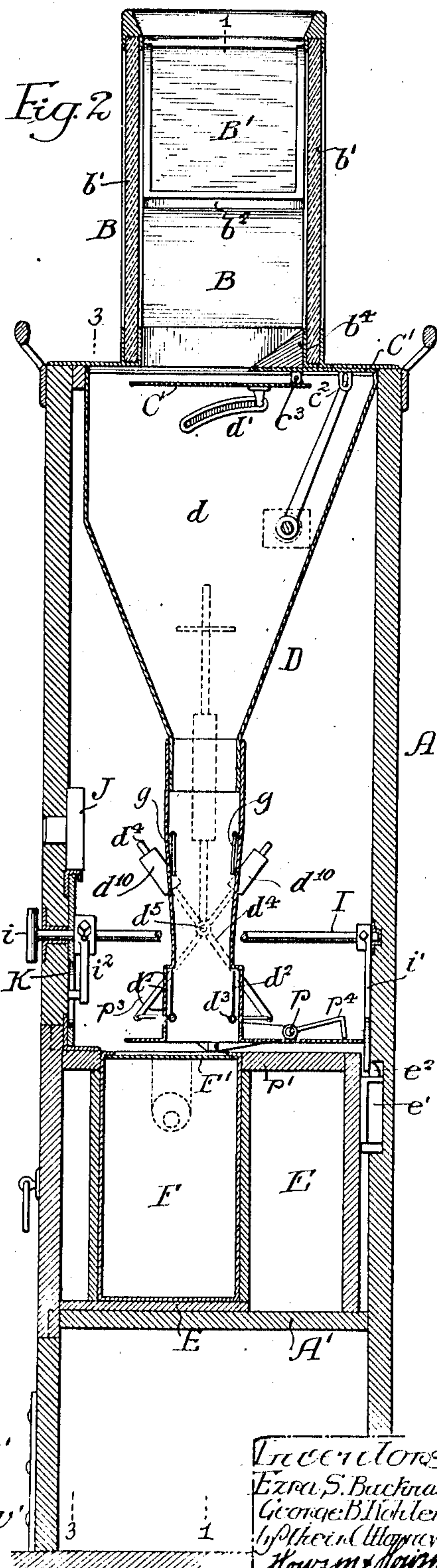


FARE BOX.

Patented Sept. 13, 1910.

4 SHEETS—SHEET 1.

**970,178.**



Witnesses  
Titus McRone  
Augustus B. Coppes

Treasurers  
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FARE BOX.

APPLICATION FILED MAY 6, 1908.

Patented Sept. 13, 1910.

4 SHEETS—SHEET 2.

970,178.

Fig. 3.

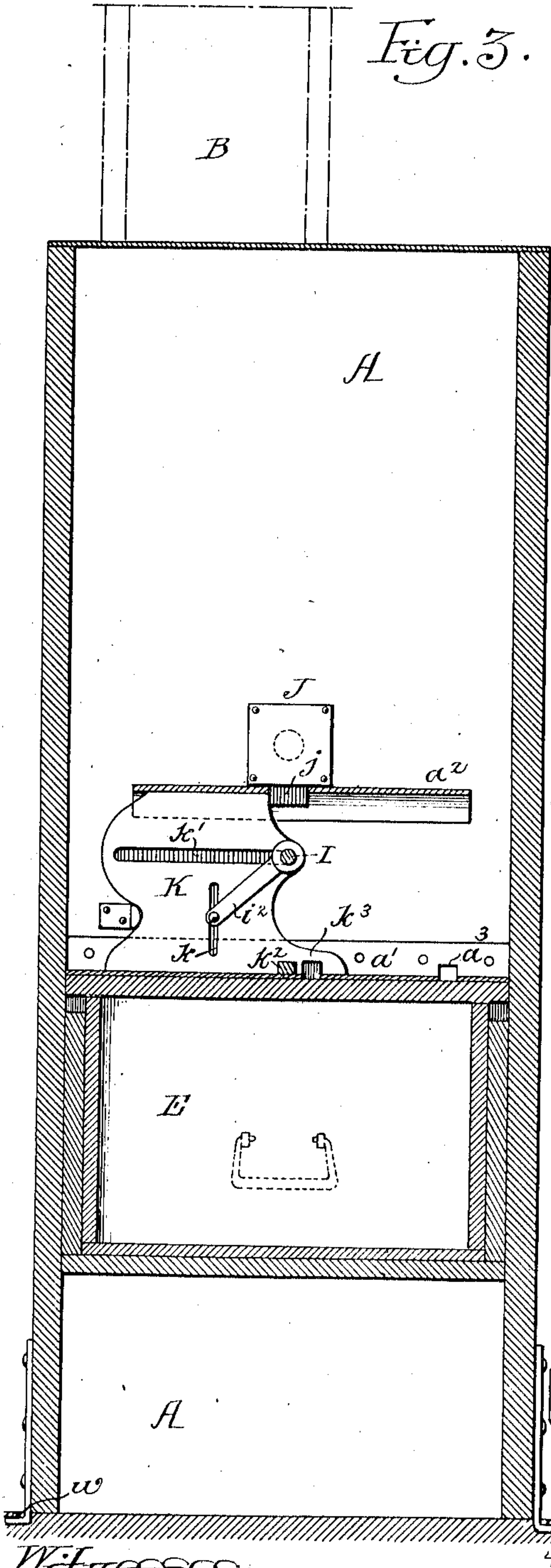


Fig. 4.

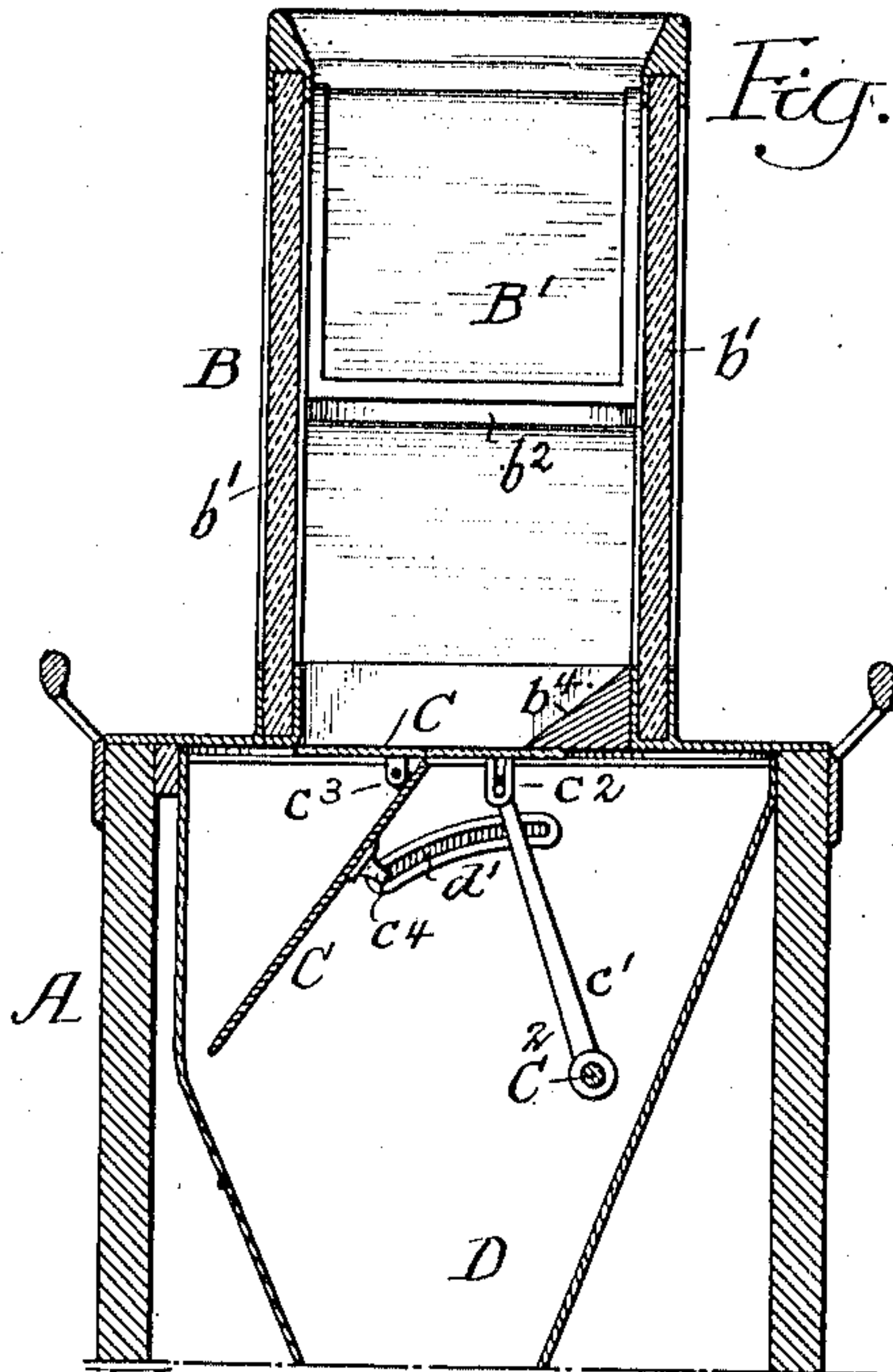


Fig. 8. f

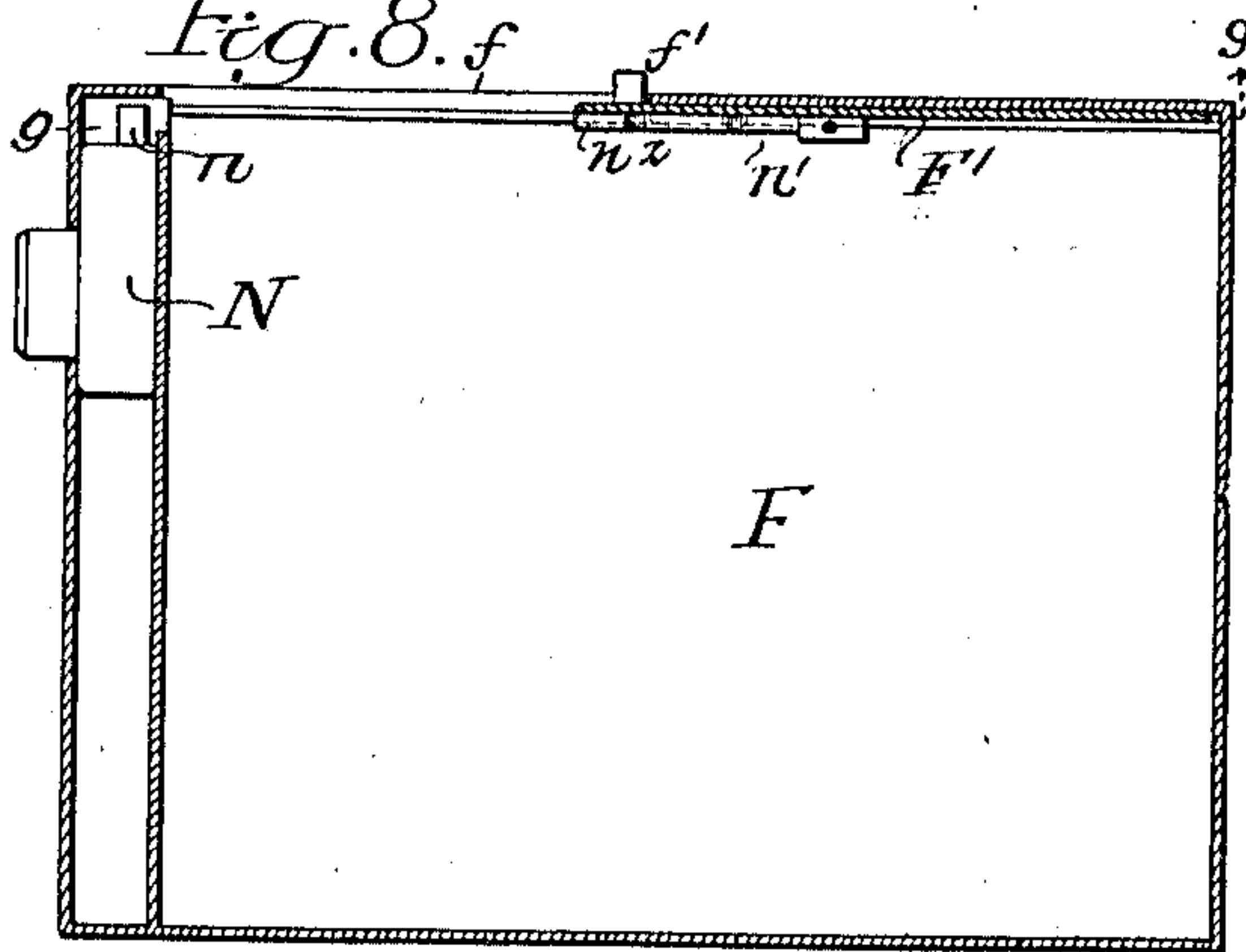
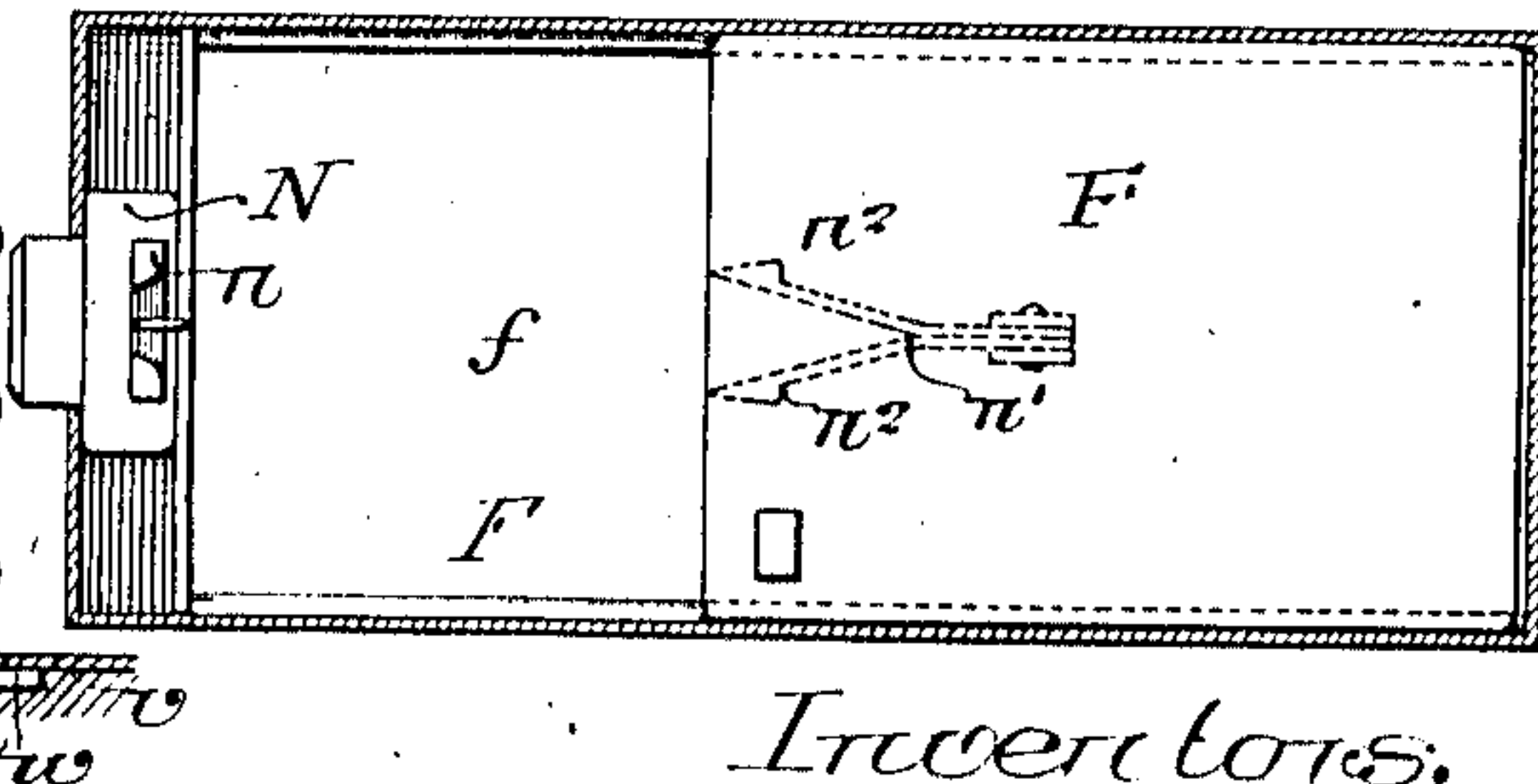


Fig. 9.



Witnesses—  
Titus McIrone.  
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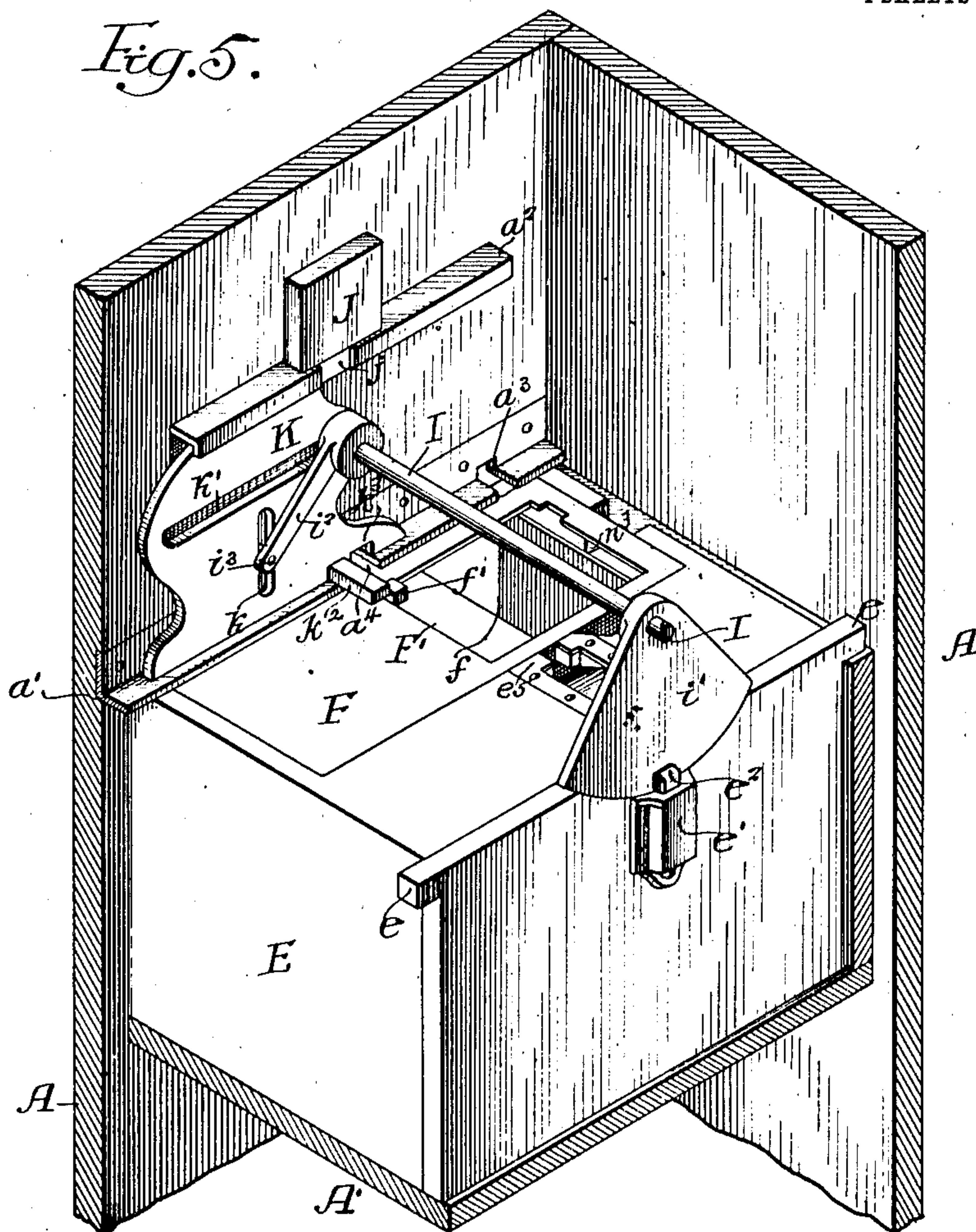
Inventors,  
Ezra S. Bucknam  
George B. Kohler  
by their Attorneys,  
Horn & Horn

FARE BOX.

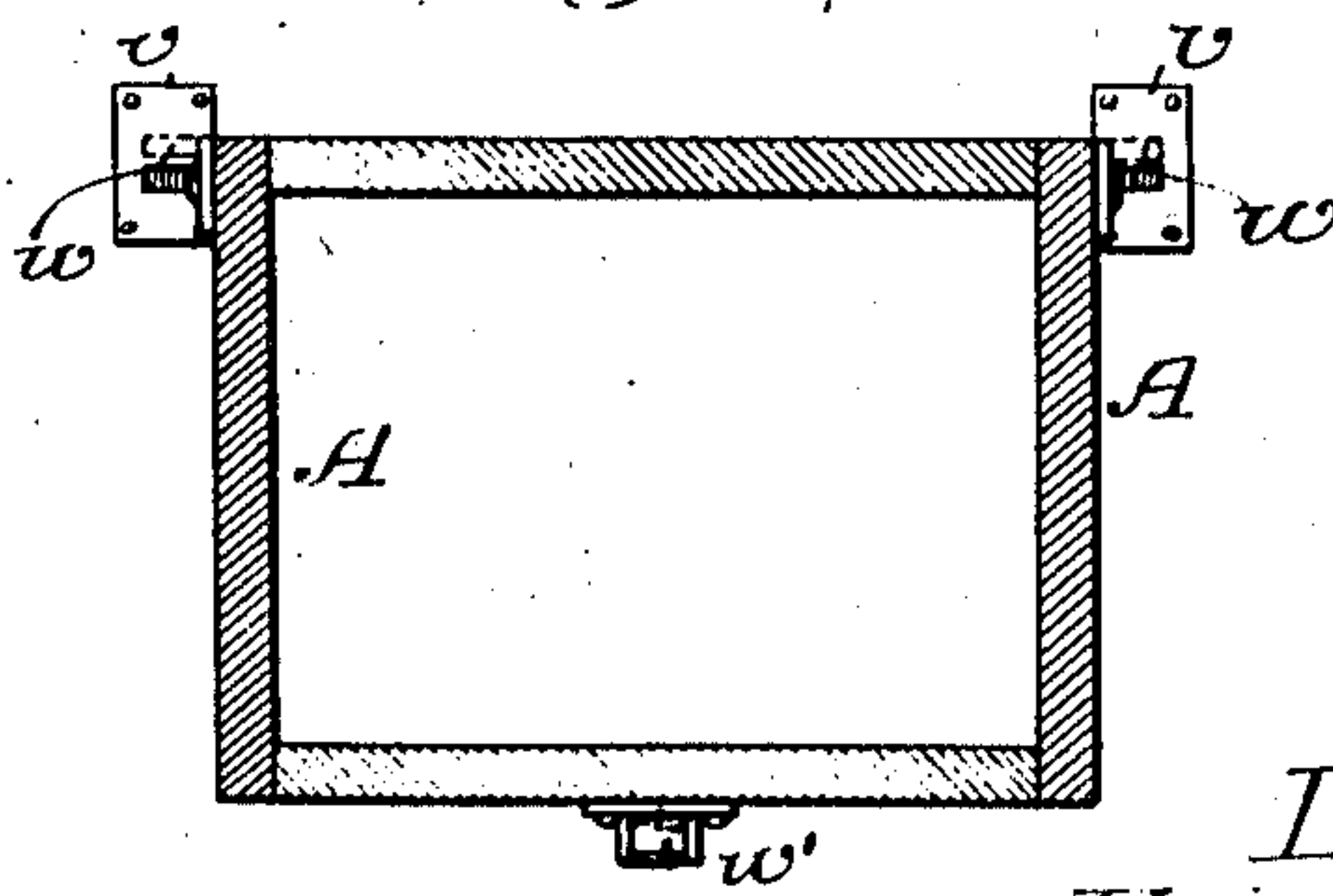
Patented Sept. 13, 1910.

4 SHEETS—SHEET 3.

*Fig. 5.*



*Fig. 16.*



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FARE BOX.

APPLICATION FILED MAY 6, 1908.

Patented Sept. 13, 1910.

4 SHEETS—SHEET 4.

970,178.

Fig. 6.

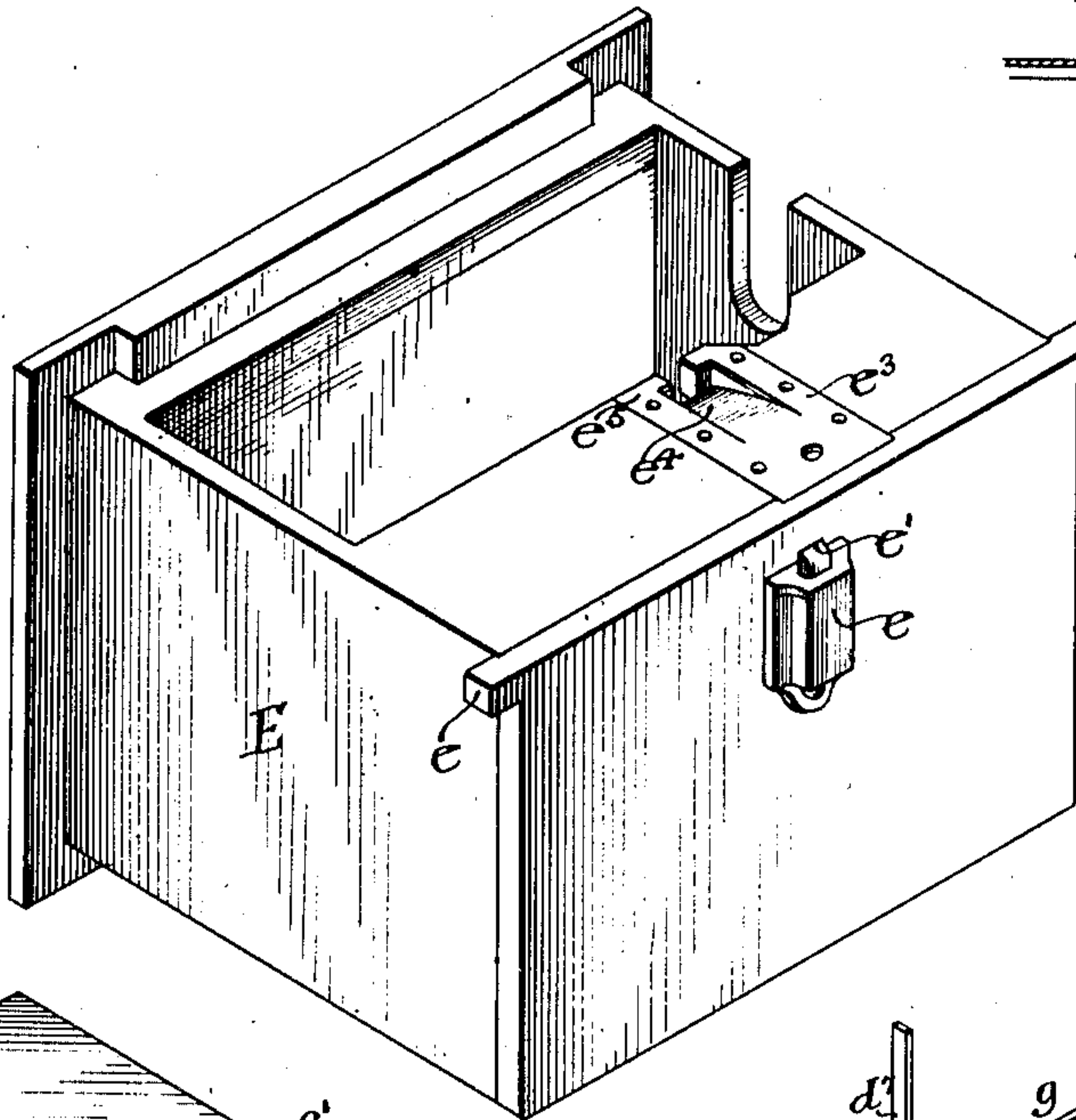


Fig. 14.

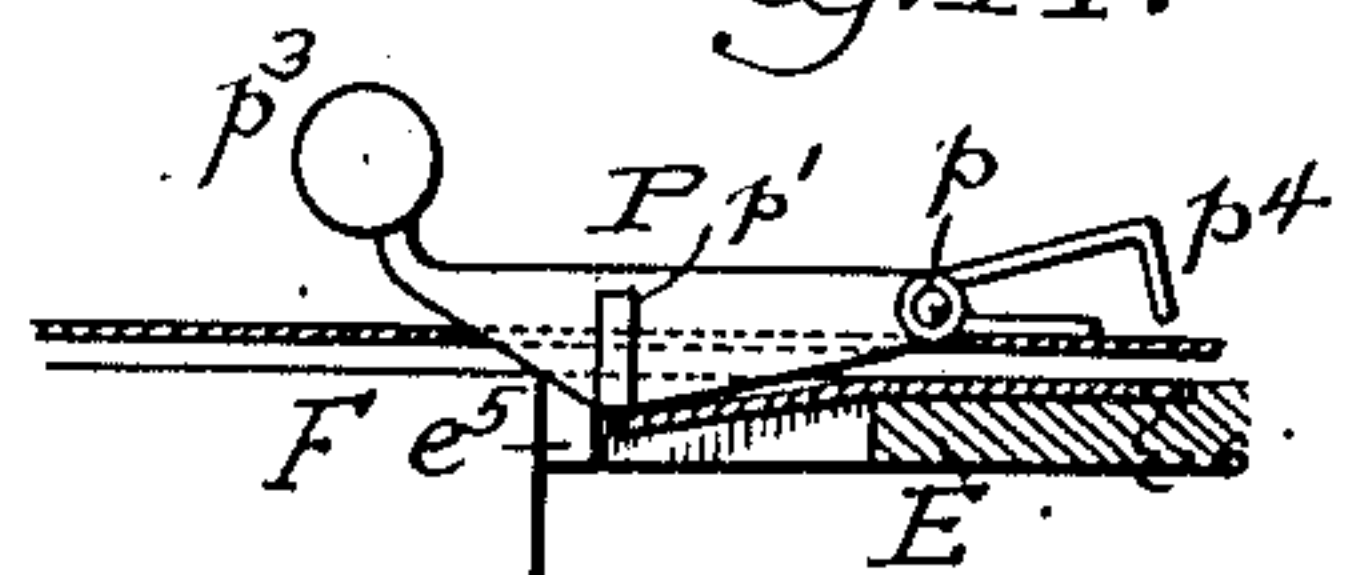


Fig. 15.

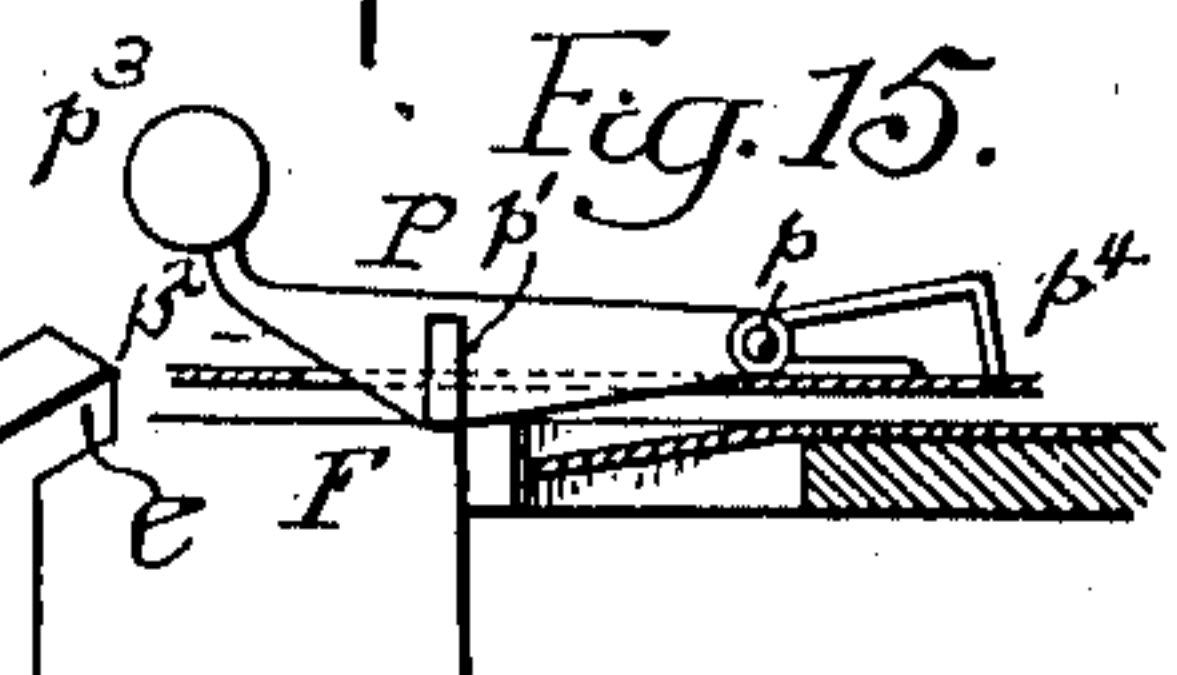


Fig. 10.

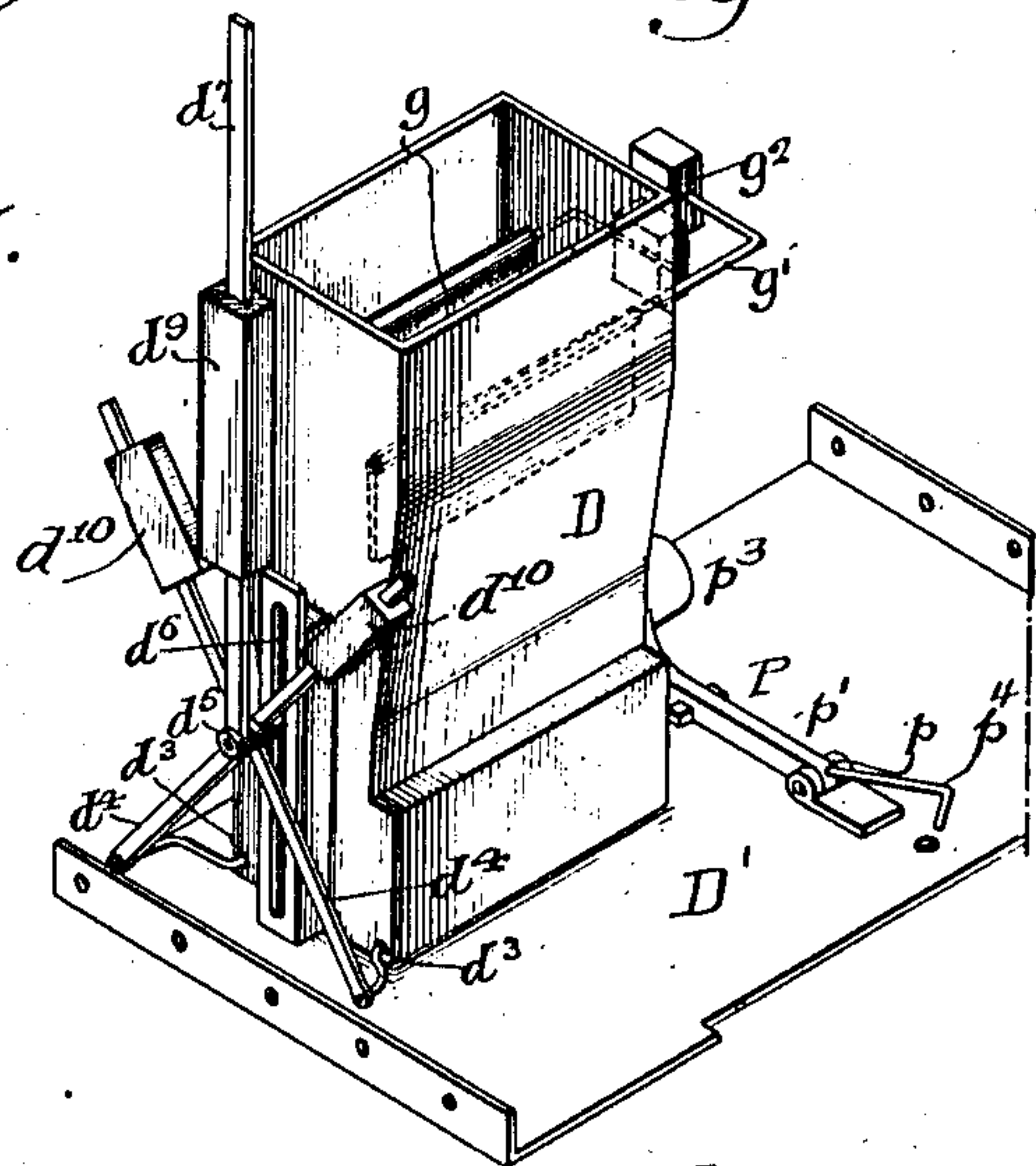


Fig. 7.

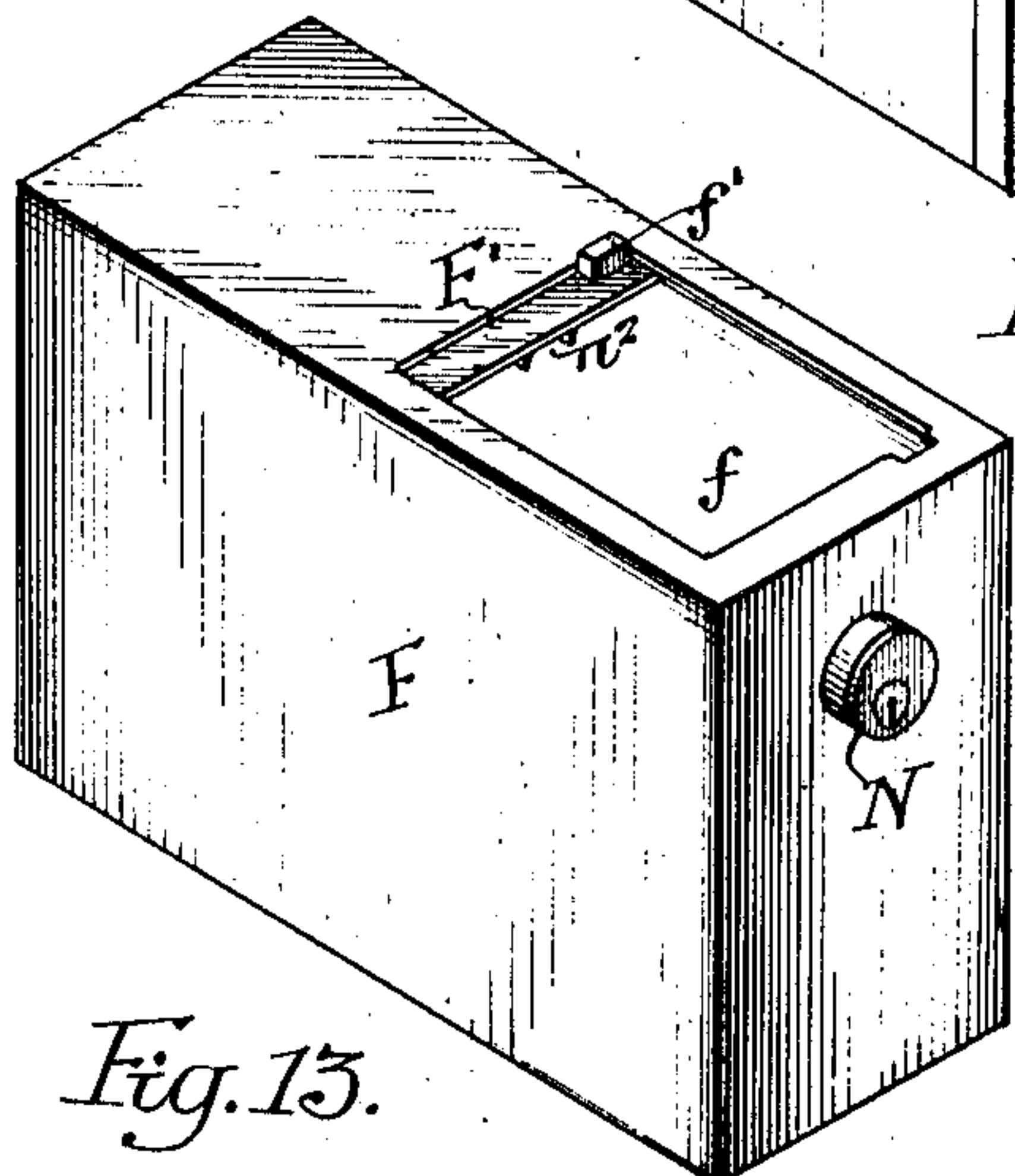


Fig. 13.

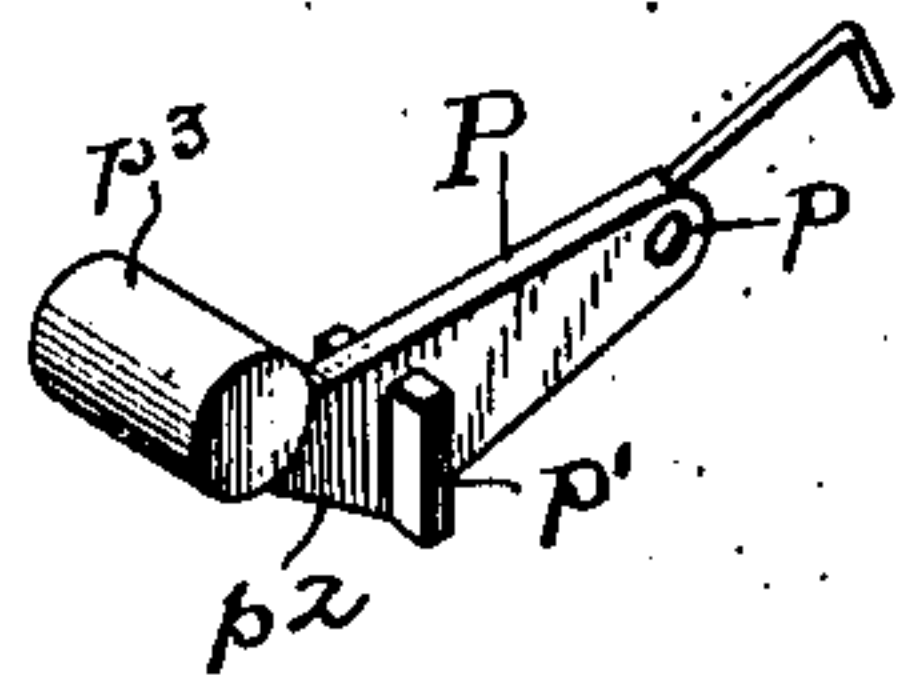


Fig. 11.

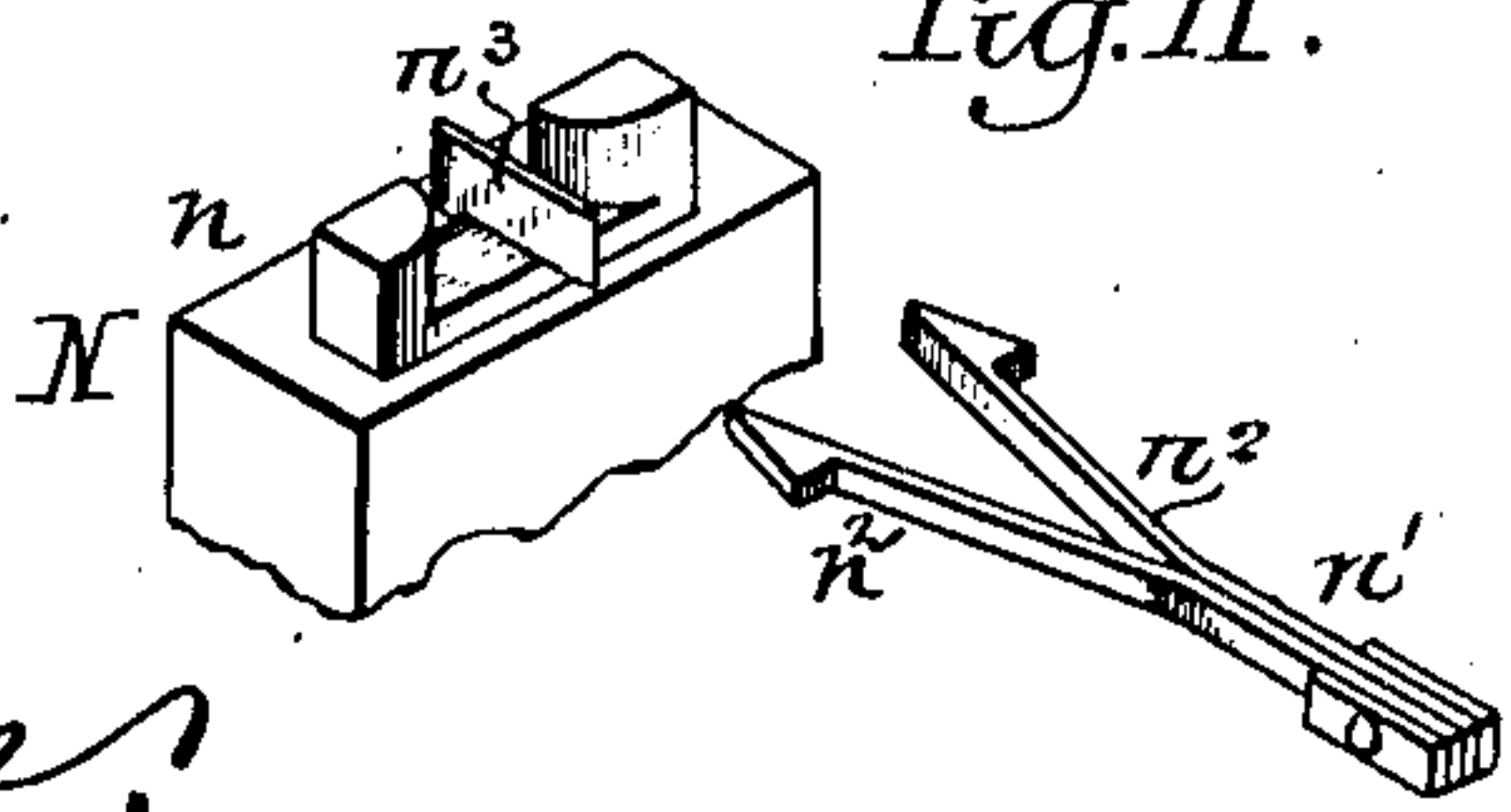
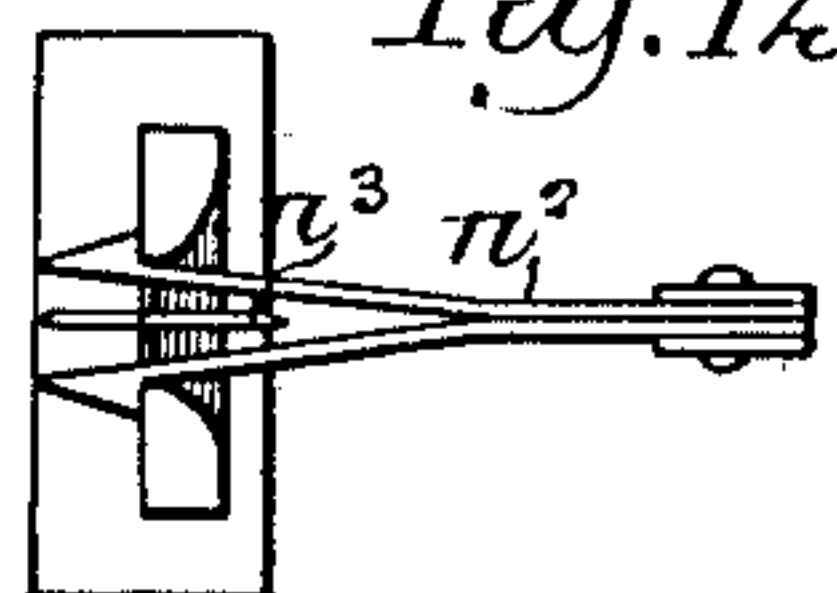


Fig. 12.



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# UNITED STATES PATENT OFFICE.

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ASSIGNORS TO THE J. G. BRILL COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A  
CORPORATION OF PENNSYLVANIA.

## FARE-BOX.

970,178.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed May 6, 1908. Serial No. 431,113.

*To all whom it may concern:*

Be it known that we, EZRA S. BUCKNAM and GEORGE B. KOHLER, citizens of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Fare-Boxes, of which the following is a specification.

Our invention relates to certain improvements in fare boxes used especially for collecting fares upon passenger cars, particularly of the type known as pay-as-you-enter cars, although the invention can be used for collecting fares or admissions and tickets for any purpose.

The object of our invention is to so construct a fare box that it cannot be tampered with, yet the mechanism is so simple as not to readily get out of order. This object we attain in the following manner, reference being had to the accompanying drawings, in which:—

Figure 1, is a vertical section on the line 1—1, Fig. 2, illustrating the mechanism of our improved fare box; Fig. 2, is a vertical sectional view on the line 2—2, Fig. 1; Fig. 3, is a vertical sectional view on the line 3—3, Fig. 2, looking toward the front of the box; Fig. 4, is a view of the upper portion of the box similar to Fig. 2, showing the parts moved to a position to discharge the fare into the box; Fig. 5, is a detached sectional perspective view showing part of the frame of the box, the drawer and the mechanism connected therewith; Fig. 6, is a perspective view of the drawer; Fig. 7, is a perspective view of the fare receptacle; Fig. 8, is a longitudinal sectional view through the fare receptacle; Fig. 9, is a sectional plan view on the line 9—9, Fig. 8; Fig. 10, is a perspective view showing the weighted valve mechanism for closing the chute leading from the fare receiving section to the fare receptacle; Figs. 11 and 12, are detail views of the lock for the fare receptacle; Figs. 13, 14 and 15, are views of the latch which prevents the closing of the drawer when the fare receptacle is not in position; Fig. 16, is a sectional plan view on the line 16—16, Fig. 1.

Referring in the first instance to Figs. 1 and 2, A is the body of the box, which may be of any height desired so that it can either rest on the floor or platform of the car or be hung from a suitable support on the car.

Mounted on the base portion is a fare receiving section B consisting of a frame *a* with a transparent sheet of glass *b'* on all four sides firmly set in the frame. In this receiving section are inclined deflectors *B'* also of glass bounded on three sides with metal strips *b<sup>2</sup>* and arranged at such an incline and at such a distance apart that the coin or ticket dropped into the box will travel in a zigzag path onto a platform C. The upper edge *b<sup>3</sup>* of the fare receiving section is very narrow and beveled on the side so that no coin or ticket can be placed on top of the fare receiving section, but must be placed in the fare receiving section. The lower end of said section is beveled at *b<sup>4</sup>* and the bevel is at such an incline that a coin cannot be pressed against the edge of the section when a device is introduced to manipulate and remove the coin.

The platform C at the base of the receiving section is situated some distance from the lower edge of the said section and is so mounted that the edges are some distance from the sides of the box, so that a coin dropped on the platform cannot be manipulated and withdrawn. If it is touched it will slide off the platform at either end on either side into the chute leading into the fare box, as clearly shown in Fig. 2.

Fitting up against the receiving section is a slide or chopper *C'*, which is moved across the opening in the bottom of said section when the platform C is tilted to discharge the coin into the box, as shown in Figs. 2 and 4, and if a coin should be placed in the receiving section when the slide is in its closed position, as in Fig. 4, it cannot be manipulated against the sides of the section, owing to the inclined portions *b<sup>4</sup>* terminating in a sharp edge at the slide.

In order to operate the slide and the tilting platform C, we provide a rock shaft *C<sup>2</sup>* which has a handle *C<sup>3</sup>* projecting through a slot *a* in the body A, and on this shaft is a spring *c* which tends to return the handle C to its normal position and the mechanism to its normal position, as shown in Fig. 2. On the shaft *C<sup>2</sup>* is an arm *c'* which is adapted to a slotted projection *c<sup>2</sup>* on the slide *C'* and the platform C is pivoted to the slide at *c<sup>3</sup>*.

D is a chute leading from the fare receiving section to the fare receptacle and the upper end of this chute is enlarged, and on



the side walls of this enlarged portion are curved guides  $d'$  in which travel lugs  $c^4$  attached to each side of the platform C, so that as the handle  $C^3$  is moved it moves the slide forward, at the same time tipping the platform as indicated in Fig. 4, discharging the fare into the chute leading to the fare receptacle.

By the above described construction after the fare has been deposited onto the platform C there is no chance for the fare to be removed by any manipulation, so that every fare placed in the fare box must be discharged into the fare receptacle.

The fare receiving section and the mechanism connected therewith forms the subject of a separate application for patent filed on the 28th day of April 1908 under Serial Number 429,738, and, therefore, we have not claimed this particular mechanism in this application.

The chute D extends from the lower portion of the fare receiving section B to a point directly above the drawer E containing the removable receptacle F for the fares. This chute is contracted at the lower end, being of sufficient width to allow for the free passage of coins or tickets and is provided with two valves  $d^2$  pivoted at  $d^3$ , as shown clearly in Fig. 10. The pivot rods are bent as shown so as to form arms to which are attached levers  $d^4$  having weights  $d^{10}$  and pivoted together by a pin  $d^5$ ; this pivot pin  $d^5$  is adapted to a slot  $d^6$  in a guide plate secured to the exterior of the chute D and attached to the pivot pin is a rod  $d^7$  which passes through a guide  $d^8$  and on this rod is a weight  $d^9$ . By this arrangement as soon as the box is tilted in one direction or the other to a point below the horizontal one of the valves  $d^2$  will close, preventing the escape of any coins or tickets from the fare receptacle, and should the box be inverted maliciously both of the valves will close and in order to further prevent the extraction of fares from the box we provide additional valves  $g$ ,  $g$  situated some distance above the valve  $d^2$  and the pivot rods  $g'$  are bent so as to form levers on which are mounted weights  $g^2$ , so that when the box is tilted these valves will close. The chute D rests directly upon a plate  $D'$  extending across the box and secured to the side walls as shown in Figs. 1 and 2. The drawer E is adapted to an opening in the box and rests upon a platform  $A'$ ; the drawer being held in its closed position by a latch at the rear of the drawer, so that it will be impossible to manipulate the latch by any mechanism introduced at the front of the drawer.

The fare receptacle F is detachable so that when the drawer is opened it can be removed and taken to the proper place and opened; the mechanism of the fare box be-

ing so arranged that when the fare receptacle is in position and the drawer closed the fare box will be automatically opened and the opening will be in direct line with the chute, so that the fare deposited in the box will pass directly into the fare receptacle, but the moment the drawer is opened, however, the fare box will be automatically closed and locked and will remain locked until opened by the proper person. The drawer cannot be entirely removed; lugs  $e$  being provided on the rear of the drawer which strike against the front of the casing A when the drawer is pulled out, and in order to lock the drawer in position we provide a shaft I having a handle  $i$  shaped so as to be readily turned, and this shaft is adapted to bearings in the casing and has at the rear end a segmental arm  $i'$ , which forms a keeper for the bolt  $e^2$  of the spring latch  $e'$ ; the parts being so arranged that when the drawer is pushed in the bolt  $e^2$  will spring past the keeper  $i'$  and thus be locked in position and cannot be released until the keeper is turned to such a position as to clear the bolt.

On the shaft I is an arm  $i^2$  mounted at the front of the box and this arm has a pin  $i^3$  adapted to a vertical slot  $k$  in a slide K adapted to ways  $a'$ ,  $a^2$  secured to the casing A of the fare box.

J is a lock having a bolt  $j$  which is so situated as to be projected in front of the slide so as to prevent its moving on the ways  $a'$ ,  $a^2$ . The slide is slotted at  $k'$  to allow for the passage of the shaft I. It will be seen that when the mechanism of the lock J is turned to withdraw the bolt  $j$  the handle  $i$  on the shaft I can be turned as the slide K is not locked by the bolt  $j$  and the arms  $i^2$  on the shaft I can swing freely and cause the slide to move from one position to the other, and the keeper  $i'$  to move in such position as to release the drawer.

In the fare receptacle F is an opening  $f$  closed by a slide  $F'$ , Figs. 5, 8 and 9, and secured to one end of the receptacle is a lock N having a bolt  $n$ . The bolt has two projecting members beveled on the inner side, as shown in Fig. 11, and carried by the slide  $F'$  is a keeper  $n'$  having two spring members  $n^2$  with beveled heads which, when the slide is moved to the closed position, will ride upon the beveled portions of the bolt  $n$  and spring past the bolt into the locked position as shown in Fig. 12.

On the slide  $F'$  and projecting through the opening  $f$  in the present instance is a lug  $f'$ . This lug is actuated by a projection  $k^2$  on the slide K so that when the slide is moved from the position shown in Fig. 5 to the closed position on turning the shaft I the slide  $F'$  will be closed, then the lug is directly opposite a groove  $a^3$  in the casing A and slideway  $a'$ , and the notch  $k^3$  in the



slide K is directly in line with this groove so that the drawer can be opened and the lug on the fare receptacle can pass through the slot  $a^3$ . Thus it will be seen that when the lug  $f'$  is not opposite the groove  $a^3$  it will be impossible to open the drawer.

When the slide is forced closed by the lug on the slide K it forces the spring members  $n^2$  on the lug into engagement with the projecting portions of the bolt N, thus locking the slide in the closed position before the drawer can be opened.

In order to prevent the spring members being maliciously fastened together so as to prevent them catching back of the projected portion of the plate  $n$ , we provide a partition plate  $n^3$  projecting from the casing between the two members of the plate  $n$  and the edge of this partition is sharpened so that it will cut any object used to hold the two spring members together. Thus it will be impossible to tamper with the lock N and prevent it locking the slide in its closed position.

In order to prevent the drawer being closed and locked without the fare receptacle F being closed in position, we provide a latch P pivoted at  $p$  and having wings  $p'$  and a beveled portion  $p^2$ , and on this portion of the latch is a weight  $p^3$ . On the other end is a hooked arm  $p^4$  and on the drawer, as shown in Fig. 6, is a plate  $e^3$  having depressed portions  $e^4$  forming stops  $e^5$ . The latch P is pivoted to the plate D' in line with the plate E<sup>3</sup> on the drawer and when the latch is in its normal position the weight brings the catch down so that the wings  $p'$  will ride on the depressed portion and strike against the shoulder  $e^5$ , Fig. 14, preventing the closing of the drawer, but if the fare receptacle F is in position in the drawer then the edge of the fare receptacle will strike the bevel portion  $p^2$  of the latch and raise it, allowing the drawer to be completely closed and locked by the latch  $e$ , as shown in Fig. 15.

The hooked arm  $p^4$  on the lever P is to prevent the withdrawal of the drawer when the fare box is inverted, as the weight  $p^3$  will force the arm  $p^4$  into a hole  $e^6$  in the drawer, Fig. 6.

The operation of the fare box is as follows:—There may be any number of the fare receptacles F and one of these is placed in the fare box A when a conductor starts on a trip, with the slide F' open, as in Fig. 7. After the fare receptacle is placed in the drawer E the drawer is forced in position, the lug  $f'$  passing through a slot  $a^4$  in the casing A and slideway  $a'$  and through the notch  $k^3$  in the slide K, assuming the position shown in Fig. 5. The spring bolt  $e^2$  of the latch  $e'$  will spring back of the keeper  $i'$  on the shaft I and the drawer will be locked in position, the bolt  $j$  of the lock J being pro-

jected in front of the slide K. After the conductor has made his trips, the proper official first unlocks the box by withdrawing the bolt  $j$  of the lock J, then turns the handle  $i$  of the shaft I so as to turn the segmental keeper  $i'$  to a position clear of the bolt  $e^2$  of the latch  $e'$ , and at the same time moves the slide K over to its other extreme position; the lug  $k^2$  on the slide pushing the lug  $f'$  on the sliding cover F' of the receptacle F, forcing said cover to the closed position and locking it. When in this closed position the lug  $f'$  is on a line with the slot  $a^3$  and the drawer can be opened, the lug  $f'$  passing through the notch  $k^3$  on the slide K and through the slot  $a^3$  in the casing; the lugs  $e$  at the rear of the drawer preventing it being entirely removed. The receptacle F is then removed from the drawer, taken to the proper office, unlocked and the contents removed, after which another receptacle is placed in position in the drawer. When the fare is dropped into the fare receiving section B, it slides from one inclined slide B' to another and finally onto the platform C and then, after it is inspected by the conductor, it can be discharged into the chute D by simply moving the handle C<sup>3</sup>, which tips the platform to the position indicated in Fig. 4, and closes the opening by moving the slide  $c'$  across the opening.

When the platform is in the position shown in Figs. 1 and 2, there is a small space entirely around the platform so that if any instrument is inserted into the fare receiving section to withdraw a coin, for instance, the coin cannot be cornered or held against any abutment, but will immediately slip over the edge of the platform into the chute, and if a coin is inserted when the slide C' closes the opening the surrounding walls, which come close to the slide, are of such a taper that a coin cannot be held against the sides of the section; and if the fare box is inverted for the purpose of removing the fares, then the valves  $d^2$  and  $g$  will close the passage from the fare receptacle to the chute, thus preventing any fares leaving the receptacle.

We preferably secure the fare box to the floor, as shown in Fig. 16. Secured to the floor are plates  $v$ , and these plates are undercut to receive lugs  $w$  projecting from the bottom of the fare box, as clearly shown in Fig. 3. The lugs are passed through an opening  $v'$  in the floor and the box moved bodily forward, so that the lugs  $w$  will underlie the plates  $v$  and the bolt  $w'$ , Figs. 1 and 16, is forced into an opening in the floor, thus locking the box rigidly to the floor, yet, when desired, it can be readily removed.

We claim:—

1. The combination in a fare box, of a



casing having a fare receiving section, a drawer mounted in the casing, a fare receptacle detachably mounted in the drawer, a chute forming communication between the  
 5 fare receiving section and the fare receptacle, an opening in the fare receptacle, a closure for said opening, means for locking the drawer in its closed position; and means  
 10 actuated by the locking mechanism of the drawer to move the closure of the fare receptacle to its locked position before the drawer can be withdrawn.

2. The combination in a fare box having a fare receiving section, of a drawer  
 15 mounted in the casing, a fare receptacle mounted in the drawer, and means for preventing the closing of the drawer unless the fare receptacle is in place.

3. The combination in a fare box, of a  
 20 fare receiving section, a drawer mounted in said fare box, a fare receptacle mounted in the drawer, a latch carried by the drawer, a movable keeper mounted in the fare box and adapted to be engaged by the latch, and  
 25 means for actuating the movable keeper to release the drawer.

4. The combination in a fare box having a fare receiving section, of a drawer, means  
 30 for locking the drawer, a fare receptacle mounted in the drawer, a closure for the fare receptacle, a slide mounted in the fare box and arranged to engage the closure, means for reciprocating the slide and actu-  
 35 ating the keeper of the drawer lock, so that when the means are moved to release the drawer the slide will close the receptacle.

5. The combination in a fare box having a fare receiving section, of a drawer, a fare  
 40 receptacle mounted in the drawer, said fare receptacle having an opening, a sliding closure for said opening having a lug, a slide mounted in ways in the fare box, and a projection on the slide, so that when  
 45 the slide moves into the position to release the drawer it will close the sliding closure.

6. The combination in a fare box having a fare receiving section, of a drawer, a fare  
 50 receptacle mounted in the drawer, means for closing the fare receptacle, a lock for the said receptacle, a latch at the back of the drawer, a shaft, a keeper on the shaft with  
 55 which the latch engages, a slide at the front of the box, an arm on the said shaft for actuating the slide, a lug on the receptacle closure, a projection on the slide engaging  
 60 the lug, and means for locking the slide in one position, so that when the keeper of the lock is withdrawn on turning the shaft the slide will move from one position to the  
 65 other and the drawer will be released and the closure for the box locked in its closed position.

7. The combination in a fare box having a fare receiving section, of a drawer, a fare  
 65 receptacle mounted in the drawer having an

opening, a slide for closing said opening, a  
 lug on the slide, two slots in the box, one in  
 line with the lug when in one position and  
 the other in line with the lug when in the  
 other position, and means for shifting the  
 70 slide and its lug from one position to the other after the drawer is in position.

8. The combination in a fare box having a fare receiving section, of a drawer, a fare  
 75 receptacle mounted in the drawer having an opening in its upper portion, a slide for closing said opening, a lug on the slide, two  
 80 slots in the casing for the passage of the lug, a latch at the rear of the drawer, a shaft, a segmental keeper mounted on the shaft and engaged by the latch, a slide  
 85 mounted in ways at the front of the box and having a projection, an arm on the shaft adapted to reciprocate the slide, a notch on the slide arranged to aline with either of  
 90 the slots in the box, a lock for locking the shaft; the parts being so arranged that when the shaft is turned to release the drawer the slide connected therewith moves  
 95 from one position to the other, pushing the closure slide to its closed position and in alinement with a slot in the casing so that the drawer can be removed.

9. The combination in a fare box, of a  
 95 casing having a fare receiving section, a drawer mounted in the casing, said casing having two slots above the drawer spaced a  
 100 given distance apart, a fare receptacle mounted in the drawer, a slide for closing the opening in the fare receiving receptacle, a lug on the said slide, the parts being so  
 105 arranged that the drawer can be inserted in the fare box with the slide open, the lug alining with one slot, and when the slide is moved to close the opening in the fare  
 110 receptacle it will aline with the other slot so that the drawer can be removed.

10. The combination of a floor, undercut  
 115 plates in the floor, a fare box, lugs projecting from the bottom of the fare box and arranged to engage the plates, with a bolt on the box entering a cavity in the floor, pre-  
 120 venting the longitudinal movement of the fare box and the disengagement of the lugs.

11. The combination in a fare box, of a  
 115 casing having a fare receiving section, a drawer mounted in the casing, means for preventing the entire removal of the drawer, a latch at the back of the drawer, a shaft  
 120 having a segmental keeper engaged by the latch and extending to the front of the box, a handle on said shaft by which it is turned, a fare receptacle detachably mounted in the  
 125 drawer, a slide for closing the opening in the fare receptacle, a lock for locking the slide in its closed position, a lug on the slide, two  
 130 slots in the casing above the drawer and arranged to aline with the lug in either of its two positions, a slide mounted on the inner  
 135 side of the casing and having a projection



arranged to engage the lug, an arm on the shaft for guiding the slide, a lock so situated that when its bolt is projected it will prevent the slide moving, thus locking the  
5. several parts, but on the withdrawal of the bolt the shaft can be turned and will actuate the slide and close the opening in the fare receptacle and will release the drawer so that it can be opened.

In testimony whereof, we have signed our 10 names to this specification, in the presence of two subscribing witnesses.

EZRA S. BUCKNAM.  
GEORGE B. KOHLER.

Witnesses:

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WM. A. BARR.