No. 860,149. PATENTED JULY 16, 1907.

A. E. PLATT.

MEANS FOR HANDLING GOODS.

APPLICATION FILED FEB. 11, 1907.

3 SHEETS—SHEET 1.

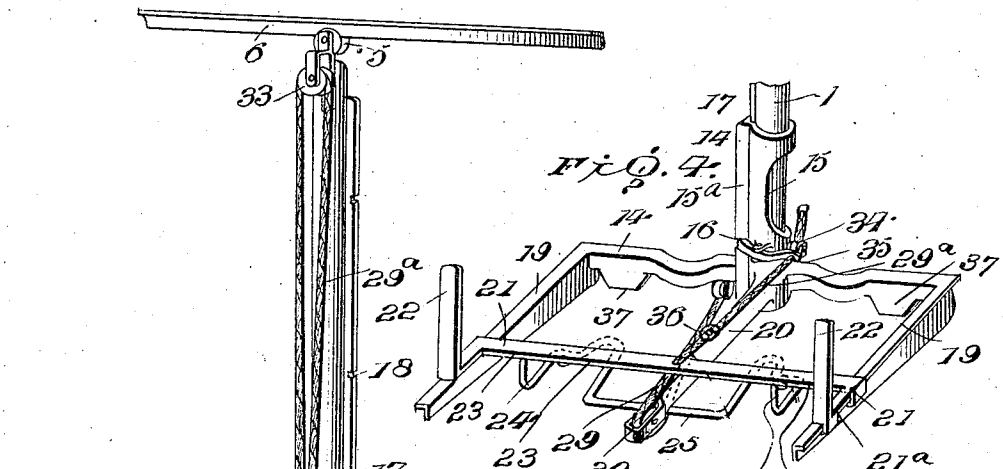

Fig. 1.

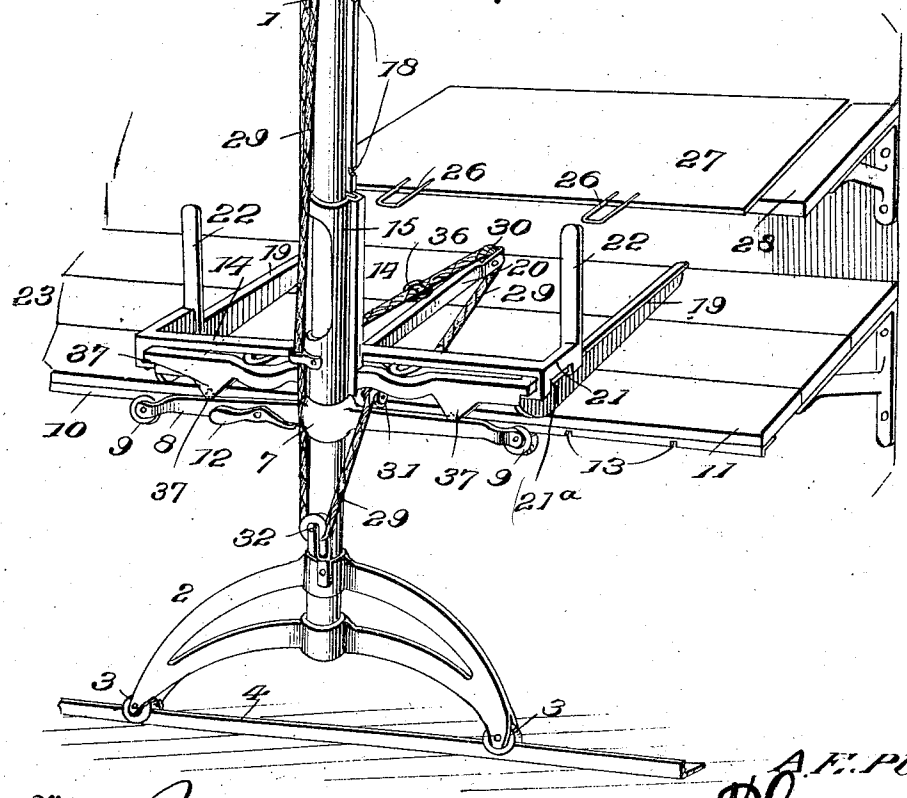

Fig. 2.

Witnesses

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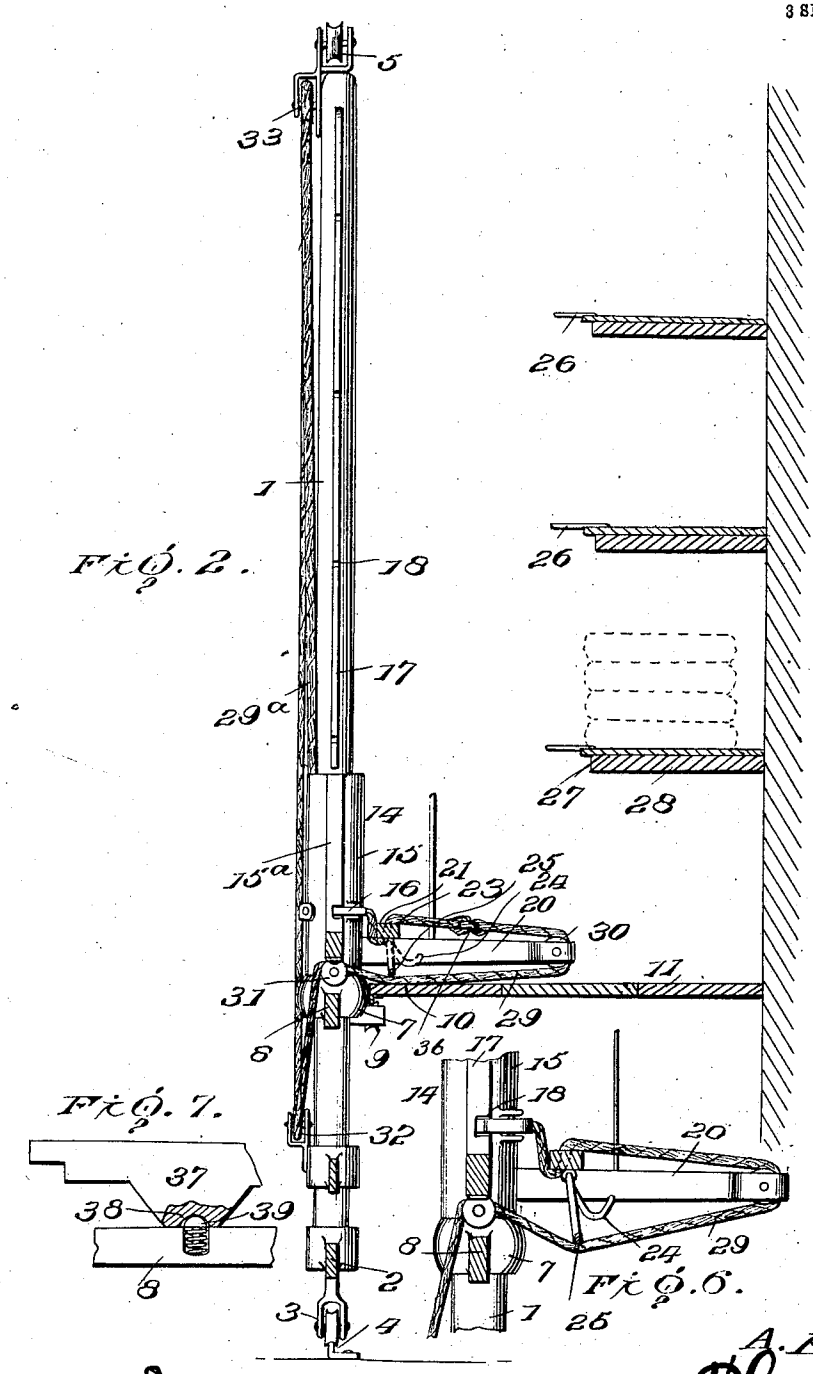

Fig. 2.

Fig. 7.

Fig. 6.

Witnesses

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3 SHEETS—SHEET 3.

Fig. 3.

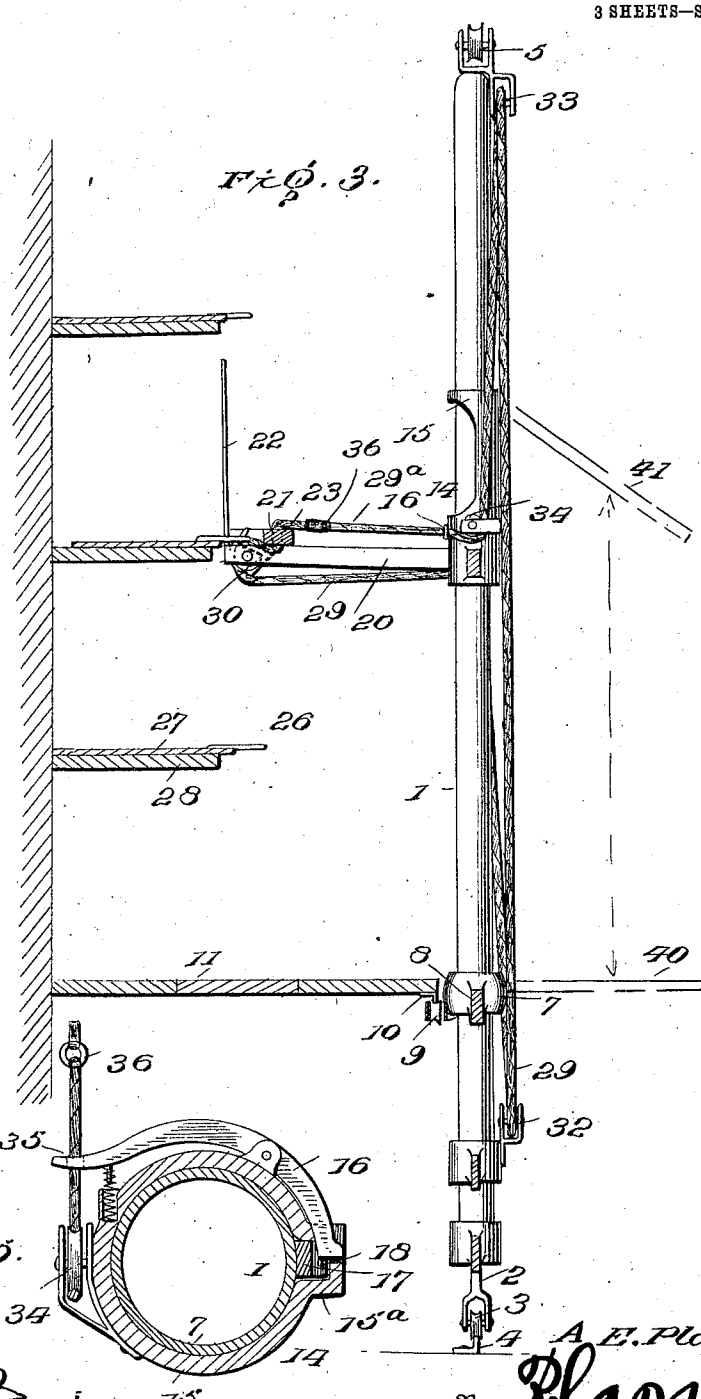

Fig. 5.

Witnesses

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ARTHUR E. PLATT, OF OTTUMWA, IOWA, ASSIGNOR OF ONE-HALF TO C. OSTERTAG, OF OTTUMWA, IOWA.

MEANS FOR HANDLING GOODS.

No. 860,149. Specification of Letters Patent. Patented July 16, 1907.

Application filed February 11, 1907. Serial No. 356,887.

To all whom it may concern:

Be it known that I, ARTHUR E. PLATT, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Means for Handling Goods, of which the following is a specification.

This invention contemplates certain new and useful improvements in store furniture, and relates particularly to improved means for handling goods and for removing goods from more or less elevated shelves and replacing the same, the apparatus being operated from the floor and providing means whereby the shopkeeper may utilize his entire wall space for the reception of goods in shelves one above the other from the floor to the ceiling and without the consequent disadvantage of the use of step-ladders, or other inconvenient and dangerous devices to remove or replace goods from and on the uppermost shelves.

The invention has for its primary object improved means for handling goods whereby the merchant or clerk may, while standing on the floor, remove goods, by means of the mechanical features provided by my invention, from shelves that would otherwise be so high as to be inaccessible, and a further object of the invention is to provide a simple, durable and efficient construction and arrangements of parts to accomplish this purpose, all as hereinafter fully described and particularly pointed out in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of my improved apparatus for handling goods in stores; Fig. 2 is a side elevation thereof with parts in section; Fig. 3 is a similar view from the opposite side and with the parts in a different position from that illustrated in Fig. 2; Fig. 4 is a detail perspective view of the carriage supporting head and other parts secured thereto; Fig. 5 is a horizontal sectional view of the supporting post and sleeve of the carriage supporting head on an enlarged scale; Fig. 6 is a detail side elevation, with parts in section, of the carriage supporting head and carriage; and, Fig. 7 is a fragmentary view of a part of the head illustrating the means for holding said head as against accidental rotation, when the head is moved down to its lowermost position.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

My improved goods handling apparatus comprises a vertical post 1 which is mounted at its lower end within a foot 2, the latter being provided with rollers 3 adapted to travel upon a track 4 running along the floor in front of the series of shelves that are adapted to contain the goods to be displayed and sold. The post 1 carries at its upper end a roller 5 mounted to travel along an elevated rail 6 which is preferably suspended from the ceiling by means of suitable hangers. By this means, the post 1 which is the main support of the apparatus, is mounted to travel back and forth in front of the shelving so as to be brought to the proper point to remove and replace the desired goods. The post 1 is further provided, near its lower end, with a preferably stationary collar 7 which is formed with two oppositely extending arms 8, each one of which carries a roller 9 mounted to travel along another rail 10 which is secured to the outer edge and lower side of the lowermost shelf 11 of the series. One of the arms 8 which, together with the collar 7, constitute a reinforcing guide for the post 1, carries a latch 12 which is preferably pivoted eccentrically, so that its handle portion tends to swing down and its opposite end tends to slide along the track or rail 10 and move automatically up into any one of a series of notches 13 in said track. By this means, the post may be locked or held stationary at the desired point along the shelving.

14 designates a supporting head which is provided with a preferably integral sleeve 15 revolubly and slidingly mounted upon the post 1, and said sleeve carries a latch or dog 16 which is pivoted thereto and is adapted to enter, through a slot in a side of the longitudinal extension 15^a of the sleeve, any one of a vertically extending series of notches 18 in the key-way or spline 17 extending longitudinally of and secured to the post 1. It is to be noted that the spline 17 terminates at its lower end at such an elevation above the sleeve 7, that the sleeve 15, when it is resting upon the sleeve 7, is free from engagement with the spline and may, therefore be revolved around the post. When the supporting head is raised to different elevations on the post 1, the extension 15^a of the sleeve 15 registers with and slides along over the spline or key-way 17, and it is obvious that the supporting head may be held at different elevations by the locking engagement of the dog 16 in any one of the notches 18. The dog 16 is spring-pressed to its operative position, as clearly illustrated in the drawings.

The supporting head 14 embodies two spaced supporting arms 19 and an intermediate and parallel hanger arm 20. A carriage 21 is mounted upon the arms 19 and embodies two angular portions 21^a that are flanged so as to be retained in their sliding movement upon the said arms 19, two upright fingers 22 at the ends of the angular portions 21^a, and a connecting cross bar 23.

A pair of hooks 24 is swung from the cross bar 23, and said hooks are connected together by means of a normally depending rod 25 which extends transversely across the lower side of the hanger arm 20 and is adapted to swing the hooks 24 from normal lower position to an upper, operative position. It is intended that the carriage just described shall be moved along the arms 19 of the supporting head 14 so that the hooks 24 will come into engagement with or move upwardly into loops 26 that are secured to and project forwardly from a false shelf or drawer 27 mounted upon an elevated permanent shelf 28. It is to be understood that each shelf which would not be accessible from the floor without my invention, is supplied with the series of these false shelves or drawers 27 upon which the bolts of goods or the like are directly supported.

In order to manipulate the apparatus from the floor, I provide an actuating cable or rope, which is practically a single rope, but which for the purposes of description I shall divide into two runs designated 29 and 29ª, respectively. The two ends of this practically endless actuating rope are both connected to the cross bar 23 of the carriage. From this point, the run 29 extends over a pulley 30 journaled in the rope in the outer end of the hanger arm 20, thence downwardly and backwardly over a pulley 31 journaled in a hanger depending from the cross bar of the supporting head 14, thence downwardly and around a pulley 32 journaled in the hanger projecting from the foot 2, and thence upwardly along the post and over another pulley 33 journaled at the upper end of said post. At this point, for the purpose of perspicuity, I have divided the rope (although it is practically continuous) and the other run 29ª extends downwardly from the pulley 33, thence around a pulley 34 journaled on the sleeve 15 of the supporting head and thence through an aperture 35 in the handle end of the latch or dog 16, being finally secured at its extremity, as above described to the cross bar 23. Between such extremity and the handle end of the latch 16, this run of the rope is provided with a stop, which may be an enlargement of any kind, such as a knot or a ring 36, said stop being provided so that when the actuated cord is pulled in one direction, said stop may engage with the handle end 16 and move the same against the action of the spring, out of engagement with the notched spline or key-way 17.

As has been above stated, when the supporting head is at the lower limit of its movement, it may be revolved around the post 1. In order to maintain the said supporting head from accidental rotation, I provide the rear cross bar of the supporting head 14 on opposite sides of its supporting sleeves 15 with depending lugs 37, each of which is provided with a small socket 38, and I mount upon one of the arms 8 an upwardly projecting spring-pressed pin 39 adapted to enter either one of the sockets, to hold the supporting head on the post with its arms 19 pointing towards the shelving or away from the shelving, as desired.

When it is desired to remove goods from an elevated shelf, the merchant or clerk will proceed as follows, the shelf 28 being taken as an example for the purposes of illustration: The operator will first move the post along its supporting rails until the desired point along the shelving is reached and will then permit the dog or latch 12 to move into one of the notches 13 which will hold the post stationary during the subsequent operation. He will then pull the actuating cord in one direction by drawing downwardly upon the run 29 which will result in raising the supporting head 14 until its arms 19 are at a slight elevation above the shelf on which the goods are laid. The rope will then be slackened and the latch 16 will catch in the proper notch 18 to throw the arms 19 on a level with the desired shelf. The actuating rope is then pulled in the opposite direction by drawing downwardly upon the run 29ª which will obviously result in sliding the carriage 21 along the arms 19 towards the goods. In this movement, it is to be noted that the tautness of the actuating cord where it crosses the cross rod 25 of the two hooks 24, will swing said cross rod upwardly and consequently carry the hooks 24 upwardly so that they will enter the loops 26. The operator will then continue to hold the run 29 substantially taut, while at the same time he will pull down upon the run 29 and this will move the carriage backwardly again upon the arms 19 and pull the false or portable shelf 27 off of the stationary shelf 28 and carry the goods out upon the arms 19 of the supporting head 14 until the stop 36 shall have come into operative contact with the latch 16. Such contact will result in pulling the latch 16 from operative connection with the notch 18 in which it has been entered, and then, by releasing the run 29, it is obvious that the head 14 may be permitted to slide down the supporting post 1 to a point level with or a little below the shelf 28, or where the sleeve of the head will be supported by the sleeve 7 on the post 1. This will bring the sleeve 15 of the head below the key-way or spline 17 thereby permitting the operator to swing the head half way around the supporting post 1 which will place the goods directly in front of the customer.

In order to replace the goods upon the shelf, the head 14 is swung in the reverse direction around the supporting post 1 until the pin 39 comes into its proper socket 38, which will bring the sleeve 15 in proper registry with the key-way or spline 17. The operator then pulls downwardly upon the run 29 of the actuating rope, until the head 14 shall have been raised high enough to bring its arms 19 a little above the shelf where it is desired to replace the goods, the rope is then released and the head rope dropped to the desired position. The actuating rope is then pulled in the opposite direction by drawing downwardly upon the run 29ª which will slide the carriage outwardly upon its supporting arms 19 and move the false shelf or slide 27 back upon its stationary shelf. Then the run 29 is pulled downwardly and the carriage 21 will slide back towards the sleeve 15 which will not release the latch 16 until entirely back. It is to be understood that the supporting post 1 may be made sectional so that the apparatus may be readily installed and used in rooms with different heights of ceiling.

If desired, I may provide the apparatus with two mirrors 40 and 41, allowing the clerk on the floor to see the grade or quality of goods on the high shelves. The mirror 41 hangs perpendicularly, and can be lifted to an angle of forty-five degrees, thereby allowing the operator to examine the goods through the aid of the mirror 40. The mirror 41 is attached to the head 14 and should be attached far enough up on the sleeve 15 at an angle of forty-five degrees, so that the goods may be re-

flected in said mirror and thence again reflected to the mirror 40. The mirror 41 may be supported by an upright fastened on the upper side of the head 14 and connected to the outer and upper corners of said mirror. The inner and upper corner of said mirror is fastened to the sleeve 15, as shown.

While I have shown and described my improved apparatus as applied to shelving, with slides or false shelves 27 directly supporting the goods, it is obvious that the device may be used with equal efficiency in sliding out and replacing drawers, the loops 26 illustrated being equivalent to handles on said drawers.

Having thus described the invention, what is claimed as new is:

1. In an apparatus of the character described, the combination of an upright supporting post, a head mounted to turn and move up and down on said post, means for elevating said head on the post and for holding said head against rotation in its elevated positions, a carriage movable laterally on said head, a slide adapted to support goods, and means for automatically engaging the carriage with said slide and for moving said slide rearwardly and forwardly on the head.

2. In an apparatus of the character described, the combination of a supporting post, floor and ceiling tracks along which said post is adapted to run, an intermediate track provided with notches, a reinforcing guide connected to said post and embodying oppositely extending arms provided with rollers adapted to run on said intermediate track, a latch mounted on one of said arms and adapted to enter the notches, a spring-pressed pin carried by one of said arms, a head revolubly mounted on said post, means for raising said head on the post, a carriage laterally movable on said head, means connected to said carriage for moving goods on and from said head, and means for moving the said carriage, the said head being provided with sockets 38 adapted to receive the said spring-pressed pin whereby to maintain the head as against accidental revoluble movement.

3. In an apparatus of the character described, the combination of a supporting post, a head movable on said post, said head being provided with a spring-pressed latch, and the post provided with a notched spline, the notches of which are adapted to be engaged by said latch, whereby to hold the head at different elevations on the post, a laterally movable carriage on said head, a slide adapted to contain goods, means for automatically connecting the carriage to said slide, and an actuating cord adapted to raise the head on the post and also arranged to move the carriage back and forth on the head and to automatically effect the engagement and disengagement of the carriage with the said slide and also arranged to automatically release the latch from engagement with the notched spline when the carriage is moved backwardly on the head.

4. An apparatus of the character described, comprising a supporting post, means for supporting said post, a head movable vertically on said post and provided with a spring-pressed latch, the post being provided with a notched spline arranged for engagement with the head and the notches of which are adapted for engagement by the latch, said head embodying spaced arms, and an intermediate hanger arm, a carriage slidably mounted on said spaced arms and embodying a cross bar extending over the hanger arms, swinging hooks suspended from said cross bar, a rod connecting said swinging hooks together for simultaneous movement, a false shelf or slide adapted to hold the goods and provided with a pair of loops arranged for engagement by said hooks, and an actuating cord connected to the cross bar of the carriage and passing forwardly and rearwardly therefrom and downwardly over the hanger arm and across said cross rod, the said cord passing through the handle end of the latch and provided with a stop adapted to engage said handle end to release the latch from engagement with the notched spline, the rope being adapted to be drawn taut as it crosses the cross rod of the hooks whereby to swing said hooks upwardly into operative position for entering the said loops.

5. In an apparatus of the character described, the combination of a supporting post, a head mounted to move vertically on said post, means for elevating said head on the post, a latch adapted to hold the head at different elevations on the post, a carriage laterally movable upon the head, a false shelf or slide adapted to contain goods and provided with loops, swinging hooks carried by said carriage, a cross rod connecting said hooks together for simultaneous movement and arranged to swing said hooks upwardly into engagement with the loops, a hanger arm projecting forwardly from the head and provided at its outer end with a pulley, and an actuating cord secured to the carriage and extending in opposite directions therefrom, whereby the carriage may be pulled by said cord both forwardly and backwardly on the head, one portion of said rope extending over said pulley and underneath the cross rod of said hooks, and another portion of said cord extending rearwardly from the carriage to and through the handle end of said latch and provided with a stop adapted to engage said handle end, whereby to release the latch, as and for the purpose set forth.

6. In an apparatus of the character described, the combination of a supporting post, a head movable vertically on said post means for raising said head on the post, means for sliding goods on to the head, means for holding said head at different elevations on the post, and mirrors arranged to reflect the goods at an elevated position, one of said mirrors being stationary, and the other carried by said head.

7. In an apparatus of the character described, the combination of an upright supporting post provided with a notched spline, said spline terminating above the lower end of the post, a head mounted to turn on said post below the spline and adapted for engagement with the spline when the head is raised, means for raising the head on the post and in engagement with the spline, a latch carried by the head and adapted to enter any of the notches of the spline to hold the head at different elevations on the post, a carriage movable laterally on said head, and means for automatically engaging goods by said carriage and for moving the latter back and forth on said head.

8. In an apparatus of the character described, the combination of an upright supporting post, a head mounted to turn around on the lower end of said post and mounted for vertical movement on said post, means for raising and lowering the head on the post, means for preventing the rotation of said head on the post when the former is at elevated points on the latter, means for holding the head at different elevations on the post, a carriage movable laterally on said head, means carried by said carriage for engaging goods, and means for shifting the carriage back and forth on the head.

9. In an apparatus of the character described, the combination of a supporting post, a head mounted to move vertically thereon, said head being provided with a hanger arm 20, an actuating cord arranged to raise and lower the head on the post, the said hanger arm being provided with a pulley over which said actuating cord passes, a carriage movable laterally on the head, swinging hooks pivotally connected to said carriage, a cross bar connecting said hooks, said cross bar adapted to swing against a portion of the actuating cord or rope, whereby the latter may be drawn taut and swing the hooks into operative position for engaging goods, and a connection between said carriage and said actuating cord or rope.

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

ARTHUR E. PLATT. [L. S.]

Witnesses:
E. M. CAMPBELL,
A. HOLSEY.