

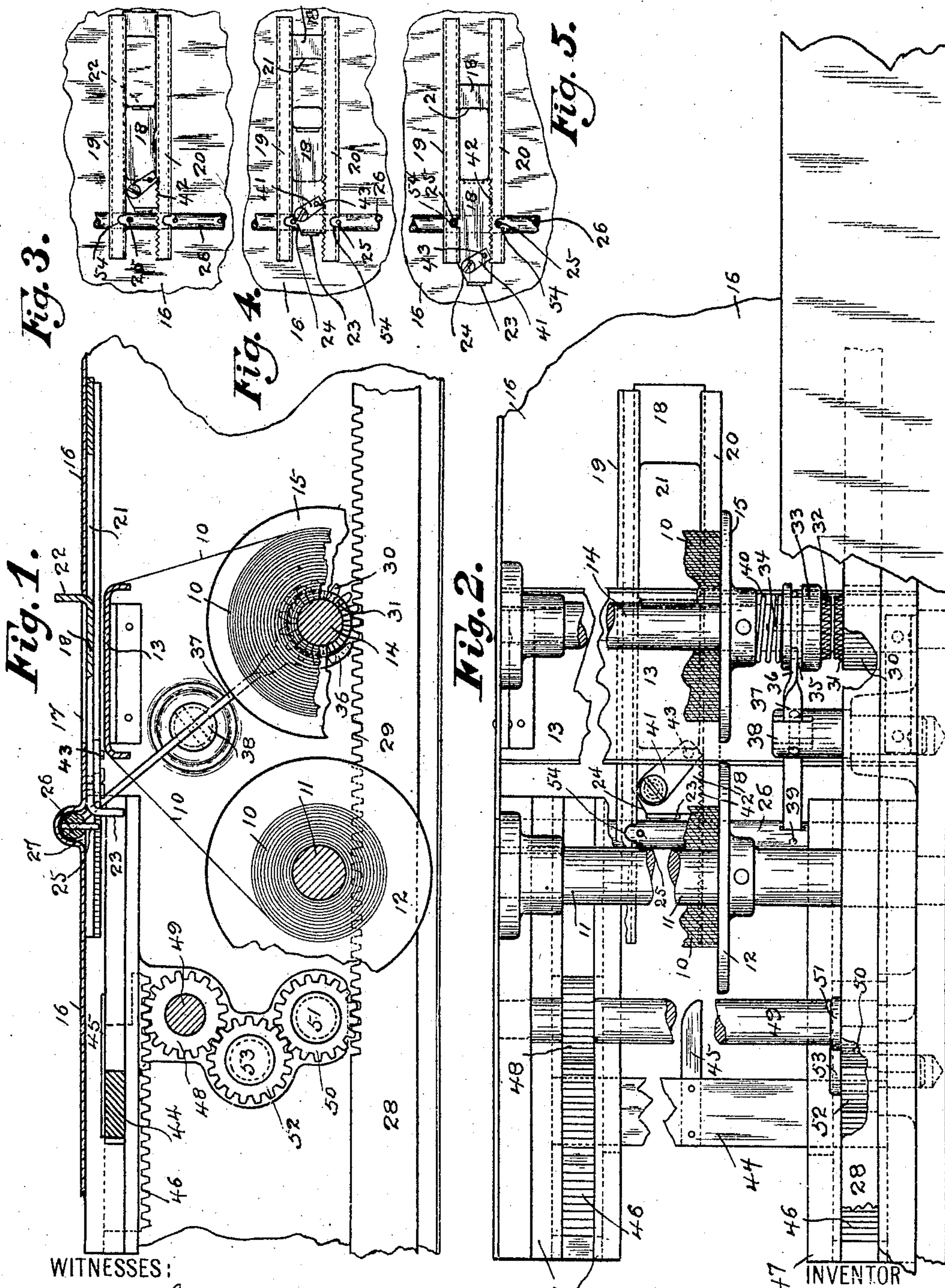
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C. H. PITNEY.

PAPER FEED ACTUATING MECHANISM FOR VOTING MACHINES.

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PAPER-FEED-ACTUATING MECHANISM FOR VOTING-MACHINES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES H. PITNEY, a citizen of the United States, residing at Pittsfield, county of Berkshire, State of Massachusetts, have invented a new and useful Paper Feed-Actuating Mechanism for Voting-Machines, of which the following is a specification.

This invention relates to that portion of the mechanism of voting-machines which enables an independent voter to cast his vote for candidates of his own selection for any or all of the offices to be voted for, wholly independently of party nominations. A roll of paper, called an "independent-voting sheet," is provided which is carried by a vertical shaft called the "supply-shaft," from which it passes to a receiving-shaft, being drawn over an intermediate backing-plate, which supports it while votes are written thereon. A series of voting-apertures are provided in the front plate of the machine, which are protected by sliding shutters. When the shutter is opened, a portion of the independent-voting sheet is disclosed upon which a vote may be written. After voting, the voter operates mechanism, which I shall simply refer to as "exit" mechanism, which by means of intermediate connections closes the shutter or shutters which he has opened and locks them and also actuates the receiving-shaft to draw the independent-voting sheet forward and place a fresh portion of its surface in position on the backing-plate for a vote or votes to be written thereon by the next independent voter.

The object of the invention is to provide positive, simple, and durable means for actuating the paper-receiving shaft after one or more of the independent shutters have been opened, but at no other time.

With this end in view I have devised the novel mechanism which I will now describe, referring to the accompanying drawing, forming a part of this specification, and using reference characters to indicate the several parts.

Figure 1 is a horizontal section of so much of the mechanism of a voting-machine as is necessary to illustrate my present invention, certain of the parts appearing in plan; Fig. 2,

a rear elevation corresponding with Fig. 1; Fig. 3, a detail rear elevation, on a reduced scale, showing a single shutter in the closed position; Fig. 4, a similar view, the shutter being partly open; and Fig. 5 is a similar view, the shutter being in the fully-open position.

The invention is shown as applied to the Triumph voting-machine.

10 denotes the independent-voting sheet, which is wound upon paper-supply shaft 11 and rests upon a disk 12, which is rigidly secured to the shaft. The sheet as it is unwound from shaft 11 passes over a backing-plate 13 and is wound upon paper-receiving shaft 14. The roll of paper on the receiving-shaft rests upon a disk 15, which is rigidly secured to the shaft.

16 denotes a front plate which is provided with a series of voting-apertures 17, corresponding with the number of offices that may be voted for on the machine, one of said voting-apertures only appearing in the drawing. Corresponding with each voting-aperture in the front plate is a shutter 18, which slides in ways 19 and 20 upon the inner side of the front plate. Each shutter is provided with a voting-aperture 21, which when the shutter is opened for independent voting registers with the corresponding aperture 17 in the front plate. At the rear end of aperture 21 is a lug or pin 22, formed integral with the shutter or rigidly secured thereto, which projects through the corresponding aperture 17 in the front plate and serves as a finger-piece in opening and closing the shutter and also to limit the movement of the shutter in opening and closing.

At the rear end of each shutter is an inwardly-extending closing lug or pin 23, which may either be formed integral with the shutter or rigidly secured thereto. Upon the upper edge of each shutter is an incline 24, which coacts with one of a series of pins 25, extending from a clutch-rod 26, which is shown as socketed in a channel 27 in the front plate.

54 denotes clearance-notches in ways 19 and 20, which receive pins 25, but have no function.

28 denotes a driving-bar which has two

movements imparted to it by the exit mechanism, which is not shown, as it forms no portion of the present invention.

Supposing the driving-bar to be at its normal position in Fig. 1, the first movement thereof produced by the exit mechanism is toward the left and the second movement toward the right, returning it to its normal position. These movements are imparted to the driving-bar each time a voter leaves the machine, without regard to whether he has voted regularly or independently.

29 denotes a rack which is cut into or rigidly secured to the driving-bar, and 30 a pinion which meshes with rack 29 and is mounted to oscillate freely on paper-receiving shaft 14. This pinion is provided on its upper face with a fixed clutch member 31, which is adapted to be engaged by sliding clutch member 32 on a sleeve 33. This sleeve is keyed to the paper-receiving shaft, so as to move longitudinally thereon, and carries said shaft when the clutch members are in engagement, the key being indicated by 34. Sleeve 33 is provided with a groove 35, which receives a yoke 36 on clutch-lever 37. The clutch-lever has its fulcrum in a stud 38 and the end of said lever opposite to the yoke is pivoted to clutch-rod 26, as at 39. 40 denotes a light coil-spring, which may or may not be interposed between the hub of disk 14 and the sleeve 33 of the sliding clutch member. In use when a shutter is opened by an independent voter the movement of the shutter toward the left, as seen in the drawing, will cause the incline 24 thereon to engage the corresponding pin 25, extending from clutch-rod 26, thereby raising the rod, which tilts the clutch-lever and places the sliding clutch member, which is keyed to shaft 14, in engagement with the fixed clutch member on pinion 30, which engages the rack on the driving-bar. When a shutter is returned to the closed or non-voting position, pins 25 will ride along the upper edge of opened shutters until the inclines reach the pins when by the action of gravity the pins will ride down the inclines, which permits clutch-rod 26 to drop downward and tilts the clutch-lever in the opposite direction, thereby raising the sliding clutch member out of engagement with the fixed clutch member and severing all connection between the driving-bar and the receiving-shaft. It makes no difference, so far as the operation of the clutch mechanism is concerned, whether one shutter is opened or a plurality of shutters are opened. The incline upon each shutter when the shutter is moved to the open position engages a pin on the clutch-rod, raising the latter, so that it is wholly immaterial by which shutter or by how many shutters the clutch-rod is operated. Spring 40 merely assists gravity in moving the sliding clutch

member to the engaging position and may be dispensed with, if preferred, as the structure is operative without it. In practice the parts are so proportioned and adjusted that the weight of the clutch-rod when released by the closing of opened shutters is amply sufficient to raise the sliding clutch member out of engagement against the power of the spring.

In order to lock a partly or wholly open shutter against being returned to the closed or non-voting position, except in the manner provided, each shutter is provided with a pivoted locking pawl 41, which engages a rack 42 on the corresponding way 20. Each pawl is shown as provided with a lifting-pin 43. 44 denotes the shutter-closing bar, which is provided with fingers 45, one only being shown in the drawing, which engage the lifting-pins 43 to raise the pawls on open shutters out of engagement with the racks at each actuation of said bar.

46 denotes racks to which the shutter-closing bar is rigidly secured and which reciprocate in ways 47.

48 denotes pinions on a vertical shaft 49, which engage the racks. This shaft is driven by means of a pinion 50, carried by a stud 51 and engaging rack 28 on the driving-bar and an intermediate pinion 52 on a stud 53, which engages pinion 50 and also engages the lower pinion 48 on shaft 49. This arrangement of gearing acts to move the shutter-closing bar rigidly toward the right when the driving-bar is moved toward the left.

The operation is as follows: It will of course be understood that in regular voting the clutch mechanism above described is inoperative and only comes into use when a voter votes for independent candidates for one or more offices. The voter opens the shutter or shutters corresponding with the office or offices for which he desires to vote independently and writes his vote upon the independent-voting sheet. By his act of opening one or more shutters he has caused one or more of the pins 25 on clutch-rod 26 to ride up an incline on a shutter, thereby raising the clutch-rod, tilting the clutch-lever, and placing the sliding clutch member in engagement with the fixed clutch member. The operation of the exit mechanism moves the driving-bar toward the left and actuates pinions 30 and 50. As the clutch members are connected, pinion 30 will drive paper-receiving shaft 14 and will wind a portion of the independent-voting sheet thereon, the used portion being carried past the backing-plate, and a fresh portion of the surface of said sheet being placed in position on the backing plate for a vote or votes to be written thereon by the next independent voter. Simultaneously with the actuation of the paper-receiving shaft pinion 50 and the inter

mediate connections will move shutter-closing bar 44 bodily toward the right. The fingers 45 on said bar will engage the pins 43 on the pawls 41 on the opened shutters and disengage said pawls from racks 20, and an instant later the bar itself will engage closing lugs or pins 23 on the open shutters and move them to the closed position. As the opened shutters approach the fully-closed position the corresponding pins 25, extending from clutch-rod 26, will ride down inclines 24 upon the shutters, which will permit the clutch-rod to drop, which in turn will oscillate the clutch-lever and move the sliding clutch member to its disengaged position, leaving the paper-receiving shaft wholly disconnected from the driving-bar. When the return movement of the driving-bar toward the right takes place, pinion 30 will be rotated thereby, but without imparting movement to the receiving-shaft, and pinion 50 and the intermediate connections will move the shutter-closing bar toward the left, returning it to its normal position.

Having thus described my invention, I claim—

1. In a mechanism of the character described, the combination with a paper-receiving shaft having a sliding clutch member keyed thereto, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a sliding shutter and intermediate connections actuated by the shutter for connecting and disconnecting the clutch members.

2. In a mechanism of the character described, the combination with a paper-receiving shaft having a sliding clutch member keyed thereto, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a clutch-lever engaging the sliding clutch member, a clutch-rod pivoted to the clutch-lever, and a sliding shutter which lifts the clutch-rod and tilts the clutch-lever.

3. In a mechanism of the character described, the combination with a paper-receiving shaft having a sliding clutch member keyed thereto, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a clutch-lever engaging the sliding clutch member, a clutch-rod pivoted to the clutch-lever and having a pin extending therefrom and a sliding shutter having an incline which engages the pin, raises the clutch-rod and tilts the clutch-lever when the shutter is moved to the open position, said pin riding down the incline, permitting the clutch-rod to drop, and tilting the clutch-lever in the opposite direction when the shutter is moved to the closed position.

4. In a mechanism of the character described, the combination with a paper-receiving shaft having a sliding clutch member keyed thereto, a fixed clutch member carried

by said pinion, a spring acting on said clutch member, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a sliding shutter and intermediate connections actuated by the shutter for connecting and disconnecting the clutch members.

5. In a mechanism of the character described, the combination with a paper-receiving shaft having a sliding clutch member keyed thereto, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a clutch-lever engaging the sliding clutch member, a clutch-rod pivoted to the clutch-lever, a sliding shutter which lifts the clutch-rod and tilts the clutch-lever, means for locking a partly or wholly opened shutter against return movement and means for unlocking opened shutters and returning them to the closed position and simultaneously disengaging the clutch members.

6. In a mechanism of the character described, the combination with a paper-supply shaft, a paper-receiving shaft on which the paper is wound therefrom and a backing-plate intermediate said shafts over which the paper is drawn, for the purpose set forth, of a sliding clutch member keyed to the paper-receiving shaft, a pinion loose on said shaft, a fixed clutch member carried by said pinion, a sliding shutter and intermediate connections actuated by the shutter for connecting and disconnecting the clutch members.

7. In a mechanism of the character described, the combination with a paper-supply shaft, a paper-receiving shaft on which the paper is wound therefrom and a backing-plate intermediate said shafts over which the paper is drawn, for the purpose set forth, of a sliding clutch member keyed to the paper-receiving shaft, a pinion loose on said shaft, a fixed clutch member carried by said pinion, a clutch-lever engaging the sliding clutch member, a clutch-rod pivoted to the clutch-lever and a sliding shutter which engages and lifts the clutch-rod and tilts the clutch-lever to place the clutch members in engagement.

8. In a mechanism of the character described, the combination with a paper-receiving shaft, a sliding clutch member keyed thereto, a pinion loose on said shaft and a fixed clutch member carried by said pinion, of a clutch-lever engaging the sliding clutch member, a clutch-rod pivoted to the clutch-lever and having pins extending therefrom, a plurality of sliding shutters which engage said pins to lift the clutch-rod, tilt the clutch-lever and engage the clutch members and means for moving opened shutters to the closed position and permit the pins to ride down the inclines and the clutch-rod to drop and tilt the clutch-lever to disengage the clutch members.

9. In a mechanism of the character described, the combination with a paper-re-

ceiving shaft having a sliding clutch member
keyed thereto, a pinion loose on said shaft
and a fixed clutch member carried by said
pinion, of a clutch-lever engaging the sliding
5 clutch member, a clutch-rod pivoted to the
clutch-lever and having a pin extending
therefrom and a sliding shutter having an in-
cline which engages the pin and raises the
clutch-rod to move the sliding clutch mem-
10 ber downward into engagement with the

fixed clutch member, the pin sliding down
the incline and the clutch-rod dropping to
raise the sliding clutch member out of en-
gagement.

In testimony whereof I affix my signature
in presence of two witnesses.

CHARLES H. PITNEY.

Witnesses:

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ARTHUR B. CAMP.