

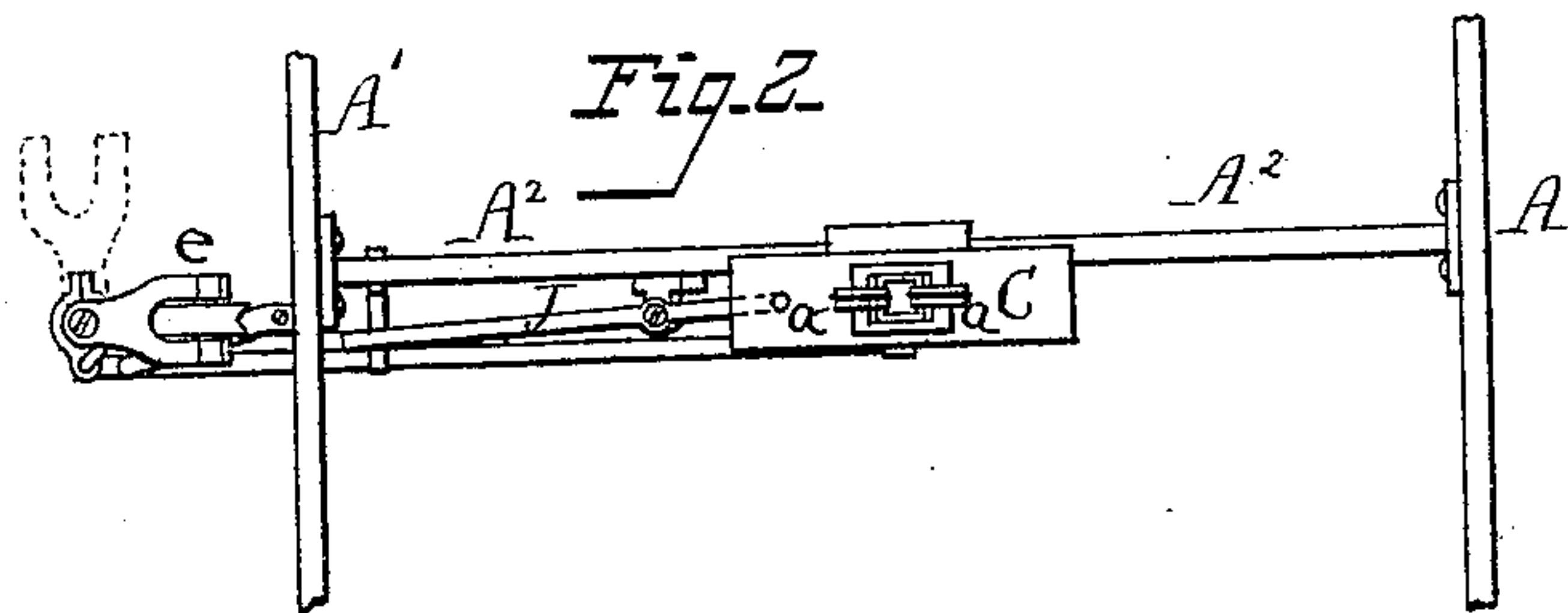
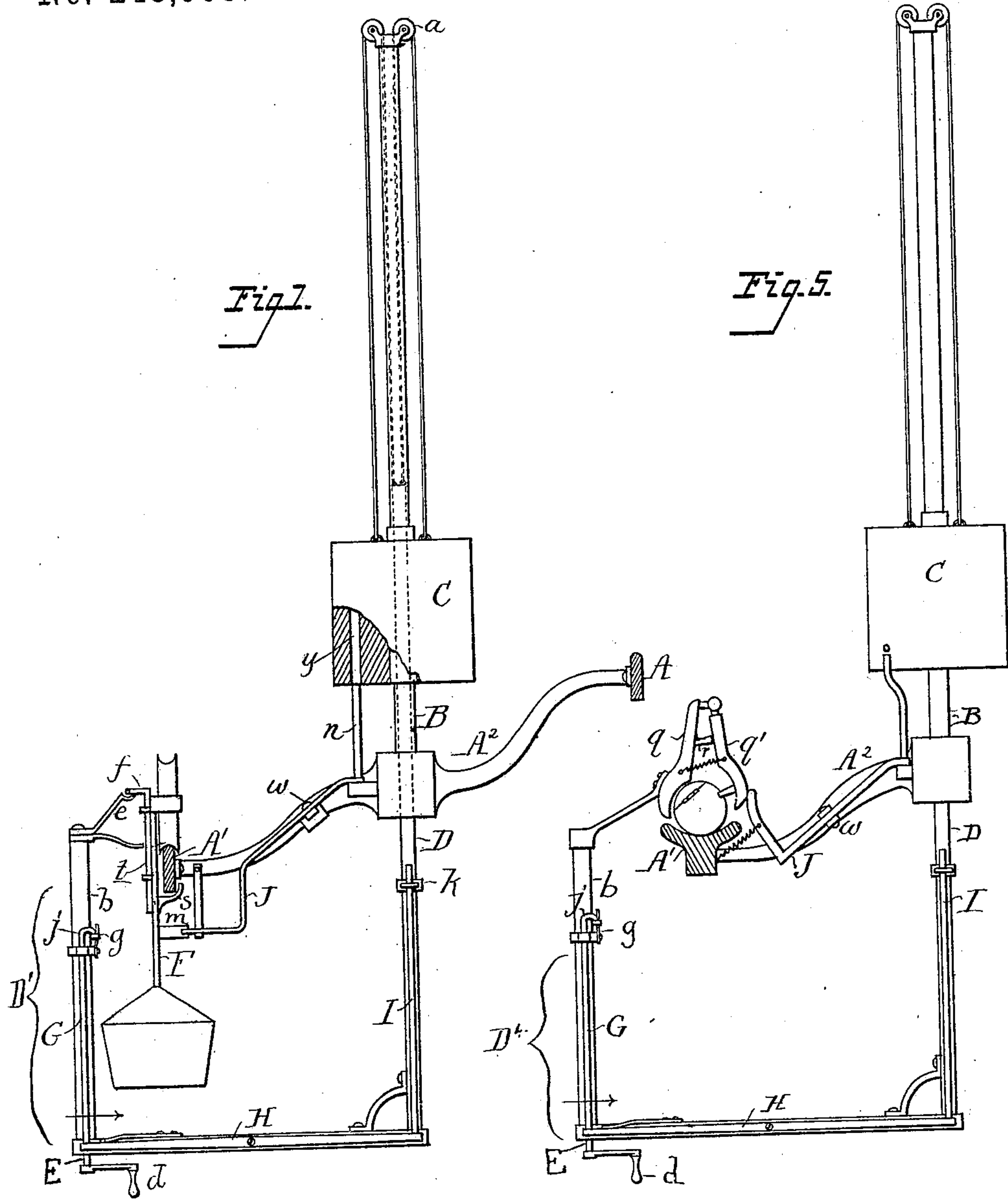
(No Model.)

2 Sheets—Sheet 1.

J. C. WHITE.  
STORE SERVICE APPLIANCE.

No. 248,968.

Patented Nov. 1, 1881.



Attest:  
Courtney & Cooper,  
J. W. McCarty.

J. C. White  
By his atty  
Charles E. Foster

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

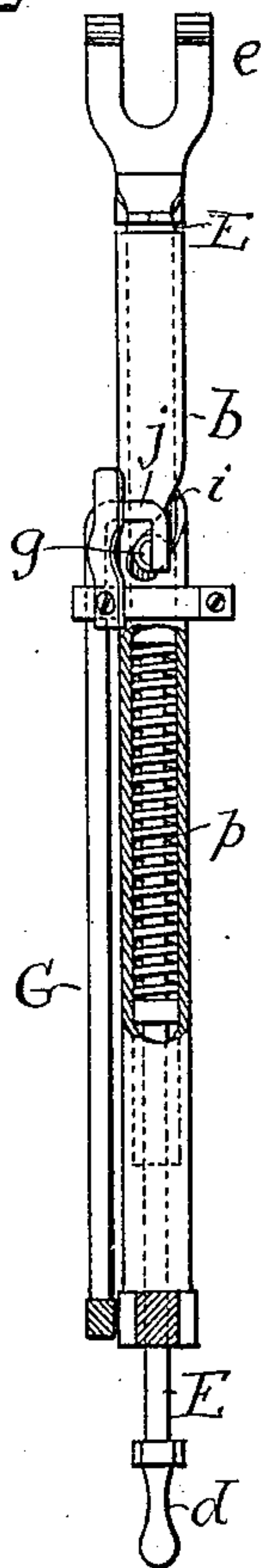
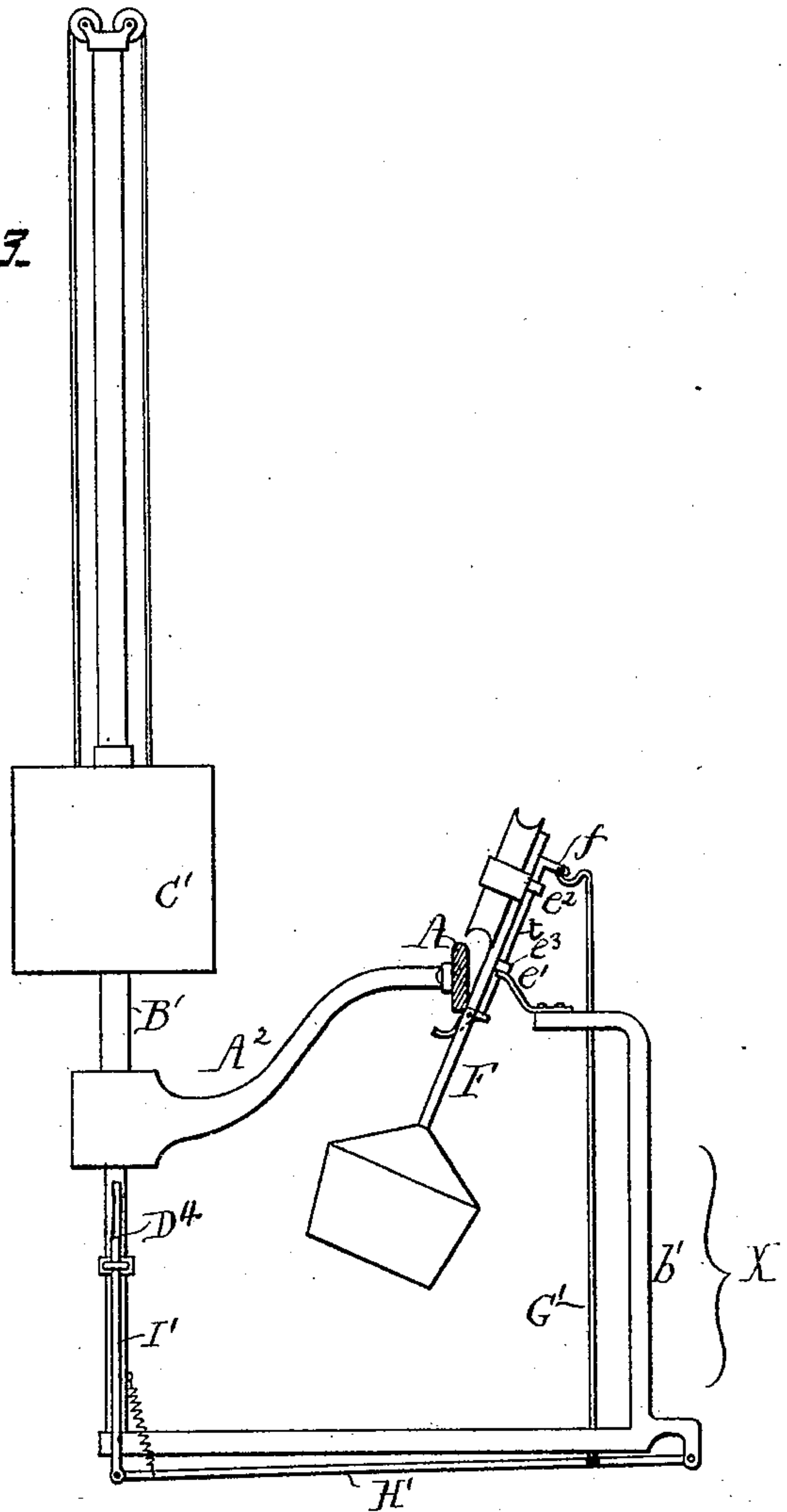


Fig. 3.



Attest:  
Courtney A. Cooper.  
J. O. M. Cleary

J. C. White  
By his atty  
Charles E. Foster



# UNITED STATES PATENT OFFICE.

JOSEPH C. WHITE, OF NEW YORK, N. Y., ASSIGNOR TO THE AUTOMATIC  
PARCEL DELIVERY COMPANY, OF SAME PLACE.

## STORE-SERVICE APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 248,968, dated November 1, 1881.

Application filed March 14, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH C. WHITE, of the city, county, and State of New York, have invented certain Improvements in Store-Serv-  
5 ing Appliances, of which the following is a specification.

My invention has for its object to facilitate the removal and replacing upon their tracks of the cars or carriers used in store-service sys-  
10 tems; and it consists of certain means, hereinafter fully set forth, whereby a car is automatically arrested at its destination and lifted from the track, and whereby it may be replaced automatically.

15 In the drawings, Figure 1 is a side view of an apparatus illustrating means for removing the cars. Fig. 2 is a plan of Fig. 1. Fig. 3 is side view of replacing appliances. Fig. 4 is a detached view of parts of the mechanism, part-  
20 ly in section; Fig. 5, a modification.

In store-service apparatus now in use where the carriers traverse ways and are arrested each at its destination there is liability, when  
25 business is active, if there is delay in removing a carrier, of blocking the whole track. It is also difficult where the track is at a distance above the counter to replace a carrier thereon.

My invention consists in means for auto-  
30 matically lifting the carriers from and placing them on the track, thereby preventing blocking of the tracks and facilitating the operations.

The shifting apparatus consists, essentially, of a holder adapted to catch upon the carrier or some part thereof, a trip arranged and con-  
35 structed to be struck by the particular carrier to be arrested at that point, and to release devices whereby the carrier will be lifted from the track, and appliances whereby the carrier will then be moved away from the track.

40 The construction of these devices will, of course, vary with the special form of carrier and character of apparatus used; and I contemplate the use of different modifications, all embodying the same idea; and Figs. 1 to 4 il-  
45 lustrate devices which I have found useful in connection with rail and car systems, and in Fig. 5 those adapted for use with a trough-and-ball system.

In Figs. 1 to 4 the frame consists of a cross-  
50 bar,  $A^2$ , and a hollow standard or tubes, B or B', upon which slides a weight, C or C', connected by one or more cords passing over roll-

ers  $a$  to the upper end of a bar, D, sliding in such tube. The two standards and their ad-  
55 juncts may be arranged side by side or at different points, the first being used in removing the carriers, the last in replacing them. The cross-bar  $A^2$  is attached at the ends to and carries, or is carried by, the rails A A', the former constituting the way to the main desk  
60 and the latter the return-way.

To the lower end of the bar D is connected the lower end of an L-shaped arm, D', the ver-  
tical portion  $b$  of which is tubular, to receive  
65 a rod, E, terminating at the lower end in a handle,  $d$ , and at the upper end in a hooked finger,  $e$ , adapted to catch a staple or loop,  $f$ , on the carrier F. The rod E carries a stud,  $g$ , which  
70 extends through a spiral slot,  $i$ , in the tube  $b$ , so that when the rod is turned in the direction of its arrow it will also be lifted. A spring,  
75  $p$ , wound round the rod, tends to turn it so as to carry the finger  $e$  to the position shown in dotted lines, Fig. 2.

In guides at the side of the tube  $b$  slides and  
75 turns a rod, G, which, at its upper end, terminates in a hook,  $j$ , adapted to catch and hold the lug  $g$ , but so beveled that when the lug descends in its slot the hook will be turned by  
80 contact with the lug out of the way until the lug passes, when it will resume its position. The rod G is connected to a lever, H, pivoted to the lower piece of the arm D', and jointed at the outer end to a rod, I, sliding in guides  
85 at the side of the bar D, its upper end projecting slightly above a stop,  $k$ , on said bar. The weight C will slightly overbalance the weight of the frame consisting of the bar D and its  
90 attachments, together with that of a car.

A trip-lever, J, pivoted at  $w$  to the cross-  
90 piece  $A^2$ , is constructed and arranged so as to be struck by the stop-pin  $m$  of the car, and arrest its motion, and at the same time release the weight C, so that it will lift the whole frame supported by said weight. Thus the lever J  
95 may terminate in a pin,  $n$ , the end of which bears upon the bottom of the weight C; but when the lever is vibrated it slips below a recess,  $y$ , so that the weight can descend.

The end of the trip-lever may bear upon a  
100 stud or other bearing at the side of the weight, instead of upon the bottom, with like results.

The stop-pins  $m$  are so arranged that only those of the cars to be arrested will strike the



lever J. As a pin strikes the lever the car is stopped, the end of the lever comes below the hole *y*, the weight C descends, raising the frame, and the finger *e*, rising with the frame, catches the staple *f* and lifts the car from the track. As the frame continues to rise and completes its movement the end of the rod I strikes the cross-piece A<sup>2</sup> or a stud thereof and is depressed, tilting the lever H, raising the rod G releasing the stud *g*, so that the rod E will be turned by its spring, and, rising as the stud traverses its groove, will further lift the car and swing it to the position shown in dotted lines, Fig. 2, out of the way of other cars, which will then pass along the track. I contemplate the use of other devices for actuating the catch device as the frame completes its movement. For instance, a cord wound round the rod E and tightened to turn the latter at the proper moment, or other appliances may be employed. The frame is then drawn down by a cord or otherwise (the weight C rising) until the car can be lifted off of its catch by hand, when, on being released, the frame will ascend, the parts taking their first positions. The carrier is thus arrested and lifted automatically from its way.

It will be obvious that different trip and catch devices may be used without departing from the essential features of my invention. For instance, where ball-carriers are used the catch device may be a clamp consisting of jaws *q q'*, drawn together by a spring, but kept apart by a stop or stud, *r*, until a ball striking a pin on one of the jaws carries it past the stop, when the spring will close the jaws on and catch the ball. The movement of the jaw *q'*, releasing the end of the lever J, permits the weight C to descend and causes the frame to rise, and the ball is swung out of the way, as set forth in reference to the device before described.

The replacing device consists of a frame, X, having a rod, D<sup>1</sup>, carrying a vibrating lever, H', connected to vertical sliding rods I' G'. The end of the arm *b'* of the frame X terminates in a hook, *e'*, adapted to catch upon the cross-bar *e<sup>3</sup>* of the carrier, and the end of the rod G' also terminates in a hook, *e<sup>2</sup>*, which will catch upon the staple *f*, thereby holding the carrier in the inclined position shown in Fig. 3. The carrier is placed in this position after the frame X has been drawn down, and after the frame is released the weight C' will elevate it with the carrier until the end of the rod I' strikes the cross-bar A<sup>2</sup>, when the staple *f* will be released and the carrier will swing to a position with its wheel above the rail A', when a slight downward pull of the frame X will carry the finger *e'* away from the cross-piece *e<sup>3</sup>* and permit the carrier to pass onward.

This device will be modified according to the character of the carrier. For instance, when ball-carriers are used they may be held in scoops, which will be tilted by suitable devices to direct the ball into the trough; or, if the ball is held by jaws, the latter will be opened when the ball is above the trough. A

desirable construction of car to use in this connection is one provided with a retaining-finger, *s*, pivoted to the frame, and with a slide, *t*, depressed by a spring or by its weight, and when down striking the end of the finger and holding it in a position to lock the carrier to the rail, as shown. The slide *t* carries the staple *f*, so that when the latter is raised by the catch device *e* the finger *s* will turn down and unlock the car from the rail. When the car is placed on the delivery-frame X the catch-rod G' tends to keep the slide *t* up until the pulley of the car is above the return-rail, when the descent of the rod will liberate the car and permit the finger to assume its locking position.

I do not claim the car as my invention.

In some cases I propose to use springs in place of the weights, and pivoted instead of sliding frames, the result, however, being the same.

Without, therefore, limiting myself to the special devices shown, I claim—

1. The combination, with the way of a store-service system, of a movable frame provided with appliances for catching the carrier, and a trip device, whereby said appliances are brought into operation on the carrier being arrested, substantially as set forth.

2. The combination, with the movable frame and its appliances for catching the carrier, of a weight or spring for bringing said appliances against the carrier, and a trip device arranged to be struck by the carrier, substantially as set forth.

3. The movable frame and its actuating appliances, in combination with a catch device, and with mechanism for turning the latter as the frame completes its movement, substantially as set forth.

4. The combination of the frame and its catch, sliding rod D, counterbalance-weight C, and trip-lever J, arranged to be struck by the car, and provided with an arm arranged to engage with a stop upon the weight C, substantially as set forth.

5. The combination, with the frame, of the sliding and rotating rod E, carrying the catch device, a spring for rotating said rod, a stud, *g*, projecting from said rod, and a catch constructed and arranged to retain said stud and to release the latter as the frame completes its movement, substantially as set forth.

6. The frame, combined with the return-way provided with a support for the carrier and with a catch device for holding the carrier until the same is above the way, and with appliances whereby said catch is then released, substantially as set forth.

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

JOSEPH CARUS WHITE.

Witnesses:

SAML. BURKE,

JACK. L. BURKE.