C. H. OCUMPAUGH.

INTERLOCKING MECHANISM FOR VOTING MACHINES.

APPLICATION FILED AUG. 28, 1906.

970,260.

Patented Sept. 13, 1910.

3 SHEETS—SHEET 1.

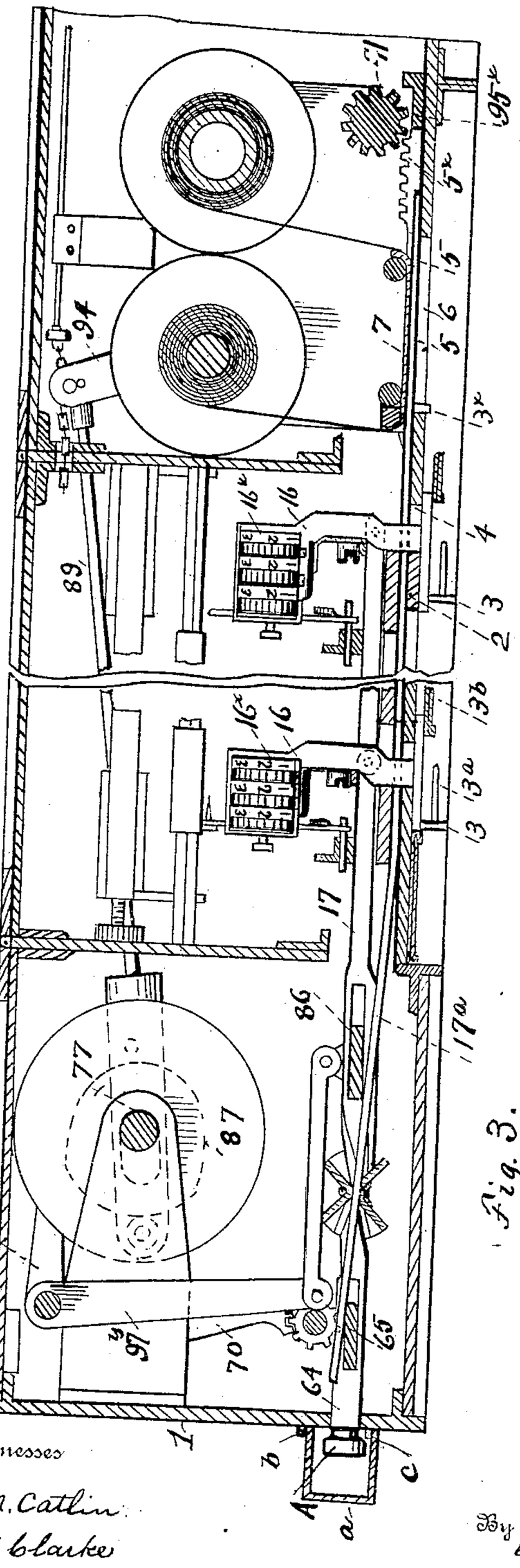


Fig. 1.

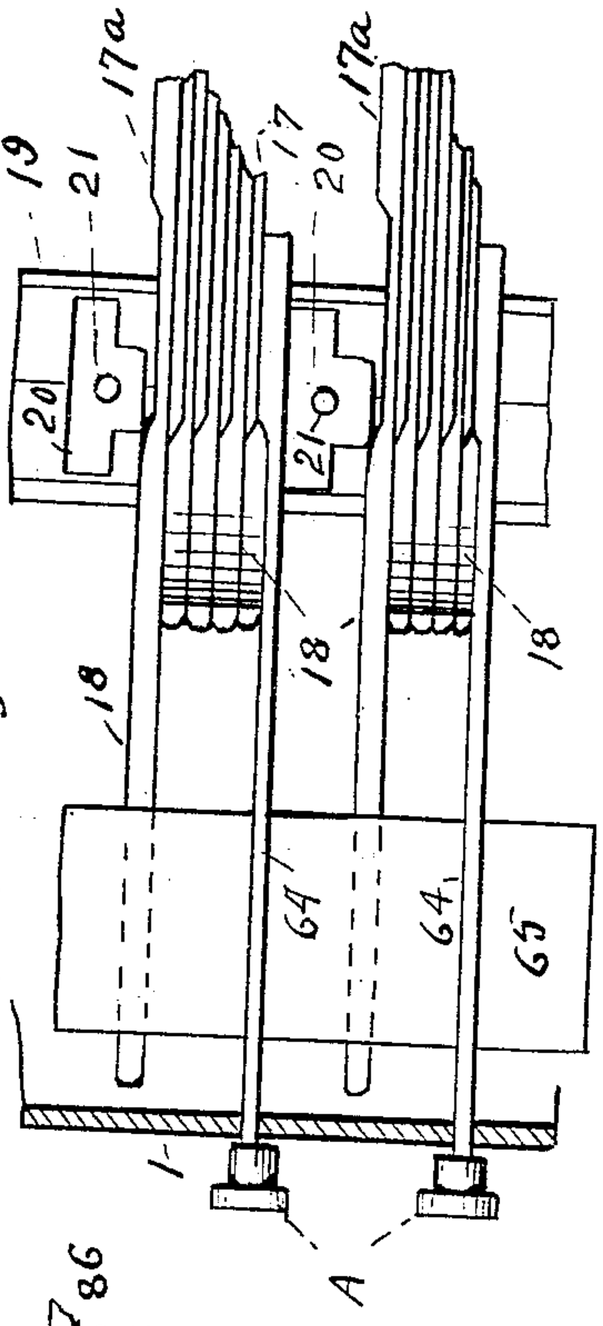


Fig. 2.

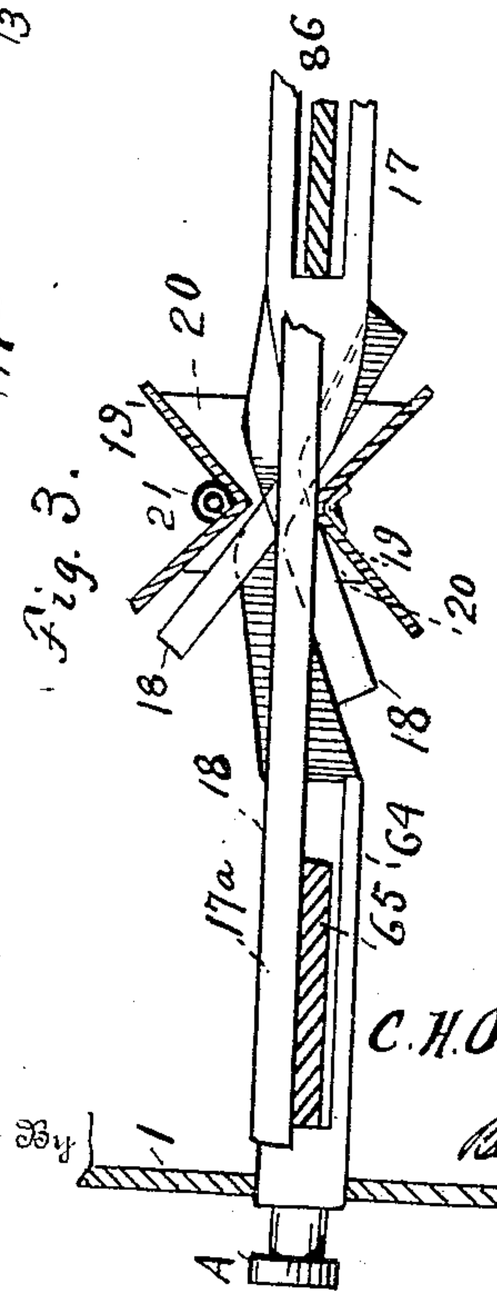


Fig. 3.

Witnesses

C. M. Catlin

E. F. Clarke

Inventor

C. H. Ocumpaugh

By Benj. R. Catlin

Attorney

C. H. OCUMPAUGH.

INTERLOCKING MECHANISM FOR VOTING MACHINES.

APPLICATION FILED AUG. 28, 1906.

970,260.

Patented Sept. 13, 1910.

3 SHEETS—SHEET 2.

Fig. 4.

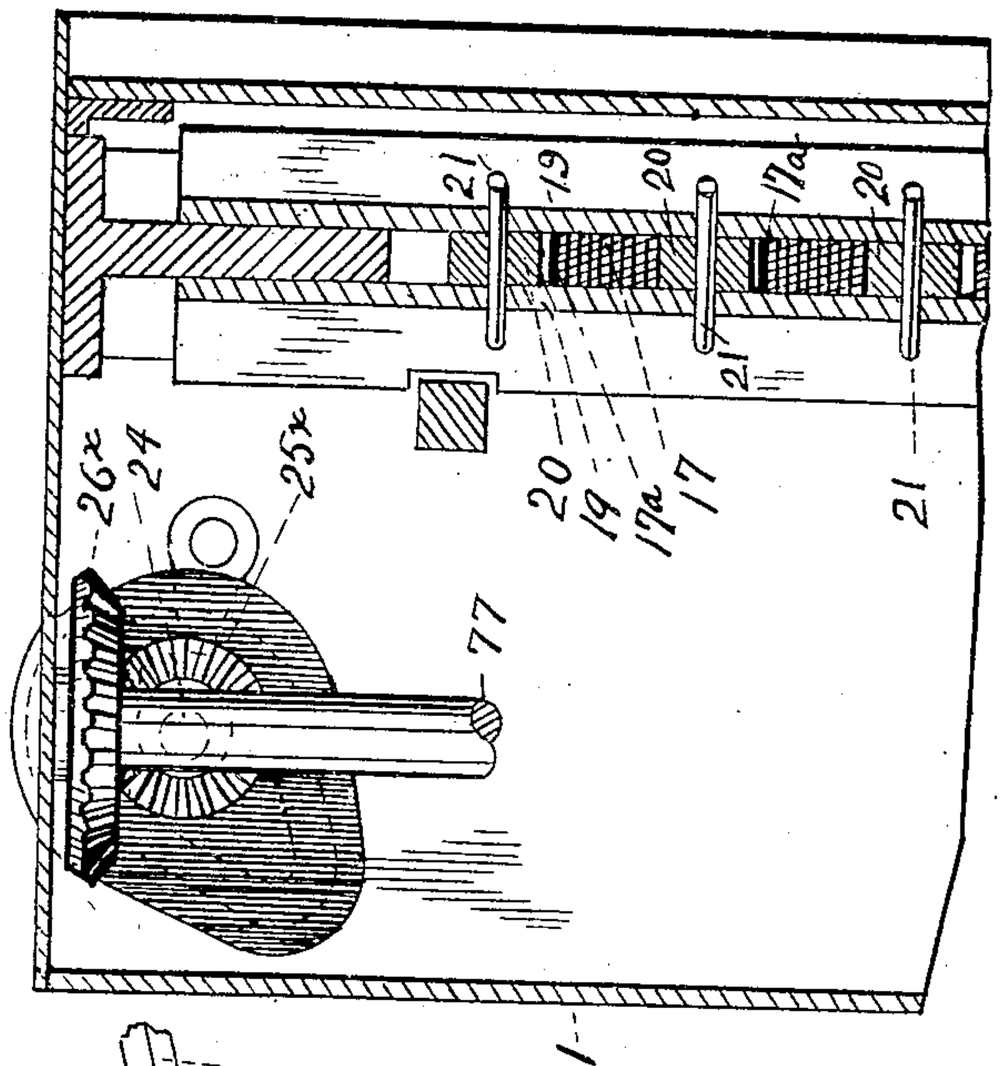


Fig. 5.

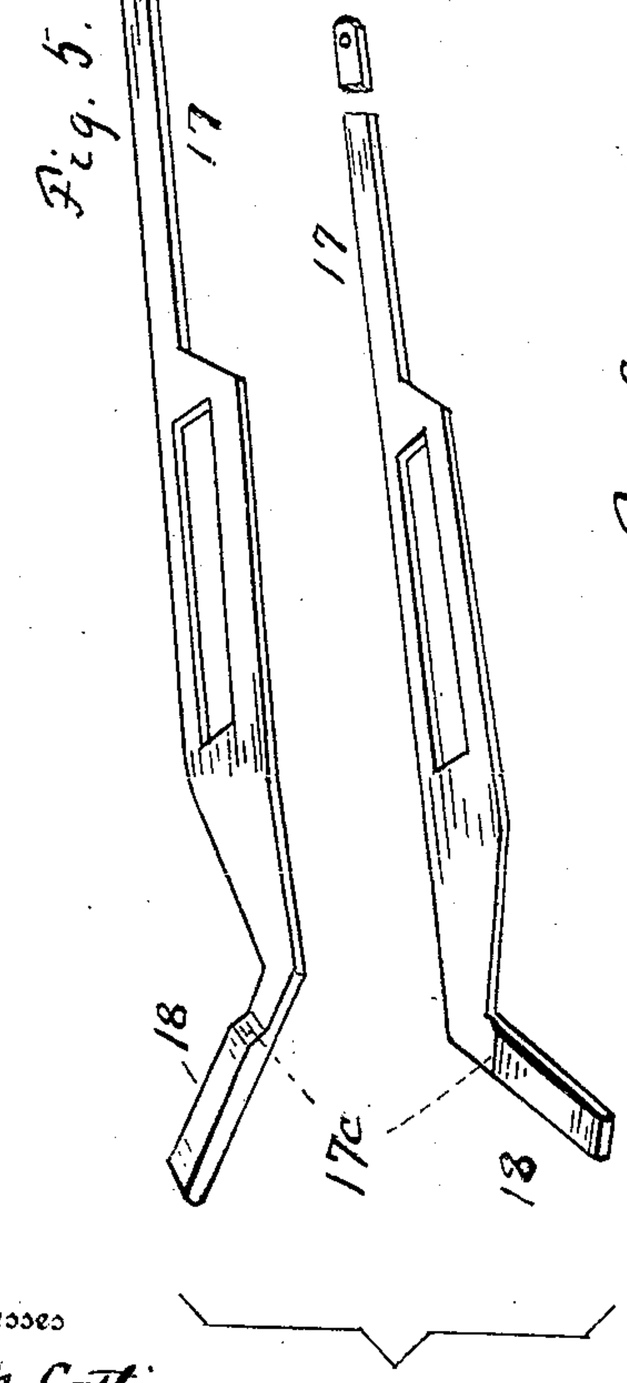
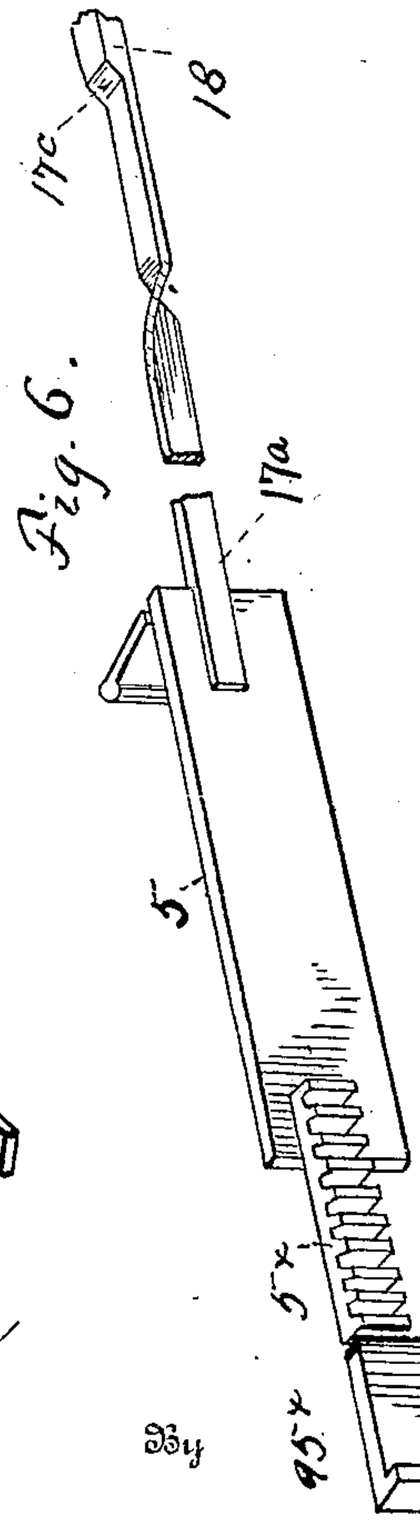


Fig. 6.



Witnesses

C. M. Catlin,

E. F. Clarke

Inventor

C. H. Ocumpaugh

By Roy. R. Estelle

Attorney

C. H. OCUMPAUGH.

INTERLOCKING MECHANISM FOR VOTING MACHINES.

APPLICATION FILED AUG. 28, 1906.

970,260.

Patented Sept. 13, 1910.

3 SHEETS—SHEET 3.

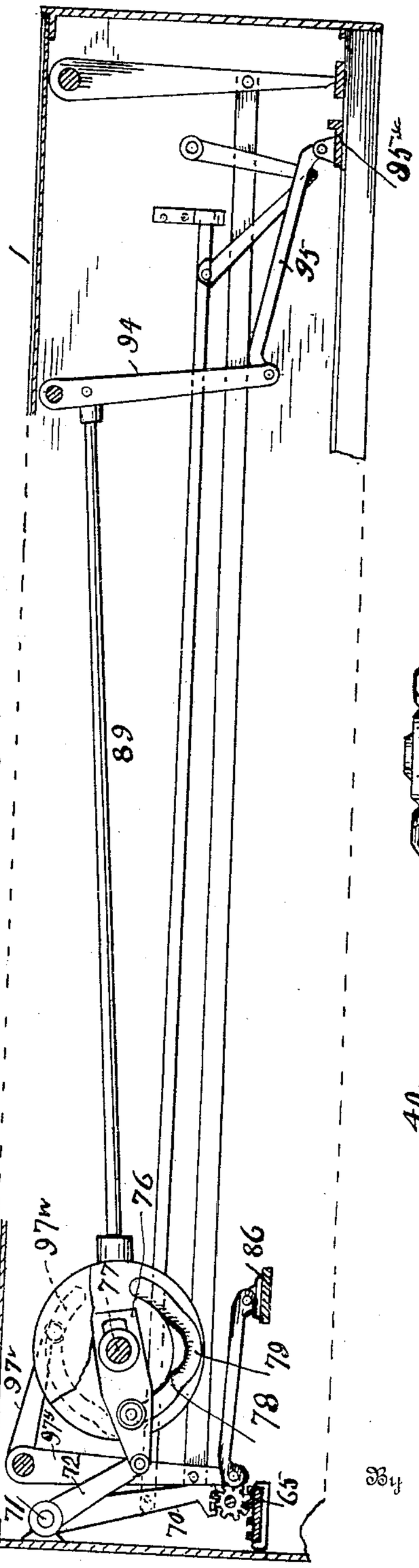


Fig. 7.

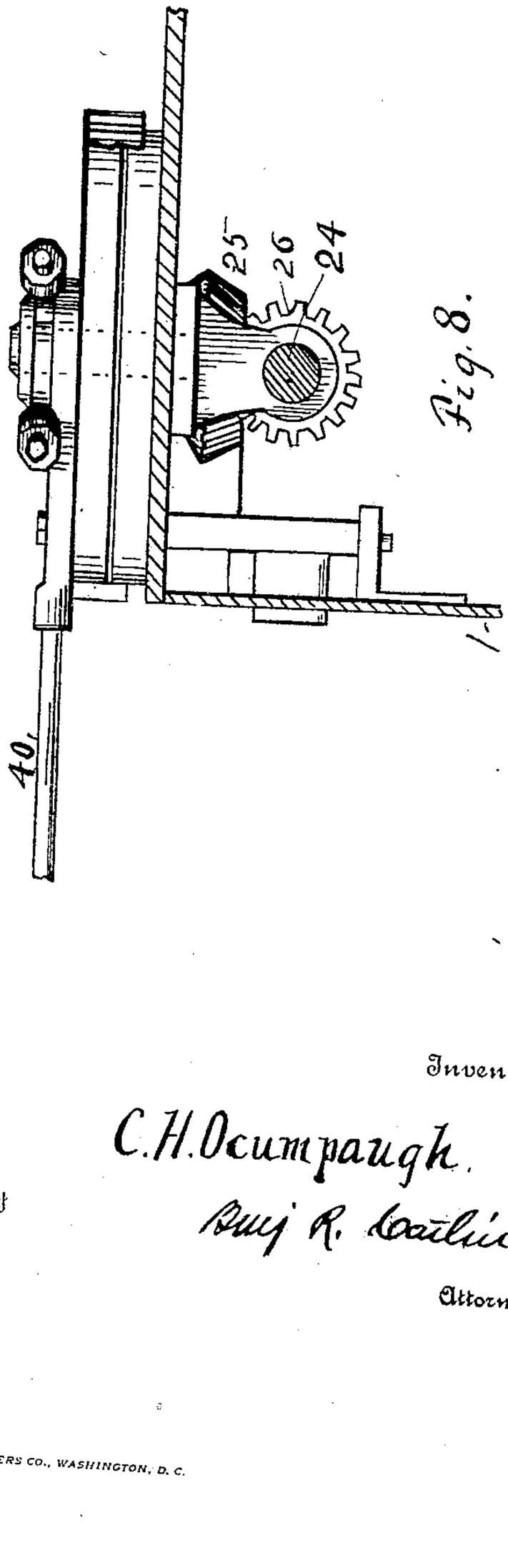


Fig. 8.

Witnesses

C. M. Catlin

E. F. Clarke

Inventor

C. H. Ocumpaugh.

By Benj. R. Catlin

Attorney

UNITED STATES PATENT OFFICE.

CHARLES H. OCUMPAUGH, OF ROCHESTER, NEW YORK.

INTERLOCKING MECHANISM FOR VOTING-MACHINES.

970,260. Specification of Letters Patent. **Patented Sept. 13, 1910.**

Original application filed December 7, 1903, Serial No. 184,187. Divided and this application filed August 28, 1906. Serial No. 332,390.

To all whom it may concern:

Be it known that I, CHARLES H. OCUMPAUGH, a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Interlocking Mechanism for Voting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to interlocking mechanism of voting machines such as set forth in my application #184,187, filed Dec. 7, 1903, of which this application is a division.

It has for its objects to provide simple and efficient devices acting with certainty and adapted to the various requirements of such machines.

The invention consists in the construction hereinafter described and pointed out.

In the accompanying drawing, Figure 1 is a horizontal section of the machine; Fig. 2 is a broken side elevation of interlocking devices, a strap-retaining and abutment-holding bar being omitted; Fig. 3 is a broken plan of the interlocking devices; Fig. 4 is a partial vertical cross section of the machine taken through groups of interlocking straps and through abutments; Fig. 5 is a perspective showing several straps for regular voting; Fig. 6 is a perspective of an independent or irregular interlocking strap, a resetting bar being also indicated; Fig. 7 is a horizontal section of the machine partly broken away; and Fig. 8 indicates a turnstile-actuated device.

Numeral 1 denotes the machine casing and 2 its front plate.

3^a denotes an index pointing to any suitable inscription on a card or plate 3^b.

Voting keys or vote indicators are denoted by 3 and 3^x, the latter indicating keys for independent voting. In the present instance the regular keys 3 are fixed to register cases 16 carrying registers 16^x and movable in slots of the front plate to put the registers into operative relation to register-actuating mechanism which is only operated to count on the register by the outgoing voter, the key and register being freely movable into and out of voted position without actuating the register until the voter leaves the face of the machine.

Each strap 17 has a thickened edge or wedge-shaped interlocking end 18 adapted to coöperate with fixed bars 19 and abutments 20 to lock out all other straps 17 and thereby lock out all the corresponding indicators or register cases 16 and registers 16^x carried or movable by the straps.

17^c indicates a bevel or incline at the junction of the main part of each strap and its enlarged part to facilitate the endwise movement of a strap requisite to draw it between others situated between two abutments. The abutments 20 are removable and adjustable being held in place by removable pins 21 which pass through the bars and abutments as shown.

17^a denotes interlocking straps for the irregular or independent keys 3^x. Each strap 17^a is fixed to a plate 5 adapted to cover and uncover an opening 6 in the face plate.

The straps 17 before mentioned are arranged with thickened wedges directed alternately to the right and left as indicated. They are divided into groups of nine each by the abutments held by movable pins 21 and situated between the pair of vertical bars 19. These bars are suitably supported and at each end fixed to the machine case. Each group also contains a lockout strap 64. The space between two pins 21 is only sufficient to permit one or a predetermined number of the thickened parts 18 to be drawn between them. In the present instance eight of the straps 17 in the same group are connected each to a separate register case 16 having fixed thereto a key 3, all being in the same horizontal line. Each movable cover-plate 5 with its key 3^x which covers the opening for the irregular vote is in the same horizontal row as the regular indicators belonging to the same group of straps. The movement of any of the indicators, including the lockout key 64 associated in the group with the register-carrying straps, moves a strap and locks all the others. Two or more groups of nine may be thrown into one for indorsed group voting by removing the pin or pins 21. The openings 6

are made larger than slots 4 to provide for a longer movement of strap 17ª and they are made large enough to permit the writing of a candidate's name on the paper next the platen. Each bar 17ª also has a thick portion or wedge 18 extending to the left beyond the point of interlocking between bars 19 a sufficient distance to permit the cover to be moved to the right the full extent of the key opening 6 in the face plate and still leave the thickened part of strap 17ª in locked position. This particular strap, unlike the others, has no angles at its interlocking end, being made straight to avoid contact with the resetting bar 65, and laterally situated to avoid a resetting bar 86.

To each cover 5 is fixed a rack 5^x whereby the movement of the key and strap turns a pinion 41 adapted by suitable connections (not shown) to turn paper spools and carry fresh paper in front of a platen 7 upon which the voter writes the name of his unnominated or independent candidate.

64 indicates official lockout bars or straps having thickened ends operative between bars 19 to lock out the voting devices of corresponding groups. This bar is not designed to be moved by a voter and is normally idle and inoperative.

65 denotes an official-lockout-resetting-bar, and 86 the resettting bar for the regular indicators, and 95^x a resetting bar for the irregular indicators. This resetting bar 95^x is actuated by the voter through shaft 77 to which is connected a cam 87 to reciprocate rod 89 which is connected by arm 94 and a link 95 with said bar as more fully set forth in my application #184,187 of which this is a division.

A denotes the handle or indicator for the lockout strap 64 and *a* a cover hinged at *b* and provided with a lock *c*, whereby the lockout indicators or handles are protected from voters and meddlers.

It may be noted that two contiguous parts 18 of straps 17 extend in directions transverse to each other. The strap 64 has its thickened end extended to the opposite side of the angle bars and oppositely to the extensions of the strap 17. Strap 17ª being situated to avoid the resetting bar 86 has its thickened end extended to the left of the bars in a direction different from that of any other bar and so as to avoid the resetting bar 65. The resetting bar 86 normally locks all straps 17 but is moved to the right to unlock the straps by the ingoing voter. It is returned to normal position by the outgoing voter with the effect to reset every key and strap left by him in voted position. These operations are effected by means of a turn-stile shown in the present case in form of a curtain frame 40 connected to drive suitable gears 25 and 26 and a horizontal shaft 24, which shaft by means of gears 25^x and 26^x drives a shaft 77. Said latter shaft supports suitable cams for actuating the several resetting bars. The bar 86 is actuated by means of a cam having a groove 97^v (see broken lines in Fig. 7) suitably controlling the crank arms 97^v and 97^y, the latter arm being connected by a link to said bar.

The lockout resetting bar 65 is actuated by arms 70 and 72 fixed on a shaft 71, said arm 72 being connected with a pawl-pin bar 76 having an independently movable pawl pin and the arm 70 driving a gear 70^x to coact with a rack on bar 65. Said pin is inoperative when shaft 77 is moved by the incoming voter for the reason that said pin is then situated in a concentric course 78. This operation is required to avoid prematurely resetting the lockout. When however the voter in leaving the face of the machine returns shaft 77 the pin is in an eccentric course 79 which has the effect to reciprocate arms 70 and 72 and bar 65 by means of the gears which reset the lockout and also reset the lockout bar itself. It will be understood that the parts intermediate the shaft 77 and the resetting bars are duplicated as required to move both ends of the arms.

From the foregoing it will be seen that the turnstile only initiates a movement of the lockout strap from one extreme of its path and by the action of an outgoing voter, but that the other interlocking straps 17 and 17ª require for the reciprocation separate actuations each resetting in a complete and distinct movement. The lockout-strap-handles or indicators being covered cannot be directly moved by the voter, and the ingoing movement of the turn-stile does not move the lockout-strap-returning-bar 65, as above set forth. But the outgoing movement of the turn-stile reciprocates said bar, which first resets any lockout strap which has been set to lock out its group of vote indicators, and then immediately withdraws said bar to its normal position. Since it is the outgoing movement of the turn-stile which completes a vote (by causing selected registers to count) the voter is prevented from moving the lockout straps until he completes his vote by opening the turn-stile as he leaves the machine. Straps of one class, the lockout straps, are not locked by their resetting bar 65 either when the turn-stile is open or when it is closed. In either case bar 65, and straps 64 (those not set to lockout position) are in the relative position shown in Fig. 3 in which the straps are free to be moved to the left to locking position. This is due to the fact that when bar 65 is moved by movement of the turn-stile, as described, it is moved both forward and backward in the slots of the straps by a single (outgoing) movement of the turn-stile.

On the other hand, another class, or other classes, of straps (those connected to vote

indicators) when the turn-stile is in open position, are locked against movement to the right, as required in voting, by the resetting bar 86. But when the turn-stile is closed behind a voter said bar 86 is moved to the right in the strap-slots and then stops, thus leaving the indicator-connected-straps 17, or 17ª, free to be moved to the right. When the turn-stile is moved oppositely as the voter leaves the machine, bar 86 is moved reversely in the slots to locking position.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. In a voting machine, vote indicators, abutments, interlocking straps corresponding to said indicators and situated between the abutments to limit voting to one or more votes, and a distinct strap adapted to cooperate with said abutments and straps to lock the vote-indicating straps, and means for preventing a voter from operating said distinct strap before completing his vote.

2. In a voting machine, the combination of a slotted face plate, abutments, interlocking straps arranged in a group, vote indicators fixed directly to said strap and movable in a straight line in said slots, one or more of said straps being perforated, and a strap-moving device entered in the perforation.

3. In a voting machine, the combination of abutments, straps having interlocking parts arranged in pairs, and movable endwise and in one and the same direction, said interlocking parts in each pair being arranged transversely to each other.

4. In a voting machine, abutments, interlocking straps of two classes arranged in groups, those of one class being connected with voting indicators and those of the other not connected with voting indicators and used as idlers, a group including both classes of straps being situated between the same abutments.

5. In a voting machine, abutments, interlocking straps movable in straight lines and arranged in a group, either one of the straps being adapted to lock the others by a movement in one and the same direction, and an interlocking strap to lock out the others by a movement in the opposite direction.

6. In a voting machine, interlocking straps arranged in a group and consisting of two classes, one class locking the group when the straps are moved in one direction, the other class locking the same group when the straps are moved in the opposite direction, each set of straps being connected to indicators and the several straps being vertically disposed and supported from an abutment one upon another.

7. In a voting machine, a reciprocating turnstile, interlocking straps arranged in groups and consisting of two classes, one class capable of movement when the turnstile is at either extreme of its movement, means operated by the turnstile which when the turnstile is at one extreme of its movement locks the straps of the other class, said means when the turnstile is at its opposite extreme leaving the straps of said other class free to move.

8. In a voting machine, a turnstile, interlocking straps in groups and of two classes, straps of one class being movable when the turnstile is in either extreme of its movement, means operated by the turnstile during its outgoing movement to reset straps of said class, means operated by the turnstile which when the turnstile is at one extreme of its movement locks the straps of the other class, said means when the turnstile is at its opposite extreme leaving the straps of said other class free to move, means for operating straps of the first class inaccessible to a voter, and means for moving straps of the other class accessible to the voter.

9. In a voting machine, a turnstile, interlocking straps in groups and of different classes, vote indicators for moving straps of one class, a device operatively connected with the turnstile normally locking the straps, and moved by the ingoing movement of the turnstile to unlock such straps, said device moving reversely during outgoing movement to reset and lock such straps; an official lockout strap in the same group with the other straps, resetting means for the lock out straps comprising a connection with the turnstile inoperative to move the resetting device during one movement of the turnstile, said connection during reverse movement of the turnstile reciprocating said resetting device whereby lock out straps are reset and left unlocked.

10. In a voting machine, a group of regular indicators having interlocking straps with thickened interlocking parts, an irregular indicator locking with and having its thickened interlocking parts movable a longer distance than the corresponding interlocking part of the regular indicator, normally inoperative irregular voting devices, and means operated by movement of an irregular indicator and its interlocking part through such longer distance to render the irregular devices operative.

11. In a voting machine, a group of regular indicators having interlocking straps with thickened interlocking parts, an irregular indicator locking with and having its thickened interlocking part movable a longer distance than the corresponding interlocking part of the regular indicator so as to permit of a movement of the irregular indicator greater than that of the regular indicator, a normally inoperative irregular voting device, and means operated by movement of said irregular indicator and its in-

terlocking part through such longer distance to render the irregular voting device operative.

12. In a voting machine, interlocking straps having angle extensions, the extensions having thickened beveled-edge interlocking parts thereon.

13. In a voting machine, abutments, abutment supports, and a group of interlocking straps meeting on a line between the abutments and having thickened parts extending longitudinally beyond said line in different directions.

14. In a voting machine, abutments, abutment supports, and a group of interlocking straps meeting on a line between the abutments and having thickened parts extending longitudinally beyond said line in different directions, one of the extensions permitting greater movement of its strap than the other after it is locked in position.

15. In a voting machine, abutments combined with a group of interlocking straps each having a thickened end disposed at an angle to the body of the strap and the several ends disposed alternately at different angles.

16. In a voting machine, an interlocking mechanism containing a pair of parallel bars with angle faces between which parts of interlocking straps are placed, the interlocking point of the strap being between the two bars.

17. An interlocking strap having fixed thereto an interlocking wedge and a voter's key, combined with a lockout strap having a like fixed wedge, means preventing a voter from operating said lockout strap before he has completed voting, and abutments whereby the key may be made inoperative, said straps being situated between the said abutments.

18. An interlocking strap provided with a voter's key combined with a lockout strap and abutments whereby the key may be made inoperative, and a closure for the lockout strap to prevent meddling.

19. An interlocking strap provided with a voter's key combined with a lockout strap and abutments whereby the key may be made inoperative, and a closure for the lockout strap to prevent meddling, said closure consisting of a hinged cover provided with a lock.

20. In a voting machine, the combination of abutments, a group of interlocking straps, each strap sliding endwise and in contact with another and having an interlocking part transverse to the main part of the strap and extending in a different direction from that of its adjacent fellow or fellows, whereby said part is inoperative until the strap is moved endwise to bring the transverse locking part contiguous the main part.

21. In a voting machine, interlocking straps, a pair of parallel bars with angle faces, and abutments, said straps being situated between the bars and between the abutments, and means to interlock the straps in a plane cutting said faces.

22. In a voting machine, parallel bars or parts, abutments separating said parts, interlocking straps having thickened parts or wedges each adapted to lock out the others when moved between the bars and in line with the abutments, said wedges being normally out of line with the abutments and extended alternately in different directions to avoid contact with adjacent straps.

23. In a voting machine, the combination of endwise movable straps having their main parts contiguous and parallel and provided with interlocking wedges, and abutments, said wedges being normally out of line with said abutments and out of line with the parallel parts of the straps and extending alternately in different directions.

24. In a voting machine, interlock mechanism comprising interlock bars lying side by side substantially in contact with each other, alternate bars having cam-projections turned in one direction, and the remaining bars having cam-projections turned in the opposite direction, for the purpose set forth.

25. In a voting machine, interlock mechanism, comprising an interlock bar having an edgewise offset with an inclined portion, said offset bearing a lateral cam-projection, and a guide having a slot with beveled walls adapted to be engaged by said inclined portion of said offset.

26. In a voting machine, interlock mechanism comprising a guide for interlock members, stops co-acting therewith, and interlock members extending through said guide and equipped with wedges adapted to act directly upon each other and the adjacent interlock members, for the purpose set forth.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CHARLES H. OCUMPAUGH.

Witnesses:
R. COPLIN,
E. C. HEMPEL.