

June 11, 1940.

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2,203,906

MECHANISM FOR PHOTOGRAPHICALLY RECORDING VOTING MACHINE INDICATIONS

Filed Nov. 4, 1936

4 Sheets-Sheet 1

Fig. 1.

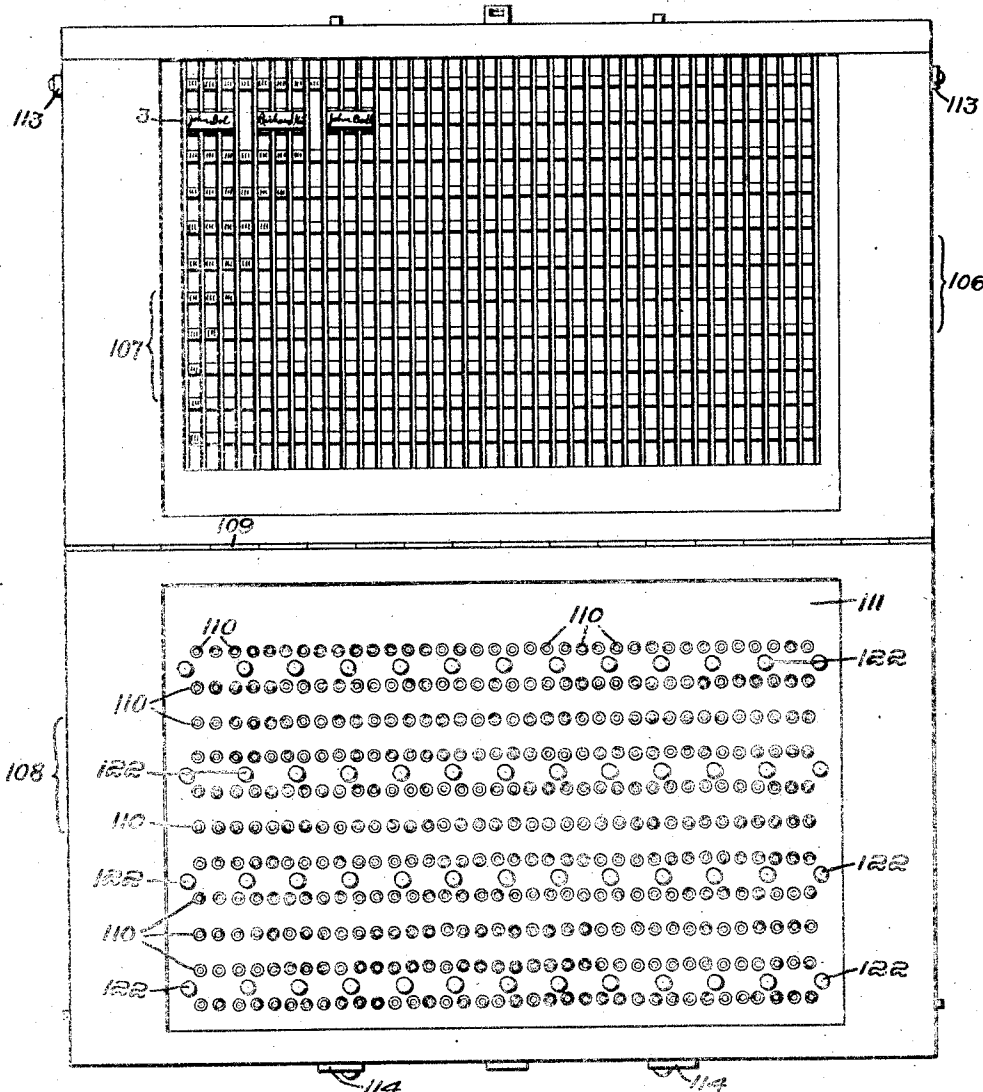
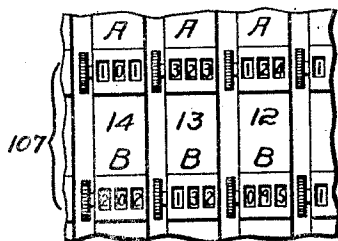


Fig. 1a.



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Fig. 2.

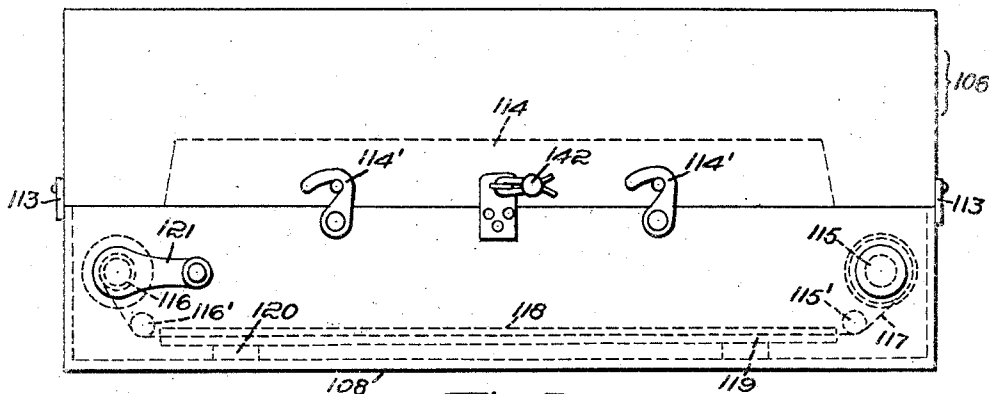


Fig. 3.

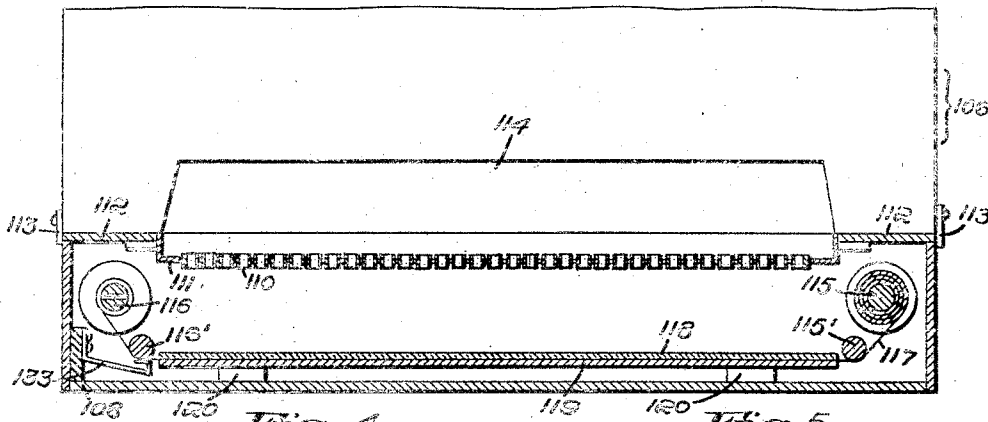
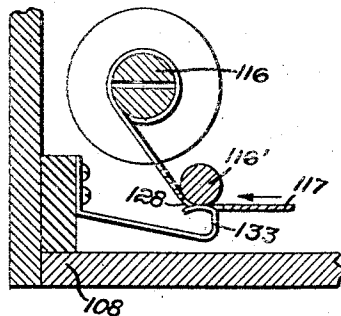
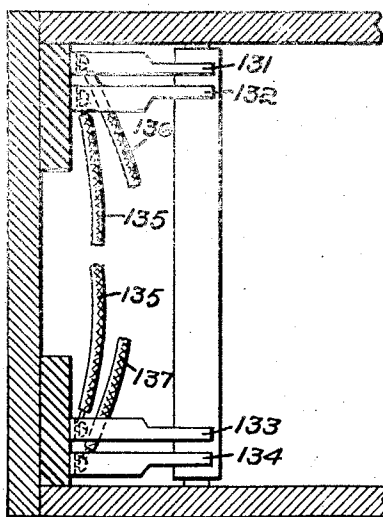


Fig. 4.

Fig. 5.



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Fig. 6.

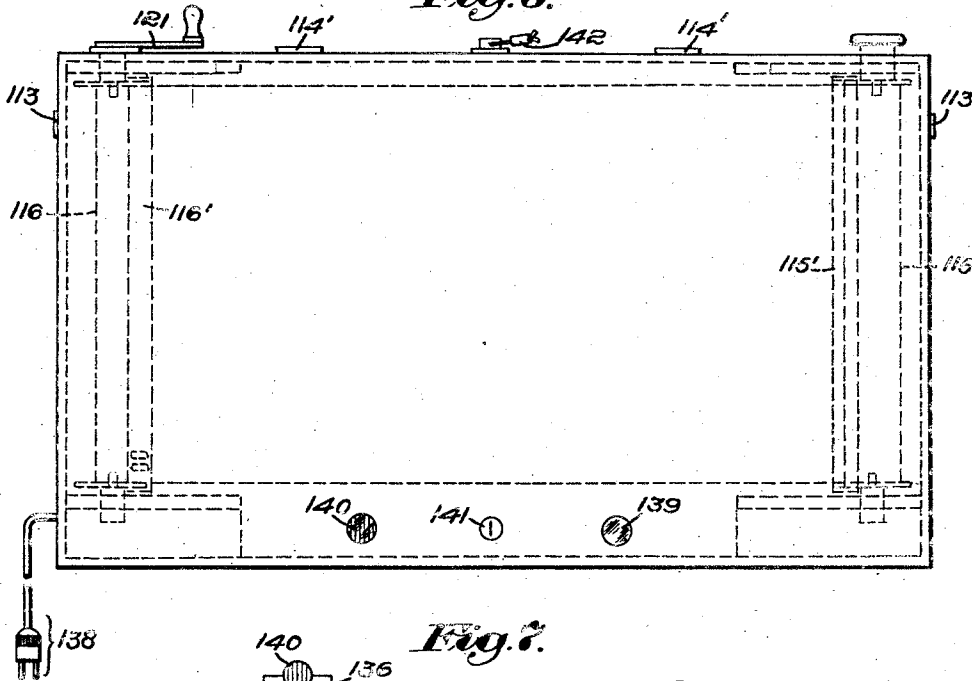


Fig. 7.

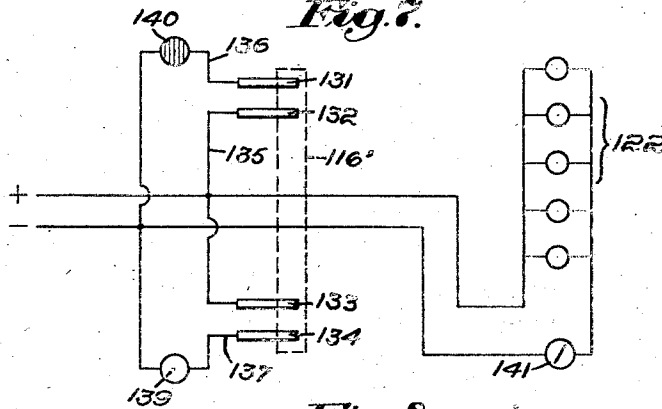
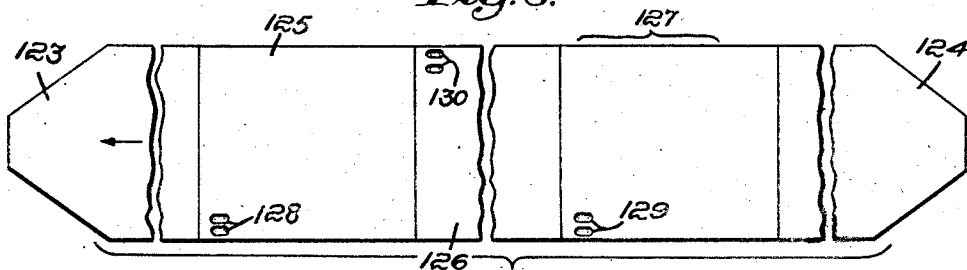


Fig. 8.



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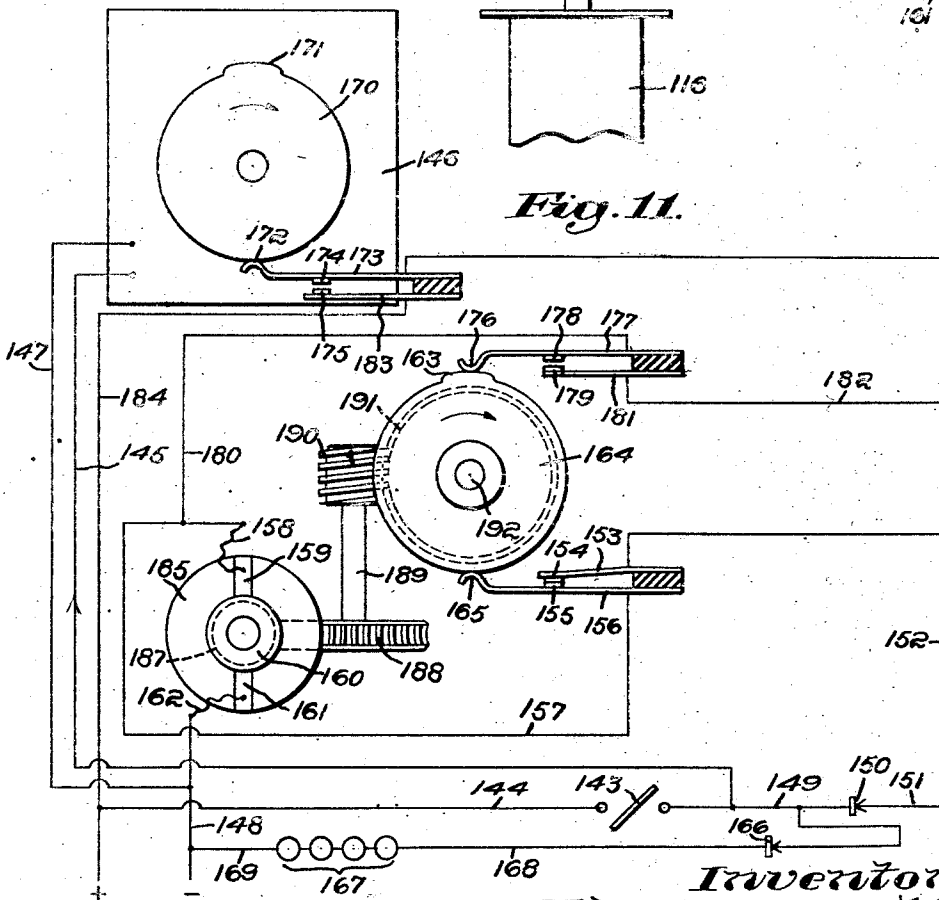
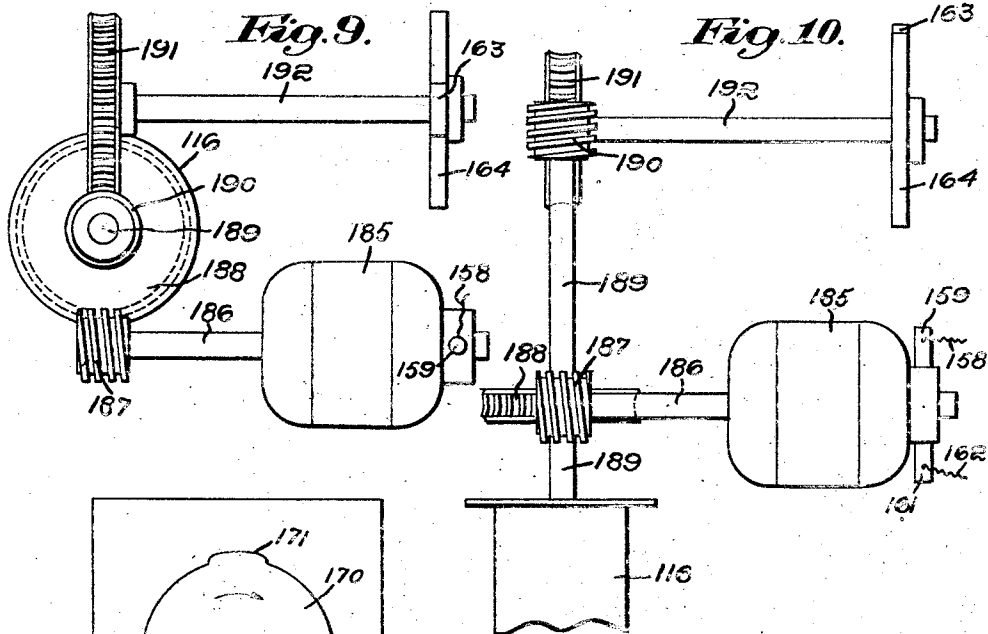
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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

2,203,906

MECHANISM FOR PHOTOGRAPHICALLY RECORDING VOTING MACHINE INDICATIONS

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Application November 4, 1936, Serial No. 109,142

10 Claims. (Cl. 235—50)

This application, in so far as the disclosure with respect to Figs. 1 to 8 thereof is concerned and which disclosure is directed to the mechanism shown in Figs. 14 to 21 of the co-pending application of Petit and Hineline, Ser. No. 739,574, filed August 13, 1934, now Patent No. 2,123,151, dated July 5, 1938, is in part a true division of said application in the name of the present applicant as sole inventor of said mechanism, being in technical Patent Office parlance a continuation in part of application Ser. No. 739,574.

This invention relates to mechanism for photographically recording the actual vote-indications appearing upon voting machines, preferably showing the indications, if any, upon the reading, register or meter or indication displaying portion of the voting machine prior to the use of that machine for some particular occasion, and also after the use of the said voting machine upon that particular occasion, in order that no change may be made in the machine after the close of the voting without detection by the photographs, and also in order that the indications may be made a matter of permanent record by reason of said photographs.

The apparatus or mechanism is such that it may be supported in close proximity to the voting machine, in order that the existing indications upon the voting machine may be photographed of a sufficiently large size to be readily used without enlargement.

Most voting machines used at the present day are relatively large structures, sometimes more than six feet in height and relatively broad and having a very large number of indications at one face thereof, usually the face or part that is displayed to the voters when they approach the machine to vote by moving some part at each place where the names of a group of candidates for some office are displayed.

In the patent to Petit and Hineline, No. 1,977,453, October 16, 1934, is disclosed certain mechanism which is adapted to be supported in close proximity to the voting machine and which is capable of making a photographic reproduction of all the indications of registers, meters or readings, however numerous they may be. This was accomplished by providing the camera with a series of lenses arranged in a bank or row all with their axes in parallelism so that they are all directed at the same angle toward the said object-surface, and so that each lens of the series functions only with respect to a single transverse zone of the surface to be photographed, and

whereby the said lenses collectively function with respect to the entire object-surface by blending their said zones.

In the accompanying drawings, wherein a single embodiment of mechanism is disclosed—

Fig. 1 is an elevation of the back of the voting machine having hingedly connected thereto a photographic apparatus stationarily mounted upon the voting machine, said apparatus in this figure being represented as turned downward into non-functioning position;

Fig. 1a is a detail in elevation of a small portion of the back of the voting machine, to indicate the general character of the structure that is to be photographed by the said apparatus;

Fig. 2 is a detail showing in plan a part of the top of the voting machine and the photographic apparatus in functioning position at the back of the voting machine;

Fig. 3 is a view partly in horizontal section of the parts shown in Fig. 2;

Fig. 4 is a detail in transverse section looking forward from the back of the voting machine and showing the take-up roll and the contact members;

Fig. 5 is a detail upon a larger scale of the lower left hand corner of the structure shown in Fig. 3;

Fig. 6 is a view looking at the back of the entire apparatus with the photographic apparatus in functioning position;

Fig. 7 is a diagram to show the wiring by means of which the multiplicity of lamps for the lenses are caused to function and by which the warning white and red lights are caused to function;

Fig. 8 is a plan view, partly broken away, to show the sensitized sheet of film used with the apparatus herein shown;

Fig. 9 is a partial top plan view of the gear driven mechanism employed when using a motor as automatic means for feeding the film (as disclosed in said co-pending application Ser. No. 739,574, page 23, lines 27-28, and page 24, lines 1-2);

Fig. 10 is a front elevation of the motor driving mechanism showing the motor armature, certain gears and the cam for controlling the electrical circuit as well as one of the film spools; and

Fig. 11 is a schematic drawing showing the circuit diagram together with various parts of the motor drive unit and the clock unit.

By the mechanism herein disclosed, I preferably so photograph the face or part of the voting

machine having the vote indications that the figures or lettering or other indications may be easily read in the photograph without enlargement, and this I do by making the photographic exposure at a very short distance from the face or part of the voting machine having said indications.

Referring first to Fig. 1, the back of the voting machine is indicated at 106. Upon the back are a series of readings generally indicated at 107, Fig. 1, and also in Fig. 1a in detail. The readings consist of numerals upon the peripheries of sets of disks, each set of disks indicating the total number of votes for one person or subject-matter. I preferably provide means whereby the inspectors of elections may write their names at some point at the back of the voting machine, and at 3 in Fig. 1 I have indicated the names of three inspectors. This is intended as a safeguard, and it is pointed out that when the photographs are taken, they are in a sealed receptacle and are delivered in such sealed receptacle to some suitable place for development. Prior to the development of the pictures of all the voting machines of a city or locality, it would not be known to which voting machine the respective films pertain. This would eliminate one opportunity for fraud.

Referring to Fig. 1, it will be observed that there are eleven sets of readings in each vertical tier.

While the shape and size of the photographic apparatus are determined by the particular requirements of the case, it is an important feature of the invention to provide a magazine which may be sealed against tampering, said magazine containing the sensitized surface or film and suitable supporting means therefor. Such magazine may be removed in its sealed condition from the camera or photographic apparatus, and transmitted to the place where the sensitive surface or film is to be developed.

In order to prevent fraud, it is necessary to photograph the voting machine (in this case, the back thereof) before the voting begins and to photograph the same again after the voting is ended. Thus a comparison may be made of the two impressions or pictures and the difference in the readings of the different units or disks in the two pictures would be the total votes.

If no photograph were taken of the voting machine before the voting began, it is evident that fraud could be perpetuated by turning the readings at some of the disks in such a way as to cause a misrepresentation of the total vote of some candidate or candidates. For example, a fraudulent result might be indicated in the following manner.

Viewing Fig. 1a, it will be evident that the three disks indicate units, tens and hundreds, and that first the unit disk and then the tens disk and then the hundreds disk are turned until 999 are indicated, whereupon the readings begin again at 1 on the unit disk. If the disks of one set be turned prior to the voting so as to indicate 925, and this fact be not known, it is evident that as soon as that candidate has received 75 votes, his set of disks immediately begins to register again at 1, whereas the other candidates who may be assumed to be receiving substantially as many votes would have a reading or register of 75 votes. In other words, one of the candidates has been handicapped to the extent of 75 votes.

All this is avoided by making the photographic

reading of all the voting indications or disks of the voting machine before the voting begins, and again photographing the same field or surface after the voting ends and then making a comparison of the two photographs.

The mechanism herein shown may be employed in practising the method broadly claimed in said co-pending application of Petit and Hineline, Ser. No. 739,574. In practising said method by the mechanism herein claimed, I establish photographically the fact of, and preserve as a permanent accurate record, the exact number of votes that have been registered for each candidate and/or question voted on during a predetermined period of use of a voting machine by (1) exposing for photographic purposes that face or part of a voting machine having indicators that separately register the votes for each candidate and/or question to be voted on at one election, (2) photographing said face or part of said voting machine just prior to the commencement of the said election, and desirably upon a single sensitized surface so as to show in their relative positions all of said indicators, whereby the number of votes, if any, appearing upon any of said indicators may be ascertained for comparison and for permanent record by reason of said photographing, and (3) again exposing for photographic purposes, immediately at the close of the election, the said face or part of the voting machine, and again photographing the same, preferably upon a single sensitized surface, so as to show in their relative positions, all of said indicators, whereby the number of votes appearing upon each of said indicators may be ascertained for comparison with said first exposure and also for permanent record by reason of said photographing, so that there may be deducted separately the number of votes, if any, for each candidate and/or question appearing on the indicators prior to said election, as shown by said first exposure, from the number of votes for the same candidates and/or questions appearing on the indicators, as shown by said second exposure, so as thereby to ascertain the total true vote for each candidate and/or question, and to preserve the permanent accurate photographic record thereof.

In Fig. 1, I have represented at 106 the back of a voting machine which may be of any construction but which, for convenience of description, may be regarded as substantially the same as that shown in Fig. 1 of the said patent to Petit and Hineline, No. 1,977,453. It is or may be provided upon its back with substantially the same series of readings, generally indicated at 107 in Fig. 1, and thus consisting of numerals upon the peripheries of the respective disks, each set of disks indicating the total number of votes for one candidate or subject matter. Instead of providing means whereby the photographic apparatus may be moved across the voting machine during the taking of the desired photographs (namely, before and after the election), as disclosed in said patent, I attach the photographic apparatus to or mount the same fixedly upon the voting machine and preferably in such a manner that it may be moved sufficiently away from the face or part of the voting machine having the indicators or readings to permit access to said indicators or readings. For the purpose, I have, as shown in Fig. 2, provided a photographic apparatus 108 of a box-like character having the same dimensions as to width and height of that portion of the voting machine

where the indicators or readings are located. Preferably I hinge the photographic apparatus 108 to the voting machine 106, as indicated at 109 in Fig. 1, so that the same may be unfolded down into the position shown in Fig. 1 or be folded up against the back of the voting machine, thus bringing the parts into relative position shown in Figs. 2 and 3.

While the number of indicators or readings of voting machines, of course, differ, I have in the case of the voting machine herein shown represented somewhat in excess of 400 indicators or readings. I accordingly provide in this type of apparatus a separate lens for each indication or reading, and have represented such lenses by rows of small circles 110 in Fig. 1. All of those lenses are mounted in a board 111, 112. I have provided hooks 113 by which such board may be secured in position against the back face of the voting machine 106, and to that end I provide a hinge (shown at 109 in Fig. 1) for the lens board at its lower end. The lenses, although many in number, are comparatively inexpensive, as a single lens of pressed material is sufficient for the purpose. As shown in Fig. 3, the back of the voting machine may be recessed as indicated at 114, thus providing sufficient focal distance between the indicators or readings of said machine and the lenses 110, as, for example, about three inches, and about the same distance between the lens board and the film or paper. The box or receptacle or enclosure 108 is a complete closure excepting at the side where the lens board 111 is received and said receptacle 108 is adapted to be held in functioning position by hooks 114', shown most clearly in Fig. 2. Within the receptacle 108 are mounted upon vertical axes the let-off roll 115 and the take-up roll 116, shown most clearly in Fig. 3. They are adapted to receive the film 117 which in unwinding passes between a glass plate 118 and a metallic plate 119, preferably of some light material such as aluminum. Said plate 119 is supported in position by the members 120.

The let-off and take-up spools are desirably of usual character to be readily inserted and removed. I may provide automatic means for feeding the film 117, as, for example, a motor (as shown in Figs. 9, 10 and 11, and hereinafter described), the operation of which is controlled by a clock, so that the sensitized paper or film may be fed so as to position a sensitized area thereof for photographic purposes in the morning before the election and again in the evening after the election. However, in the apparatus shown in Figs. 1 to 7, I have provided manual means for feeding the film. For that purpose, I have shown in Figs. 2 and 6 a hand crank 121 upon the take-up spool, so that the sensitized paper or film 117 may be moved at the necessary times for the purpose stated.

In the type of apparatus shown in Figs. 1 to 7, no shutter is necessary, but in order that light may be provided for effecting a proper exposure, I have, as shown most clearly in Fig. 1, provided a large number of very small electric light bulbs 122, which may be provided in a rectangular arrangement, as shown at the lower part of Fig. 1, or otherwise. For example, between every third and fourth lens just below the top row of lenses a small bulb 122 is provided and the bulbs are provided in the same arrangement after every third horizontal row of lenses as represented in Fig. 1. Of course, the number of lights will be such as is necessary to effect proper expo-

sure. The said lights are all in circuit as hereinafter referred to and as diagrammatically indicated in Fig. 7.

Preferably and as an important feature of my invention, I provide for signalling the presence of a sensitized area and also for signalling the presence of non-sensitized area in front of the lenses, and to that end I provide means whereby the feeding of the film, whether manually or automatically, will control two different lights, one being for the purpose of indicating that a sensitized area of the film is in position for a photographic impression to be made thereon, and the other light to indicate that a non-sensitized portion of the film is opposite the lenses 110. For this purpose, I desirably provide a photographic strip 117, shown most clearly in detail in Fig. 8, and the use of which in carrying out my invention is not limited to the apparatus shown in Figs. 1 to 7. It is desirably provided with a leader end 123 of usual non-sensitized material and a similar trailer end 124. Succeeding the leader end is a sensitized area 125 which is itself succeeded by a non-sensitized area 126 of sufficient area to cover the entire face or part of the voting machine having the readings or indicators described. Following the area 126 is a second sensitized area 127 which is itself succeeded by the trailer end 124. The sensitized area 125 is provided with two openings 128 at any suitable point but desirably near one of the leading corners. At a similar position the sensitized area 127 is provided with like openings 129. The non-sensitized area 126 is provided with two like openings 130 but positioned at the opposite leading corner of the area from that at which the openings 128, 129 are provided.

Referring more particularly to Figs. 3, 4 and 5, it is noted that adjacent to and in parallelism with the rolls 115, 116, there are provided metallic rolls 115', 116'. The photographic casing 108 has secured in suitable position four contact fingers 131, 132, 133 and 134. The two contacts 132, 133 are connected by a wire 135. Leading from the contact 131 is a wire 136 and leading from the contact 134 is a wire 137, and in circuit therewith is a wire and plug 138, shown in Fig. 6, by which the apparatus may be plugged into the local circuit.

The circuit is diagrammatically shown or indicated in Fig. 7. Included in said circuit is a white light 139 and a red light 140, and at a suitable point in the circuit is a switch 141 which is adapted to be turned by the key that is to be kept in the exclusive charge of the inspector or some other official under whose supervision the election is held. The contact fingers 131, 132, 133, 134 rest against the film or sensitized sheet or paper 117 as the same passes about the metallic roll 116', as shown upon an enlarged scale in Fig. 5. So long as the said contact fingers are kept from actual contact with the metallic roll 116' by the film or sensitized sheet 117, neither light 139, 140 functions. When, however, the one in charge of the apparatus turns the film or sensitized sheet 117 so as to bring the sensitized area 125 thereof opposite the readings or indications 107 of Fig. 1, a circuit is completed through the contact fingers 133, 134, and the white light 139 flashes, thus showing that the sensitized area 125 of the film or sensitized sheet 117 is in position to receive a photographic impression through all the lenses 110 of all the readings or indicators or indications 107. After that exposure has been made by the

act of the inspector in inserting a key in the switch 141 above referred to and turning the same so as to cause all the lights 122 to function just prior to the commencement of the election, the film or sensitized sheet 117 is turned further by the hand crank 121 (or by a motor as hereinafter described) to bring the non-sensitized area 126 of the film or sensitized sheet 117 opposite the readings or indicators 107 and at that time the contact fingers 131, 132 make contact through the two openings 130 with the metallic roll 116', thus causing the red light 140 to function, warning those in charge that a non-sensitized portion of the film or sensitized sheet 117 is opposite the readings or indications of the voting machine. At the close of the election, the proper official again turns the hand crank 121 so as to bring the sensitized area 127 of the film or sensitized sheet 117 opposite the readings of the voting machine (or it is done by motor), and this fact of the positioning of said sensitized area 127 is visually indicated by the flashing of the white light 139 because of the fact that the contact fingers 133, 134 complete the circuit through the openings 129 and the metallic roll 116'.

Then the inspector in charge again inserts his key in the switch 141, completing the circuit and thus causing all the lights 122 to function, and causing an exposure to be made upon the second sensitized area 127, which will therefore constitute a record of the readings or indications immediately at the close of the election. After the exposure has been made of said sensitized area 127, the one in charge completes the winding of the film or sensitized sheet 117 onto the take-up roll 116, but said roll cannot be removed from the apparatus without breaking the seal 142 which is provided, as shown in Fig. 6, preferably in the form of a wire and lead seal, to prevent tampering with the photographic apparatus without leaving evidence of that fact.

Preferably the film or sensitized sheet 117 (shown in Figs. 2, 3, 5 and 8) is of such size and so close to the back or face of the voting machine that no enlargement of the developed pictures is necessary, but my invention is not limited in this respect. Said sheet 117 may be photostat paper which, when developed, will constitute a photograph from which reproductions may be made. By the structure shown in Figs. 7 and 8, certain of the methods disclosed in Patent No. 2,034,441, March 17, 1936, may be practised.

It will be understood from the foregoing description that by making two exposures through a multiplicity of lenses without relative traverse of the voting machine and the camera, I carry out the process or method disclosed in said co-pending application Ser. No. 739,574, and in so doing accomplish what has never heretofore been done with respect to voting machines, namely, secure an absolutely true record of all the votes for each candidate and/or subject, which is a photographic one, so that no question can arise as to the accuracy of the result. It has heretofore been possible with all voting machines known to me to tamper with the readings or indications thereof, as, for example, by fraudulently moving the indicators prior to the commencement of the election. Any such fraudulent act would be prevented by the invention herein described, since a photographic record is made of the readings or indicators immediately preceding the election and another immediately at the close thereof, and such photographs can be made only by the inspector or other official having the key for closing

the circuit 141 or the corresponding circuit of the apparatus shown in Figs. 1 to 13 of said application Ser. No. 739,574.

In Figs. 9, 10 and 11, I have represented means whereby the sensitized sheet 117 of Fig. 8 is operated by a clock controlled motor, as originally stated might be done in said co-pending application Ser. No. 739,574, now Patent No. 2,123,151, dated July 5, 1938, instead of by an operating handle 121, as in Figs. 2 and 6. While I have indicated in detail the circuit and cooperating parts whereby the motor is caused to function at predetermined times, as originally described, I do not herein claim the disclosed matters specifically, but do claim such matter generically within the scope of the original disclosure.

In said Figs. 9, 10, 11, means is represented for feeding the sensitized sheet, such as 117, by an electric motor that is under the control of a clock mechanism.

The camera structure is desirably substantially the same as that disclosed in Figs. 1, 2 and 3, excepting that a motor driven gear train hereinafter described is substituted for the operating handle 121 of Figs. 2 and 6. The film strip desirably is slightly modified from that shown in Fig. 8 merely by leaving out the centre section thereof shown in Fig. 8 (namely, the non-sensitized section having the cut-out portions 130).

After film strip 117 of Fig. 8 is placed in the camera and started on the take-up spool 116 in the usual manner, the camera is closed to position shown in Fig. 2, and switch 143, Fig. 11, is closed with a key provided for that purpose, the machine having previously been connected to a conventional electrical supply source. The current then will flow through wire 144, switch 143, wire 145 and the clock control unit diagrammatically shown in plan at 146, and returned through wire 147 to wire 148. Said clock control unit in and of itself may be of the same general construction that is shown at 52 in Fig. 9 of the United States patent to Petit and Hineline, No. 1,963,312, dated June 19, 1934. The closing of switch 143 also causes current to flow through wire 149. If button 150 is now pressed or closed, a current will flow through wire 151, wire 152, through contact arm 153, through contacts 154, 155, contact arm 156, wire 157 and brush lead 158, through brush 159, through armature 160 and out through brush 161, brush lead 162 to wire 148, thus completing the circuit. The motor (hereinafter described) will now run in the direction that will cause film to wind on spool 116 of Figs. 3, 5 and 10 until exposure openings 128 (Fig. 8) uncover their respective contacts 133 and 134, causing light 139 (Fig. 7) to be lighted. At this point, cam 163 on cam wheel 164 will have contacted switch arm 156 through the bent up portion 165 causing contacts 154 and 155 to separate, thus opening the circuit to the motor. The motor will then be stopped and the film strip will be in a stationary position. When switch 143 has been closed, a circuit connected with the clock 146 is as has been described. This causes clock 146 to become operative, and said clock will continue to operate until a predetermined time, as hereinafter described.

Before voting takes place, switch 166 is closed causing current to flow through lamps 167 and through wires 168 and 169. This switch will cause the exposure to be made for a time determined by the length of time the contacts of switch 166 are closed. The first picture now has been made, and the camera becomes dark and

stays dark until a predetermined time which is determined by clock 146. The clock 146 carries a cam wheel 170 which has on its outer surface a cam elevation 171. After such predetermined time has elapsed, which will, for example, be twelve hours, cam elevation 171 has advanced to a position where bent-up portion 172 of switch arm 173 is pushed downward closing contacts 174 and 175. During the previous operation when cam 163 on cam wheel 164 advanced to the position where it forced bent-up portion 165 of switch arm 156 in a downward position, cam 163 had under-ridden bent portion 176 of arm 177, thus allowing contacts 178 and 179 to close. A circuit will now be completed from wire 148 through wire 162, brush 161, commutator of motor armature 160, brush 159, wire 158, wire 180, contact arm 177, contact 178, contact 179, contact arm 81, wire 182, contact arm 173, contact 174, contact 175, contact arm 183, wire 184, thus completing the circuit. The motor will now operate, driving film spool 116 a sufficient distance to uncover holes 129 in film strip 117, Fig. 8. At this time, cam 163 on cam wheel 164 will have returned to the starting position as shown in Fig. 11, opening contacts 178 and 179, thus breaking the circuit and stopping the motor.

The second picture is made exactly as the first by pressing contact switch 166 for a sufficient length of time. To wind the black covering paper onto spool 116, thus making a light tight cartridge after the second exposure has been made, it is merely necessary to hold down contact 150 until the motor stops which will be when cam 163 on cam wheel 164 has reached bent-up portion 165 of contact spring 156 separating contacts 154 and 155.

The motor itself is shown at 185. The shaft 186 thereof has fast thereon a worm 187 meshing with and driving a worm wheel 188 on shaft 189. Fast on said shaft 189 at one end thereof is the spool 116 hereinbefore referred to. Said shaft 189 has at the opposite end thereof, as shown in Figs. 9 and 10, a worm 190 meshing with a worm wheel 191 fast on a shaft 192 whereon is fast the cam wheel 164, previously described. In this manner, the cam wheel 164 is driven by the motor. The spool 116 carrying the cartridge or roll of sensitized material is also turned to feed the said film, as herein described. As herein set forth the sensitized film 117 is fed forward by the motor under control of the clock mechanism on the morning of election day, so that a photograph is taken of the entire registering mechanism of the voting machine. At the close of the voting period, the film 117 is again fed forward by the motor under the action of the clock mechanism, and a second picture is made by the camera. A comparison of the two photographs reveals the actual number of votes for each candidate and/or question voted upon during the said day or voting period.

Having thus described one illustrative embodiment of the invention, it is to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

I claim:

1. In combination and for the purpose of making an accurate record of the exact number of votes upon a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes

for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses corresponding in number with the total number of indicators for the candidates and/or questions to be voted upon, means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression thereon prior to the election and another photographic impression thereon subsequent to the election, and means for feeding said sheet so as to expose sequentially the sensitized areas thereof.

2. In combination and for the purpose of making an accurate record of the exact number of votes upon a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses corresponding in number with the total number of indicators for the candidates and/or questions to be voted upon; means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression thereon prior to the election and another photographic impression thereon subsequent to the election; means for feeding said sheet so as to expose sequentially the sensitized areas thereof; lighting means adjacent to all of said lenses for providing illumination for the said exposures, and an electric circuit for said lighting means.

3. In combination and for the purpose of making an accurate record of the exact number of votes upon a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses corresponding in number with the total number of indicators for the candidates and/or questions to be voted upon; means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression thereon prior to the election and another photographic impression thereon subsequent to the election; means for feeding said sheet so as to expose sequentially the sensitized areas thereof; lighting means adjacent to all of said lenses for providing illumination for the said exposures, an electric circuit for said lighting means; and a switch in said electric circuit adapted to be closed only by a key in the possession of an authorized person.

4. In combination and for the purpose of making an accurate record of the exact number of votes upon a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses corresponding in number with the total number of indi-

cators for the candidates and/or questions to be voted upon; means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression thereon prior to the election and another photographic impression thereon subsequent to the election; means for feeding said sheet so as to expose sequentially the sensitized areas thereof; lighting means adjacent to all of said lenses for providing illumination for the said exposures, and an electric circuit for said lighting means, another circuit, said last mentioned circuit including two contrastingly colored lights, one of which indicates the presence of a sensitized area opposite the indications and the other of which indicates the presence of a non-sensitized area opposite said indications.

5. In combination and for the purpose of making an accurate record of the exact number of votes upon a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses corresponding in number with the total number of indicators for the candidates and/or questions to be voted upon; means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression thereon prior to the election and another photographic impression thereon subsequent to the election; means for feeding said sheet so as to expose sequentially the sensitized areas thereof; lighting means adjacent to all of said lenses for providing illumination for the said exposures, and an electric circuit for said lighting means, another circuit, said last mentioned circuit including two contrastingly colored lights, one of which indicates the presence of a sensitized area opposite the indications and the other of which indicates the presence of a non-sensitized area opposite said indications, together with a sensitized sheet with at least two sensitized areas and an intervening non-sensitized area, said sheet having perforations through which contacts may be made to complete the electric circuit in the feeding of the said sensitized sheets.

6. In combination, in a voting machine, a multiplicity of indicators thereof that separately and respectively register the votes for each candidate and/or question to be voted on at one election, a closure or casing for all of said indicators, said closure or casing constituting a part of said voting machine and constituting also a barrier preventing access to said indicators, a cover permanently attached to the said closure or casing and adapted to be opened out so as to disclose to view the said indicators and to be shut so as to conceal the same from view, said

cover constituting a unitary part of said voting machine, a camera having a separate lens for each of said multiplicity of indicators, said camera being wholly mounted upon the inside of said cover in such relation to said indicators that when the said cover is closed the said camera is in image-producing relation to said indicators, and means for operating said camera when said cover is closed, thereby to produce and retain the photographic images so produced by said camera.

7. In combination, in a voting machine, a multiplicity of indicators thereof that separately and respectively register the votes for each candidate and/or question to be voted on at one election, a closure or casing for all of said indicators, said closure or casing constituting a part of said voting machine and constituting also a barrier preventing access to said indicators, a photographic apparatus fixedly attached to the voting machine in operative relation to said multiplicity of indicators, said photographic apparatus having a lens board provided with a multiplicity of lenses equalling in number the total number of said multiplicity of indicators.

8. A mechanism in accordance with claim 7, but wherein means is provided for supporting a sensitized sheet in said photographic apparatus, and means for feeding said sensitized sheet past said lens board.

9. A mechanism in accordance with claim 7, but wherein means is provided for supporting a sensitized sheet in said photographic apparatus, means for feeding said sensitized sheet past said lens board, and an electric circuit in said photographic apparatus provided with means for plugging into a local circuit, a multiplicity of electric light bulbs included in said circuit, and means whereby said circuit may be completed only by an authorized person so that the exposures of the face of the voting machine may be made only by such authorized person.

10. In combination and for the purpose of making an accurate record of the exact number of votes voted upon or by a voting machine at a single election, the following mechanism, viz: a voting machine having a face or part provided with a multiplicity of indicators that separately record the votes for each candidate and/or question to be voted upon at a single election; a photographic apparatus secured to said voting machine in proximity to the said face or part of the voting machine and provided with a multiplicity of lenses equalling the number of said voting indicators; means to support a sensitized sheet in said photographic apparatus so as to receive a photographic impression of said indicators; and means to prevent that photographic impression from being made until the expiration, just after the voting period of said single election, of a definite predetermined time interval, and upon the expiration of such time interval to permit said photographic impression to be made.

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