

The movement of the carriage which carries the ballot to printing position is effected by the reciprocation of an operating lever 85 which, as shown in Fig. 1, is operable exteriorly of the machine. The movement of the operating lever 85 from the front to the rear of the machine will rock a shaft 86 (Fig. 3) in a clockwise direction. The shaft 86 is journaled in a bearing 87 secured to the base plate 10 of the machine and secured to the shaft 86 is an upstanding arm 88 to which is pivoted a link 89, the latter being pivotally connected to an arm 90 secured to a rock shaft 91. The rock shaft 91 is journaled in the frame plate 68 and also in a bracket 92 (see Fig. 8) which is carried by the frame plate 68 and through the link connection 89 the shaft 91 is rocked during each rocking of the shaft 86 effected by the movement of lever 85 from the front to the rear of the machine. Secured to the shaft 91, as best shown in Figs. 7 and 8, there is a segment gear 93 which meshes with a pinion 94 rotatably mounted on a stud 95 carried by the side frame plate 74. Secured to the pinion 94 is a gear 96 and gear 96 meshes with rack teeth of a rack 97 which is secured to a slidably mounted member 98. The member 98 carries a pivot stud 99 upon which rotates a gear 100 which meshes with a rack 101 which is fixed to the side frame plate 68 by means of rivets 102 (see Fig. 7). The gear 100 is in mesh with a slidably mounted rack 103. By any suitable guiding means, the member 98 and the rack 103 may be slidably mounted between and in the frames 68 and 74.

From the above arrangement, it will be evident that the rocking of the segment 93 in a clockwise direction will rotate the pinion 94 and the gear 96 rotatable therewith in a counterclockwise direction. This will cause the rack 97 to be moved to the right causing the gear 100 to roll over the fixed rack 101 thereby driving the rack 103 to the right by a rectilinear movement and at a greater speed than member 98 is moved to the right. The above described means for compounding the movement between the segment 93 and the rack 103 is utilized herein to permit a short operating stroke of the operating lever

85 of about 45° and yet permit a relatively long rectilinear movement of the carriage which carries the ballot so that a large number of printing lines on the ballot may be selectively brought to printing position.

The rack 103 carries an upstanding plate 104 and one end of a coil spring 105 is secured to the plate 104 and the other end is secured to a stud 106 which is secured to the plate 76 (see Fig. 7). The spring 105 is normally tensioned so as to cause the normal engagement of a block 107 (Fig. 8) carried by the plate 76 with the upper end of the plate 104, the latter causing the plate 76 to be retained in its normal position so that the ballot may be located on the plate 76 in its normal position.

Obviously, by the rectilinear movement of the rack 103 to the right, the plate 76 will be correspondingly moved through the interconnecting spring 105 and their simultaneous movement will be retained until the plate 76 is stopped by an abutment which thereupon causes the plate 76 to be stopped in its rectilinear movement but the rack 103 will, nevertheless, continue its movement to the extreme right as determined by the full operation of the operating lever 85, spring 105 being, during this time, merely tensioned.

When the operating lever is returned, the plate 104 will come in contact with the block 107 (Fig. 8) thereby positively restoring the carriage or plate 76 to its normal position. The preferred form of means whereby the ballot may be stopped in its movement to selected printing line positions will be subsequently explained in detail, it being noted that at substantially the extreme rearward stroke of the operating lever, the frame consisting of the side frame plates 68 and 74 will be rocked about the pivot 69 to force the ballot against the selected type slug. Before the printing impression is effected, the type faces of the type slug which is in printing position are inked by an inking means now to be described in detail.

Inking mechanism

From Fig. 3, it will be noted that pivoted to the arm 90 is a one-way operating pawl 108 which has a shoulder 109 in the plane of a depending projection 110 formed as an integral part of an arm 111 which is pivoted at 112 to a bracket 113 (Fig. 8) carried by the side frame plate 68. The right end of the arm 111 is forked so as to receive the lower end of a slidably mounted rod 114 which is normally urged downwardly by a spring 115 so that adjusting nuts 116 carried by the threaded rod 114 will rest upon the forked end of the arm 111. At its upper end the rod 114 carries a felt inking member 117 which is saturated with ink. During the rocking of the arm 90 in a clockwise direction the engagement of the shoulder 109 with the downward extremity 110 of the arm 111 will cause the arm 111 to be rocked in a counterclockwise direction thereby elevating the rod 114 and forcing the inking member 117 against the type faces of the selected lug to thereby ink the same. During the operation of the machine the inking member 117 is quickly forced against the type faces and quickly retracted by the spring 115 so as to permit thereafter the rectilinear movement of the carriage 76 without interference by the inking member 117. During the return of the shaft 91 the one-way operating pawl 108 will idly pass by the projection 110 without operating the arm 111, this mode of operation being well

known so that further description of its operation is unnecessary.

Printing operation

The means for effecting the printing impression from the inked type faces of a selected printing lug is effected by rocking the frame comprising the frame plates 68 and 74 about rod 69. From Fig. 7 it will be seen that surrounding a rod 118 fixed to the base plate 10 is a compressed coil spring 119 and the latter is therefore extended between the base plate 10 and a bracket 120 secured to the frame plate 68. The compression of the spring 119 urges the rear end of the frame upwardly but such operation is normally prevented by the engagement of a cam plate 121 secured to the shaft 91 with a downwardly turned portion of a plate 122 which is secured to the base 10.

After the inking operation has been effected and the ballot has been differentially positioned by a rectilinear movement to correlate a printing line with a selected printing lug, the cam 121 will be free of the plate 122 and will register with a cut-out portion 123 thereof permitting the spring 119 to be effected to raise the rearward end of the frame, rocking the latter about the pivotal point 69 and forcing the ballot against the inked type faces to effect the imprinting. During the restoration of the operating lever the cam 123 will engage a cam portion 124 of the plate 122 thereby positively camming the rear end of the frame downwardly to its normal position shown in Fig. 7 where it is retained by the coaction of the cam 123 with the plate 122.

Full stroke mechanism

It is desirable that once the operation of the operating lever 85 is commenced its restoration be prevented until the complete rearward stroke has been effected. It is furthermore desirable to insure that once the operating lever 85 has been moved forwardly to restore it to normal that such operation be continued until it is at normal position.

In the present machine this is preferably carried out by means of a construction which is well known and which comprises a ratchet shaped plate 125 (Fig. 7) which is secured to the segment 93 and with which cooperates a spring pressed retrograde preventing pawl 126. During the initial movement of the segment 93 the pawl 126 will engage the first tooth of the ratchet plate 125 and will then engage the successive teeth in such manner that a reverse movement of the lever 85 will be effectively prevented. When a complete rearward stroke has been effected the pawl 126 will be entirely disengaged from the ratchet teeth of the plate 125 so that during the forward restoration of the operating lever successive engagement between the teeth and the pawl 126 may be effected so as to insure that once the forward restoring stroke is commenced it will be completed.

Interlock to prevent positioning of drum during the ballot printing operation

While without the mechanism now to be described, the machine is practical and operative it is desirable to provide means to prevent the intention or accidental positioning of the candidate indicator drum while a printing operation is being effected from a selected type slug. A simple and effective expedient whereby such

misoperations may be prevented comprises the following described means.

Pivotaly mounted on a stud 127 carried by the frame plate 11 is a bell crank 128 (Fig. 5) which has a finger 129 adapted, when the bell crank is rocked in a counterclockwise direction to enter and be received by one of the circular apertures 40 of the circular band 13. The downwardly extending arm 129 of the bell crank 128 has connected thereto a pitman 130 and the latter is urged downwardly by a spring 132 connected to pitman 130 so that the upper end of an open slot 133 formed in the lower end of the pitman 130 will be in cooperation with the stud 134 carried by an arm 135 secured to the left end of the rock shaft 91 (see Fig. 8).

It is evident that during the initial rocking of the shaft 91 in a clockwise direction, as viewed in Fig. 5, the arm 135 will be rocked in the same direction permitting spring 132 to draw the pitman 130 downwardly thereby rocking the bell crank 128 in a counterclockwise direction causing the finger 129 to enter one of the apertures 40. This locking relationship will be maintained during nearly the complete reciprocation of the operating lever. When the latter approaches its normal position the stud 134 will engage the upper end of the slot 133 raising the pitman 130 upwardly thereby rocking the bell crank 128 in a clockwise direction withdrawing the finger 129 from cooperation with the hole 40 in which it entered thereby unlocking the candidate name indicator drum.

Positioning of the ballot on the ballot carrying carriage

Access to the carriage 76 for the purpose of manually placing a ballot to be imprinted thereon is afforded when a cover or lid 136 (Figs. 1, 3 and 10) is elevated. As best shown in Fig. 1 the lid 136 is in the front part of the machine so that access to the ballot carrying carriage may be readily obtained. The lid 136 is preferably formed of glass or any other transparent material so that as the ballot is printed it is readable and the lid 136 is hinged by means of a hinge 137 to the cabinet of the machine.

Locking device to prevent printing operation if selected type lug is not at exact printing position

It is preferable to incorporate a locking mechanism which will prevent a printing operation from a selected type slug if the selected type lug is not at the exact printing position due to the improper positioning of the candidate's name indicator drum.

The aligning mechanism for the indicator drum shown in Fig. 12 will properly align the drum and therefore, the selected printing slug. By reason of this aligning means the operator will be able to feel the proper positioning of the indicator drum. In the event that a misalignment has nevertheless, occurred the following described means will be operative to prevent a printing operation.

Referring to Fig. 7, it will be seen that secured to the shaft 49 is a disc 138 provided with radial slots 139. Secured to the frame plate 74 is a stud 140.

When the selected type slug is in the proper printing position the disc 138 will be so positioned that during the elevation of the frame to effect a printing operation the stud 140 will enter one of the slots 139.

In the event that the selected type slug is not disposed at the printing position, during the elevation of the frame effected by the action of the spring 119 (Fig. 7) the stud 140 will engage the circular periphery of the disc 138 thereby providing a stop for the elevation of the printer frame. The printer frame will be stopped in such position in its upward movement that contact between the ballot to be printed and the selected type slug will be prevented. Thus it will be evident that it will be impossible to effect even a partial imprint from adjacent selected printing slugs. The lack of such imprint will be an indication to the operator that the indicator drum has not been properly positioned in the operation of the machine involving the printing of the candidate's name on a selected line.

Means to unlock lid when indicator drum is positioned at "Remove or insert ballot" position

Access to the carriage so as to insert a new ballot or to remove the ballot which has been already printed is effected by positioning of the candidate name indicator drum to a certain position of the drum where the label "Insert and remove ballot" is readable through the window 26 (Fig. 1). Referring to Fig. 3, it will be seen that the lid 136 has secured thereto an angle plate 141 which carries a bracket 142. A catch 143 loosely pivoted on a rod 202 is adapted to engage the bracket 142 so as to prevent the raising of the lid 136 until the indicator drum is at a certain position.

This position, as has already been described, is determined by the location of the plate 36 (Fig. 3) on the indicator drum and when the drum is at the required position the cam projection 39 thereon will engage the stud 34 so as to rock the arm 35 slightly clockwise, thus rocking the shaft 36 to which arm 35 is secured. The rocked position of arm 35 is shown in Fig. 3, the indicator drum having been positioned to the "Insert and remove ballot" position. Secured to the rock shaft 36 is a downwardly extending arm 143a and interconnected between an integral extension 144 of the catch 143 and arm 143a is a rod 145. Obviously when shaft 36 is rocked the rod 145 is drawn rearwardly by means of the arm 143a thereby rocking the catch 143 so as to disengage it from the bracket 142. This will unlock the lid 136 and the latter may be raised so as to insert a new ballot or remove the ballot which has already been printed.

Means to prevent elevation of lid when indicator drum is at "Insert and remove ballot" position and operating lever has been partially operated

There has just been described the means which permits the unlocking of the lid when the indicator drum is positioned at the "Remove or insert ballot" position. It is undesirable to permit the elevation of the lid when the drum is at this position in the event that the operating lever has been partially operated. The preferred form of arrangement to lock the lid under these circumstances will now be explained. Referring to Fig. 7, pivoted on the rod 202 on which the catch 143 is pivoted is a supplemental catch 203 which is normally urged by a spring 204 so as to catch over the bracket 142. The catch 203 is provided with a transverse extending lug 205 which is in the plane of the rack member 103 and adapted to be actuated thereby. In the normal position of the rack member 103 the front end of the lat-

ter will coact with the lug 205 thereby positioning the catch 203 so that it is out of engagement with the bracket 142. When the candidate's name indicator drum is at the "Remove and insert ballot" position the catch 143 will be disengaged from the bracket 142 and due to the normal position of the rack 103 the catch 203 (Fig. 7), will likewise, be disengaged from the bracket 142. If the operating lever should be accidentally moved to the rear it will be evident that the rack member 103 will move to the right and will be disengaged from the transverse lug 205, now permitting spring 204 to be effective to rock the catch 203 so as to catch over the bracket 142. This will lock the lid 136 and the latter cannot be unlocked until the operating lever is restored to its normal position.

Means to lock candidate's name indicator drum when lid is raised

It is desirable to lock the indicator drum when the lid is raised so as to prevent possible misoperations of the machine. This is preferably effected by the following described means.

Secured to the lid 136 is a transverse plate 146 (Fig. 10) which has an integral downwardly extending plate 147 (Fig. 5) provided with a cam slot 148 in which fits a stud 149 carried by an arm 150 pivoted at 151 to the frame plate 74. Mounted on the stud 127 is a bell crank which consists of an arm 152 provided at its extremity with a finger adapted to enter one of the aligning holes 40 (Fig. 12) and also with a downwardly extending arm 153. Secured to the arm 152 is a spring 154 said spring rocking the bell crank 152-153 in a clockwise direction so that the lower end of the arm 153 engages a stud 155 carried by the arm 150.

Obviously when the lid 136 is elevated the cam slot 152 engaging the stud 149 will rock the arm 150 forwardly. This will permit the spring 154 to rock the bell crank 152-153 so that the finger which is part of the arm 152 will enter one of the holes 40 thereby securely locking the indicator drum.

Means to lock the operating lever when lid is elevated to enable insertion or removal of ballot

It is preferable to lock the operating lever 85 when the lid is raised to prevent possible misoperations.

A simple and effective means for effecting this function is performed by an arrangement which will now be described. Referring to Fig. 9, it will be seen that the arm 150 is in the path of the block 156 and said block is provided with an inclined cam surface 157. The block 156 is secured to a plate 158 which has a flexible plate connection 159 to a plate 160 attached to the side frame plate 74. Also secured to the plate 158 is a block 161.

From the previous description it will be recalled that when the lid is elevated the arm 150 is moved forwardly thereby coacting with the inclined cam surface 157 to move the plate 158 to the right as viewed in Fig. 9, placing the block 160 in the path of movement of the rack 103. From Fig. 6 it will be evident that if the rack 103 is locked against its movement to the right in the manner just described, the operating lever will be effectively locked through the train of operating gears and racks previously described. This

will prevent any rearward movement of the operating lever as long as the lid is elevated.

Means for controlling the successive positioning of the ballot for successive printing operations

As previously described, the ballot 67 is adapted to occupy a plurality of printing positions so as to successively receive the imprint of the candidate's names on the lines provided therefor. This operation is effected by causing the step by step positioning of the carriage carrying the ballot. It will be recalled that during the operation of the operating lever the plate 76 carrying the ballot is moved rearwardly through the interconnecting spring 105. The extent of rearward movement of the plate 76 is determined by the coaction of an extension 162 (Fig. 11) of a plate 163, which is secured to the plate 76 by rivets 164, with the shouldered steps 165 (Fig. 5) of a segment 166 loosely pivoted upon a rod 167. The shoulders 165 are at different concentric positions from the center of rod 167. From Fig. 11, it will be seen that the normal relationship of the extension 162 and the segment 166 is such that in the rearward movement of the plate 76 the engagement of the extension 162 with one of the shoulders 165 will determine the extent of rearward movement of the ballot.

The normal position of segment 166 is shown in Fig. 5 and is adapted for each operation of the operating lever 85 to be given a step of movement to select the next printing line of the ballot. Referring to Fig. 5, it will be seen that secured to the shaft 91 is a disc 168 which is provided with a notch 169 adapted to receive a bent over lug 170 of a link 171, one end of which is pivotally connected by a stud 171a to an arm 172. The arm 172 is pivoted on the stud 167 and carries an operating pawl 173 which is in the plane of the ratchet teeth 174 of a segment 175 which is secured to the segment 166 by studs 176.

During each operation of the operating lever the link 171 is elevated thereby raising the pawl 173 and causing its tooth to be moved idly over the ratchet tooth with which it engages. At the extreme upward movement of the link 171 the pawl 173 and its tooth will be so positioned that during the downward movement of the link 171, effected by the restoration of the disc 168, the pawl 173 will rotate the segment 175 counterclockwise one step. The above operation is repeated for each reciprocation of the operating lever thereby successively presenting the shoulders 165 for use so as to permit an increasing step by step movement of the plate 76.

From Fig. 2, it will be noted that accommodation is made for printing twenty five lines on the ballot and the segment 166 is provided with a corresponding number of shoulders 165.

In order to retain the successive positioning of the segment 175 and, therefore the segment 166, a retrograde preventing means is provided and the same comprises an arm 177 which is pivoted at 178 and urged rearwardly by a spring 179 so that a tooth 180 carried thereby and in the plane of the ratchet teeth 174 will engage the ratchet teeth 174 successively so as to maintain the segments 166 and 175 in their successively adjusted positions.

At the termination of the successive line printing operations it is, of course, necessary that segments 166 and 175 be restored to normal so as to permit the selection of printing lines of the next ballot.

In the preferred embodiment this operation is

carried out when the lid 136 is elevated which is performed by the operator when the ballot has been completely printed to represent the names of the desired candidates. With reference to Fig. 5, it will be seen that connected to the arm 150 by the stud 155 is a bar 181 which rests upon a fixed stud 182 and which is provided with a combined slot consisting of straight slot 183, and a slot 184 which is offset from the slot 183. The offset slot normally receives a stud 185 carried by the arm 177.

When the arm 150 is rocked counterclockwise as previously described by the elevation of the lid 136, it will be evident that the bar 181 is drawn forwardly and through the coaction of the stud 185 with the offset slot 184 the arm 177 is rocked to disengage the tooth 180 from the ratchet teeth 174. Upon a further movement of the bar 181 effected by the continued elevation of the lid 136 the pin 182 will coast with a cam portion 186 formed at the side of the bar 181 thereby elevating the bar 181 at its rearward end thus disengages the stud 185 from the offset slot 184. The stud 185 will now be received by the straight slot 183.

Referring to Fig. 5 it will be seen that extended between a fixed stud 187 and a pin 188 secured to the hub which is secured to both segments 166 and 175 is a spring 189. As the segments are moved in a counterclockwise direction for their successive step by step positioning the spring 189 will be tensioned. When the pawl 177 is disengaged from the ratchet teeth 174 in the manner just described and arm 177 engages the finger 173a of pawl 173 to rock it to disengage the pawl 173 from the ratchet teeth 174 then spring 189 will be effective so as to quickly restore segments 166 and 175 to their normal positions.

Alarm mechanism

It is desirable to provide the machine with an alarm which announces the completion of the printing of the names of selected candidates upon the ballot. As previously stated, upon the completion of the printing operations of the candidates' names, the lid 136 is elevated and it is during this elevation the aforementioned alarm is rung.

Referring to Fig. 5, it will be seen that secured to a frame plate 190 by a screw 191 is a bell 192. In the plane of the bell 192 and adapted to be struck thereby is a hammer 193 (see also Fig. 11) which is secured to and carried by the arm 177. During the forward movement of the arm 177, which releases the segments 166 and 175 for restoration, the hammer 193 is retracted. As previously described, when the stud 185 moves out of the offset slot 184 the spring 179 is effective to quickly return the arm 177 so that the bell 192 will be struck by the hammer 193, thereby sounding the alarm.

Provisions for writing in a candidate's name not provided for by printing slugs

From what has been previously described, it will be observed that the candidate name sheet 27 has printed thereon the names of the selected candidates and if these are selected by the voter the corresponding names will be printed on the ballot 67. In the system of proportional representation the voter is given a wide choice of selection of candidates' names and there is in some instances a provision in the law whereby the voter may, at his option, vote for candidates

which have not been selected and which names do not appear upon the candidate sheet 27. The present machine provides an arrangement whereby this possibility may be provided for and is described as follows:

Referring particularly to Fig. 5, it will be observed that the frame plate 190 which pivotally carries the segments 166 and 175 and associated mechanisms is connected by a pair of spring plates 195 to a bracket 194 secured to the side frame plate 74. By means of this spring plate connection the frame 190 may be laterally moved.

Referring particularly to Fig. 11, there is pivoted to the frame plate 11 by a stud 196 a double arm 197—198, the arm 197 being slotted so as to receive the frame plate 190. The arm 198 carries a roller or stud 199 which engages the periphery of the band 13. During the rotation of the band 13 for the selection of candidates' names which are imprinted on the sheet 27, the periphery of the band 13 will be in contact with the stud or roller 199 thereby retaining the arm 197 in the position shown in Fig. 11 causing the plate 190 to be retained in such a position that the shoulders 166 are in the plane of the extension 162.

When the candidate name indicator drum is moved to such a position that the designation "Write in name" is visible in the window 26 a notch or cut-out portion 200 (Fig. 11) in the band 13 will register with the cut-out portion 200 formed in the periphery in the band. The spring plates 195 will then be effective to move the frame plate 190 to the right as viewed in Fig. 11 bringing the shoulders 166 of the segment 165 in the plane of the rear end 163a of the plate 163. When a candidate's name is to be written on the ballot the operating lever 85 is operated in the usual manner. However, in this instance the extension 163a of the plate 163 will engage the shoulder 166 which will be effective during this operation of the operating lever. Instead of the extension 162 coacting with this shoulder 166 the extremity 163a will engage therewith and instead of the plate 76 carrying the ballot being moved so that the next line to be printed is brought into correlation with the printing line, the plate 76 is so stopped that at the extreme rearward movement of the operating lever 86 the printing line which would be printed is now in registry with an aperture 201 (Fig. 10) formed in the lid 135. With the lever 86 retained in its rearward position the voter will then write in the candidate's name. Aperture 201 is so formed that the operator may by means of a pencil make the desired autographic notation which, in the present machine, constitutes the writing in of the candidate's name selected by the voter. In other words, by the provision of the above described mechanism the carriage is stopped at such a position that the selected printing line of the ballot will be brought into registry with the aperture 201 instead of permitting the movement of the plate 76 to such a position that the selected printing line of the ballot will be brought into registration with the printing line. It is, of course, understood that for the position of the indicator drum in which an autographic notation is to be effected a printing slug will not be provided on the band 45.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to a single modification, it will be understood that various omissions and substitutions and changes in the form and details

of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claims.

What is claimed is:

1. In a recording machine, the combination of a printing head comprising a settable member carrying a plurality of individually insertible printing members, a manually positionable rotatable drum carrying a sheet representing data to be selected for printing by said printing members, means interconnecting said settable member and said rotatable drum for causing the positioning of the printing members to a printing position in accordance with the rotation of the drum necessary for the data selected, a carriage normally positionable for view of a record carried thereby and positionable to either a writing position or another printing position, an operating lever for the machine, means for controlling different successive printing or writing positions of said record, means operated by said lever for reciprocating said carriage to position said carriage to a printing or writing position within the machine as determined by said controlling means and for thereafter retracting said carriage from the printing or writing position to its normal position for enabling the imprint or writing to be viewed, means operated by said lever to effect an imprint from a selected printing member on the record when the latter is at said printing position, and selectively operated means controlled by said drum for controlling said controlling means to determine whether the carriage is to be positioned from the normal position to either a writing or printing position.

2. In a printing machine provided with a plurality of selectable printing members, the combination of a reciprocable frame, a carriage carrying a sheet to be printed and reciprocable in said frame, an operating lever for the machine, controlling means comprising a carriage stop member positionable for determining the successive positions for said carriage for enabling printing at successive positions of said sheet, and a plurality of operating means operated by said lever for reciprocating said carriage to a position determined by said controlling means, for thereafter reciprocating said frame to effect a printing impression from the selected printing member and the sheet when the latter has been positioned to a selected printing position, and for re-positioning said carriage stop member to determine and select the next printing position of the sheet.

3. In a recording machine the combination of a printing head comprising a settable member carrying printing members individually insertible therein for printing different data, a rotatable drum carrying a sheet representing said data, means connecting said member and said drum for causing the positioning of selected printing members, corresponding to the selected data on said sheet, to a printing position, a reciprocable carriage carrying a record to be printed and normally positioned for view exterior of machine but positionable to either a printing or writing position, means for controlling successive printing or writing positions of said carriage, operating means for said machine, means operated by said operating means for reciprocating said carriage to position the latter from its normal position to a printing position or to a writing position and thereafter retracting said carriage

to its normal position to enable the printing or writing on the record to be viewed, means to effect an imprint on the record from a selected printing member when the carriage is at printing position, and selectively operated means controlled by said drum for controlling said controlling means to determine whether the latter is to control the position of the carriage at a writing position or at a printing position.

4. In a recording machine, the combination of a settable printing head comprising a plurality of printing members which are selectively positionable to a common printing position by the setting of said printing head, a manually rotatable drum carrying names of candidates for setting said printing head and rotatable to a certain position which does not select a printing member, a carriage carrying a record to be printed by said printing members, means for reciprocating said carriage to bring said record from a normal viewing position without the machine to a printing position within the machine and thereafter back to said normal position, a cover for said carriage, means for locking said cover, and means controlled by the position of said drum for controlling said locking means to cause the release of the locking means upon the drum being rotated to only said certain position which does not select a printing member, said locking means being effective during the rotation of the drum which causes the selection of printing members.

5. In a printing machine, the combination of a manually operable member and printing members selectively positionable thereby to a printing position, a carriage carrying a record to be printed by said members, a cover for said carriage, a lock for said cover, and means for releasing said lock upon said manually operable member being positionable to a certain position which does not bring any of said printing members to printing position, said lock in other positions of the manually operable member being effective to lock said cover.

6. In a recording machine, the combination of a plurality of selectable printing members, a carriage carrying a record to be printed by said printing members, means comprising a carriage stop member having successive positions from normal for determining the successive positions of the carriage to cause printing on the record at different positions, means for reciprocating said carriage to bring said record from a normal viewing position without the machine to a printing position within the machine as determined by the position of the carriage stop member and thereafter back to said normal position, a cover for said carriage elevatable to obtain access to the record on the carriage, means to cause said carriage stop member to be positioned to normal to thereby control the successive positions of the carriage for effecting printing at different printing positions of the record next placed on the carriage and means controlled by said cover and responsive to its elevation to cause the operation of said last named means.

7. In a recording machine, the combination of a printing head comprising a settable member having the provision of means for removably carrying individually insertible printing members, a rotatable drum carrying a data sheet, means connecting said member and said drum for causing the positioning of printing members to printing position which correspond to the data on said sheet, a reciprocable carriage carrying a rec-

ord to be printed and normally positioned for view exterior of the machine, means comprising a carriage stop member shiftable from normal to successive positions for causing successive printing positions of the record on said carriage, means for reciprocating said carriage to position the latter from its normal position to a printing position determined by the position of the carriage stop member and thereafter retracting said carriage to its normal position to enable the printing on the record to be viewed, a cover for said carriage elevatable to enable access to the ballot thereon, a locking means for said cover, means controlled by the rotatable member to release said locking means upon the rotatable member being positioned to a certain position which does not select any printing member, means for causing the normal position of the carriage stop member for determining successive printing positions of the next record placed on the carriage, and means controlled by said cover and responsive to the elevation of the cover for causing the operation of said last named means.

8. In a printing machine, the combination of a printing head positionable to bring selected printing members to a common printing position and to a certain position in which no member is at printing position, a carriage carrying a record to be printed, a cover for said carriage and elevatable to provide access to the ballot on the carriage, a lock for said cover, said lock being effective when said printing head is at printing member selecting positions, and means responsive to the position of said printing head to said certain position for releasing said lock.

9. The combination of a reciprocable carriage carrying a sheet upon which printing is successively effected at different lines, a step by step positioned segment having differentially disposed carriage abutments, means carried by said carriage comprising a pair of spaced stop members, selectively operated means for causing an effective abutment to be cooperatively related with either of said stop members, and means for effecting a relative positioning of said segment and said stop members to cause a selected stop member to cooperate with the abutment which is effective to determine the extent of movement of said carriage.

10. In a recording machine for enabling writing or the recording of data on a record, the combination of a recording head carrying selectable type members representing different data, a reciprocable carriage for carrying a record to be printed having a normal viewing position and having successive writing or recording positions, means for moving said carriage from a normal viewing position to one of said recording or writing positions and thereafter back to its normal viewing position, controlling means for said carriage for determining the successive recording or writing positions of said carriage and the record carried thereby, and selectively operated means controlled in accordance with the position of said recording head for causing said carriage to position said record to either a writing position or recording position as determined by said controlling means.

11. In a recording machine for enabling either writing or the recording of data on a record which has a normal viewing position and successive recording or writing positions, the combination of a recording head carrying printing members for printing different data selected by

positioning said head, means for positioning said record from a normal viewing position to either a recording or writing position and then back to said normal viewing position, and selectively operated means controlled in accordance with the position of said head for causing the positioning of the record to a recording position when printing members are selected, or to a writing position when printing members are not at printing position as determined by a certain position of the printing head.

12. In a recording machine having printing instrumentalities for enabling either writing or the recording by said instrumentalities of data on a record, the combination of a movable common carrying means for carrying said instrumentalities, a carriage carrying said record and having a normal viewing position and positionable to another writing position or to said printing instrumentalities for another recording position, means for positioning said carriage from said normal viewing position to either said other recording position or to said other writing position, and selectively operated means controlled in accordance with a certain position of said common carrying means derived by its movement for controlling said last named means to cause the positioning of the carriage to either a recording position for recording on a line on the record or to the other writing position for writing on the same line on the record.

13. In a voting machine for enabling either writing or recording of data on a sheet, the com-

5 bination of a plurality of recording members representing different data, a reciprocable carriage carrying said sheet to successive recording positions or to successive writing positions, movable means for selecting predetermined positions thereof said recording members for recording selected data, controlling means for controlling the different recording or writing positions of said carriage, and selectively operated means controlled by said movable selecting means for causing said carriage to be positioned under control of the controlling means for selection of either recording or writing positions of the sheet in accordance with the position of said movable selecting means.

14. In a recording machine for enabling writing or the recording of data on a record, the combination of a movable printing head, a reciprocable carriage for carrying a record to be recorded at successive lines thereof, means for controlling the movement of the carriage in its reciprocations to different extents to present successive lines of the record to a recording position, and selectively operated means controlled by the printing head and in accordance with its position for causing said carriage, under control of the controlling means, to be positioned other extents of movement in its reciprocations to present successive lines of the record to successive writing positions.

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