

(No Model.)

3 Sheets—Sheet 1.

E. HOXIE.
BALLOT BOX.

No. 488,203.

Patented Dec. 20, 1892.

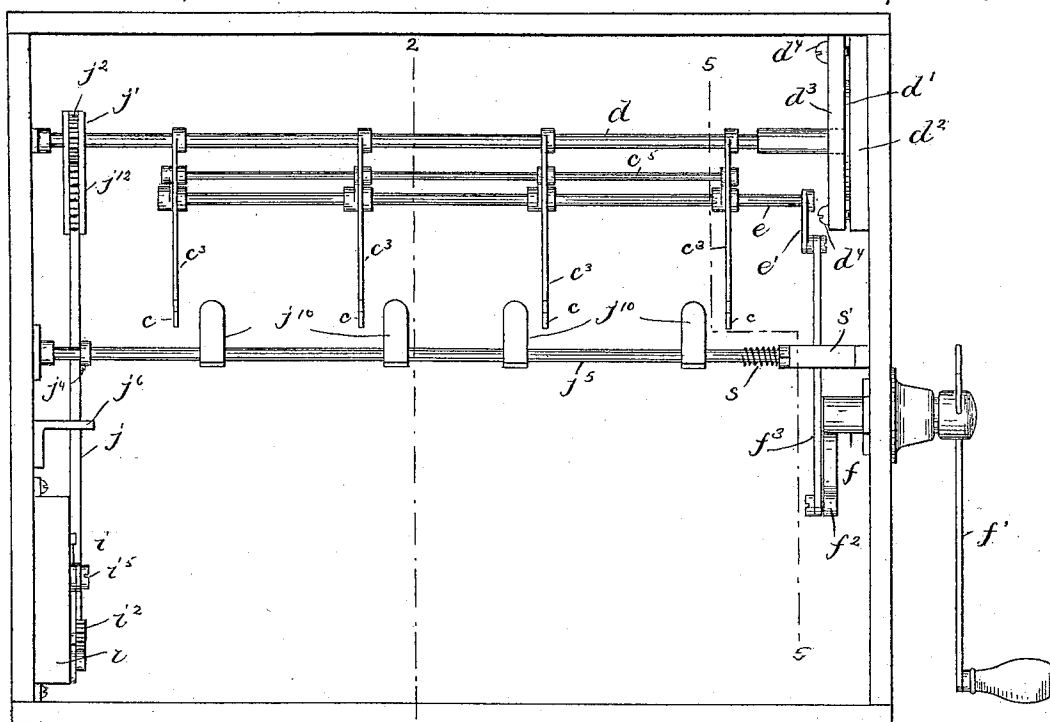


Fig. 1.

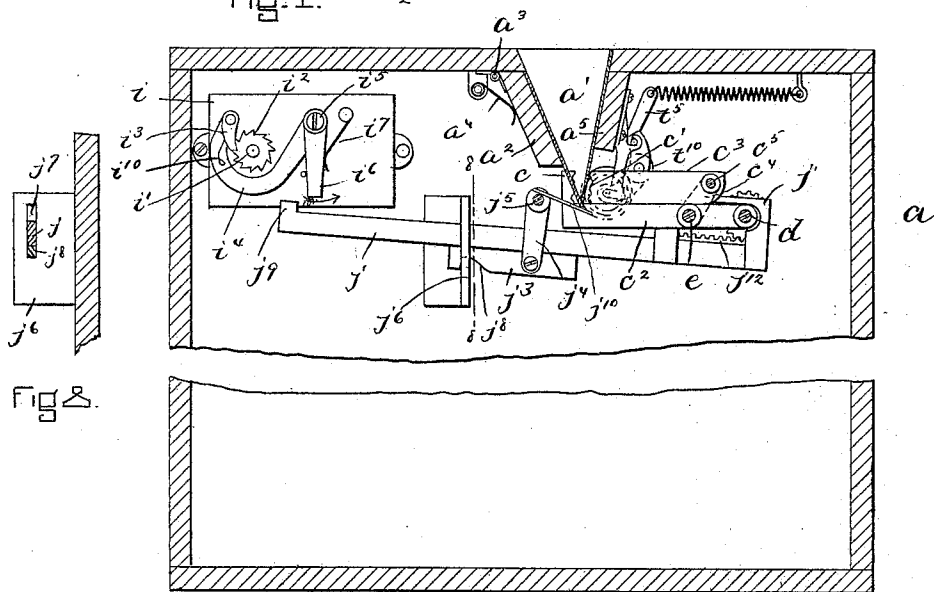


Fig. 2.

WITNESSES.

M. W. Jackson
A. D. Hanson.

Fig. 2.

INVENTOR.

E. Hoxie
by *Wm. B. Brown*
Attys.

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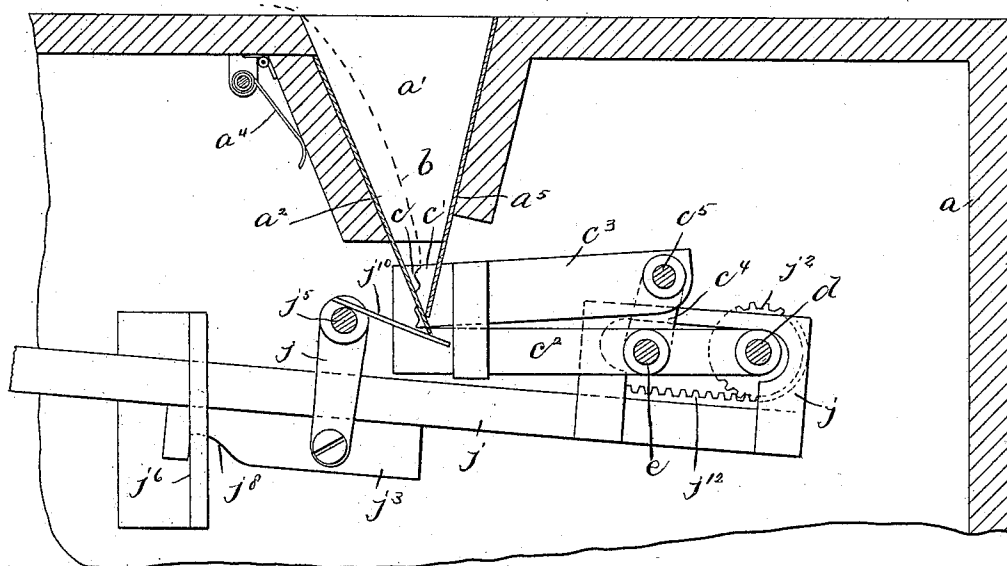


Fig. 3.

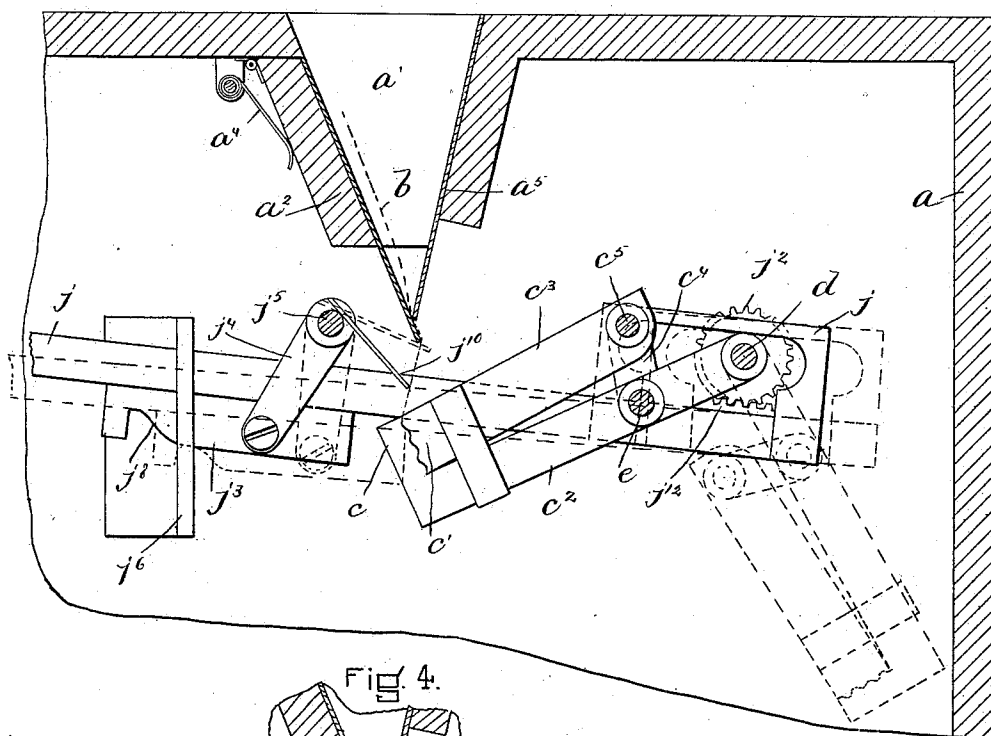
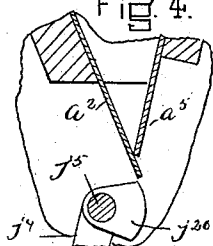


Fig. 4.

Fig. 4.^a

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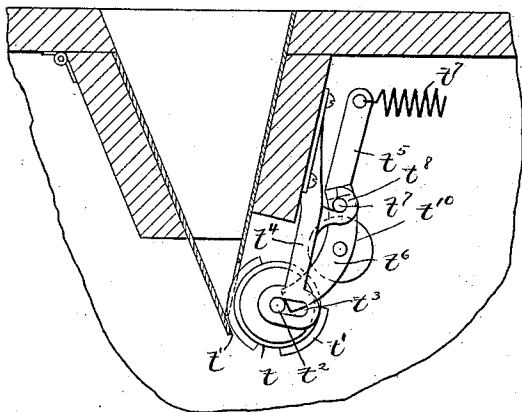


Fig. 6.

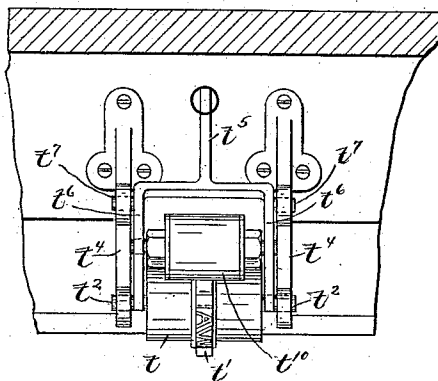


Fig. 7

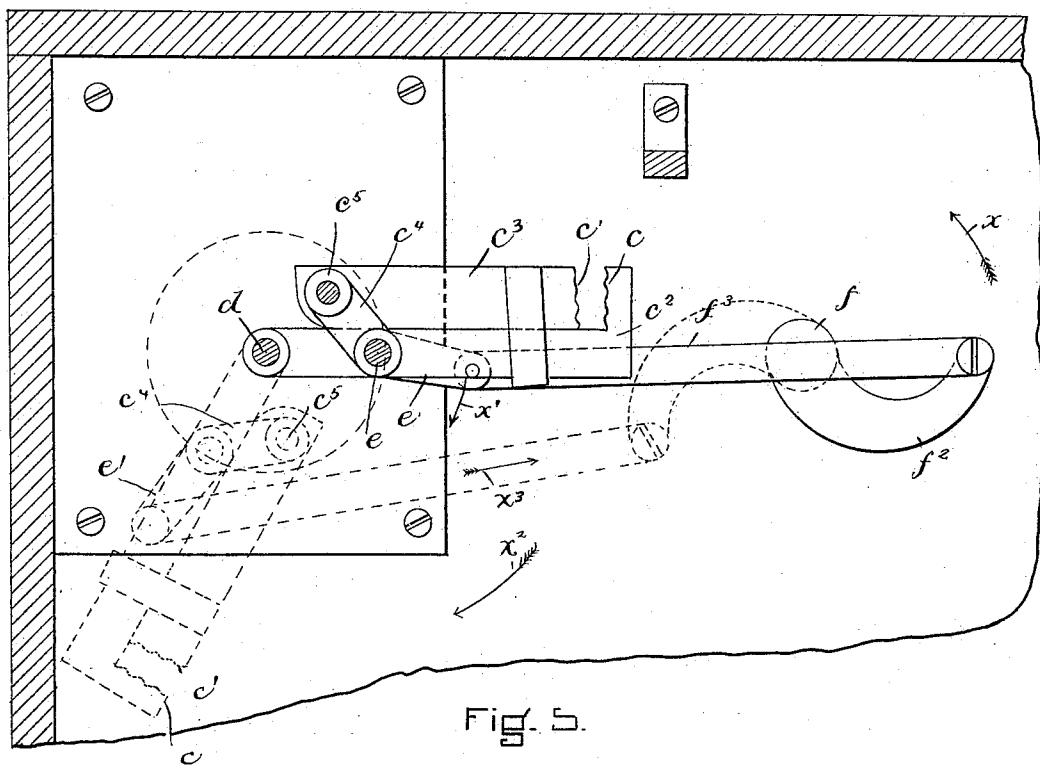
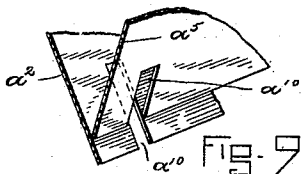


Fig. 5.

WITNESSES.

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A. D. Harrison.



INVENTOR

E. Hayce
by night Bunt Crossley
Atty.

UNITED STATES PATENT OFFICE.

EDMUND HOXIE, OF EVERETT, MASSACHUSETTS.

BALLOT-BOX.

SPECIFICATION forming part of Letters Patent No. 488,203, dated December 20, 1892.

Application filed March 4, 1892. Serial No. 423,778. (No model.)

To all whom it may concern:

Be it known that I, EDMUND HOXIE, of Everett, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Ballot-Boxes, of which the following is a specification.

This invention relates to ballot boxes of the class in which the ballots are drawn into the box by mechanism operated by the turning of a crank.

The invention has for its object; First, to provide improved mechanism for grasping and drawing the ballots into the box in a more positive and certain manner than heretofore. Second, to provide improved registering mechanism operated by the movement of each ballot into the box; and third, to provide improved means for marking the ballots as they are drawn into the box.

To these ends my invention consists of the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification: Figure 1, represents a top plan view of my improved ballot box, the top or cover and the ballot receiving throat therein being removed. Fig. 2, represents a section on line 2—2 of Fig. 1, showing the said top and throat in place. Fig. 3, represents a section of a portion of the box on a larger scale, showing the ballot grasping jaws in the act of grasping a ballot. Fig. 4, represents a view similar to Fig. 3, showing the jaws in the act of drawing a ballot downwardly into the box, and showing the ballot in the act of operating the registering mechanism. Fig. 4^a, represents a view of a portion of Fig. 4, showing a modification hereinafter referred to. Fig. 5, represents a section on line 5—5 of Fig. 1, looking toward the right. Fig. 6, represents a transverse section of a portion of the cover of the box showing the throat and the marking devices. Fig. 7, represents a rear elevation of the devices shown in Fig. 6. Fig. 8, represents a section on line 8—8 of Fig. 2, looking toward the left. Fig. 9 represents a perspective view of a portion of the ballot-receiving throat.

The same letters of reference indicate the same parts in all the figures.

In the drawings: *a*, represents a box or receptacle to receive ballots, the same having a

top or cover provided with a V-shaped throat or recess *a'* to receive a ballot. Said throat is preferably long enough to receive the ballot *b* lengthwise, the ballot being inserted in the throat when its longer edges are held horizontally. One side of the throat *a'* is composed of a flap *a²* hinged at *a³* to the top of the box and pressed yieldingly by a spring *a⁴* against the lower edge of the other side *a⁵* of the throat, the last mentioned side being preferably rigid. This arrangement enables the edge of a ballot to be arrested at the inverted apex of the throat until the jaws hereinafter described which enter the lower portion of the throat through slots *a¹⁰*, *a¹⁰* (Fig. 9) in the side pieces *a²* *a⁵*, grasp and pull down the ballot into the box, the hinged flap *a²* yielding to permit the downward movement of the ballot between said side pieces.

The ballot grasping jaws are arranged in pairs, each pair being composed of a jaw *c* and a jaw *c'*. The jaws *c* are formed on shanks *c²* which are affixed rigidly to a horizontal rock shaft *d* journaled in bearings on the sides of the box, while the jaws *c'* are formed on shanks *c³* which are loosely mounted at their rear ends on a rod *c⁵*. Said rod is connected by short arms *c⁴* with a rock shaft *e* which is journaled in bearings in the shanks *c²* of the jaws *c*, said arms *c⁴* being rigidly attached to the rock shaft *e*, while the rock shaft is adapted to turn freely in its bearings in the shanks *c²*.

f represents an operating shaft which is journaled in bearing on one end of the box, and has at its outer end an operating crank *f'* outside of the box, and at its inner end a crank *f²* which is connected by a rod or pitman *f³* with a crank arm *e'*, affixed to the rock shaft *e*. The relative arrangement of the shaft *f*, crank *f²*, and rock shaft *d*, (best shown in Fig. 5), is such that the rotation of the shaft *f* in the direction indicated by the arrow *x* in Fig. 5, when the jaws are opened and are in the position shown in said figure will cause the pitman *f³* to move the crank *e'*, rock shaft *e*, and arms *c⁴* in the direction indicated by the arrow *x'*, thus forcing the jaw *c'* toward the jaw *c* and causing the two jaws to grasp the lower edge of a ballot in the throat *a'*, as shown in Fig. 3, there being no movement of the jaw *c* and its shank *c²* until

pressure is exerted on said jaw by the jaw c' through the interposed ballot. When the jaw c' has moved far enough to press the ballot against jaw c , the pressure imparts motion to the jaw c , and as the latter has no longitudinal movement (it being affixed by its shank to the rock shaft d) the longitudinal motion of the jaw c' ceases and the two jaws and the rock shaft d swing downwardly as indicated in Fig. 4, and by the arrow x^2 in Fig. 5, until said jaws reach the position shown in dotted lines in Fig. 5. At this point the motion of the pitman f^3 is reversed as indicated by the arrow x^3 , Fig. 5, so that said pitman acts through the crank e' , rock shaft e , arms c^4 and rod c^5 to retract the jaw c' thus releasing the ballot, the jaw c' being free to move independently away from the jaw c to a limited extent, until the inner edge of its shank comes to a bearing on the shank c^2 of the jaw c . The jaws are at this time inclined so that the ballot will readily fall from between them. When the jaw c' has been retracted to a bearing on the shank of the jaw c , the continued backward movement of the pitman f^3 causes both jaws to swing together back to the position shown in Fig. 2, and in full lines in Fig. 5, the jaws remaining separated and being moved into the slots a^{10} , a^{10} formed for their reception in the lower portions of the side pieces of the throat. When the jaws are in the last described position, their location is such that the lower edge of a ballot deposited in the throat will be between the jaws, so that the next forward movement of the pitman will cause the jaws to grasp and then pull down the ballot.

It will be observed by reference to Fig. 1, that there are several pairs of jaws, and that all the jaws c' are connected and caused to move in unison by the rod c^5 . The ballot is therefore grasped simultaneously at several points, drawn positively into the box and then released, the jaws returning to position to receive another ballot.

The rock-shaft d is prevented from rotating freely and is held at any position to which it may be turned, by means of a friction device, which, as here shown, comprises a disk d' , Fig. 1, affixed to one end of the rock shaft d and interposed between two friction plates d^2 d^3 ; one of which, d^2 is affixed to one end of the box; the other d^3 , being connected by screws d^4 with the plate d^3 , and caused by said screws to bear with any desired degree of pressure upon the disk d' . This friction device enables the downward swinging movement of the jaws to be effected whenever the jaw c' presses the ballot against the jaw c without regard to the thickness of the ballot, the friction device supporting the jaws c c' in the raised position shown in Fig. 5, after the jaws have been raised to such position by the rotation of the crank, so that whenever the ballot has been interposed between the jaws and the crank is rotated by the operator, the jaws will commence their descent as soon as

they have both come to a bearing on the ballot; hence, if by any cause a body of unusual thickness gets between any part of the jaws, the operation of the jaws will not be affected thereby.

I employ a registering device, adapted to indicate or register the number of ballots drawn into the box. The mechanism of the register may be of any suitable construction. As there are many suitable mechanisms well known, I do not describe any special mechanism, but remark that said mechanism may be contained in a casing i , Fig. 2, affixed to one of the ends, or any other suitable part of the box; said mechanism including a shaft i' projecting through said casing and adapted to be rotated to impart motion to a suitable system of registering wheels or pointers within the case. The shaft i' is provided with a ratchet-wheel i^2 which is engaged by a pawl i^3 pivotally connected to the swinging end of a curved arm i^4 , which arm is pivoted at i^5 to the casing i , and is provided with a downwardly projecting arm or lever i^6 which is rigidly connected to the arm i^4 in any suitable way. The pawl i^3 is pressed against ratchet i^2 by a spring i^{10} affixed to arm i^4 . It will be seen that if the arm i^5 be oscillated a back and forth motion will be imparted to the pawl i^3 which will cause a step by step rotation of the ratchet wheel i^2 . The arm i^5 is given a movement in the direction indicated by the arrow in Fig. 2, each time a ballot is drawn into the box as above described, and is thus caused to give a partial rotation to the shaft i' , said arm i^5 being moved in the opposite direction by a spring i^7 when released by the device which moves it in the direction indicated by the arrow.

j represents a bar which is provided at one end with a yoke or frame j' , which yoke incloses and is adapted to slide upon the rock shaft d , the top bar of the yoke or frame resting upon the hub of a gear j^2 affixed to said rock shaft, so that the weight of the bar j at the end having the yoke j' is supported by the rock shaft d . The forward portion of the bar j is supported by an adjusting block j^3 which is connected by an arm j^4 , with a rock shaft j^5 journaled in bearings on the ends of the box and extending parallel with the length of the throat a' ; said rock shaft j^5 being located in close proximity to the apex of the throat. The adjusting block j^3 passes through a slot j^7 in the fixed bracket j^6 and supports the bar j , which bar also passes through said slot, as shown in Fig. 8. The slot j^7 is of sufficient length to permit a vertical movement of the bar j and block j^3 therein. The block j^3 has an incline j^8 on its lower edge, said incline being arranged so that when the block j is moved toward the left, as viewed in Fig. 2, the incline will ride upon the lower end of the slot j^7 , and thus cause the block j^3 and the bar j to rise from the position shown in full lines in Figs. 2 and 3, and in dotted lines in Fig. 4, to the position shown

in full lines in Fig. 4. The bar j is thus raised so that a tooth j^9 on its outer end is in position to engage the lower end of the lever i^6 . The block j^3 is given the movement last described by the downward movement of the ballot, the latter being caused by the downward movement of the jaws to bear against a series of projections j^{10} affixed to the rock shaft j^5 , said projections being arranged to come in contact with the ballot when the latter is being pulled downwardly by the jaws, so that the ballot displaces the projections j^{10} from the position shown in dotted lines in Fig. 4, to that shown in full lines, the movement thus given the rock shaft j^5 causing it through the arm j^4 to move the block j^3 to the position shown in Fig. 4, thus raising the bar j . The oscillating movements of the rock shaft d are caused through a gear j^2 to reciprocate the bar j , said gear j^2 meshing with a rack j^{12} affixed to the bar j . It will be seen therefore that when the bar j is raised, as shown in Fig. 4, its reciprocating motion in the direction indicated by the arrow in Fig. 2, will cause its tooth j^9 to move the lever i^6 , and thus operate the register through the devices described. The block j^3 is returned to the position shown in Figs. 2 and 3, after the passage of the ballot by means of a spring s , Fig. 1, affixed to one end of the rock shaft j^5 , and at the other end to the fixed bracket s' , which supports one end of said rock shaft, said spring having a tendency to turn the rock shaft j^5 in the direction required to cause the arm j^4 to move the block j^3 toward the position shown in Figs. 2 and 3, so that when the block j^3 is no longer held by the pressure of the ballot on the projection j^{10} in the position shown in Fig. 4, said block is moved by the force of the spring s to its depressed position. It will be seen therefore that the bar j is normally in a depressed position, so that its tooth j^9 will not act on the lever i^6 , and that said bar is raised, bringing its tooth into operative position, only when a ballot is being drawn down into the box, the bar j being caused to drop to its inoperative position after it has given one movement to the registering mechanism. The projections j^{10} on the rock shaft j^5 are shown in Figs. 1, 2, 3 and 4 as arms, affixed at their inner ends to the rock shaft, and having their outer ends arranged to project normally across the path in which a ballot is moved downwardly. If desired, however, the projections may be segmental pieces j^{20} , arranged as shown in Fig. 4^a, and adapted to be moved by frictional contact with the ballot.

I provide a series of printing disks or wheels t , arranged to imprint suitable marks upon the backs of the ballots as they are drawn downwardly from the throat a' , to prevent fraud by the insertion of two or more ballots at a time. Said printing wheels are provided with raised printing characters t' , and with shafts or trunnions t^2 which are journaled in slots or elongated bearings t^3 in fixed

brackets t^4 . t^5 represents a forked lever, the arms or divisions t^6 t^6 of which are provided with trunnions t^7 t^7 , which are engaged with open ears t^8 formed on the brackets t^4 . The upper end of the lever t^5 is connected with a spring t^9 , which normally pulls said upper end backwardly and forces the lower ends of the arms t^6 forward against the trunnions t^2 of the printing roll. It will be seen by reference to Figs. 6 and 7 that the lower ends of the arms t^6 of the lever t^5 bear against the trunnions t^2 of the printing roll, and press said trunnions to the forward ends of the slots t^3 in which they are journaled. Hence, the printing roll is yieldingly held in its operative position, the spring t^9 acting through the lever t^5 t^6 to hold the printing roll yieldingly in the position shown, and permit its backward movement from said position. t^{10} represents an inking roll having trunnions which are journaled in bearings in the arms t^6 ; the periphery of said roll being arranged to bear on the printing characters t' of the printing roll. The open ears t^8 engaging the trunnions t^7 of the lever t^5 t^6 , enable said lever and the inking roll carried thereby to be readily removed for the purpose of reinking or replacing the said roll. The arms t^6 t^6 yieldingly pressed against the trunnions of the printing roll, as described, permit said trunnions to yield to any desired extent, and at the same time to prevent the body of the roll at the opposite sides of the printing characters from coming in contact with the inking roll.

I claim:

1. A ballot box, having a ballot receiving throat or slot, jaws arranged to grasp a ballot in said throat, said jaws being adapted to occupy a ballot receiving position in the throat, and a ballot delivering position below the throat, and mechanism for closing said jaws in their receiving position, and for opening said jaws in their delivering position, as set forth.

2. A ballot box, having a ballot receiving throat provided with slots in its sides, combined with jaws adapted to occupy a ballot receiving position in the said slots, and a ballot delivering position below the throat, and mechanism for closing the jaws in their receiving position, and opening the jaws in their delivering position, as set forth.

3. A ballot box, having a ballot receiving throat or slot combined with a rock shaft d within the box, arms or shanks affixed to said rock shaft and each provided with a jaw c , a second rock shaft e journaled in said arms or shanks, jaws c' connected with arms affixed to the rock shaft e , and adapted to co-operate with the jaws c , and means for oscillating the rock shaft e and thereby causing the jaws c' to co-operate with the jaws c , substantially as described.

4. A ballot box, having a ballot receiving throat or slot combined with a rock shaft d within the box, a friction device adapted to

hold the said rock shaft in any position to which it may be moved, arms or shanks affixed to said rock shaft and each provided with a jaw *c*, a second rock shaft *e* journaled in said arms or shanks, jaws *c'* connected with arms affixed to the rock shaft *e*, and adapted to co-operate with the jaws *c*, and means for oscillating the rock shaft *e* and thereby causing the jaws *c'* to co-operate with the jaws *c*, substantially as described.

5. A ballot box, having a ballot receiving throat or slot combined with a rock shaft *d* within the box, arms or shanks affixed to said rock shaft and each provided with a jaw *c*, a second rock shaft *e* journaled in said arms or shanks, jaws *c'* connected with arms affixed to the rock shaft *e*, and adapted to co-operate with the jaws *c*, and an operating shaft having a handle outside of the box, and a crank or eccentric wrist pin within the box connected by a pitman with a crank on the rock shaft *e*, as set forth.

6. A ballot box, having a ballot receiving throat or slot combined with a rock shaft *d*, jaws carried by said rock shaft, mechanism for operating said jaws as described and thereby oscillating or rocking the rock shaft, a register operating bar, and connections between it and the rock shaft whereby said bar is reciprocated by the movements of the rock shaft, and devices operated by the movement of a ballot into the box whereby said bar is

moved to position to operate the register, as set forth.

7. A ballot box having a ballot receiving throat or slot, combined with jaws arranged to grasp a ballot in said throat, a register, devices for oscillating said jaws, a normally inoperative connection between the jaw oscillating devices and the register, and devices operated by the movement of a ballot by said jaws to make said connection operative and operate the register, as set forth.

8. A ballot box having a ballot receiving throat or slot, combined with jaws arranged to grasp a ballot in said throat, a register, devices for oscillating said jaws, a normally inoperative connection between the jaw oscillating devices and the register, a rock shaft having projections arranged to be moved with the rock shaft in one direction by a ballot entering the box, devices co-operating with said rock shaft in making said connection operative, and a spring connected with the rock shaft and adapted to make the said connection inoperative as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of February, A. D. 1892.

EDMUND HOXIE.

Witnesses:

C. F. BROWN,
A. D. HARRISON.