

**No. 713,060.**

**Patented Nov. 11, 1902.**

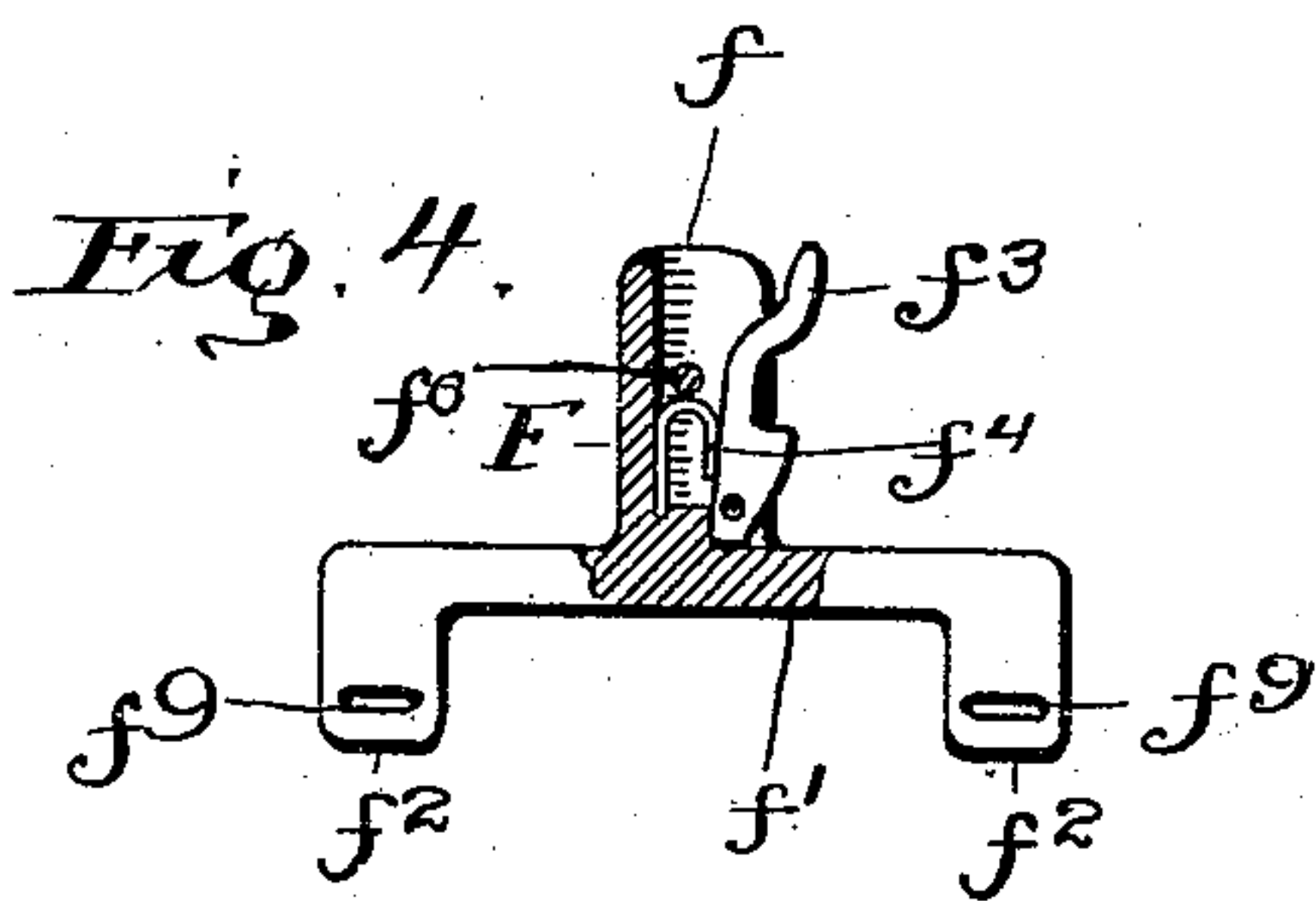
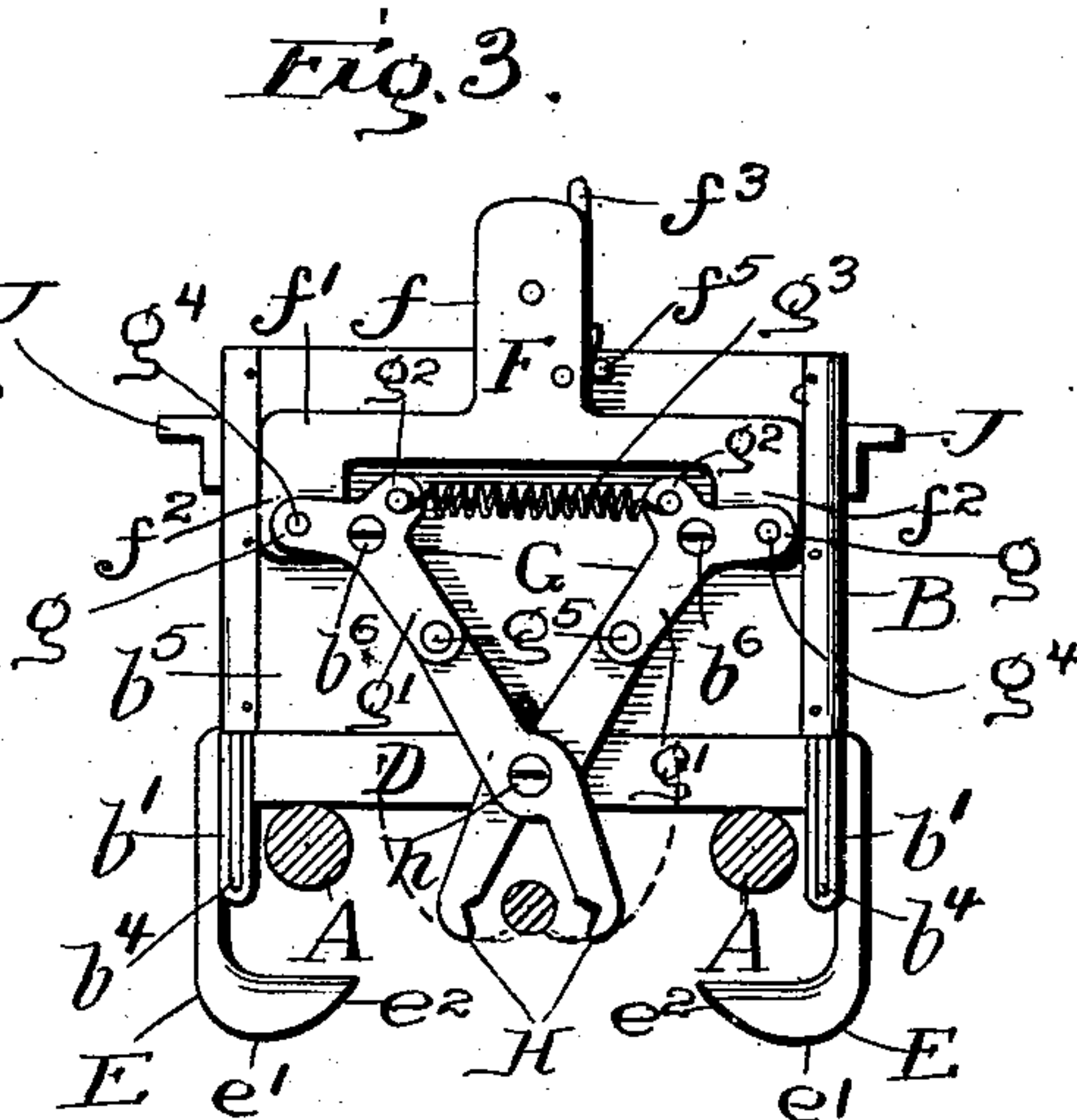
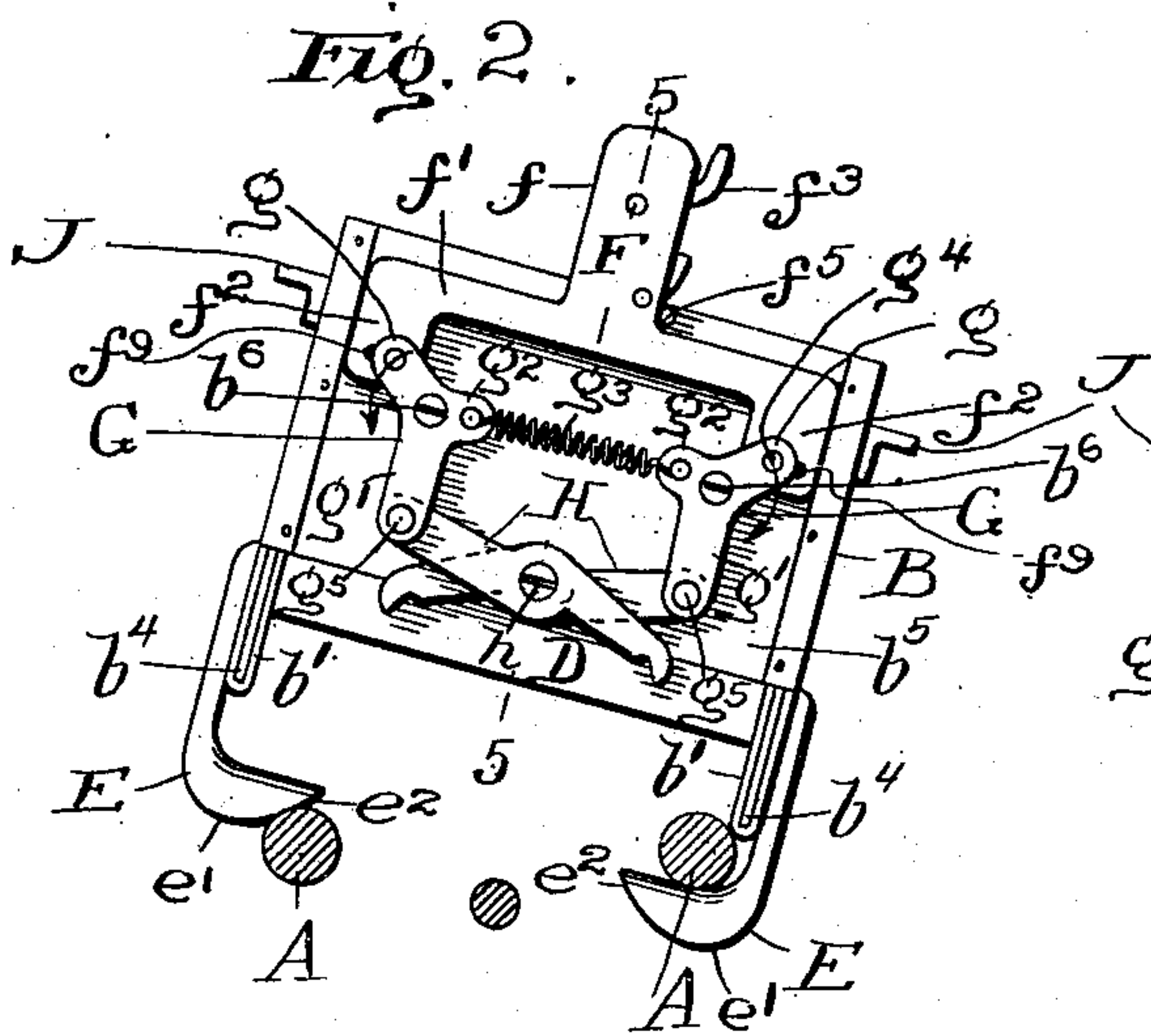
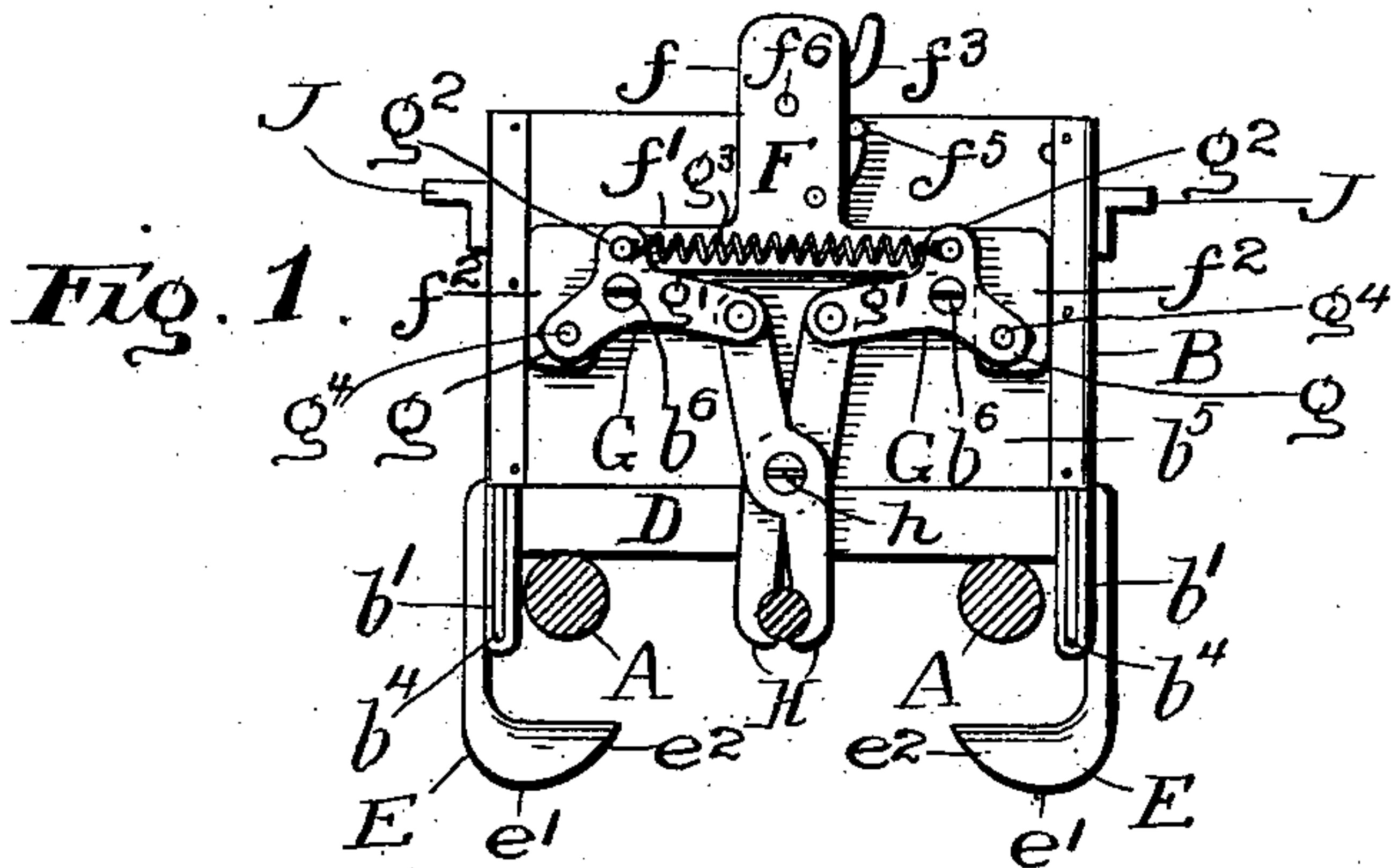
W. L. CHURCHILL.

**CASH CARRIER.**

(Application filed Mar. 26, 1902.)

(No Model.)

**2 Sheets—Sheet 1.**



Witnesses:  
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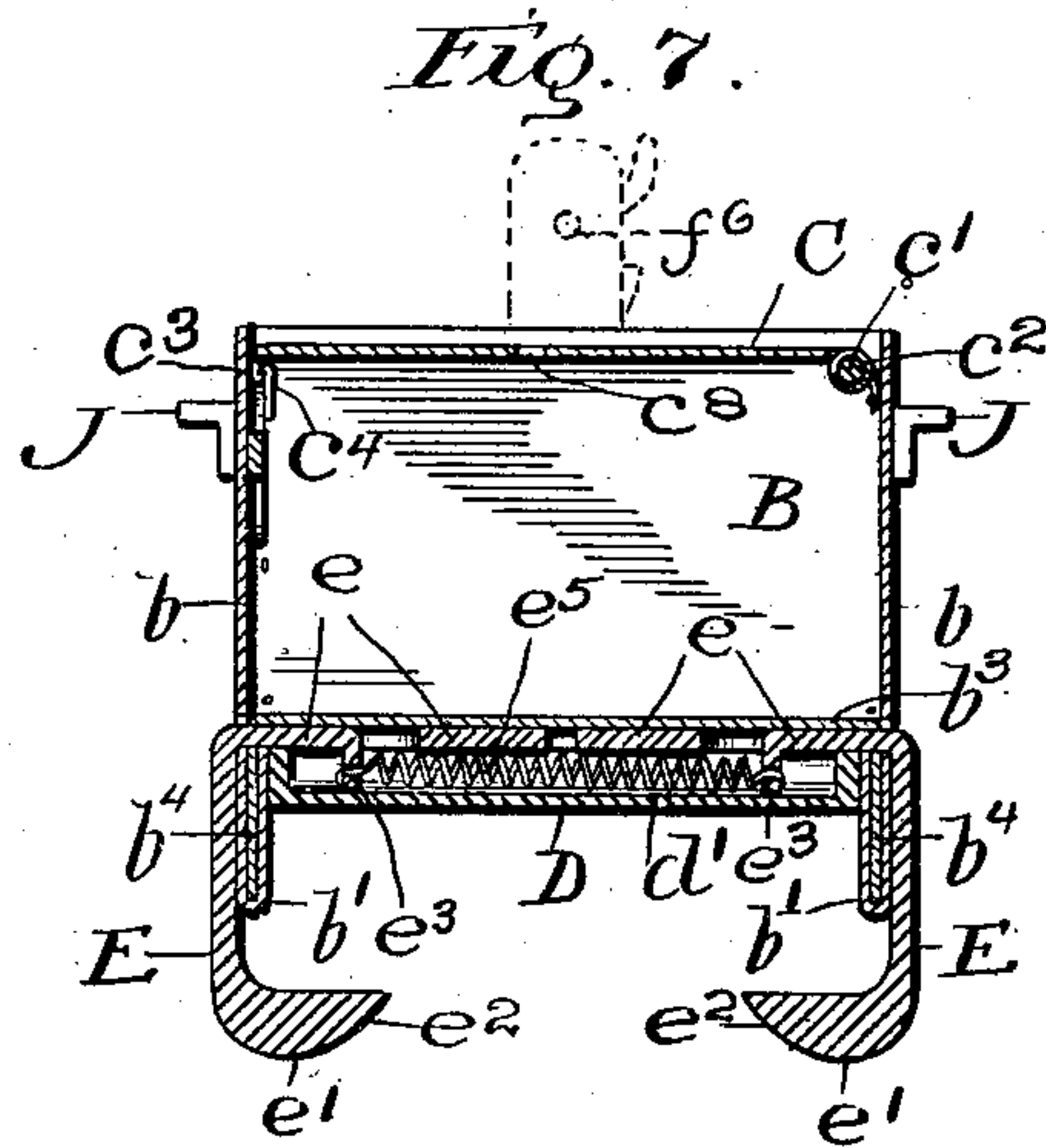
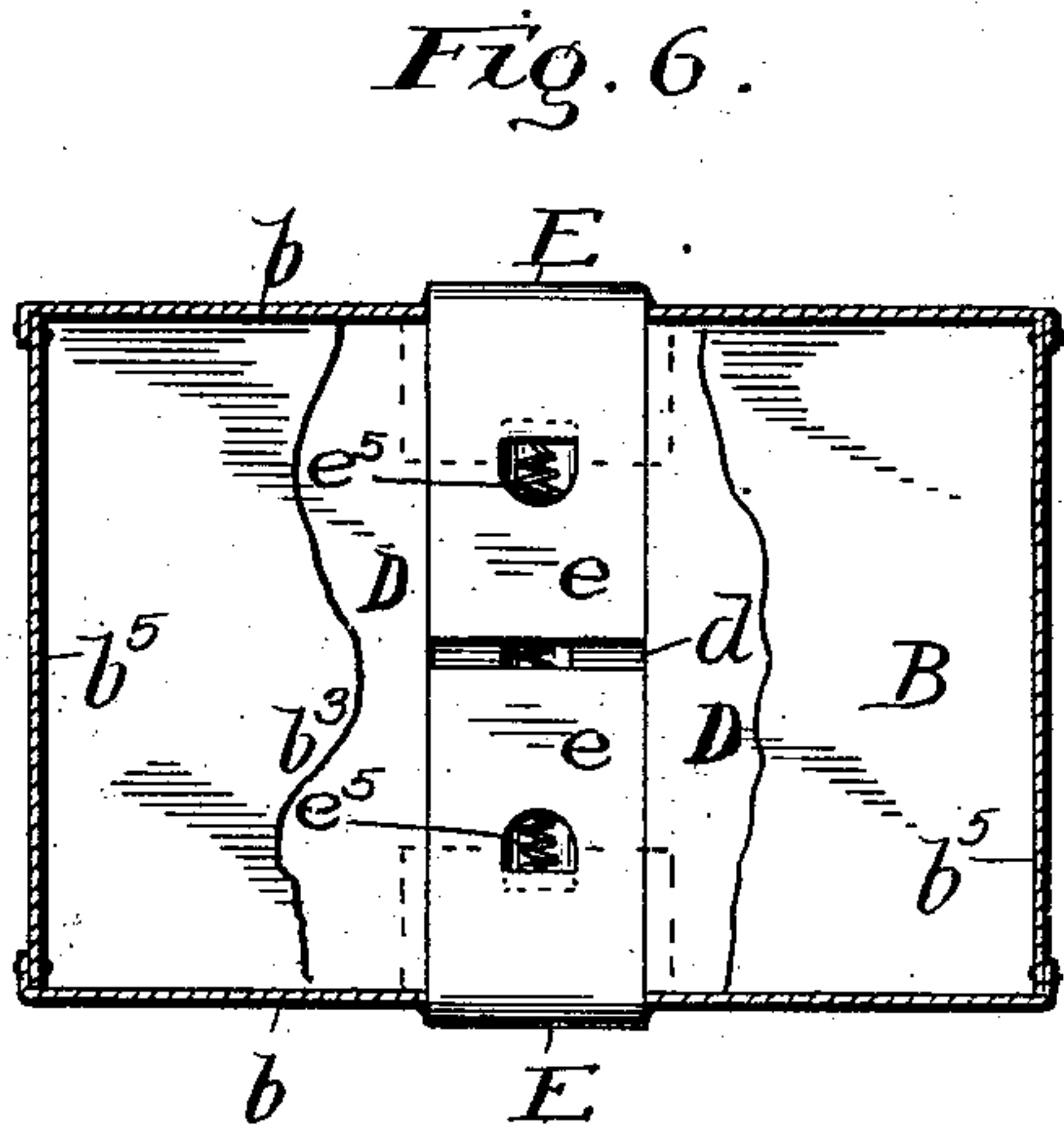
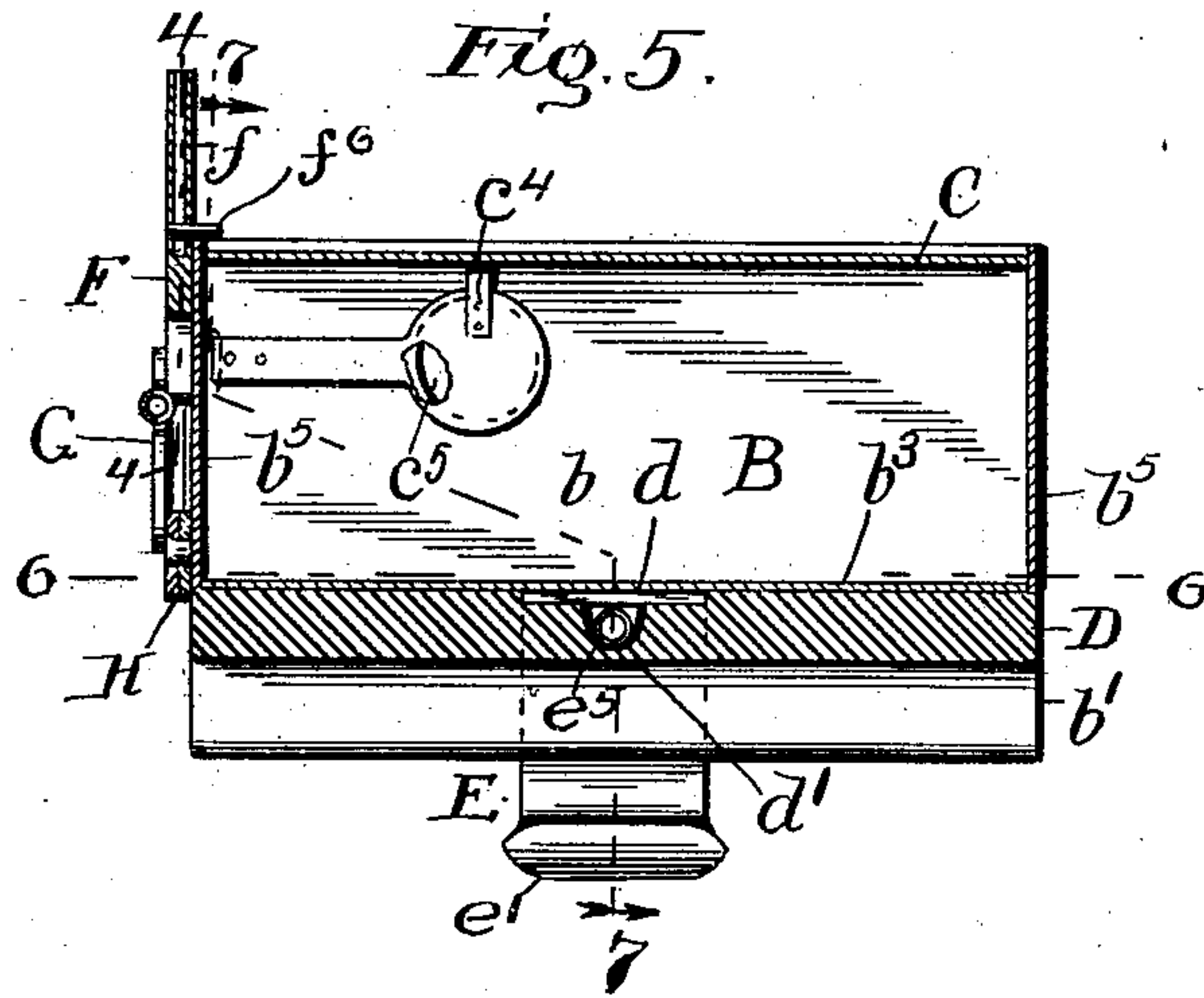
W. L. CHURCHILL.

CASH CARRIER.

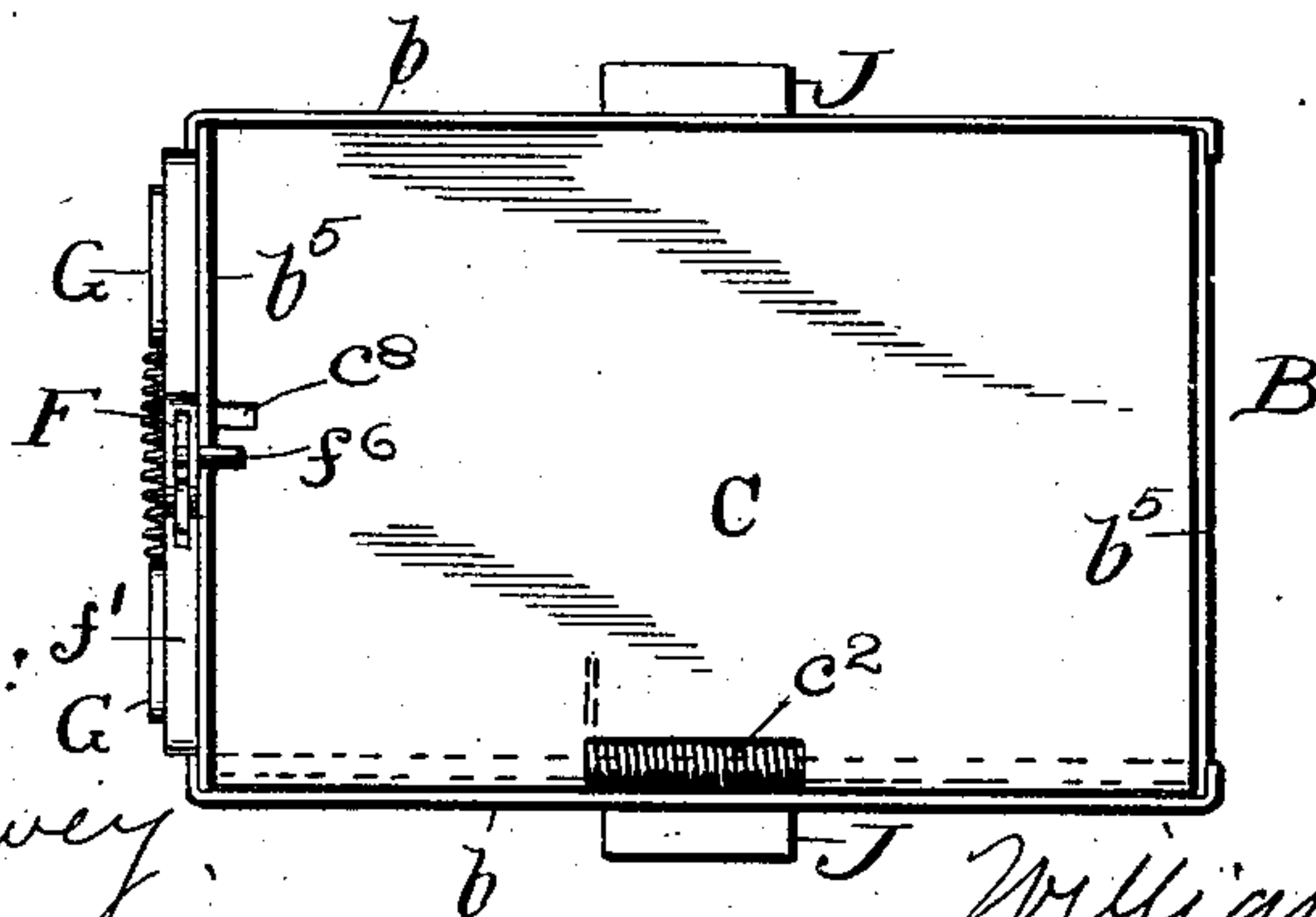
(Application filed Mar. 26, 1902.)

(No Model.)

2 Sheets—Sheet 2.



*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

WILLIAM L. CHURCHILL, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL PNEUMATIC SERVICE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 713,060, dated November 11, 1902.

Application filed March 26, 1902. Serial No. 100,027. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. CHURCHILL, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cash-Carriers, of which the following is a specification.

My invention relates to certain new and useful improvements in cash-carriers of the type wherein a closed box-carrier slides upon suitably-suspended rails, being propelled by a suitably-driven cable substantially in line with the rails; and its object is to produce a cash-carrier of this type which shall be cheap, light, and simple for use primarily in connection with an entire system of this type of store-service designed by me, but also capable of use in other systems of the same general type.

To these ends my invention consists in certain novel features of construction, which are fully described herein and illustrated in the drawings.

In said drawings, Figure 1 is a front elevation of my improved carrier upon the track and the jaws grasping the cable. Fig. 2 is a front elevation showing how the carrier is placed on the track. Fig. 3 is a front elevation showing the jaws about to grasp the cable. Fig. 4 is a section through the sliding member in the line 4 4 of Fig. 5. Fig. 5 is a section in the line 5 5 of Fig. 2. Fig. 6 is a section in the line 6 6 of Fig. 5 looking downward. Fig. 7 is a section in the line 7 7 of Fig. 5, and Fig. 8 is a plan view of the cash-carrier.

Referring to the drawings, A A are two rails, preferably circular in cross-section, upon which the car runs and which are supported or suspended as may be desired.

B is the box of this carrier. It is preferably constructed of metal in the particular way shown herein. In this construction two side pieces *b b* are used, and they are carried down below the desired lower line of the box and sharply recurved, as shown in cross-section in Fig. 3, thereby forming lugs *b' b'*, extending below the lower line of the box. The bottom of the box consists of a single piece of

sheet metal *b<sup>3</sup>*, bent downward on the two sides to form downwardly-projecting portions *b<sup>4</sup> b<sup>4</sup>*, which are inserted in the space left within the lugs *b'* by the recurving of the sides, and they are there riveted or otherwise secured, as desired. The end pieces of the box *b<sup>5</sup> b<sup>5</sup>* are riveted to the ends of the side pieces *b b*, which are bent over upon the front and the rear of the box for this purpose, as is clearly shown in Fig. 6. The top C of the box consists of a plate of metal hinged at *c'* to the top of one of the side pieces, and it is provided with a coiled spring *c<sup>2</sup>*, which tends to open it. Upon the edge of the cover opposite to the spring is a loop or lug *c<sup>3</sup>*, adapted to engage a spring-catch *c<sup>4</sup>* on the inside of the box, this catch when in engagement with the loop or lug keeping the cover closed against the force of the spring *c<sup>2</sup>*. The spring-catch *c<sup>4</sup>* can be reached and released through a hole *c<sup>5</sup>* in the side of the box.

In order to prevent the box from rattling and jangling when running along the rails, it is desirable to provide a non-metallic surface for contact with the tracks. For this reason a plate D, of gutta-percha or some similar compound, is secured upon the bottom of the box B between the lugs *b' b'* and is secured in place upon the box as may be desired. It will be observed that this plate comes into contact with the rails, and all vibrations which pass to the box must necessarily pass through it, their effect being consequently greatly lessened. In systems of this general type the cash-carrier travels in all positions upon the rails. It may be inclined at any angle, it may run vertically, and it may run upside down, hanging from the rails. In order to act well in all these positions, there must be provided some special means for keeping the carrier upon the rails. The system which I have adopted consists in the use of movable hooks extending downward from the sides of the box and under the rails, so as to keep the box in position, these hooks being laterally movable to permit the box to be placed upon and removed from the rails at any point, as may be desired. The particular construction of this device is clearly shown



in Figs. 5, 6, and 7. The plate D upon the bottom of the carrier is provided with a shallow slot  $d$ , running across the whole width of the plate at its center. In the bottom of this slot is cut a groove  $d'$ , the relative length of which with respect to the slot  $d$  is clearly shown in the section shown in Fig. 7. The two hooks which engage the track (designated by the reference-letters E E) are provided with inwardly-extending flat portions  $e$   $e$ , which run in the slot  $d$  and almost meet at its center. The hooks extend downwardly along the sides of the carrier to a point some distance below the bottom and thence inward, ending in the heavier portions  $e'$   $e'$ , having the beveled surfaces  $e^2$   $e^2$ . The flat inwardly-extending portions  $e$   $e$  have each a downwardly-stamped tongue  $e^3$ , which enters the groove  $d'$  in the center of the slot  $d$ . It will be seen that if the hooks E E are pulled outward these tongues will eventually come in contact with the ends of this groove, thereby limiting the lateral motion of the hooks. These tongues are connected by a spring  $e^5$ , which tends to draw the hooks together and normally holds them in contact with the sides of the box. The hooks, however, may be readily drawn apart, either by hand or by any spreading mechanism, to permit the carrier to be removed from the rails, and they are also spread apart in placing the carrier on the rails, as is shown in Fig. 2. In placing the carrier on the rails it is placed over one of them and the beveled portion  $e^2$  of one of the hooks is placed upon the opposite rail, and the box is then pushed downward. The wedging action of the rail upon the beveled surface forces the hook outward and the box slips readily into place, the hook springing back immediately and securing the box firmly upon the rails. I consider this mechanism for holding the carrier upon the rails particularly desirable, for it permits the box or carrier to be placed upon and removed from the rails at any point in their length. Upon the front of the box B is the cable-engaging portion of this device and its construction and operation will now be described. It consists, broadly, of a slide F, moving vertically upon the front of the box B, and jaws connected thereto, the connection being such that when the slide is depressed the jaws will reach downward and grasp the cable, and when the slide again rises this motion will be reversed and the jaws will open, release the cable, and return to their first position. The moving slide F is yoke-shaped, as shown, and consists of an upwardly-extending portion  $f$ , a cross-piece  $f'$ , and two downwardly-extending portions  $f^2$   $f^2$ . The upwardly-extending portion  $f$  is slotted, as shown, to receive a latch  $f^3$  of the form shown in Fig. 4, and a spring  $f^4$ , which holds the latch normally in the position shown in Fig. 4. This latch is adapted to engage a pin  $f^5$  upon the front of the box B, as shown in

Fig. 1, and when in that position is adapted to lock the slide F in its lower position. The slide can be raised to its original position upon depressing the latch.

Upon the front of the box are pivoted two rotatable members G G, each having three radial arms  $g$   $g$ ,  $g'$   $g'$ , and  $g^2$   $g^2$ . The members G G are pivoted upon projecting pins  $b^6$   $b^6$  of the box. The arms  $g^2$   $g^2$  are connected by a coiled spring  $g^3$ , as shown, which tends to hold the members in the position shown in Fig. 2, where the arms  $g^2$   $g^2$  are in line with each other and where the pivots  $b^6$   $b^6$ , the arms  $g^2$   $g^2$ , and the spring  $g^3$  form a straight line. The arms  $g$   $g$  are provided with pins  $g^4$   $g^4$ , extending backward toward the box and engaging slots  $f^9$   $f^9$  in the downwardly-projecting portions  $f^2$   $f^2$  of the yoke-shaped slide F. The effect of this connection is that downward motion of the slide will rotate the members G G against the force of the spring  $g^3$  in the direction shown by the arrows in Fig. 2. The position shown in this figure is the uppermost position which the slide F ever occupies, and to this position it tends normally to return on account of the tension of the spring  $g^3$  upon the arms  $g^2$   $g^2$  of the members G G. To the arms  $g'$   $g'$  of the members G G are pivotally connected jaws H H by means of pivots  $g^5$   $g^5$ . These jaws are pivoted together near their center by a pivot  $h$ , passing through them. Motion of the arms  $g'$   $g'$  in the direction of the arrows of Fig. 2 causes the ends of the jaws to traverse the path indicated by the dotted lines in Fig. 3—that is, the jaws swing downward, drawing together until the points  $b^6$ ,  $g^5$ , and  $h$  are in a straight line, and when the point  $g^5$  passes this straight line the motion changes to one that is together and upward. In other words, the jaws swing downward, keeping a considerable distance apart, and then change their motion to one together and upward and grasp the cable and draw it to the position shown in Fig. 1. This rotating motion of the members G is secured, as before explained, by downward pressure upon the slide F—that is to say, when it is desired to pick up cable the slide is pushed downward, the members G are rotated, the jaws swing downward, grasping the cable and drawing it upward to the position shown in Fig. 1, which is the position of all the mechanism when the car is in motion. When the slide reaches its lower position, the latch  $f^3$  catches upon the pin  $f^5$  on the box and holds the slide in this position, and thereby keeps the jaws in engagement with the cable. When it is desired to drop the cable, the latch  $f^3$  is pressed inward, preferably by a cam above the track. The force of the spring  $g^3$  produces reverse rotation of the members G G and consequent separation of the jaws and raising of the slide. The cable is released, therefore, and all the parts return to the position shown in Fig. 2, wherein the box is shown as being placed in position



on the track. I consider this a particularly desirable form of cable-grasping mechanism, for the reason that the jaws are normally apart, and they swing downward, converging  
 5 meanwhile upon the normal position of the cable. Even if the cable is some distance out of its proper position the jaws will meet it, pull it into the normal position, grasp it, and raise it, as heretofore described. There  
 10 is another advantage in this type of construction in that it is not necessary to have any extra tension upon the cable at the points of releasing it from engagement with the jaws. For this reason the cable can be dropped at  
 15 any point on the track where a suitable latch-releasing mechanism is provided, and no abnormal relation is required between the positions of the cable and the track.

On the slide F is a backwardly-extending  
 20 pin  $f^6$ , as shown in Figs. 7 and 8, and in the front portion of the cover C is a notch  $c^8$ , so arranged that when the slide F is in its upper position the slot and the pin are equidistant from the hinge  $c'$  of the cover. Therefore when  
 25 the cover is opened, the slide being in its proper position, the slot  $c^8$  will pass over the pin  $f^6$ , permitting the cover to be opened. When, however, the slide is down in the position shown in Fig. 1 and the car is in motion, the pin and the slide occupy the relative positions shown in Fig. 1, and the cover cannot be opened. The spring and latch of the cover, which have been heretofore described, are normally quite sufficient to keep  
 35 the carrier closed; but great annoyance has been caused in systems of this kind owing to the fact that the spring and catch occasionally jar loose and the contents of the box are scattered broadcast through the store. My  
 40 device effectually prevents anything of this sort.

I realize that considerable changes can be made in the details of this construction, and I do not intend to limit myself to the specific  
 45 form herein set forth.

Having now fully explained my invention, I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the  
 50 combination with a suitable box, of two downwardly-projecting hooks adapted to embrace said rails and to hold said car permanently upon them, means for varying the distance between the hooks to permit said box to be  
 55 removed and replaced, and suitable means for holding said hooks normally in the position of engagement with said rails, substantially as described.

2. In a device of the class described, the  
 60 combination with a suitable box having downwardly-projecting lugs adapted to guide the box, of two downwardly-projecting, laterally-moving hooks adapted to embrace said rails and hold said car permanently on them and  
 65 adapted to be separated to permit said car to be removed from and replaced upon said rails and a suitable spring adapted to keep

said hooks normally together and in engagement with said rails, substantially as described.

3. In a device of the class described, the  
 70 combination with a suitable box having downwardly-projecting lugs adapted to engage the rails upon which said box slides and guide it upon them, of two laterally-movable, downwardly-extending hooks, provided with inwardly-extending portions adapted to embrace the rails and keep said box permanently upon them, said hooks being capable  
 75 of relative movement to permit the box to be removed from and placed upon said rails, said inwardly-extending portions having beveled surfaces whereby downward pressure upon said box with reference to said rails, will move said hooks and permit the box to  
 80 be placed upon the rails and suitable means for keeping said hooks in their normal position, substantially as described.

4. In a device of the class described, the  
 85 combination with a suitable metallic box and a bottom thereon, of suitable lugs projecting downwardly from the sides of the box, beyond the bottom thereof and adapted to guide said box on suitable rails, substantially as described.

5. In a device of the class described, a box, B, having side pieces,  $b$ ,  $b$ , recurved at the bottom to form slotted lugs,  $b'$ ,  $b'$ , and a bottom piece,  $b^3$ , having downwardly-extending  
 90 portions,  $b^4$ ,  $b^4$ , secured within the slots in said slotted lugs, in combination with a suitable non-metallic plate, D, secured to the bottom of said box between the lugs,  $b'$ ,  $b'$ , and adapted to slide upon suitable rails, substantially as described.

6. In a device of the class described, the  
 95 combination with a suitable box and cover thereon, of a non-metallic plate, D, secured to the bottom thereof, said plate having a centrally-grooved slot,  $d$ , suitable hooks, E, projecting downward and from the sides of said box and having inwardly-projecting flat  
 100 portions,  $e$ , running in the slot,  $d$ , suitable downwardly-stamped tongues in said portions,  $e$ , running in the groove in said slot and adapted to limit the outward motion of said hooks and a suitable spring connected to said tongues and running in the groove of said slot and adapted normally to hold said  
 105 hooks together, substantially as described.

7. In a device of the class described, the  
 110 combination with a box adapted to run on suitable tracks, of a vertically-movable slide upon the front of said box, cable-engaging jaws suitably connected thereto, means for holding said slide normally in an upper position with respect to said box and said jaws normally apart, said jaws being adapted to swing downward and grasp a cable when said slide is depressed, substantially as described.

8. In a device of the class described, the  
 115 combination with a box adapted to run upon suitable rails, of a slide vertically movable upon the front of said box, cable-engaging



jaws, means of connection between them and said slide, and means for holding said slide normally in an upper position with respect to said box and said jaws normally apart, said jaws being adapted to spring downward and grasp the cable when said slide is depressed and means for locking said slide in a lower position, substantially as described.

9. In a device of the class described, the combination with a box adapted to run upon suitable rails, of rotatable members pivoted upon the front of said box, cable-engaging jaws connected to said members and pivoted together, means for holding said rotatable members in a normal position with respect to said box, in which position said jaws are raised with respect to said box and separated and means whereby said members can be rotated in order to close and depress said jaws, substantially as described.

10. In a device of the class described, the combination with a box adapted to run upon suitable rails, of two members rotatably pivoted upon the front of said box, a spring connecting two eccentric portions of said members and adapted to normally maintain a certain relative position between them wherein their pivotal points, the points of connection of said spring and said spring itself form a straight line, and cable-engaging jaws pivoted upon each of said rotatable members, said jaws being pivoted together between their ends, and means for simultaneously rotating said members against the force of said spring, thereby lowering and closing said jaws, and means whereby said members can be secured in this position when desired, substantially as described.

11. In a device of the class described, the combination with a box and cover thereon adapted to run upon suitable rails, of two rotatable members pivoted upon the front of said box, a spring connecting two eccentric portions of said members and adapted to hold them in a normal position, two cable-engaging jaws pivoted to said rotatable members, said jaws being pivoted together and normally in a separated position, a slide upon the front of said box, engaging said rotatable members, and adapted, by its depression, to rotate the same and thereby close said jaws, substantially as described.

12. In a device of the class described, the combination with a box adapted to run upon suitable rails, of two rotatable members upon the front of said box, a spring connecting two eccentric portions of said members and adapted to hold said members in a position where their centers and the connection-points are in line, cable-engaging jaws pivoted upon said rotatable members, said jaws being pivoted together and normally separated and raised with respect to said box, projecting pins upon said members, a movable slide upon the front of said box, slotted to engage said projecting pins, said slide being adapted, by depression, to rotate said members against

the pull of said spring and to close and lower said jaws, substantially as described.

13. In a device of the class described, the combination with a box, adapted to run upon suitable rails, of members, G, G, pivoted upon the front of said box, each of said members having three projecting arms substantially equidistant from each other, a spring connecting two of said arms, cable-engaging jaws pivoted to two of said arms and pivoted together, said jaws being normally separated and raised with respect to said box, projecting pins upon the third arms, a slide upon the front of said box adapted to engage said pins, and adapted, by depression to rotate said members against the pull of said spring, thereby lowering and closing said jaws, substantially as described.

14. In a device of the class described, the combination with a box adapted to run on suitable tracks, of members, G, G, rotatably pivoted upon said box, each of said members having three radial arms, a spring connecting two of said arms, cable-engaging jaws pivoted to two of said arms and pivoted together, said jaws being normally separated and raised with respect to said box, a slide vertically movable with respect to said box and engaging said third arms and adapted, when depressed, to lower said jaws, and spring them together upon the cable, and a suitable latch upon said slide adapted to lock it in its lower position, thereby holding said jaws together, substantially as described.

15. In a device of the class described, the combination with a box adapted to run on suitable rails, of movable members, G, G, upon the front of said box and having radial arms,  $g, g, g', g', g^2, g^2$ , a spring connecting said arms,  $g^2, g^2$ , adapted to hold them in line, cable-engaging jaws, H, H, pivotally connected to said arms,  $g', g'$ , said jaws being pivoted together and normally separated and raised with respect to said box, a yoked slide, F, upon the front of said box, slotted in its lower portions, projecting pins upon the arms,  $g, g$ , adapted to engage said slots, said slide being adapted, by its depression, to rotate the members, G, G, and thereby lower and close the jaws, H, H, and a latch upon said yoked slide, F, adapted to hold it in its depressed position and therefore to hold said jaws together, substantially as described.

16. In a device of the class described, the combination with a box, adapted to run on suitable rails, of cable-engaging jaws suitably secured to said box, said jaws being normally separated in open position and raised with respect to said box, the ends of said jaws being adapted to swing downward, to sweep together substantially in the line of the center of said box, and to grasp a cable and draw it upward a slight distance, substantially as described.

17. In a device of the class described, the combination with a box and cover thereon, said cover being provided with a suitable slot



in one of its edges, of a suitable movable member upon the front of said box adapted to operate a cable-engaging mechanism by its depression and a projecting pin upon said  
5 member, adapted to lock said cover down upon said box when said member is in its lower position and to permit said cover to be opened when said member is in its upper position, substantially as described.

In witness whereof I have hereunto set my hand, at Chicago, in the county of Cook and State of Illinois, this 22d day of March, A. D. 1902.

WILLIAM L. CHURCHILL.

Witnesses:

CHAS. O. SHERVEY,  
S. BLISS.