

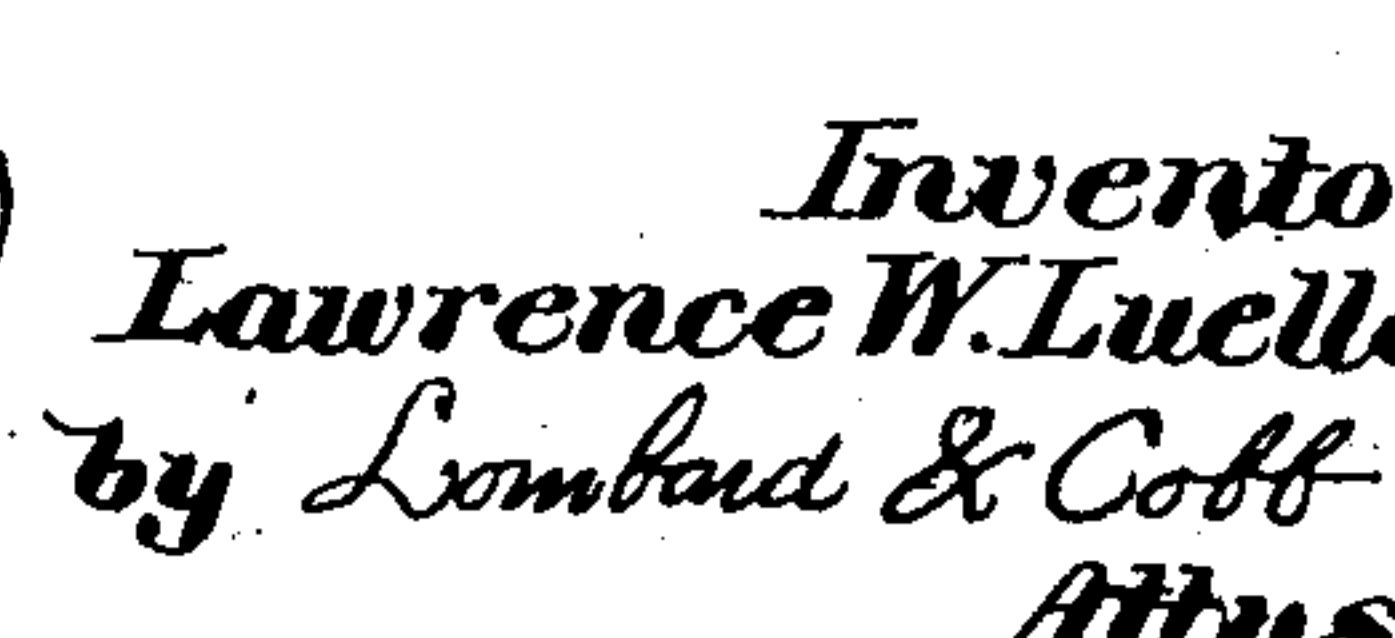
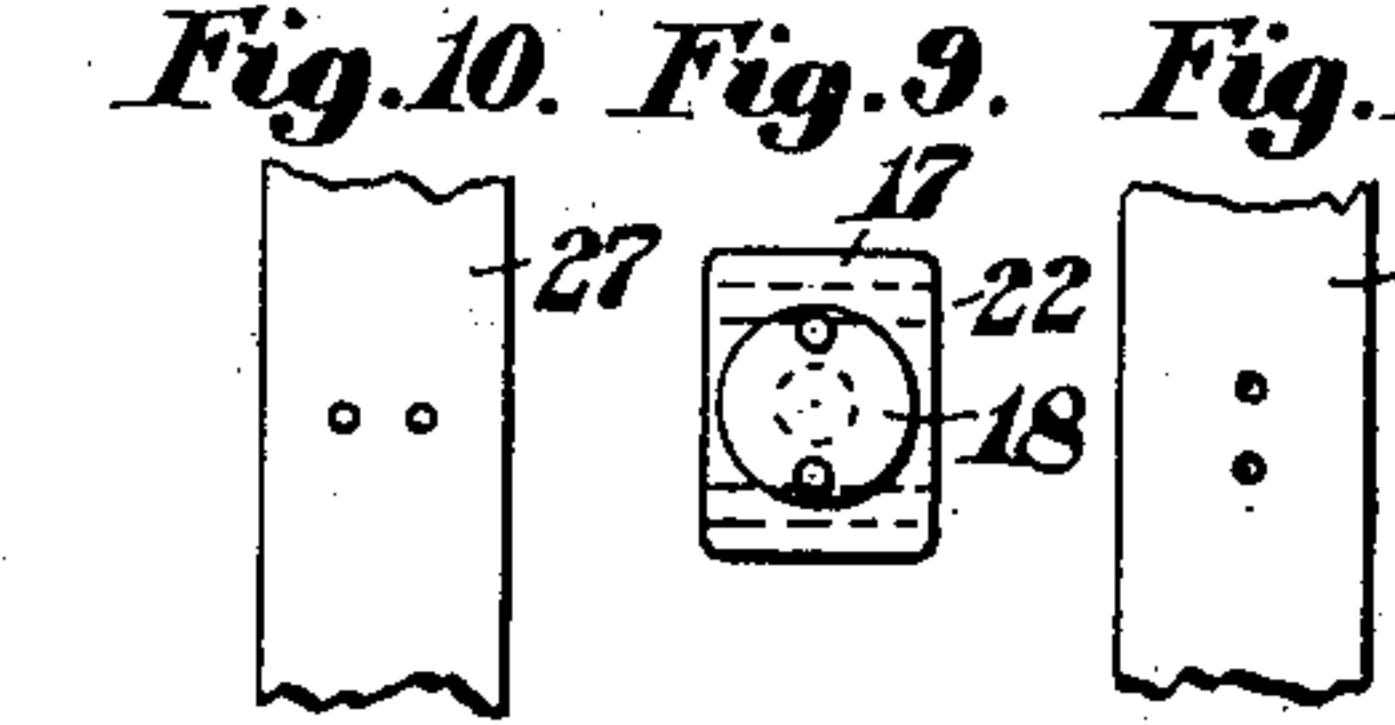
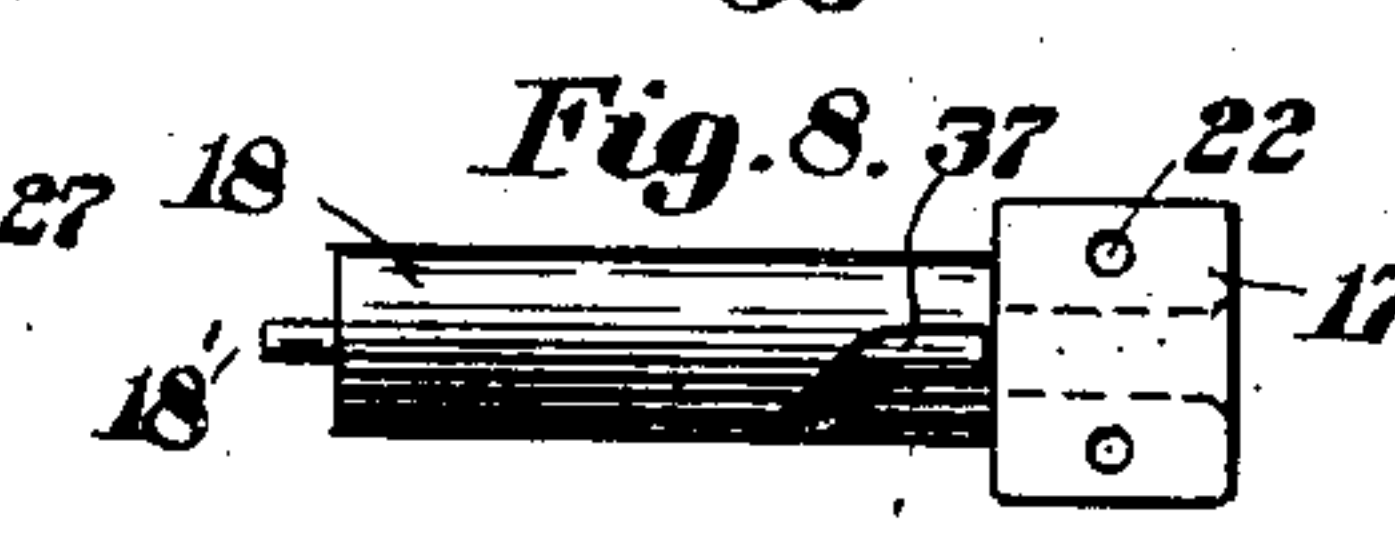
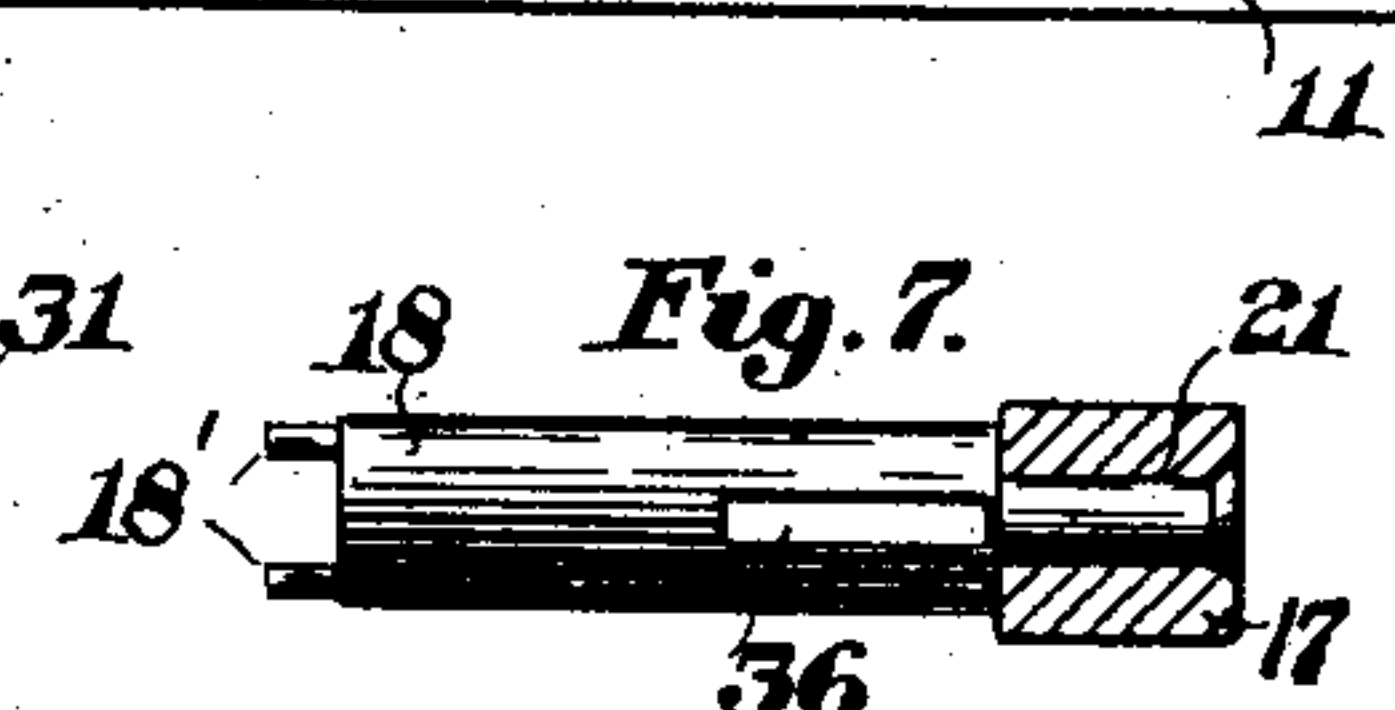
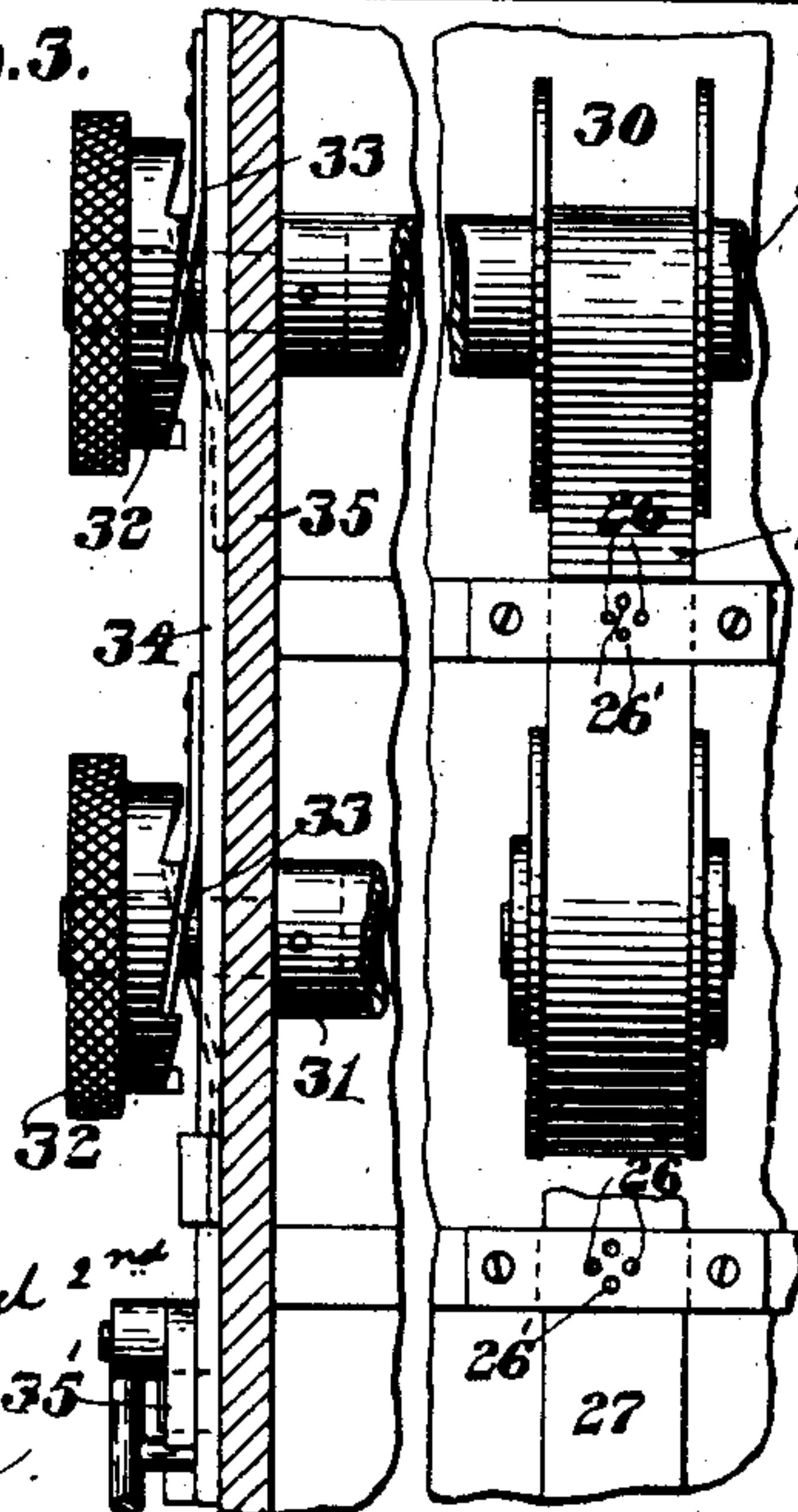
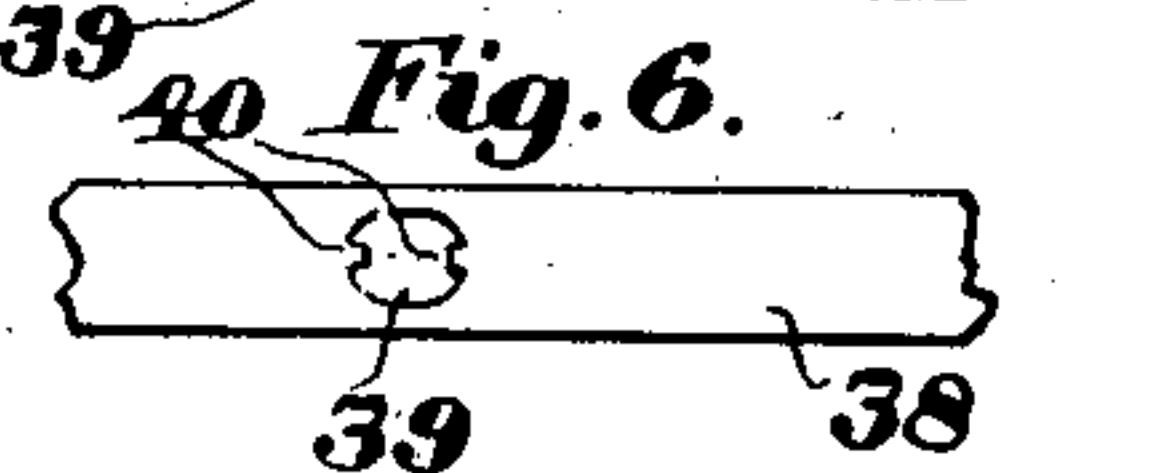
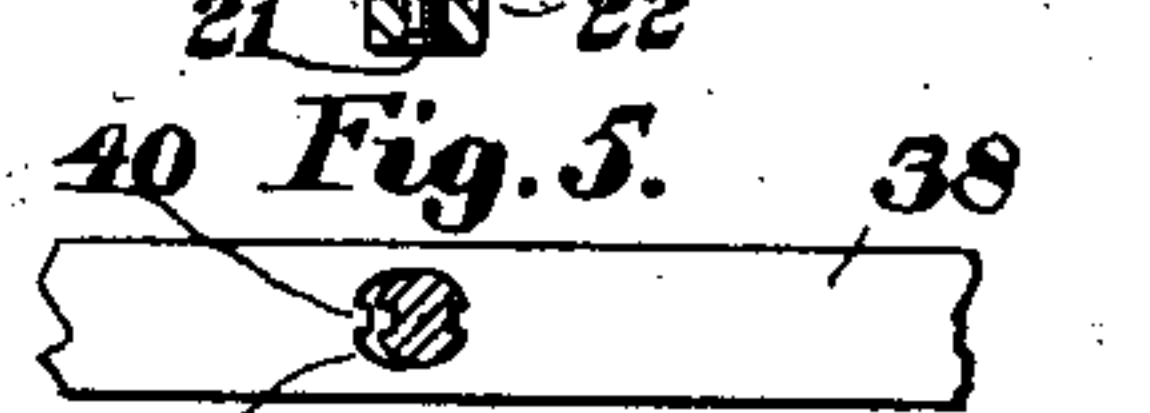
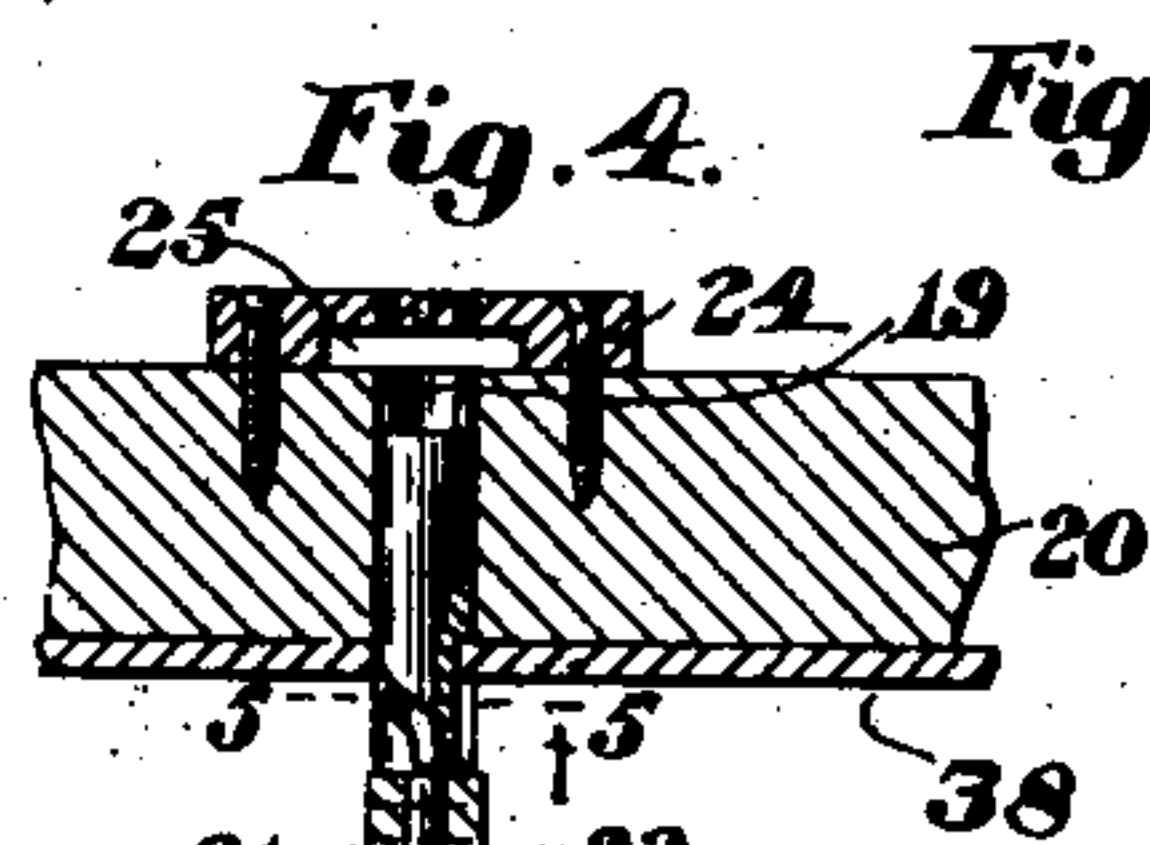
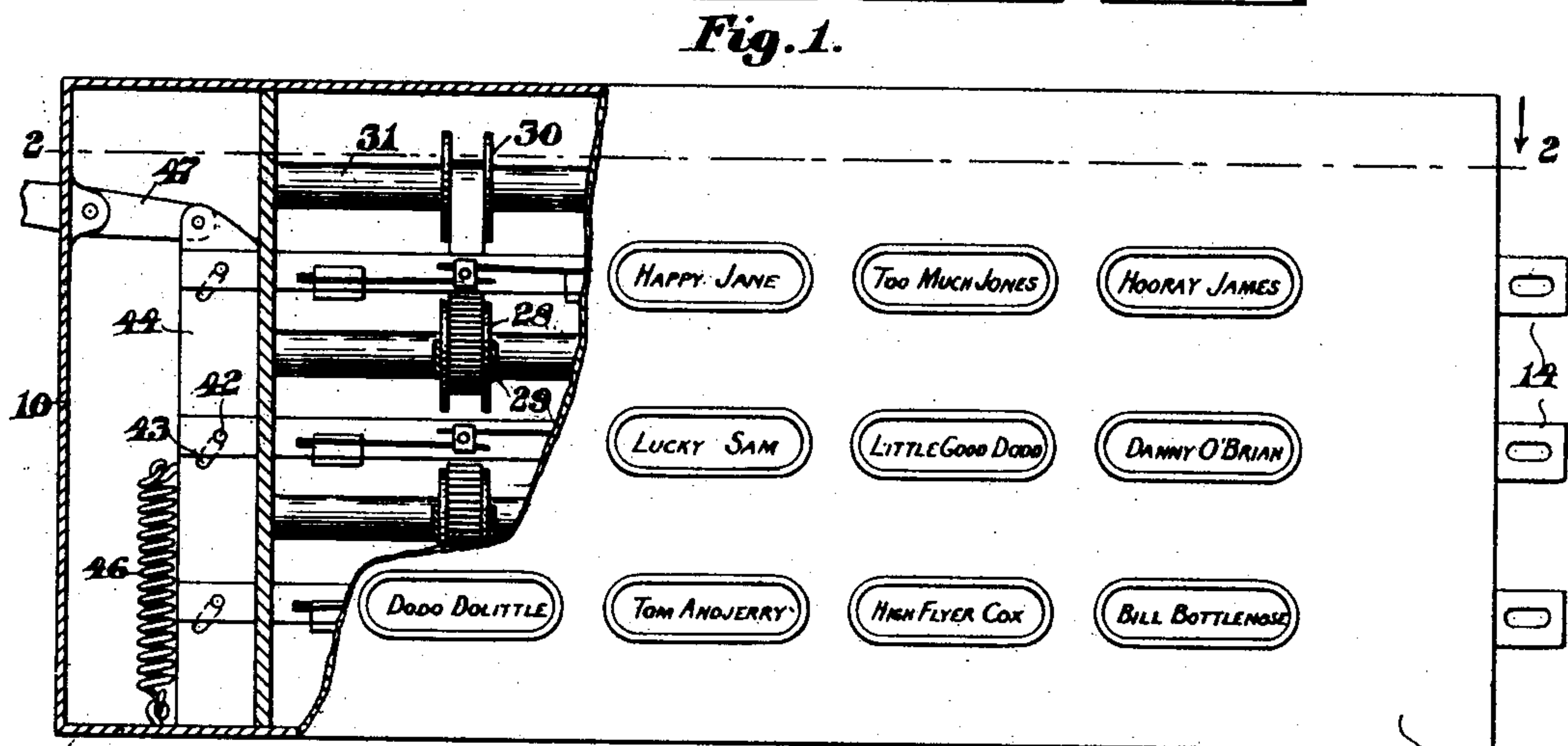
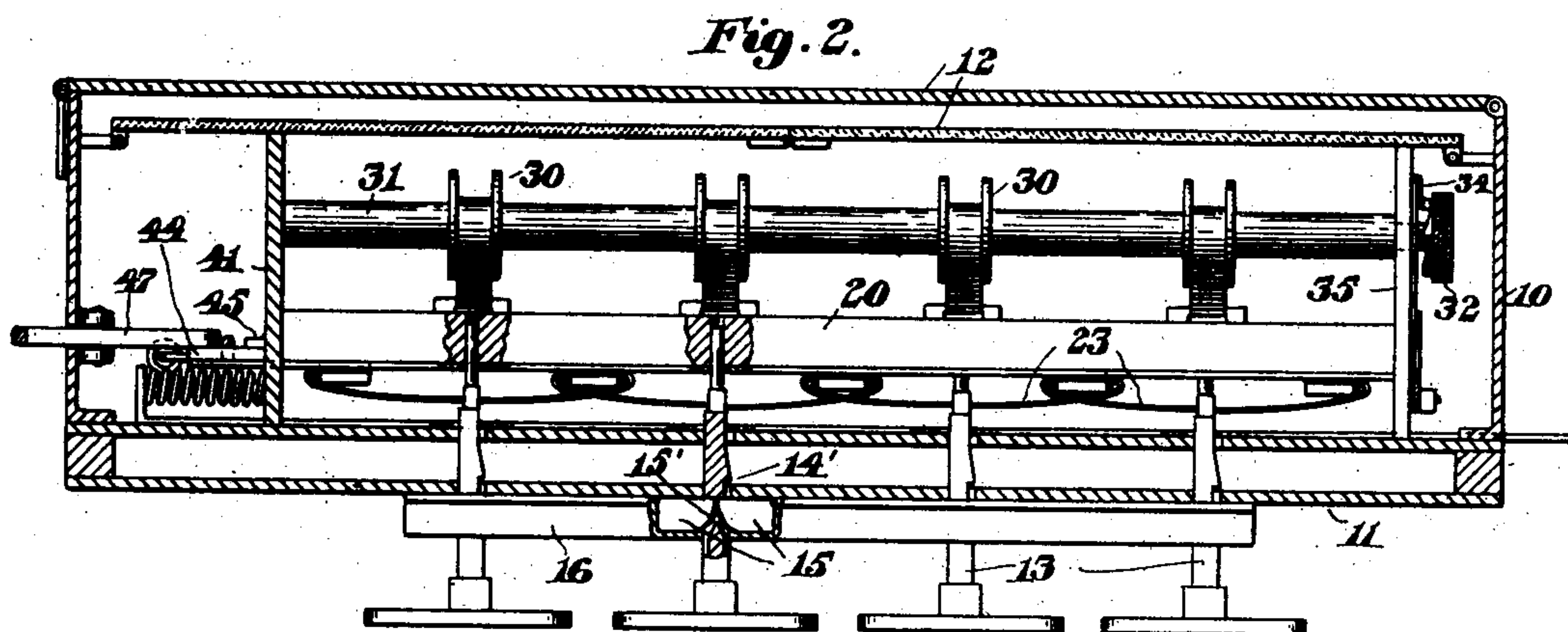
No. 685,997.

Patented Nov. 5, 1901.

L. W. LUELLEN.  
VOTING MACHINE.

(Application filed June 11, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

LAWRENCE W. LUELLEN, OF OLATHE, KANSAS.

## VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 685,997, dated November 5, 1901.

Application filed June 11, 1901. Serial No. 64,091. (No model.)

*To all whom it may concern:*

Be it known that I, LAWRENCE W. LUELLEN, a citizen of the United States of America, and a resident of Olathe, in the county of Johnson and State of Kansas, have invented certain new and useful Improvements in Voting-Machines, of which the following is a specification.

My invention relates to improvements in voting-machines, and more particularly to that type in which the candidate-keys serve, among other functions, to actuate a device marking upon a strip of ribbon or paper or other impression-receiving member the record of the vote cast by depressing said keys. As is well known, a voter is sometimes "challenged" at the polls or the legality of his vote questioned, and it then becomes necessary to identify this vote, so that it may later be thrown out if proved illegal. This should of course be done in a manner to as nearly as possible preserve the secrecy of the ballot. To provide a means for thus identifying challenged votes is the object of the present invention.

In the accompanying drawings, Figure 1 is a front elevation of a voting-machine embodying one form of my invention, parts being broken away. Fig. 2 is a horizontal section thereof on the line 2-2 of Fig. 1. Fig. 3 is a detail in rear sectional elevation of a portion of the vote-recording mechanism and an actuating device for the ribbons thereof. Fig. 4 is a horizontal sectional detail through one of the punches. Fig. 5 is a vertical section on the line 5-5 of Fig. 4. Fig. 6 is a front elevation of a portion of a shifting-bar. Fig. 7 is a detail in plan, parts being in section, of one of the punches. Fig. 8 is a side elevation thereof. Fig. 9 is an end elevation looking from the right in Fig. 8, and Figs. 10 and 11 show the impression or perforation produced upon the ribbon by the punch in its normal and challenge-recording positions, respectively. All sections are taken in the direction indicated by the arrows.

Similar characters designate like parts throughout the several figures of the drawings.

A suitable casing (designated by the numeral 10) is provided at its front with a keyboard 11 and rear doors or closures 12. In

the keyboard are openings through which extend the shanks of keys 13, which are preferably arranged in a plurality of substantially horizontal rows or series, each series corresponding to an office to be voted for and each key in the series being designated by the name of a candidate for that particular office. Each office-row is preferably provided with a spring-pressed locking-strip 14, serving to lock the keys in their vote-recording position, and thus prevent repeating by engagement with projections 14' on their shanks, and with a series of locking-dogs 15, sliding in horizontal casings 16, preferably secured to the front of the keyboard and entering openings 15' in the keys, serving to prevent the movement of more than one candidate-key in each office-row by the same voter. These locking devices are similar to those more particularly described in my Patent No. 651,874, dated June 19, 1900.

To furnish a record of the votes cast, each key may be provided with a marking or recording member, here shown as a punch consisting, essentially, of two parts, a head 17 and a shank 18. The shanks of the punches, which are preferably of cylindrical form, extend through cylindrical openings 19 in horizontal guide-strips 20, situated at the rear of the keyboard, thus being supported independently of the keys, although this is not necessarily the case. The rear end of the shank is provided with a plurality of projections 18', here shown as two in number, so separated from each other as to form an elongated impression member. The heads may be of generally rectangular shape, swiveled upon the shanks at 21, so that the parts may turn relatively to one another, and each is provided with openings 22, through which may extend springs 23 23, mounted upon the guide-strips, serving to press the head of the punch against a key and hold both normally outward. To the guide-strips at the rear of each punch is secured a die-plate 24, provided with a recess 25, forming a space between it and the strip, and through this plate are a plurality of sets of openings, here shown as two in number, 26 26', and each having two openings, the former set located in such position that the projections 18' of the punch will normally enter them and the other set



lying substantially at right angles thereto. Through each space 25 passes a record-receiving member, which may consist of a strip or ribbon 27, of paper or like material, each ribbon being carried by a roll 28, rotatably mounted in brackets 29, and delivering to a roll 30, the latter rolls being supported in series upon horizontal shafts 31.

To advance the ribbons longitudinally to present a fresh surface for receiving the votes of successive voters, a device for rotating all the shafts 31 is provided. This may comprise a ratchet-wheel 32, mounted on each shaft, and spring-pawls 33, carried by a bar 34, sliding in guides upon a side wall 35 within the casing, the bar being reciprocated by a connection 35' with the floor of the booth containing the machine or some other element preferably adapted to be actuated by the entrance of a voter into the booth.

To identify the vote of a challenged voter, means are provided for moving the punch to vary its angular relation to the ribbon and bring it into operation with the second set, 26', of openings in the die-plate. To effect this, the shank of each punch is preferably provided with two slots, one of which, 26, extends longitudinally of said shank in a substantially straight line from a point in proximity to the head to a distance at least equal to the length of the vote-recording stroke of the key, and the other, 37, is curved, starting at its inner end at a point preferably diametrically opposite to the slot 26 and from there extending spirally about the shank through an angle of about ninety degrees into proximity with the head of the punch. This generally-curved groove near the head preferably has a straight longitudinal portion at least equal to the effective stroke of the punch in perforating the ribbon. A shifting-bar 38 is preferably mounted to slide at the front of each guide-strip and is provided with openings 39, through which the shanks of the punches pass. These openings are elongated horizontally to permit a movement of the bar in that direction and are provided at each end with oppositely-placed projections 40, adapted to enter one or the other of the slots in the shanks of all the keys of a horizontal series according to the position occupied by the bar, thus constraining the punches to have either a simple longitudinal movement when depressed or this movement combined with one of rotation. The bars 38 are extended at one end through a side wall 41 within the casing and preferably carry pins 42, entering inclined slots 43 in a vertical bar 44, mounted to slide in contact with the wall and a guide 45 thereon. To this vertical bar is shown attached one end of a spring 46, having its other end fastened to the casing and exerting its force to hold the bar normally downward. A lever 47 is pivoted to the wall of the casing and extending through an opening therein serves to raise the bar when desired.

The operation of the device is as follows:

Voting goes on in the ordinary manner, the voter entering the booth containing the machine and depressing the desired keys, and as the projections on the shifting-bar are in engagement with the straight slots of the punches the projections thereof will enter the openings 26 in the die-plate and produce an impression or record, preferably extending transversely of the ribbon, as shown in Fig. 10; but when a voter appears whose right to vote may be for any reason challenged an attendant officer draws down the outer end of the lever 47, holding it in this position until the voter leaves the booth. The effect will be to raise the bar 44, causing the lower faces of the slots therein to contact with the pins 42 and simultaneously move all the shifting-bars 38 longitudinally, resulting in the projections leaving the straight slots in the punches and entering the opposite spiral slots. As a consequence the punches of all the keys which are depressed will be rotated through ninety degrees before they reach the ribbon registering with the openings 26', and thus producing an impression extending longitudinally of the ribbon, as is illustrated in Fig. 11, rendering their record readily distinguishable from the other votes. To identify these questioned or irregular votes with the particular voter casting them, a consecutively-numbered list of the challenged voters will be kept by the attendants, which will enable the proper official after the election to act upon the legality of the vote without the possibility of learning for whom the votes of the unchallenged voters were cast.

Having thus described my invention, I claim—

1. In a voting-machine, the combination with a key, of a recording member actuated thereby, a longitudinally-movable record-receiving member, and means for moving the recording member whereby the transverse position of the record upon the receiving member is changed.

2. In a voting-machine, the combination with a key, of a recording member actuated thereby, a record-receiving member, and means for rotating the recording member to vary the position of the record.

3. In a voting-machine, the combination with a key and a record-receiving member, of a member actuated by the key provided with a marking portion elongated in one direction, and means for varying the angular relation of the marking portion and the record-receiving member whereby a challenged vote may be distinguished from a normal vote.

4. In a voting-machine, the combination with a key and a record-receiving member, of a member actuated by the key provided with a marking portion elongated in one direction, and means for varying the angular position of the record produced by said marking portion.

5. In a voting-machine, the combination with a key, of a longitudinally-movable mark-



ing member actuated thereby, a member to receive the impression of said marking member, and means for rotating the marking member whereby the position of the impression upon the receiving member is changed.

6. In a voting-machine, the combination with a key, of a punch actuated thereby provided with an elongated impression portion, a die-plate coacting with the punch having openings occupying different angular positions, and a member situated between the punch and die-plate to receive the impression of the former.

7. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key and provided with a slot, and a movable member provided with a projection adapted to enter said slot.

8. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key and provided with a longitudinal slot, and a movable member provided with a projection adapted to enter said slot.

9. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key and provided with a spiral slot, and a movable member provided with a projection adapted to enter said slot.

10. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key and provided with two slots, and a movable member provided with a projection adapted to enter each slot.

11. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key and provided with two slots having oppositely-located portions, and a movable member provided with projections adapted to enter one or the other of the slots.

12. In a voting-machine, the combination with a key and a record-receiving member, of a marking member actuated by the key, supported independently thereof and provided with a slot, and a movable member provided with a projection adapted to enter said slot.

13. In a voting-machine, the combination

with a key, of a punch actuated thereby provided with a plurality of projections, a die-plate coacting with the punch having a plurality of sets of openings, and means for moving the punch whereby its projections register with one or another of the sets of openings.

14. In a voting-machine, the combination with a key, of a punch actuated thereby provided with a plurality of projections and a plurality of longitudinal slots, a die-plate coacting with the punch having a plurality of sets of openings, and a movable member provided with projections adapted to enter each slot.

15. In a voting-machine, the combination with a key, of an independently-supported recording member comprising a non-rotatable head contacting with the key and a rotatable portion mounted upon the head.

16. In a voting-machine, the combination with a key, of an independently-supported recording member comprising a non-rotatable head contacting with the key and a rotatable portion mounted upon the head, and one or more springs coacting with the head.

17. In a voting-machine, the combination with a plurality of keys, of a recording member actuated by each key, a record-receiving member coöperating with each recording member, and means for simultaneously moving all the recording members whereby the position of the record upon the receiving member is changed.

18. In a voting-machine, the combination with a series of keys, of a recording member actuated by each key of the series, and a shifting-bar acting upon all the recording members.

19. In a voting-machine, the combination with a plurality of series of keys, of a recording member actuated by each of the keys, a shifting-bar acting upon all the recording members of each series, and means for simultaneously moving all the shifting-bars.

Signed by me at Boston, Massachusetts, this 10th day of June, 1901.

LAWRENCE W. LUELLEN.

Witnesses:

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SYLVANUS H. COBB.