

No. 813,029.

G. WARD.

PATENTED FEB. 20, 1906.

APPARATUS FOR REMOVING ARTICLES FROM SHELVES.

APPLICATION FILED OCT. 31, 1905.

2 SHEETS—SHEET 1.

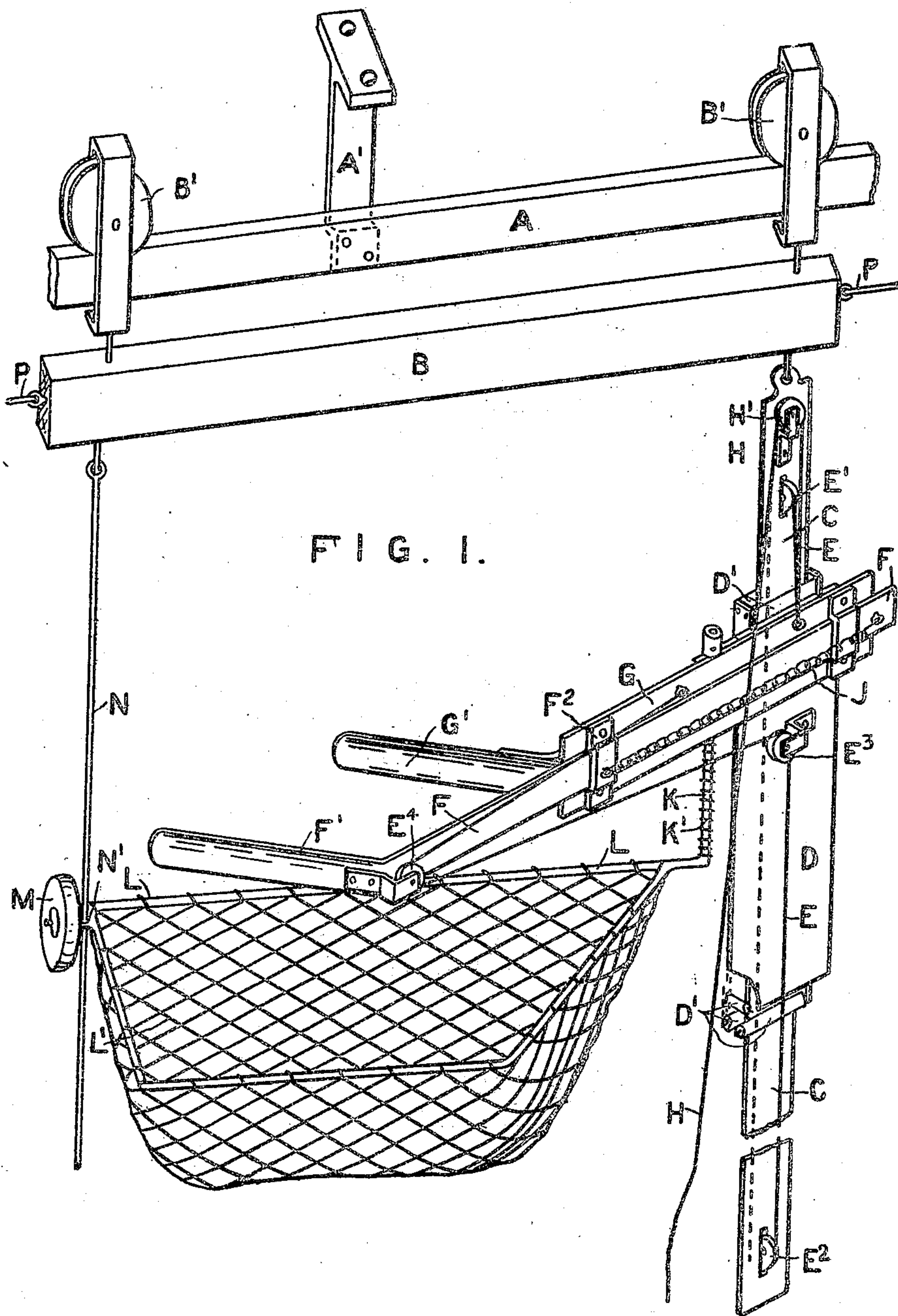


FIG. 1.

WITNESSES:  
Amiller  
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INVENTOR.  
George Ward  
By Richard J. [Signature]  
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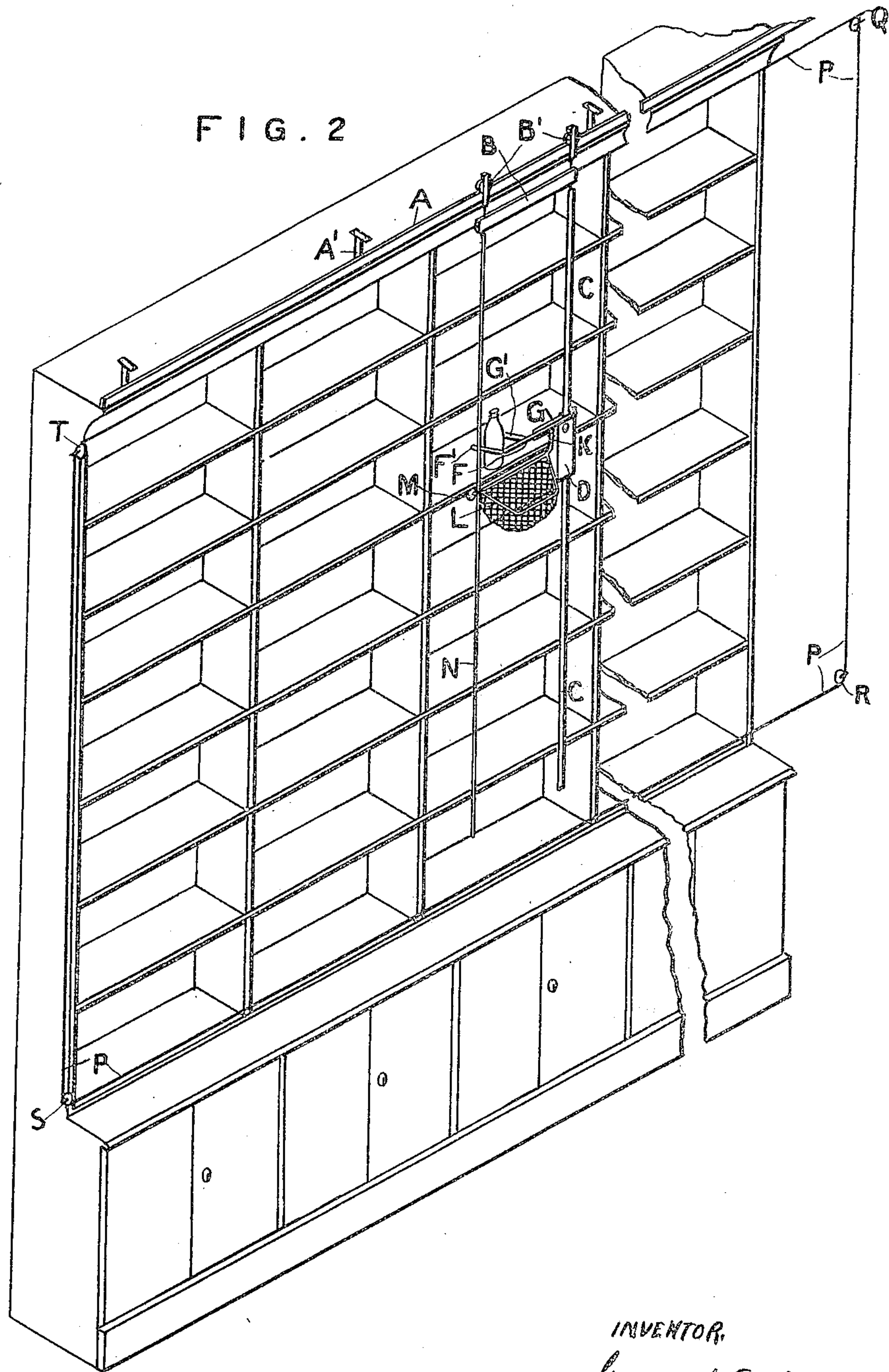
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

GEORGE WARD, OF ROMA, QUEENSLAND, AUSTRALIA.

## APPARATUS FOR REMOVING ARTICLES FROM SHELVES.

No. 813,029.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed October 31, 1905. Serial No. 285,347.

*To all whom it may concern:*

Be it known that I, GEORGE WARD, store-keeper, a citizen of Australia, residing in Wyndham street, Roma, in the State of Queensland, Commonwealth of Australia, have invented new and useful Improvements in Appliances for Removing Articles from Shelves, of which the following is a specification.

10 This invention has for its object the production of a simple appliance by means of which articles, as groceries and other goods, may be removed from elevated shelves, obviating the necessity of a ladder, which is 15 ways more or less in the way. By means of this appliance, which is easy to manipulate, valuable space in a store is saved and the shelving can be carried right up to the ceiling.

20 In carrying out my invention I suspend a flat bar or stretch a wire from end to end in front of and slightly above the top of the shelving, and on this runs a carriage hanging from a pair of pulleys. An endless cord at- 25 tached to this carriage, passing over pulleys suitably placed at the ends (top and bottom) of the shelves, enables it to be easily moved along to where the assistant requires it. Suspended loosely from the carriage is a flat 30 bar of metal on which can travel vertically a saddle provided with suitable guides, a cord passing over a pulley at the top of the flat bar being provided to enable the carrier to be raised or lowered, as desired, or an endless 35 cord passing over pulleys at the top and bottom of the flat bar and attached to the carrier may be used for operating the latter, a spring-clip or other suitable device being provided for holding it in any desired position.

40 In the top of and at right angles to this saddle is the gripping device, consisting of two jaws, one stationary and the other movable, (the latter being operated by a cord passing over pulleys on the carrier and extending 45 downward to within reach of the assistant,) by which articles on the shelves may be picked up. Pivoted to the saddle is a frame carrying a net for catching any article when it has been removed from the shelves. By 50 the use of this net a number of articles can be removed from the shelves before the carrier is lowered to within reach of the assistant. A suitable spring attached to the frame and carrier tends to keep the latter in its normal 55 position relative to the former—that is, the

before-mentioned jaws are kept over the net, it being necessary to turn the jaws toward the article to pick it up. A guide-wire or light rod hanging from the carriage and passing through a hole in the frame keeps the net 60 in its right position, while a roller at the end of the net-frame enables the latter to pass any projecting article.

In order that my invention may be thoroughly understood, I will now describe it 65 with reference to the drawings accompanying this specification, in which—

Figure 1 shows a perspective view of my appliance, and Fig. 2 illustrates its applica- 70 tion in a store.

A is a flat metal rail suspended in a suitable manner (such as by hangers A') a little above and slightly in front of the highest shelf to be operated. The carriage B, with the rollers B', travels on the rail A, which 75 may be laid the full length of the shelves or extended farther, if desired. Suspended freely from the carriage B is a flat bar C, the lower end of which extends to within four feet or four feet six inches of the floor. Free 80 to slide on this bar C is a saddle D, provided at each end with antifriction-rollers D'.

The saddle D is raised or lowered by the cord E, which has one end secured to the top of the saddle D and led over a sheave E' near 85 the top of the bar C and down round a sheave E<sup>2</sup> at the bottom of the bar, thence round the sheave E<sup>3</sup> on the saddle D, round sheave E<sup>4</sup> on the movable arm F, (hereinafter described,) and terminating on the fixed 90 arm G, (also hereinafter described.) It will be seen that by this arrangement of leads the jaws F' G' may also be opened by means of the cord E and that while the appliance is not in use there is no slack cords lying about; 95 but it will be readily understood that a separate cord, as H, attached to the top of the saddle D and passing over the sheave H' to within easy reach of the assistant, may be used for raising and lowering the saddle. 100

Extending from the saddle is the fixed arm G, terminating in a jaw G', set at an angle, (of about fifty-eight degrees.) I find it advantageous to make this jaw concave in section 105 for strength and to help the grip. On the back of the fixed arm G is the movable arm F, sliding in the guides F<sup>2</sup> and terminating in the jaw F', which is set at the same angle as the other jaw, but is padded and finished convex on its gripping-face. The arm F under 110



normal conditions is kept extended, and the jaws therefore open by the spring J, which has one end fastened on the movable arm end F and the other on the fixed arm G. Pivoted  
 5 on the fixed arm G is the spindle K, which carries the net-frame L and net L', the net-frame being extended and provided with a roller M and a hole N' for the reception of the light round bar N, upon which it slides.  
 10 The spindle K is provided with a spring K', so fixed that the normal position of the jaws F' and G' are over the net.

In fixing up this appliance in a store a cord P would be fixed to one end of the carriage B,  
 15 led to the end of the shelves round a sheave Q, thence down to a sheave R, placed at a convenient height from the floor, and along the length of the shelves round a sheave S, and up round a sheave T, and back to the  
 20 carriage B. By this means the assistant can bring the appliance to him instead of having to go and fetch it, as he would have to do in the case of a ladder. Having brought the appliance to the desired position, the assist-  
 25 ant by the cords E or H raises the saddle to the shelf from which he desires to remove some goods. Then holding the cord and bar C with his right hand he slightly twists the bar until the jaws F' and G' are in position to  
 30 grasp the article required, at the same time operating the movable jaw F' until he can firmly grip the article. Then slightly raising the saddle he allows the spring K' to bring the jaws out and drops the article into the  
 35 net and lowers the saddle down and removes the article. The roller M is to prevent the net from catching any obstruction as it travels up and down, and in the event of an article extending out too far the whole ap-  
 40 pliance can be brought away from the shelves by the assistant pulling toward him the bar C and the rod N. In some cases it may be

necessary to fit a horizontal rod for the bar C and rod N to travel on.

It will of course be understood that this ap- 45  
 pliance is intended, primarily, to remove goods from shelves; but it requires no explanation how it can be used without the net for placing goods on a shelf; but such use would only be profitable in isolated cases. 50

Having now particularly described and ascertained the nature of my said invention and the manner in which it is to be performed, I declare that what I claim is—

1. A carriage traveling on an overhead 55  
 rail having loosely suspended therefrom by one end a flat bar carrying on it a saddle capable of being moved up and down on the bar by means of a cord and sheaves, said saddle having on it a fixed arm and a movable arm, 60  
 the latter being operated by a cord and sheaves and a spring.

2. A carriage traveling on an overhead 65  
 rail having loosely suspended therefrom by one end a flat bar carrying on it a saddle capable of being moved up and down on the bar by means of a cord and sheaves, said saddle having a fixed arm and a movable arm, the latter being operated by a cord and sheaves and a spring: a net on a frame piv- 70  
 oted on the fixed arm and kept in its normal position by a spring said net-frame being steadied when in motion by a rod loosely suspended from the carriage passing through a hole in the frame, a roller being also provided 75  
 for passing obstacles.

In testimony whereof I have signed my name to this specification, this 25th day of September, 1905, in the presence of two subscribing witnesses.

GEORGE WARD.

Witnesses:

ALEXANDER ANDERSON,  
 PERCY GORDON DAVERT.