

(No Model.)

2 Sheets—Sheet 1.

J. P. WALTON.
SHELVING FOR STORES.

No. 469,289.

Patented Feb. 23, 1892.

Fig. 1.

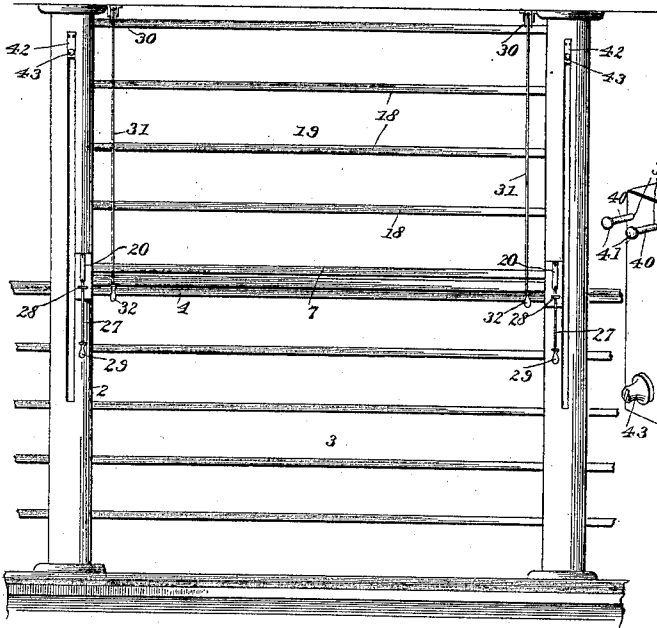


Fig. 6.

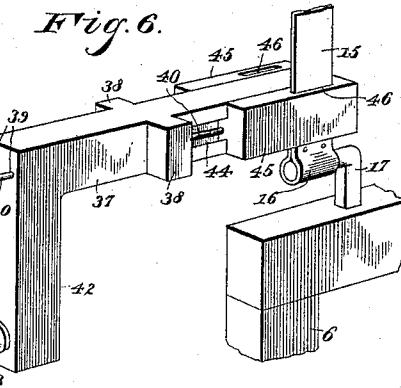


Fig. 9.

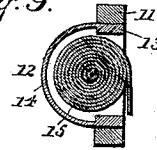


Fig. 3.

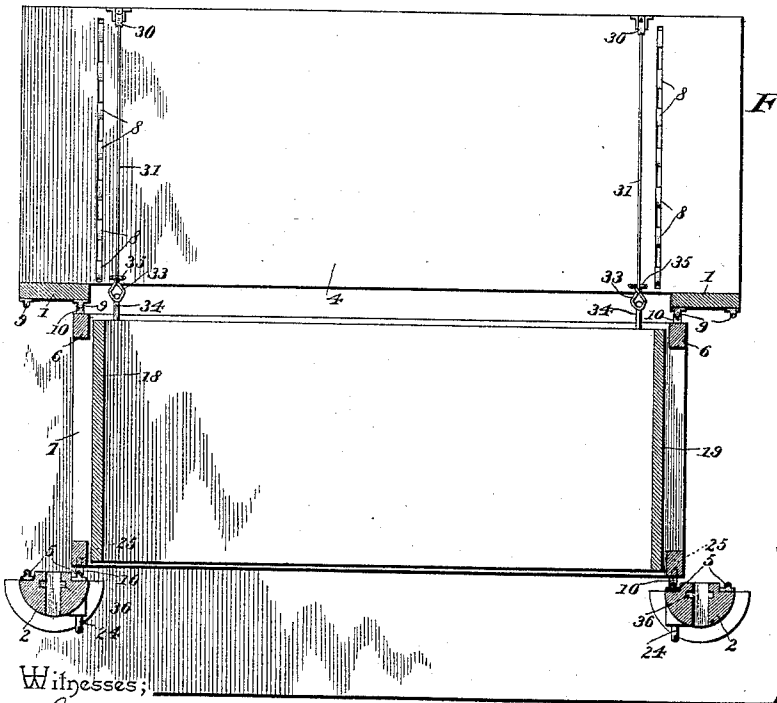
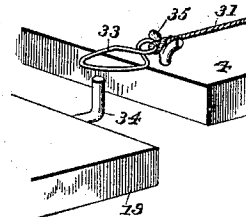


Fig. 8.



Witnesses;

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By *his* Attorneys,

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

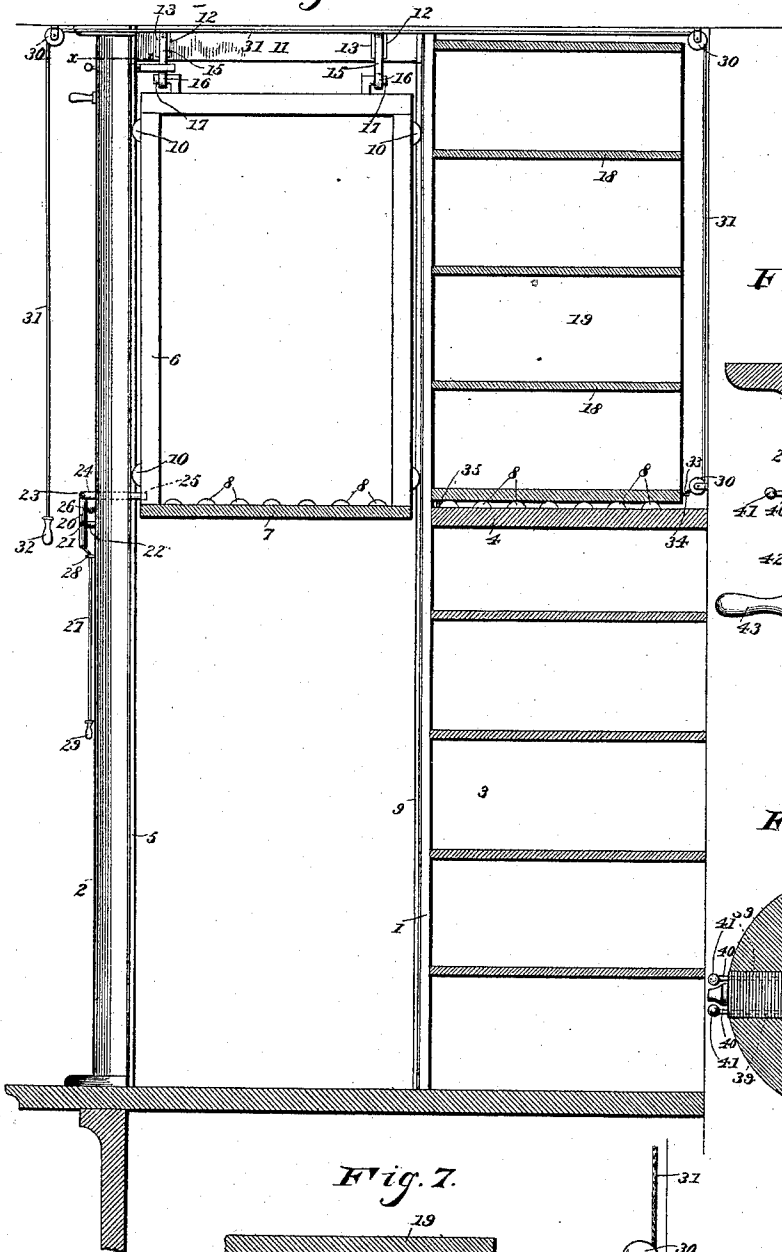


Fig. 4.

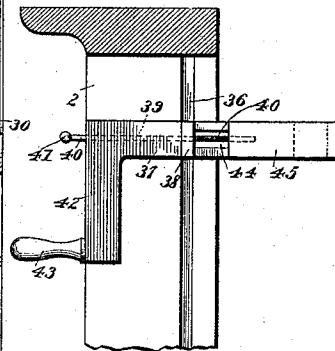


Fig. 5.

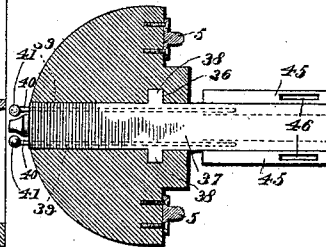
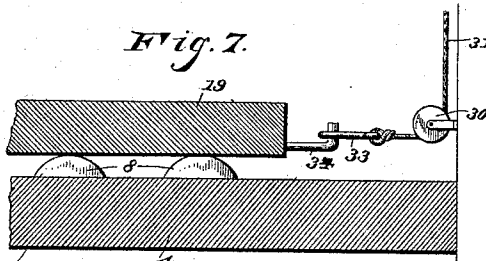


Fig. 7.



Witnesses;

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UNITED STATES PATENT OFFICE.

JAMES P. WALTON, OF DANVILLE, VIRGINIA.

SHELVING FOR STORES.

SPECIFICATION forming part of Letters Patent No. 469,289, dated February 23, 1892.

Application filed August 14, 1891. Serial No. 402,636. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. WALTON, a citizen of the United States, residing at Danville, in the county of Pittsylvania and State of Virginia, have invented a new and useful Shelving for Stores, of which the following is a specification.

This invention relates to improvements in shelving for stores; and the objects in view are, primarily, to utilize the space usually wasted and located between the top of the shelving and the ceiling; to provide the same with sections of removable shelving; to provide a cheap and simple means for aiding in elevating and replacing the same, and for withdrawing said shelving, and for supporting the shelving above the regular shelving and out of the way when not in use.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a transverse section above fixed shelving. Fig. 4 is a vertical section of Fig. 5. Fig. 5 is a transverse section on line *xx* of Fig. 2. Fig. 6 is a detail in section of rear lower corner of movable section. Fig. 7 is a similar view and the section-engaging ring. Fig. 8 is a section in detail of the spring-balance.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the drawings, 1 designates a rear pair of posts, and 2 a front pair, and it will be understood that these pairs are located at intervals throughout the length of the shelving. The rear pairs of posts form the front supports for the stationary shelving 3, the rear edges of which are secured to the wall in the usual manner, and the series is surmounted by the usual crown-piece 4. If desired, the posts mentioned, and hereinafter particularly described, may be omitted, and in lieu thereof ordinary side walls employing the characteristics described in connection with the posts substituted for the latter, though, by reason of the fact that as much light as possible is so very desirable in all retail stores, I prefer the posts.

The front posts are semicircular in trans-

verse section, and near each edge of the same and upon its rear face is secured a vertical track 5, so that each post is provided with two tracks, in which event the adjacent tracks of two adjacent posts will serve for one removable section, as will be apparent.

A section-elevator is mounted for vertical movement between each pair of front and rear posts, and is of a size adapting it to fit between these four posts and of a depth equalling the space between the usual crown-piece 4 of the stationary shelving and the ceiling of the store. Each elevator consists of a pair of opposite rectangular open frames 6, which are connected at their bases by a transverse floor or platform 7, which, when the elevator is in its uppermost position, is about on a level with the upper surface of the crown-piece 4 of the shelving 3. The crown-piece 4 and the floor 7 each have let therein a series of loose rollers 8, for a purpose hereinafter apparent. The front faces of the rear posts 1 are provided opposite the tracks 5 of the front posts with corresponding tracks 9, and between these opposite tracks are located the rectangular frames 6 of the elevator, which frames have journaled in their front and rear edges grooved rollers 10, the grooves of which are designed to ride in the tracks 5 and 9.

The front and rear pairs of posts are connected at their upper ends by transverse bars 11, and seated in mortises formed in the bars near their ends are ordinary spring sash-balances 12. These sash-balances, as is well known, consist of an ordinary securing-plate 13, having a slot at its front end and a housing affixed to its rear side. Within the housing there is coiled upon a suitable shaft a long spring-ribbon 15 and the free ends of these ribbons (there being a pair at each end of each elevator) are provided with rings 16, which rings engage removably with pairs of inverted-L-shaped hooks 17, projecting upwardly from the upper ends of the opposite rectangular side frames of the elevator. The tensile strength of the springs, when thus combined, are more than sufficient to elevate the elevator, and also the movable shelf-section now to be described, when the latter is empty or provided with an ordinary load. In the latter instance, however, the springs are

about capable of counterbalancing the weight of the elevator, the shelf, and load.

The movable shelf-section is simply a series of shelves 18, set within a rectangular case 19, which fits the space between the crown-piece 4 of the stationary shelving and the ceiling, and is mounted loosely for movement in said space upon the rollers of the crown-piece. The movable shelf-section, it will be obvious, may be drawn outwardly from over the stationary shelving upon the platform of the elevator, and, in fact, normally rests upon the same, though, if desired, in a manner hereinafter described, may be pushed rearwardly from the elevator onto the fixed shelving. A lever 20 is pivoted, as at 21, to an arm 22, projecting from the posts 2 near the lower end of the elevator, and to the upper ends of said levers are pivoted, as at 23, inwardly-disposed bolts 24, the inner ends of which are in engagement with openings 25, formed in the front faces of the opposite rectangular side frames of the elevator, whereby the weight of the elevator and the movable shelf-section, with its contents, when upon the elevator are supported by the bolts, and the springs 12 are relieved of the same. Small springs 26 are interposed between the upper ends of the levers 20 and the posts 2 and serve to normally press the bolts inwardly for the described engagement. Short cords 27 are connected to the lower free ends of the levers, pass inwardly through guide-eyes 28, and terminate in suitable hand-pulls 29 within easy reach of the salesmen.

Pulleys 30 are located upon the ceiling in front of the posts 2 at the juncture of the wall and ceiling and immediately above the rear edge of the crown-piece 4 upon the wall. Over these pulleys are passed light ropes 31, and at their outer ends, in front of the posts, depend within easy grasp of the salesman and are there provided with hand-pulls 32. The rear ends of the ropes 31 are provided with rings 33, which are designed to engage L-shaped hooks 34, projecting from the rear lower edge of the case 19. When the elevator supports the case 19 and is in its raised position, by drawing upon the pulls 32 it will be obvious that said case 19 may be drawn rearwardly upon the fixed shelving. When the casing 19 is drawn forwardly, the rings 33 rest upon V-shaped supports 35, and when the elevator is lowered it will be obvious that the hooks 34 will disengage from the rings, which will thus be held in position for re-engagement with the hooks when the elevator is re-elevated.

Mortises 36 of T shape are formed in the rear sides and at the upper ends of the posts 2, and in the same there is mounted a transverse bar 37, provided at opposite sides with fins 38 for fitting the opposite recesses of the mortise. The opposite ends of the bars 37 project beyond the faces of the posts, and each bar is provided with a pair of longitudinal bores 39, in which is mounted a pair of reciprocating rods 40, terminating outside of

the bar in knobs 41. The outer end of the bar is dropped, or, in other words, the bar is L-shaped, forming a depending portion 42, having a handle 43. In rear of the fins 38 dovetailed slots or grooves 44 are formed in the opposite sides of the bar 37, and the same receive correspondingly-shaped ribs formed on the inner faces of a pair of opposite blocks 45, each of which is connected with a rod 40, by which said blocks may be slid back and forth in the groove 44, for a purpose hereinafter apparent. The blocks are also provided with vertical slots 46, and through the same pass the front springs, as shown. The object and purpose of these devices are to decrease or diminish the spring-power—as, for instance, when the movable shelf-section is not loaded with wares, or such wares are of not very great specific gravity. In such instance, in order to decrease the spring-power, the knobs 41 are grasped and withdrawn, and in so doing withdraw the blocks 45. The latter, engaging the springs, withdraw the rings at the lower ends thereof from engagement with the hooks 17 of the elevator. The elevator may be now raised and lowered and but two springs employed. It will be obvious that the elevator and disengaged springs may be readily re-engaged by pushing the rods inwardly.

This being the construction, the operation is as follows: A salesman desiring to gain access to the upper or movable shelf-section reaches up and draws upon the same, such drawing being sufficient, in addition to the weight of the elevator, shelf-section, and its contents, to overcome or counterbalance the tensile strength of the springs. The elevator having been lowered and the contents of the shelf examined, it is simply necessary, in order to return the elevator, to give the same a start upwardly, and this aid to the springs will cause the latter to return the parts. It will of course be understood that previous to any lowering of the elevator the bolts 24 are withdrawn through the medium of the hand-pulls 29 and their connections. So, also, will it be understood that when elevated the pulls 32 may be grasped and the movable section returned to its position upon the stationary shelving.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a cheap and simple means for increasing the capacity of the shelving by the utilization in a convenient manner of the usually lost space existing between the top of the ordinary shelving and the ceiling.

It will be seen that the elevator mechanism may be used in connection with the stationary shelving for the purpose of raising boxes and packages of merchandise to the top of the stationary shelving. I will therefore have it understood that I do not limit my invention, strictly, to the use of the removable shelving, but consider boxes and packages of merchandise as the equivalent of the same.

Having described my invention, what I claim is—

1. The combination, with the stationary shelving terminating below the ceiling of a compartment and combining therewith to form a space, of a movable shelf-section interposed between the ceiling and the stationary shelving, ways located in front of the shelf-sections, an elevator mounted for vertical movement in the ways and adapted to receive the movable shelf-section, and means for raising and lowering said elevator, substantially as specified.

2. The combination, with the stationary shelf-section combining with the ceiling to form an intermediate space and a movable shelf-section mounted upon the stationary shelf-section within said space, of vertical ways located in front of the sections, an elevator mounted for vertical movement in the ways and adapted to receive the movable sections, and counterbalancing-springs connected with the elevator, substantially as specified.

3. The combination, with the stationary shelf-section combining with the ceiling to form an intermediate space and a movable shelf-section mounted upon the stationary shelf-section within said space, of vertical ways located in front of the sections, an elevator mounted for vertical movement in the ways and adapted to receive the movable sections, and springs and means for disconnecting one or more of said springs from the elevator, substantially as specified.

4. The combination, with the stationary shelf-section combining with the ceiling to form an intermediate space and a movable

shelf-section mounted upon the stationary shelf-section within said space, of vertical ways located in front of the shelves, an elevator mounted for movement in the ways and adapted to receive the movable shelves, means for raising and lowering said elevator and for locking the same in its raised position, substantially as specified.

5. The combination, with the stationary shelving and the superimposed removable shelving, of the vertical ways located in front of the shelving, the elevator mounted in the ways and adapted to receive the movable shelving, and means for withdrawing said movable shelving rearwardly from the elevator, substantially as specified.

6. The combination, with the stationary shelving having the crown-piece 4, the ways in front of the shelving, and the elevator mounted for movement in the ways, of a series of pulleys, ropes passed over the pulleys, depending outside of the ways in hand-pulls and terminating above the rear edge of the stationary shelving in rings, a movable shelf-section mounted upon the stationary shelving and adapted to be received by the elevator and provided at its rear edge with hooks for loosely engaging the rings at the rear ends of the ropes, and the ring-support located at the front edge of the stationary shelving, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES P. WALTON.

Witnesses:

H. A. OSBERNE,
PAGE K. AYRES.