

A. F. BARDWELL.
VOTING MACHINE.

APPLICATION FILED JUNE 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

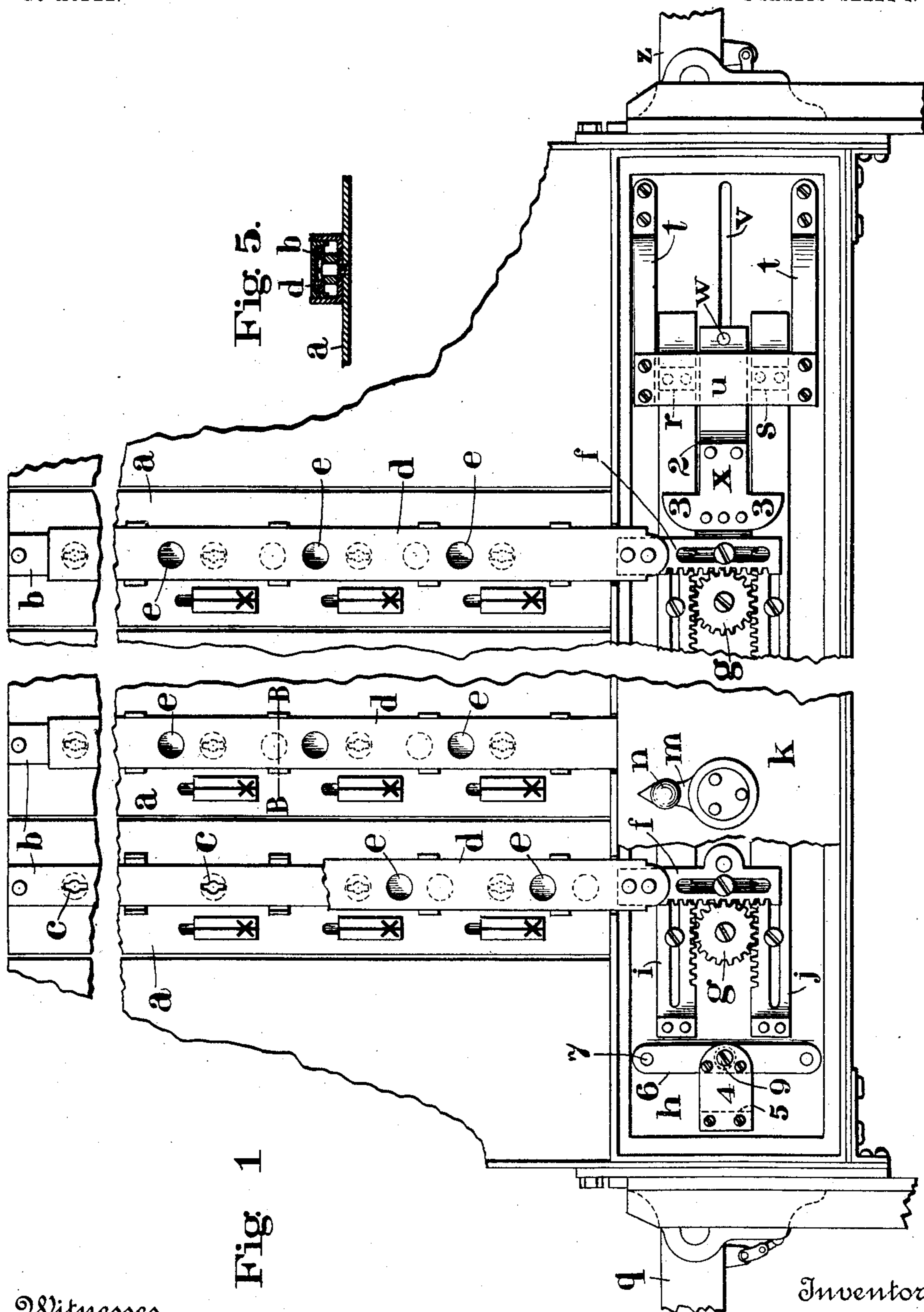


Fig. 1

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2 SHEETS—SHEET 2.

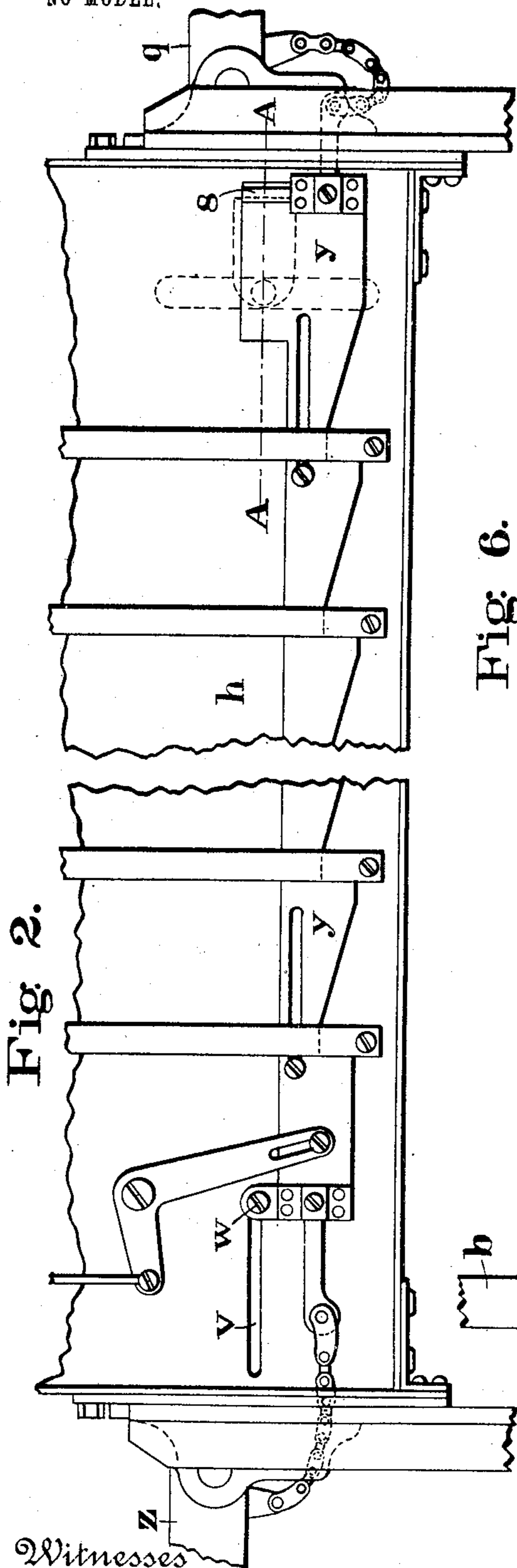


Fig. 2.

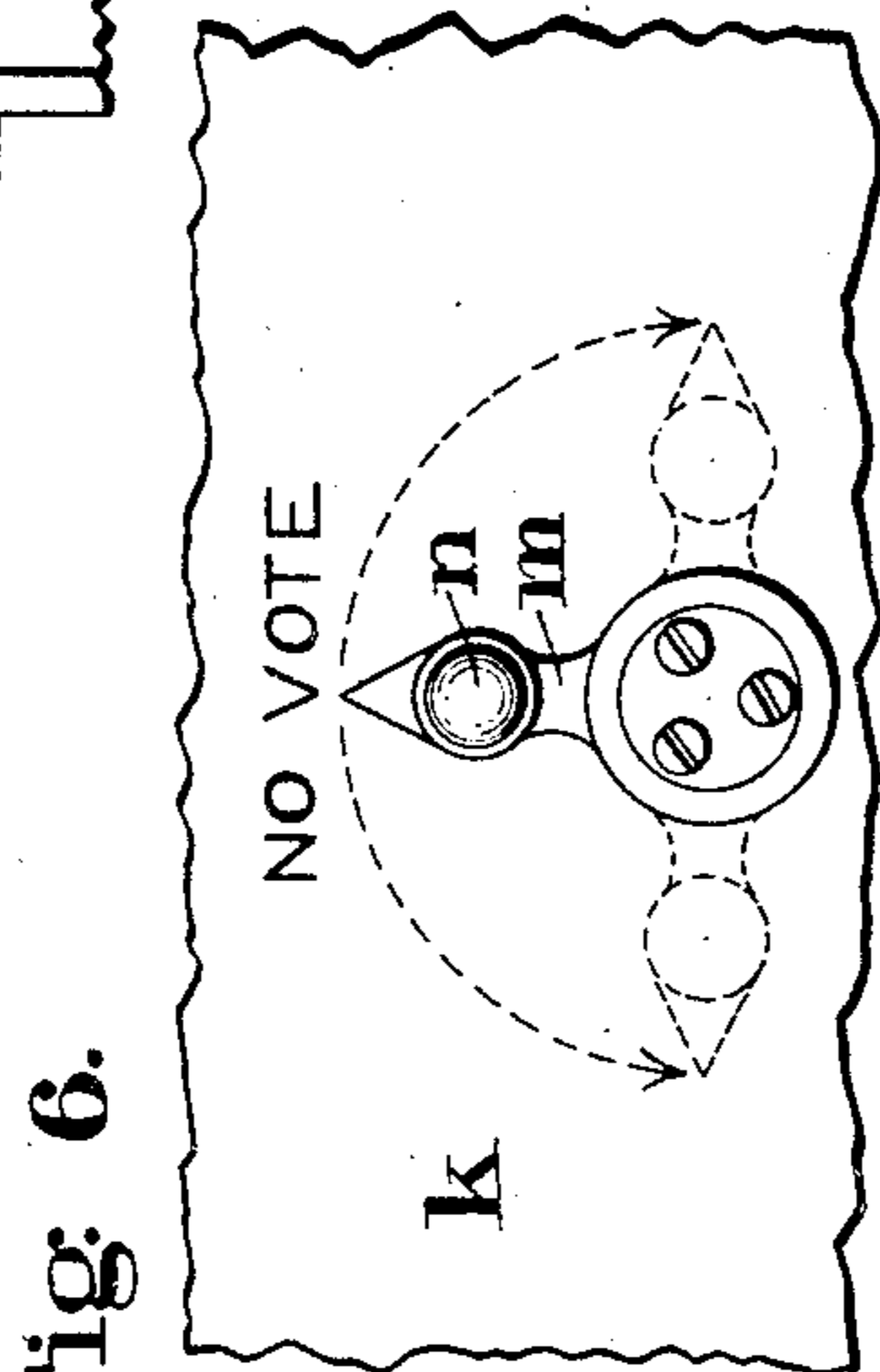


Fig. 6.

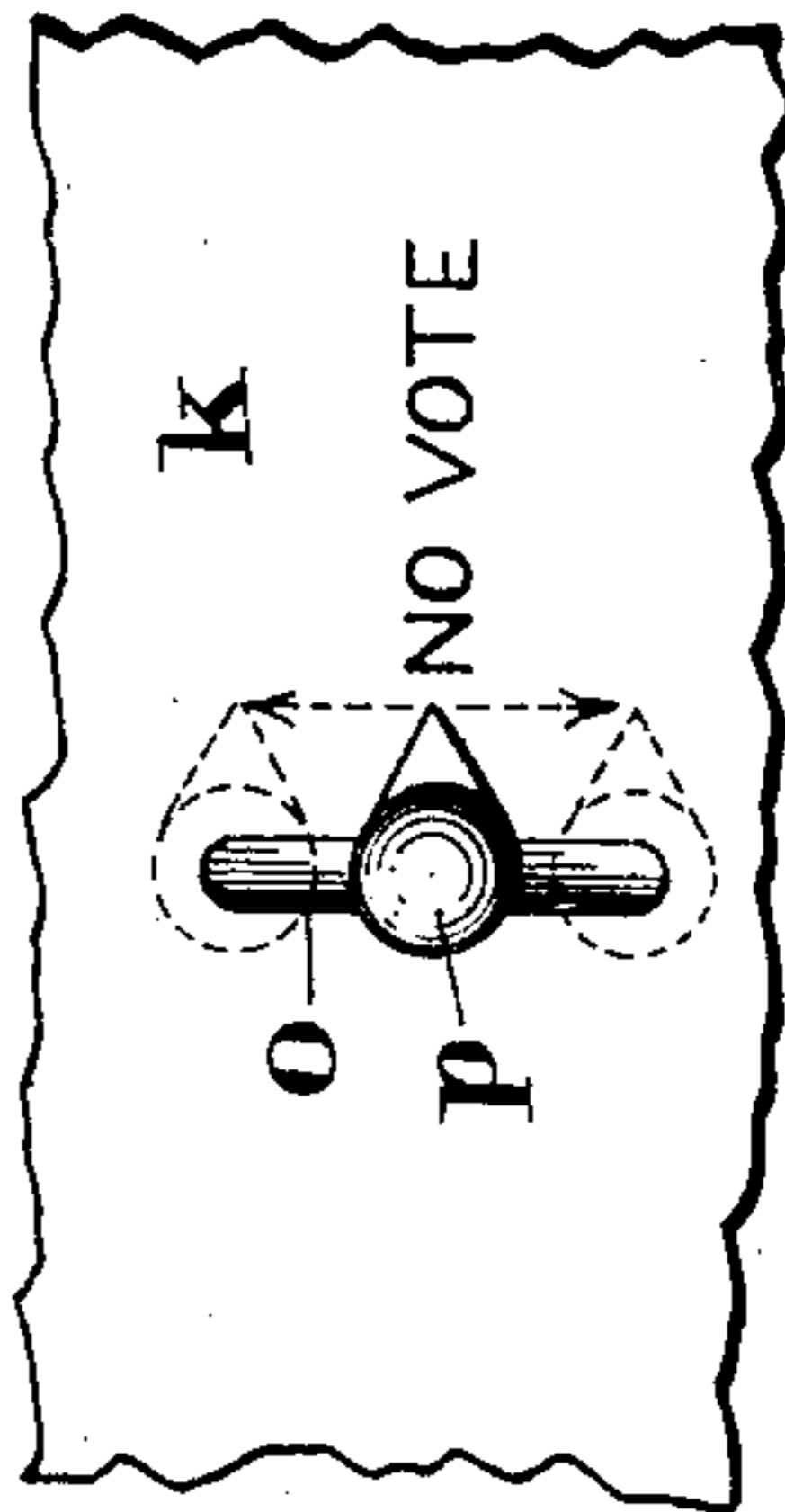


Fig. 7.

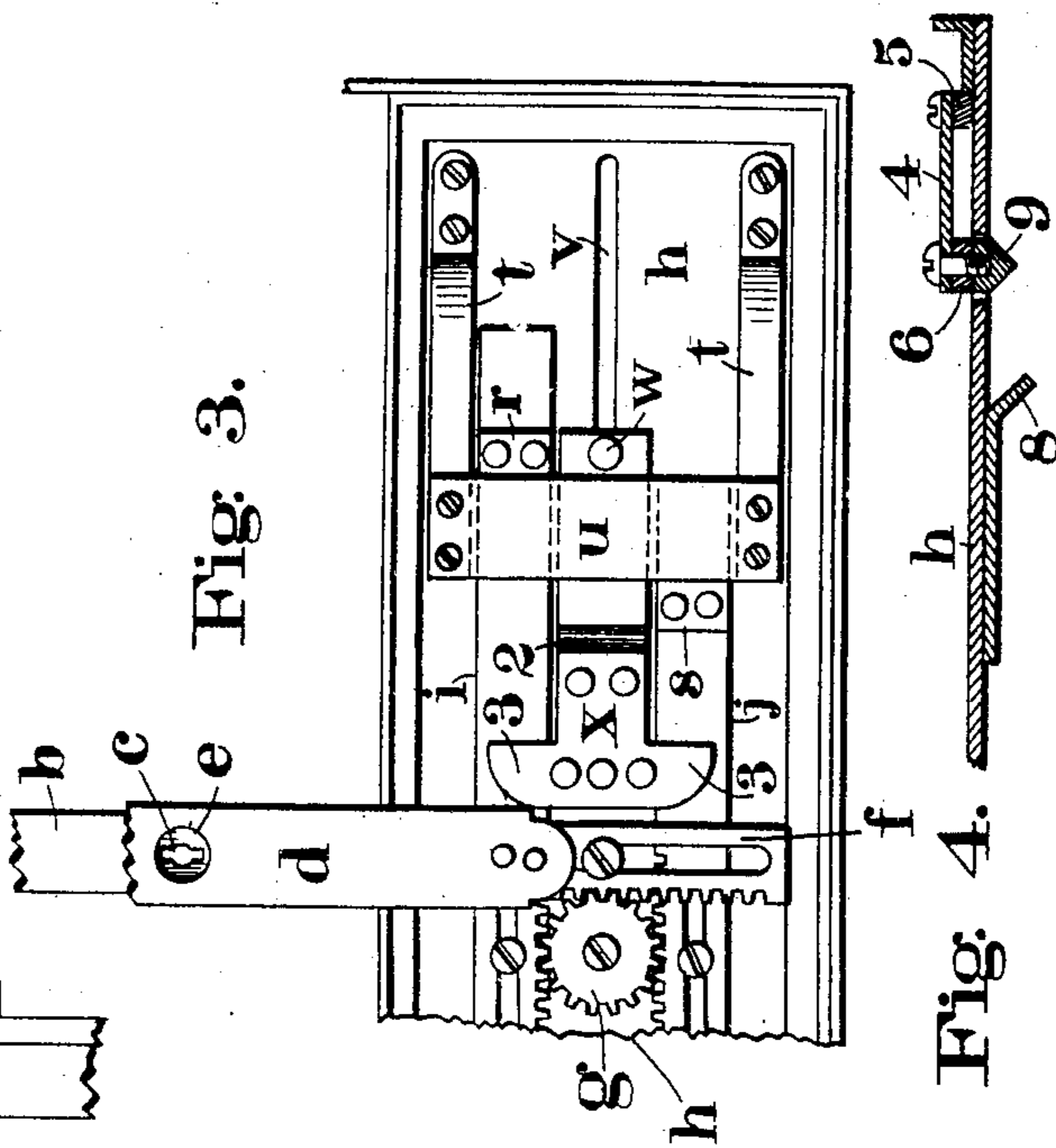


Fig. 3.

Fig. 4.

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ARTHUR FRANCIS BARDWELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
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VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,274, dated October 27, 1903.

Original application filed November 21, 1902, Serial No. 132,349. Divided and this application filed June 5, 1903. Serial No. 160,224. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR FRANCIS BARDWELL, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Voting-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in a mechanism for operating certain parts of a voting-machine, and this application is filed in compliance with a requirement for division made in the application, Serial No. 132,349, filed by me November 21, 1902.

Figure 1 shows my new operating mechanism in front elevation. Fig. 2 illustrates the resetting mechanism in rear elevation. Fig. 3 is a detail showing the automatic locking device for the operating mechanism in its locking position. Fig. 4 is a horizontal sectional view on the line A A, Fig. 2. Fig. 5 is a horizontal sectional view on the line B B, Fig. 1; and Figs. 6 and 7 are details herein-after referred to.

Extending from top to bottom of each section-plate *a* and secured to the front face thereof along its central line is a keyhole-strip *b*, formed with keyholes *c*, through which access is obtained by means of a key to the register-actuator. There is a keyhole for the actuator of each register and for each actuator of the independent-vote-registering device, and the key and the actuators may be like those described in my Patent No. 696,925, dated April 8, 1902. Therefore this part of the mechanism will not be further described here.

Over the keyhole-strips *b* are mounted cover-slides *d*, the intumed edges of which embrace the side edges of the keyhole-strip *b*, Figs. 1 and 5. Each of the cover-slides is provided with a series of apertures *e*, one for each keyhole *c* covered by it; but in the initial or normal position of the cover-slides *d* the apertures do not register with their cooperating adjacent keyholes. Secured to the lower end of each of the cover-slides is a slotted rack-bar *f*, the teeth of which mesh with the teeth of a pinion *g* and through slots in which pass securing-screws into the web *h*,

upon which are mounted the pinions *g*. Meshing with said pinions *g* are two transverse horizontally-slidable rack-bars *i j*, which are supported by the web *h*. Outside the front casing *k* of the machine, and therefore accessible to the voter after he has passed the entrance-bar *q*, is a crank-arm *m*, suitably secured to one of the pinions *g*, Figs. 1 and 6. The knob *n* affords a suitable means by which the voter is enabled to rock the arm *m*, and thereby to actuate the intermeshing toothed mechanism just described. A modified construction is shown in Fig. 7, in which the front casing *k* is formed with a vertical slot *o*, through which passes the shank of a knob *p*, and the said shank is secured in a hole in one of the vertical rack-bars *f*. By moving the knob up and down the parts will be operated as in the manner when the crank-arm *m* is rocked. It is evident that the shank *p* may be secured to either of the transverse rack-bars *i j* and a side-to-side movement given it without change of result.

As before stated, in their normal or initial position the apertures *e* do not register with their cooperating adjacent keyholes *c*, and, furthermore, the apertures of one slide have a different position relative to their cooperating keyholes from that occupied by the apertures of the other slide or slides relatively to their cooperating keyholes. Hence when the intermeshing toothed mechanism just described is actuated to bring the apertures of one set of slides into register with their cooperating keyholes the apertures of the other set of slides are thrown by said actuation still further out of register with their cooperating keyholes. When the voter has passed the entrance-bar *q*, he can obtain access to none of the register-actuators without first actuating the said intermeshing toothed mechanism by turning the crank-arm *m*, and by turning said crank-arm he obviously gains access to only the keyholes covered normally by one set of cover-slides, while the keyholes (and so the register-actuators, access to which is obtained by a key inserted in said keyholes, as before described) of the other set of slides are placed still further out of register with the apertures of said set. In order to pre-

vent the voter from gaining access to more than one set of actuators, (or keyholes,) I provide means whereby said intermeshing toothed mechanism is locked automatically at the completion of movement thereof to bring one set of apertures into register. This locking of the said toothed mechanism is accomplished by the following devices: At or near the ends of the transverse rack-bars *ij* are riveted blocks *r s*, and to the web *h* are secured two flat springs *t*, the free ends of which are connected by a cross-plate *u*. When the parts are in their normal position, the blocks *r s* lie under the cross-plate *u*, as is indicated by the dotted lines in Fig. 1; but when the voter actuates the toothed mechanism by throwing the crank-arm *m* to one side or the other the transverse bars *ij* move in opposite directions, and the blocks *r s* separate from each other. When the rack-bars *ij* have reached the limit of their movement, (at which time the apertures of one set of cover-slides register with their cooperating adjacent keyholes,) the blocks *r s* are sufficiently separated to permit the cross-plate *u* to be forced between them by tension of the springs *t*, Fig. 3. Thus the intermeshing toothed mechanism having been so moved as to expose one set of keyholes, so that access may be obtained to the corresponding actuators, the said mechanism is automatically locked to prevent the like exposure of the other set of keyholes by a reverse movement.

Upon leaving the machine the voter restores the parts to their initial position and blocks further movement of the intermeshing toothed mechanism until the entrance-bar has been raised by another voter—the one who follows him. The mechanism by which these results are accomplished is constructed as follows: The web *h* is formed with a horizontal slot *v*, through which projects a screw *w*, that secures a T-shaped resetting-bar *x* to the resetting-slide *y*. The resetting-slide *y* is similar to that described in my Patent No. 696,925, above referred to, and is similarly connected with the entrance and exit bars, which are like those described in said patent and have like automatic locking devices. When the resetting-slide *y* is moved from its releasing to its locking position by the raising of the exit-bar *z*, (as is fully described in my said patent,) the resetting-bar *x* is moved to the right in Figs. 1 and 3. Near the middle of the resetting-bar *x* is formed an incline 2, which leads from the upper surface of the shank end to the upper surface of the head of said bar *x*, and when the said bar is moved, as just described, by the raising of the exit-bar *z* by the outgoing voter the incline 2 rubs under the cross-plate *u* and raises it from between the blocks *r s* against the tension of the springs *t*, in which position it is held by the head of said resetting-bar *x*. Thus the intermeshing toothed mechanism is released by the raising of the exit-bar *z*. Further movement of the resetting-slide *y* in the

same direction causes one of the ears 3, projecting from the head of the resetting-bar *x*, to engage that one of the rack-bars *ij* nearest it and to move the rack-bar to its initial position. As will be obvious from a study of the figures, this movement of the transverse rack-bar to its initial position restores the cover-slides *d* to their initial position, in which none of the apertures *e* register with their cooperating adjacent keyholes. The parts having been thus restored to their initial position, the intermeshing toothed mechanism is blocked from further movement until the entrance-bar is raised by the next succeeding voter. This result is accomplished by the following devices: Between the web *h* and a flat spring 4 is secured a block 5, and to the free end of said spring 4 is secured a cross-bar 6, formed with a hole in each end, through which holes project guide-pins 7 from the web *h*. The resetting-slide *y* is provided with a lip 8, Fig. 4, at one end, and this lip is adapted and designed to rub against a conical pointed stud 9, which projects from the cross-bar 6 and works in a hole in the web *h*. As in my Patent No. 696,925, above mentioned, when the entrance-bar is raised the resetting-slide *y* moves from its locking to its releasing position, and this movement of the resetting-slide *y* forces, by means of the contact of the lip 8 with the conical pointed stud 9, the cross-bar 6 from the web *h* a distance sufficient to permit one of the rack-bars *ij* to pass between it and the web *h*; but until the cross-bar is raised, as just described, the movement of the rack-bars *ij* is blocked by it. When the resetting-slide *y* is, however, moved by the raising of the exit-bar *z* from its releasing to its locking position, (at the end of which movement the parts of the machine are restored to their initial position and held therein locked by the resetting-slide, as described fully in my said patent,) the lip 8 is moved out of contact with the stud 9, thereby permitting the spring 4 to force the cross-bar against the web *h*, and thus to block the path of travel of the rack-bars *ij*, and so to prevent the actuation of the intermeshing toothed mechanism until the entrance-bar is raised, as previously described.

What I claim is—

1. In a voting-machine, the combination of a pair of parallel rack-bars formed with projections at one end; means which move said rack-bars in opposite directions; an automatic locking device which engages between said projections, an exit-bar operatively connected with a resetting mechanism; and said resetting mechanism operated by said exit-bar to release and restore said rack-bars to their initial position.

2. In a voting-machine, the combination of a pair of parallel rack-bars; means which move said rack-bars in opposite directions from their initial position; means which prevent the movement of said rack-bars from their initial position; an entrance-bar opera-

tively connected with a releasing mechanism; and said releasing mechanism operated by said entrance-bar to release said preventing means.

5 3. In a voting-machine, the combination with register-actuator-controlling devices of intermeshing toothed mechanism in engagement therewith; operating devices therefor; and an automatic locking device which locks
c said mechanism at the completion of its movement.

4. In a voting-machine, the combination with register-actuator-controlling devices of intermeshing toothed mechanism in engagement
15 therewith; means which prevent its movement from its initial position; and a releasing device which releases said preventing means to permit the operation of said mechanism.

20 5. In a voting-machine, the combination with register-actuator-controlling devices of intermeshing toothed mechanism; operating devices therefor; an automatic locking device which locks said mechanism at the completion
25 of its movement; and mechanism for releasing and restoring said toothed mechanism to its initial position.

6. In a voting-machine, the combination with register-actuator-controlling devices of
30 intermeshing toothed mechanism; operating devices therefor; an automatic locking device which locks said mechanism at the completion of its movement; and mechanism for releasing and restoring said toothed mechanism to
35 its initial position and locking it therein.

7. In a voting-machine, the combination of an exit-bar; an entrance-bar; mechanism operatively connecting said bars; operating de-

vices controlled by said bars; automatic locking means which engage operating devices; 40
and restoring means controlled by said mechanism for resetting said devices.

8. In a voting-machine, the combination of an exit-bar; an entrance-bar; mechanism operatively connecting said bars; operating de- 45
vices controlled by said bars; automatic locking means for said operating devices; means for releasing said locking means; and means for restoring said devices to their original position; said releasing and restoring means be- 50
ing driven by said exit-bar.

9. An operating mechanism for voting-machines comprising the combination with register-actuator-controlling devices of a series of direct-connected members; means for lock- 55
ing the same automatically; an exit-bar; and means for releasing and restoring said members driven by said exit-bar.

10. An operating mechanism for voting-machines comprising the combination with register-actuator-controlling devices of a series of direct-connected members; means for lock- 60
ing the same in their initial position; releasing means driven by an entrance-bar; and said entrance-bar. 65

11. The combination of intermeshing toothed mechanism; means which prevent its movement from its initial position; an entrance-bar; and a releasing device controlled by said entrance-bar which releases said preventing means to permit the operation of said 70
mechanism. 7c

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