

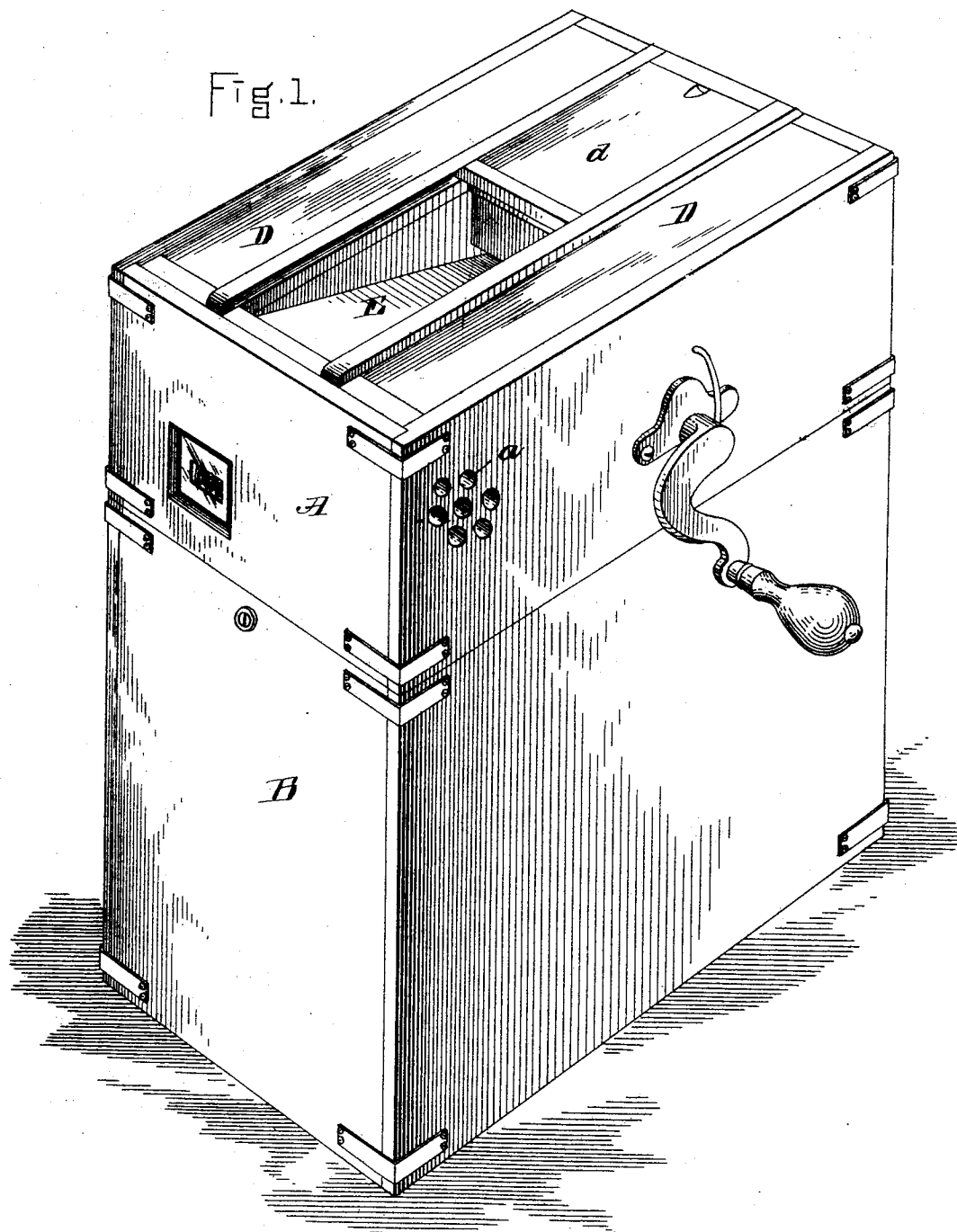
(No Model.)

3 Sheets—Sheet 1.

W. T. BUTLER.
CANCELING AND REGISTER ACTUATING DEVICE FOR BALLOT BOXES.
No. 500,850.

Patented July 4, 1893.

Fig. 1.



WITNESSES.

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(No Model.)

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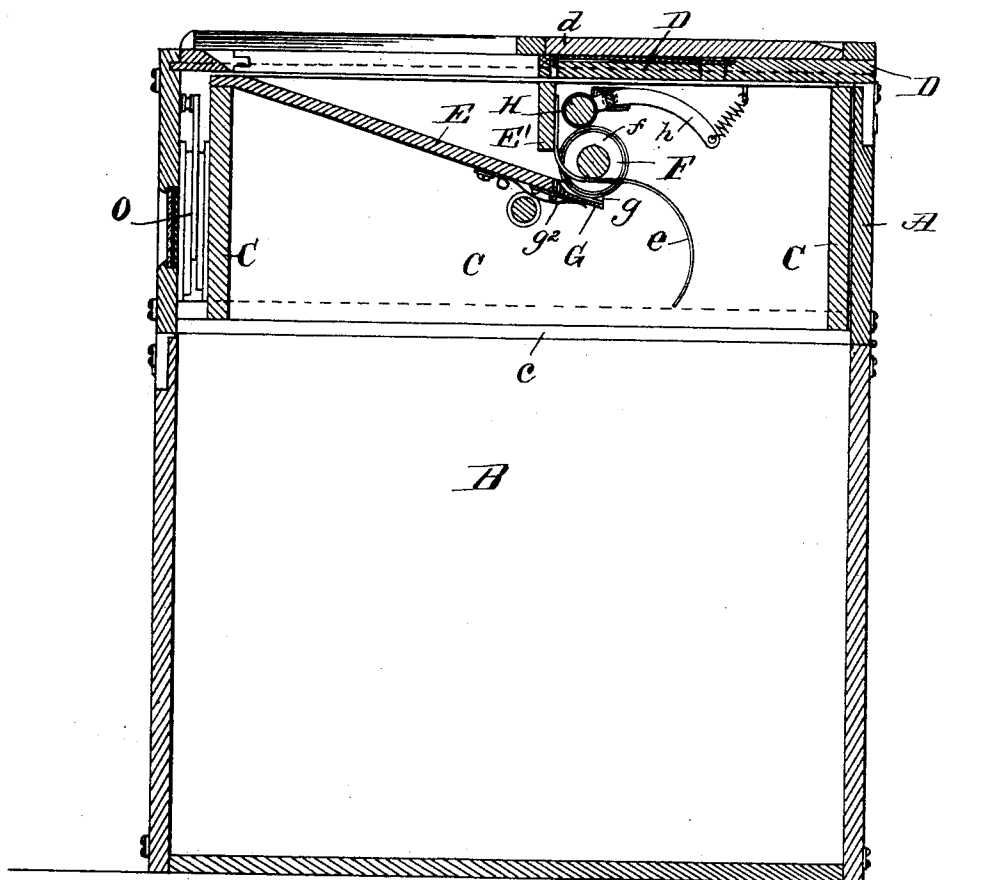


Fig. 2.

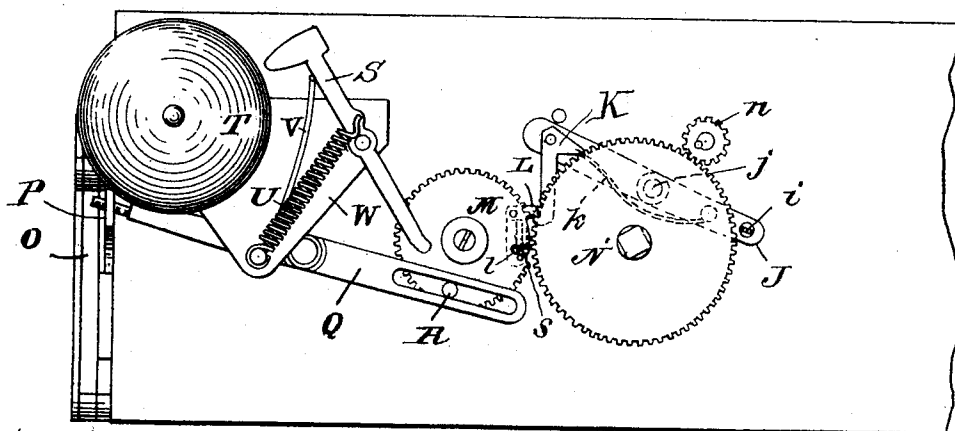


Fig. 3.

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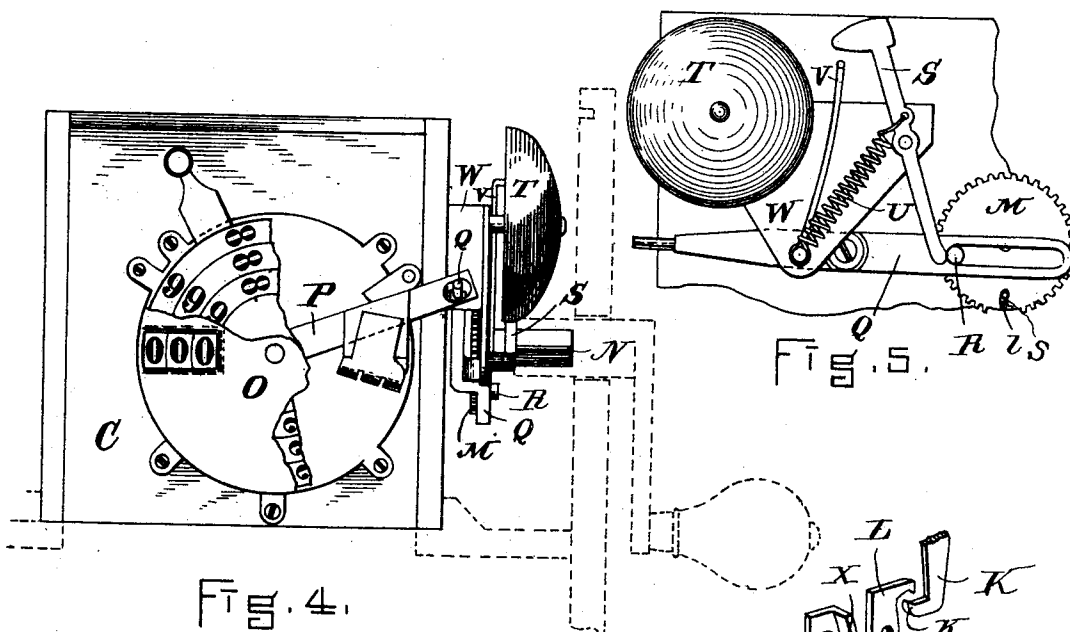


FIG. 4.

FIG. 5.

FIG. 6.

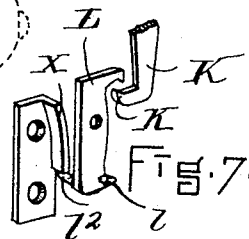
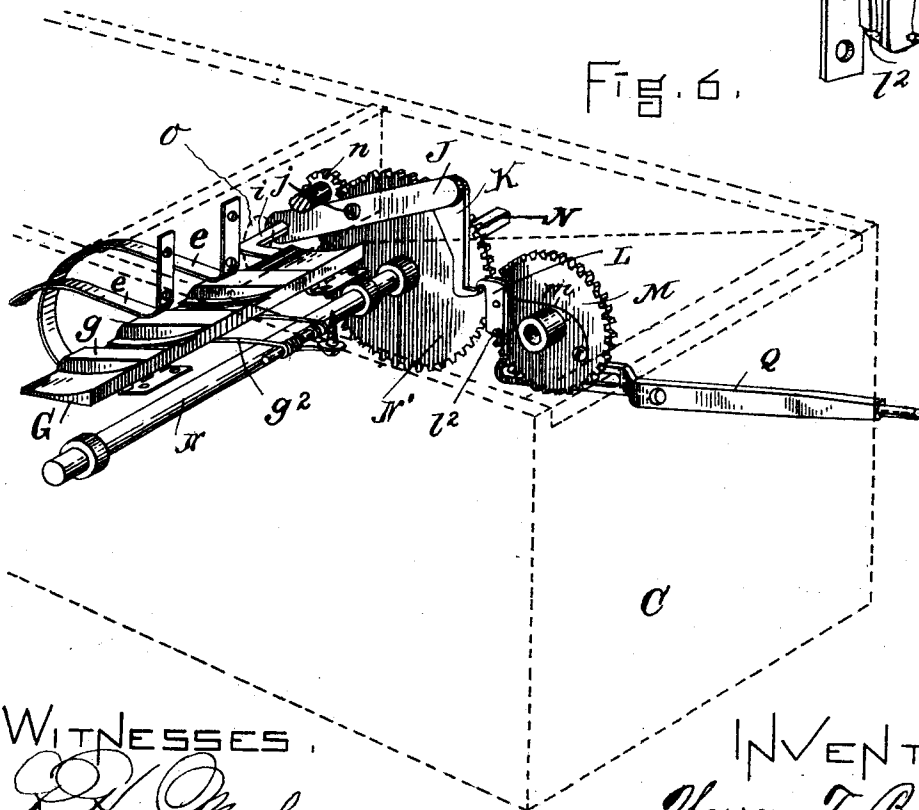


FIG. 7.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WARREN T. BUTLER, OF CHELSEA, MASSACHUSETTS.

CANCELING AND REGISTER-ACTUATING DEVICE FOR BALLOT-BOXES.

SPECIFICATION forming part of Letters Patent No. 500,850, dated July 4, 1893.

Application filed May 22, 1891. Serial No. 393,708. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. BUTLER, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ballot-Boxes, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to that class of ballot-boxes or voting-machines in which the ballot is fed inward over a slide or chute by the rotation of a roller actuated by a crank exterior to the box, and is at the same time canceled, counted or registered, deposited and an alarm sounded.

My present improvement consists in certain features of construction hereinafter illustrated and described, and in the several combinations of devices referred to in the appended claims, my special object being to provide mechanism whereby the register and signal are actuated once only with the passage of each ballot into the box, said mechanism remaining dormant or inactive at other times.

In the drawings Figure 1 is a perspective, exterior view of my improved ballot-box in position for use. Fig. 2 is a vertical, central, longitudinal section through the box. Fig. 3 is a view of that part of the mechanism for operating the register and signal located on the outer right hand side of an inner case hereinafter described, the outer case being supposed to be removed. Fig. 5 is a similar view of a portion of the same. Fig. 4 is a view of the register located in the front part of the box, between the outer and the inner cases, showing the connection of said register with the mechanism leading up to it. Fig. 6 is a general perspective view, seen from the left, of the register-actuating mechanism, both the outer and inner cases being removed, but the latter being indicated in dotted lines. Fig. 7 is a detail view of a pivoted lever L, hook K and stop X, hereinafter described.

The external case consists of an upper section A and a lower section B, united by hinges at the rear end, and a lock at the front, as in Figs. 1 and 2, so that the upper section, which incloses the mechanism, can be secured to the lower one, into which the ballots drop; and so that after the balloting the upper section

may be swung back to give the officials access to the ballots for counting.

Within the upper section A of the outer case is located the rectangular, bottomless inner case C, to which the operative mechanism of the box is applied. Said inner case, shown in section in Fig. 2, in full lines in Fig. 4, and in dotted lines in Fig. 6, is supported on cleats *c*, (Fig. 2), or otherwise; space being left between its side or end walls and those of the outer case for portions of the mechanism. The sliding cover D fits edgewise in grooves in the sides of the outer case, and is locked in position in any suitable manner. A smaller slide *d*, shown open in Fig. 1, permits an opening through which the ballots are deposited flatwise in the inclined chute E. Perforations *a* through the outer case make the sound of the alarm more distinct.

Referring to Figs. 2 and 6, the driving-shaft N, to which the actuating crank is applied through an aperture in the outer case A, is mounted in bearings in the sides of the inner case C. On said shaft, near the outer wall of case C, is fixed a gear N', which meshes with a pinion *n*, on the axis of a feed-roller F, also mounted in bearings in the side walls of case C, parallel with shaft N and near the lower end of chute E. Said chute E is provided with an extension G hinged across its lower end and lying under the roller F. A spring *g*² supports the extension G and holds it normally in alignment with chute E. Said roller F is rubber-faced, to more readily engage the ballot which is brought in contact with it after passing down the chute. Said roller is provided with several deeply cut annular grooves *f*, Fig. 2, extending around its periphery. The extension G has portions of its upper surface cut away, leaving raised portions, or ribs, *g*, *g*, Fig. 6, which are opposite to and fit into the annular grooves of the roller F, being pressed upward against the roller by the action of the spring *g*². The canceling types or characters are placed on and protrude somewhat beyond the portions of the cylindrical surface of the roll which lie between the grooves *f*, and come in contact with the face of the ink-roller H, Fig. 2, mounted in yielding arms *h*, with each revolution of the roll F. Curved fingers *e*, *e*, having one end secured to the fixed partition

E', and passing through the grooves *f, f*, of the roller F, deflect the ballot downwardly and prevent it from clinging to the roller. It will be seen that when a flat ballot is fed down the chute it must pass between the grooved feed-roller F and the hinged and yielding extension G; and that the ballot, bridging across the annular grooves of the roller, will keep the raised ribs *g, g*, of said extension G from entering said grooves, and will thus depress the free end of said extension against the limited resistance of the spring *g*². After the ballot has passed, the action of said spring will restore the extension G to its normal position. This described downward movement of said hinged extension G, due to the entrance and passage of the ballot, I utilize for the important purpose of actuating the mechanism by means of which the register, and also the signal, if one is used, are brought into connection with the driving shaft, and so operated once with the deposit of each ballot.

A short arm *i*, Fig. 6, projecting from the edge of the extension G, on the side toward the driving mechanism, protrudes through an aperture *o*, in the side of the inner case C, and engages with one end of a lever J, Figs. 3, 6, pivoted at *j* on the outer wall of said case, between it and the driving gear N'. To the other end of said lever J is loosely pivoted a depending hook K, having its point adapted to engage the hooked end of a peculiar lever or plate, L, Figs. 6, 7, pivoted on the inner face, toward case C, of a mutilated gear, M. Said gear M is mounted near the outer wall of case C, and its teeth mesh with those of the driving gear N'. Several of the teeth of the gear M being however cut away, as shown in Fig. 5, its engagement with gear N' is not continuous when the latter is rotated. Said lever L is pivoted to the gear M near its circumference, and has on its face which is toward said gear a projecting lug or tooth *l*, which enters a slot *s*, cut in that part of the edge of gear M which is without teeth. Said lever L is so formed and so pivoted on gear M that when its hooked upper end is lifted by engaging the hook K its lower end, carrying the tooth *l*, will be rotated outwardly toward the gear N', and said tooth *l* will be brought out of said slot *s* and into circular alignment with the fixed teeth of gear M, thus causing said tooth *l* to engage, as it otherwise would not, with the teeth of the driving-wheel N'.

The operative effect of the construction described is that when a ballot enters the machine, driven by the crank, the downward movement of the extension G depresses one end of the lever J and raises the hook K at its other end. Said hook K engages the hooked upper end of lever L, on gear M, thereby swinging the lug *l* into engagement with the teeth of the driving-wheel N', thus imparting rotation to the hitherto stationary mutilated gear M. This engagement of the lug, or temporary tooth, *l* with the gear N'

continues until the fixed teeth of gear M are brought into mesh with those of gear N', after which gear M continues to rotate until its mutilated portion is again brought opposite to gear N', when it stops. The pivoted lever L is carried by the rotation of gear M out of engagement with the hook K; and as soon as released from said hook a spring *m*, on the inner face of gear M, Fig. 6, presses said lever back to its normal position, thereby retracting lug *l* into its slot *s*. A light spring *h*, on lever J, Fig. 3, holds the hook K in proper position to engage the hooked portion of lever L at the proper time.

The lever L has, projecting from its face which is away from the gear M, about opposite to the lug *l*, a pin or lug, *l*², so placed that after each revolution of gear M, following the passage of a ballot and actuating the register, as hereinafter described, said lug will strike from below against a stationary stop X, Fig. 7, fixed on the adjacent wall of case C, in the path of rotation of said lug *l*², thereby stopping the rotation of gear M; and such stoppage will continue until, by the introduction of another ballot and the consequent operation of lever J, hook K, &c., as above described, the lower end of lever L is again swung toward gear N', carrying lug *l*² out of contact with the stop X and permitting gear M again to rotate. Said stop X also prevents turning the machine backward after a ballot has entered and before the gear M has completed its revolution and actuated the register; as, were this attempted, said lug *l*² would impinge upon stop X from above and prevent further reverse rotation of gear M or gear N'. After each complete revolution gear M presents the blank portion of its edge to the driving-wheel, and therefore does not mesh with it; so that the crank may then be freely turned either way, actuating only the feed-roller. The lug *l*², on lever L, and the fixed stop X are so placed that the rotation of gear M will be arrested at such a point that the hook on lever L will be in position to be engaged by hook K when the mechanism is again actuated by the next ballot.

With each complete revolution of the gear M, incident to the deposit of each ballot, the ballot is registered or counted, and an alarm may also be sounded. The mechanism for effecting these objects is represented in Figs. 3, 4 and 5. The counting register O is fixed on the front end of the inner case C; and is of a form having a vibrating arm P to effect each unit count with each complete vibration of such arm. Said arm is actuated positively by means of a lever Q, centrally pivoted on the side wall of case C, Fig. 3, entering an elongated opening in the end of said arm P; the other end of said lever Q having a long slot through which a pin R, fixed on the outer face of gear M, protrudes. It is obvious that this engagement of the parts will effect one vibration of the lever Q and the connected

arm P with each rotation of gear M. The numbers registered are seen through a glass panel in the front of the box.

The pin R protrudes sufficiently from the face of the gear M to bear in its rotation upon the tail of the hammer S, to gradually raise and suddenly release the hammer; which in its descent strikes the bell T and sounds the alarm denoting the deposit of one ballot. The force of the blow is due to a spring U acting on the hammer-handle; and a guard V, of spring wire, prevents the hammer from resting on the bell. The hammer, bell, spring and guard are mounted on a block W, which supports them at some distance from the side of case C.

I claim as my invention—

1. In a ballot-box, the combination with an inclined chute leading into the interior of the box, and driving gear actuating a feed-roller mounted near the lower end of said chute, of a hinged extension of said chute, bearing against said roller and adapted to be depressed by the passage of the ballot, and means whereby the depression of said extension effects operative connection between the driving gear and a registering mechanism, substantially as set forth.

2. In a ballot-box, the chute E and a single, peripherally-grooved feed-roller F, in combination with the hinged extension G at the foot of said chute, having ribs or raised portions g, extending up into the grooves of said feed-roller, for the purpose set forth.

3. In a ballot-box, the combination with a driving gear, a peripherally-grooved feed-roller actuated by said gear, and a chute leading into the box, of an extension of said chute hinged across its lower end and provided with raised ribs adapted to enter the grooves of said roller, a pivoted arm connected at one end with said extension and having a hook at its other end, and means whereby the depression of said extension and the elevation of said hook effect operative connection between the driving gear and a registering mechanism, substantially as set forth.

4. In a ballot-box, the combination, with a driving gear N', a peripherally-grooved feed-roller F, and a chute E, of an extension G hinged across the lower end of said chute, and provided with raised ribs g, g, adapted to enter the grooves of the roller, a pivoted arm J connected with said extension, a hook K on the end of said arm, a hooked lever L adapted to engage the hook K, a mutilated gear M to which said lever is pivoted, said gear M having a slot s in its mutilated edge, in which a lug l on said lever moves, said lug being adapted to engage the driving gear when actuated by the hook K, thus impart-

ing motion to the mutilated gear and bringing it in mesh with the driving gear, and means whereby a register is actuated by each rotation of said mutilated gear, substantially as set forth.

5. In a ballot-box, the driving wheel N', rotatable by the crank, and the mutilated gear M, slotted as described, in combination with the lever L pivoted on said gear M and having a tooth or lug l moving in said slot to engage with and disengage from the teeth of the wheel N' upon the passage of each ballot, for the purpose set forth.

6. In a ballot-box, the combination, with the driving gear and the feed-roller actuated thereby, of a mutilated gear adapted to engage intermittently with the driving gear, but normally presenting its blank edge thereto, a registering mechanism adapted to be actuated by the rotation of said mutilated gear, and means whereby the passage of a ballot throws said mutilated gear in mesh with said driving shaft gear, substantially as set forth.

7. In a ballot-box, the combination, with the driving gear and feed-roller actuated thereby, of a mutilated gear adapted to engage intermittently with said driving gear, but normally presenting its blank edge thereto, a register adapted to be actuated by each rotation of said mutilated gear, a slot in the blank edge of said gear, a lever pivoted on the side of said gear and carrying a lug adapted to move in said slot, and means whereby said lever is actuated upon the passage of each ballot and said lug made to engage the teeth of the driving gear and thereby rotate the mutilated gear until its fixed teeth mesh with said driving gear, substantially as set forth.

8. In a ballot-box, in combination with a driving gear, a feed-roller actuated thereby, a mutilated gear engaging intermittently with said driving gear, and a register actuated by each rotation of said mutilated gear, of a lever L pivoted on the inner surface of said mutilated gear and carrying a lug l² adapted to impinge upon a fixed stop X to arrest the rotation of the mutilated gear, and means whereby the passage of each ballot actuates said lever L on its pivot, to release said lug l² from contact with said stop and permit the rotation of the mutilated gear, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of May, A. D. 1891.

WARREN T. BUTLER.

Witnesses:

A. H. SPENCER,
ELIHU G. LOOMIS.