

UNITED STATES PATENT OFFICE.

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STORE-SHELVING.

SPECIFICATION forming part of Letters Patent No. 636,107, dated October 31, 1899.

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To all whom it may concern:

Be it known that we, MERRILL W. BIEQUE, residing at Bourbonnais Grove, and ARTHUR M. RIVARD, residing at Kankakee, in the county of Kankakee and State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Store-Shelving, of which the following is a specification.

The present invention relates to that class of shelving in which a number of shelves are connected together in a vertical tier and supported by means of a rope, chain, cable, or other flexible device, which in turn supports a weight sufficient to counterbalance the tier of shelves and the goods thereon in such manner that the tier of shelves may be moved up and down, the object being to bring the upper as well as the lower shelves of the tier within convenient reach of a person standing upon the floor, thereby avoiding the necessity for the use of ladders. We are aware that it is not broadly new to provide a tier of shelves that may be thus moved up and down, and we do not claim such, broadly, as our invention. As heretofore arranged, however, the drawing down of the shelves has left exposed the space which they occupied while in elevated position and the flexible supporting device or devices. This we consider objectionable because of the unsightly appearance which it presents; and the object of our present invention is to overcome this objection and at the same time provide means for displaying an advertisement. To this end we attach to the front edge of the upper shelf of the tier the lower edge of a flexible curtain, which passes upward into a space above the travel of the shelves, and we provide means for automatically drawing the curtain upward as the shelves are moving upward. Preferably the means for accomplishing this last-named result consists of a roller, to which the upper edge of the curtain is attached, and means for revolving the roller as the shelves are being moved upward, and this latter means preferably consists of a sheave or pulley mounted upon the roller, a rope, cable, chain, or other flexible device wound upon the sheave in the direction opposite that in which the curtain is wound upon the roller,

and a weight suspended by said flexible device.

The invention consists in the features of novelty that are herein described.

In the accompanying drawings, which are made a part of this specification, Figure 1 is a perspective of a store-fixture containing two tiers of shelves, each having our invention applied thereto, a portion of the upper part of the fixture being broken away in order to show the disposition of some of the internal parts. Fig. 2 is a vertical section thereof through one of the two tiers of shelves.

The two tiers of shelves and their accessories being similar in all respects, a description of one of them will be sufficient for the purposes of this specification. The invention will therefore be described and claimed as embodied in a single tier of shelves, but with the understanding that the invention is not limited in this respect, the addition of other tiers being simply a matter of the duplication or parts within the skill of the builder.

As are the shelves, any number of which may be connected together one above another in a tier, so that all the shelves of the tier will move together. For connecting them we prefer to use four sheet-metal strips or plates B, the upper end of each plate being bent inward over the top of the upper shelf and the lower end of each plate being bent inward under the bottom of the lower shelf. The upper and lower shelves of the tier are provided with projections *a*, which extend past the strips B and are adapted to occupy vertical grooves *c* in two uprights C, whereby the shelves are guided in their up-and-down movement. The uprights are continued rearward past the shelves, and between them is disposed a vertical partition D, which forms the back of the recess occupied by the shelves. The rearward edges of the uprights may be disposed against the wall of the room in which the fixture is placed or the space behind the partition D may be inclosed by a wall E, thus providing between the partition D and wall E a space for the counterbalances hereinafter referred to. Above the shelves is a horizontal partition F, disposed a sufficient distance from the top of the fixture to leave room for pulleys G and a roller H, each of which is suitably journaled.

Over the pulley G is trained a rope, cable, chain, or other suitable flexible device I, one end of which is attached to the tier or shelves and the other end of which carries a counter-
5 balance J.

K is the flexible curtain, the lower edge of which is attached to the front edge of the top shelf of the tier and the upper edge of which is attached to the roller II. On the roller or
10 the shaft thereof is a pulley L, to which is attached one end of a rope, chain, cable, or other suitable flexible device M. This flexible device is wound around the pulley in the direction opposite that in which the curtain K is
15 wound and is trained over a pulley *m*, so that it may depend in the space between the partition D and the back E of the fixture, where it is provided with a counterbalance O. With this arrangement the tier of shelves may be
20 easily moved up and down. During its downward movement the curtain K will be unwound from the roller, thereby causing the flexible device M to be wound on the pulley L and elevate the weight O. The drawing
25 down of this curtain conceals the recess which the shelves occupy while in their upper position and conceals their flexible supporting device I. In addition to this the curtain provides a surface which is suitable for displaying
30 an advertisement.

Preferably the tier of shelves is of such vertical extent that the bottom shelf of the tier is some three feet or so above the floor, and a chest of drawers P is disposed in front of
35 the space into which the tier of shelves moves when drawn down. The sides of this chest may consist of forward extensions *c'* of the uprights C, and the top *c''* will serve as a shelf or counter.

40 What we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a vertically-movable tier of shelves and means for counterbalancing it, of a curtain having its lower
45 edge attached to the tier of shelves, whence it passes upward, and means for drawing up the curtain as the shelves move upward and

permitting it to be drawn down as the shelves move downward, substantially as set forth.

2. The combination with a vertically-mov- 50
able tier of shelves and means for counterbalancing it, of a curtain having its lower edge attached to the tier of shelves, whence it extends upward, a roller upon which the curtain is adapted to be wound, and means 55
for revolving the roller and winding up the curtain as the shelves move upward and for permitting it to unwind as the shelves move downward, substantially as set forth.

3. The combination with a vertically-mov- 60
able tier of shelves, and means for counterbalancing it, of a curtain having its lower edge attached to the tier of shelves, whence it extends upward, a roller upon which the curtain is adapted to be wound, a pulley car- 65
ried by the roller, a flexible device wound around the pulley in the direction opposite to that in which the curtain is wound, and a weight supported by said flexible device, substantially as set forth. 70

4. The combination with a vertically-mov-
able tier of shelves, and a suitable casing or housing therefor, having means for guiding the shelves in their movement, of a pulley disposed within the casing or housing above 75
the travel of the shelves, a weight, a flexible device trained over the pulley and connected at its opposite ends to the tier of shelves and weight, respectively, a flexible curtain hav-
ing its lower edge attached to the tier of 80
shelves whence it extends upward, a roller upon which the curtain is wound, a pulley carried by the roller, a flexible device attached thereto and wound thereon in the direction opposite to that in which the curtain is wound, 85
a guiding-pulley over which said flexible device is trained, and a weight suspended by the flexible device, substantially as set forth.

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Witnesses:

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