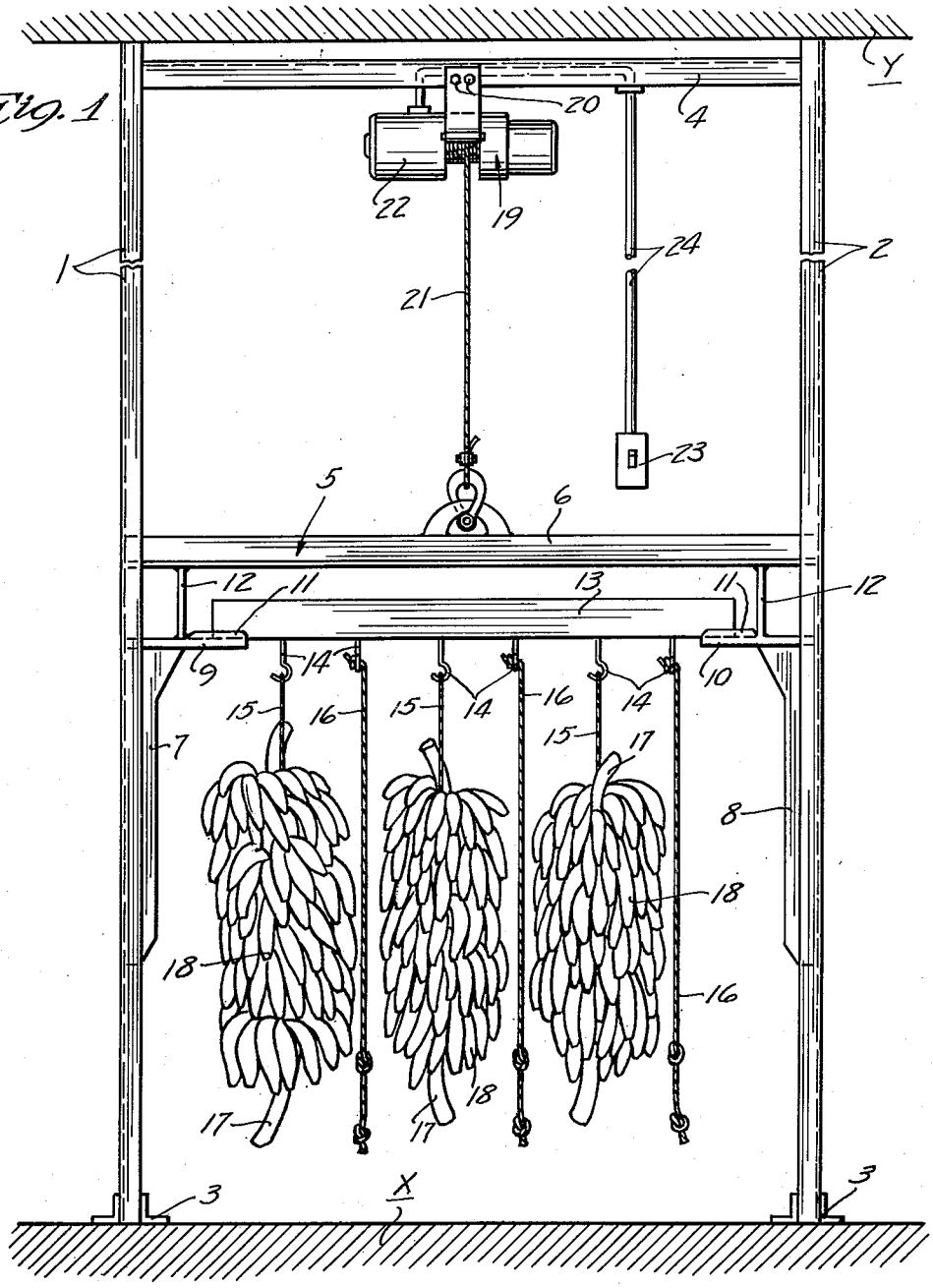
Oct. 21, 1952 R. M. WINSLOW 2,614,704

COMBINATION LOADING DEVICE AND HOIST FOR BANANA BUNCHES

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Fig. 1



Inventor

Raymond M. Winslow

By Merchant & Merchant

Attorneys

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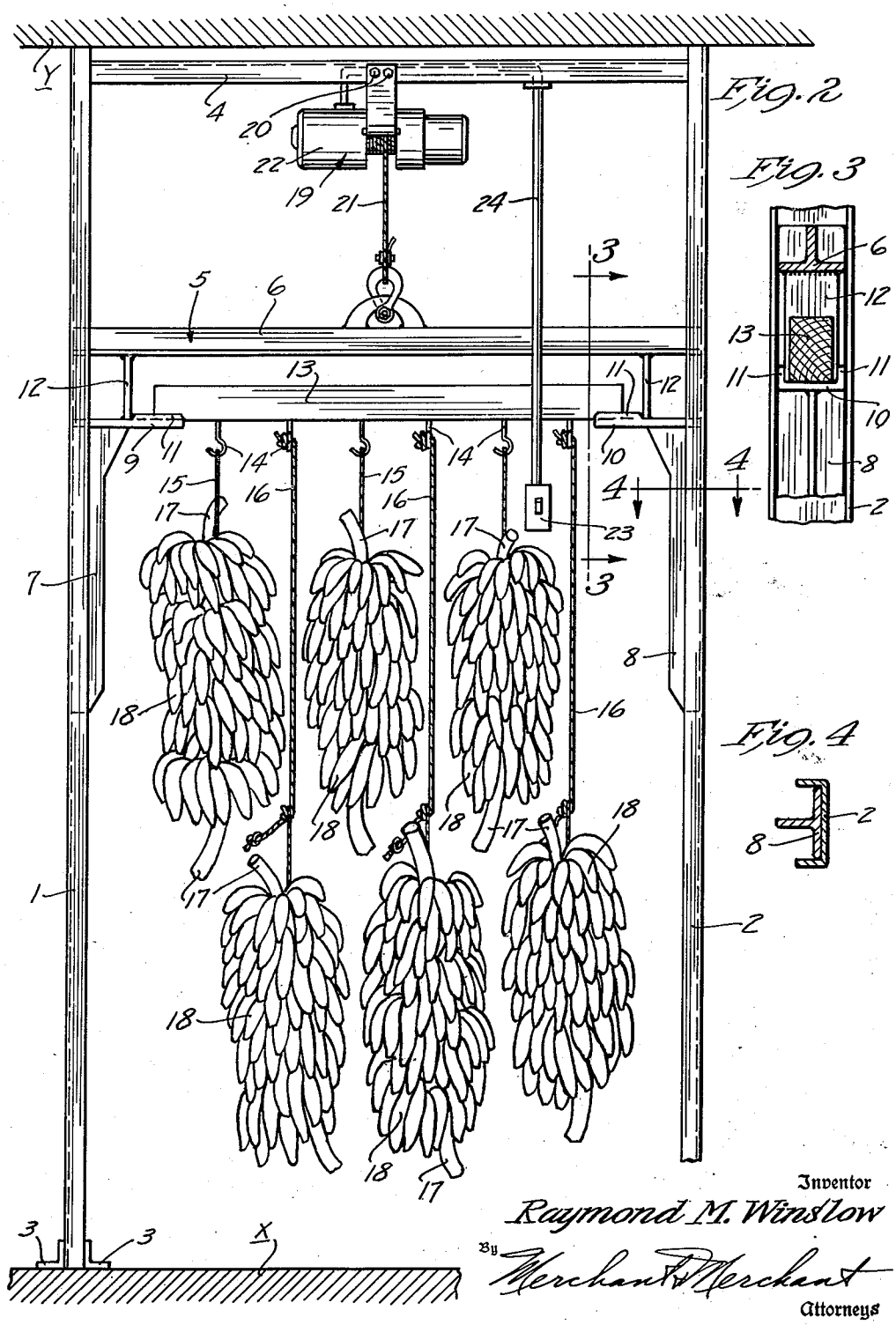


Fig. 2

Fig. 3

Fig. 4

Inventor
Raymond M. Winslow
By Merchant & Merchant
Attorneys

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COMBINATION LOADING DEVICE AND HOIST FOR BANANA BUNCHES

Raymond M. Winslow, Minneapolis, Minn., assignor to Winston and Newell Company, Minneapolis, Minn., a corporation of Delaware

Application March 5, 1951, Serial No. 213,877

3 Claims. (Cl. 211—176)

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My invention provides a novel combination loading device and hoist for banana bunches.

As pointed out in my copending application S. N. 213,878, filed March 5, 1951, and entitled "Lifting and Handling Truck for Banana Bunches," banana bunches are usually shipped in carload lots by freight car to a given point of destination. They are picked green and, in this condition, are so firm that they may be packed one bunch upon the other without fear of damaging the fruit. However, upon arrival at said point of distribution, the banana bunches must be placed in curing rooms where they artificially ripen. Thereafter, the fruit is so soft that it is highly desirable that the bunches be kept from coming into contact with each other or from resting upon the ground, in order that damage to the individual bananas be avoided.

My particular invention provides a novel combination mounting device and hoist for banana bunches being removed from the freight cars at the point of destination and prior but preparatory to their being mounted upon lifting and handling trucks of the type disclosed in said above-identified application, for transportation to the curing room and from thence to unloading mechanism, preferably of the type disclosed and claimed in my co-pending patent application S. N. 216,929, filed March 22, 1951, and entitled "Conveyer for Banana Bunches."

An important object of my invention is the provision of a device of the class described for mounting a plurality of banana bunches in spaced relation to each other with a minimum of lifting effort on the part of the market car unloader.

A further important object of my invention is the provision of a device of the class described, which holds the banana bunches mounted thereon in a manner to assure minimum damage thereto.

A still further object of my invention is the provision of a device of the class described, which is relatively inexpensive to manufacture, rugged in construction, durable in use, and which may be easily operated at a minimum of cost.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims, and attached drawings.

Referring to the drawings, wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view in front elevation, showing my novel structure in one position of its operation, some parts being broken away;

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Fig. 2 is a view corresponding to Fig. 1 and showing a different position of its operating parts;

Fig. 3 is a view in vertical section, taken substantially on the line 3—3 of Fig. 2; and

Fig. 4 is a view in transverse section, taken on the line 4—4 of Fig. 2.

Referring with greater particularity to the drawings, the numerals 1 and 2 indicate laterally-spaced parallel upstanding guide frame members. As shown, the members 1 and 2 are provided with enlarged feet-forming members 3 adapted to engage the ground or the like, identified by the letter X. Also, as shown, the upper ends of the guide frame members 1 and 2 may extend to and be rigidly secured to a ceiling Y or other overhead structure, by means not shown. Adjacent their upper ends, however, the guide frame members 1 and 2 are connected by a horizontal frame member 4.

Preferably, and as shown particularly by Fig. 4, the guide frame members 1 and 2 are formed from cross-sectionally channel-shaped stock. Mounted for vertical sliding movements in the opposed channels of the guide frame members 1 and 2 is a cross head element, identified in its entirety by the numeral 5 and including a horizontal cross beam 6 and shoe elements 7 and 8 which depend from opposite ends of cross beam 6, the former being slidably received within the channel of guide frame member 1 and the latter within the channel of guide frame member 2.

Projecting laterally-outwardly from the upper portions of the shoes 7 and 8 and underlying the cross beams 6 in spaced relation thereto and in laterally-spaced relation to each other, are a pair of opposed load-carrying shelf elements 9 and 10 respectively. As shown by reference to Fig. 3, the side edges of shelf elements 9 and 10 are provided with upstanding flanges 11. As shown, the shelf elements 9 and 10 are secured to the shoes 7 and 8 respectively by means of vertically-disposed struts 12 which are spaced from each other a distance less than the longitudinal extent of a loading beam 13, the opposite ends of which are adapted to be received upon the shelf elements 9 and 10. This is important in that it prevents dropping off of one of the shelf elements 9 and 10 of one of the ends of the beam 13. In other words, engagement of one end of the loading beam with an element 12 limits longitudinal movements of the loading beam 13 in that direction— thus making it impossible for the opposite end thereof to drop away from its cooperating shelf element by longitudinal movements. As shown in Fig. 3, the flanges 11 on the shelf ele-

ments 9 and 10 prevent lateral movements of the loading beam 13 on said shelf elements. Furthermore, it will be noted that the vertical space between the cross beam 6 and the shelf elements 9 and 10 is considerably greater than the height of the loading beam 13. This feature makes it possible to elevate the loading beam 13 from the shelf elements 9 and 10 sufficiently to clear the flanges 11 so as to move said beam 13 forwardly or rearwardly as may be desired. In fact, the elements 11 and 12 make it impossible to remove the loading beam from the shelf elements 9 and 10 except by first vertically elevating same with respect to said shelf elements. Likewise, the loading beam 13 may be placed upon the shelf elements 9 and 10 only by first causing same to vertically overlie said shelf elements. Loading and unloading of the loading beam 13 with respect to the shelf elements 9 and 10 is preferably accomplished by means of the lifting and handling truck for banana bunches, disclosed and claimed in my copending patent application S. N. 213,878, above referred to.

Longitudinally-spaced along the lower surface of the loading beam 13 and depending therefrom are a plurality of hanger elements 14, preferably and as shown in the nature of open-ended hooks. As shown, hanger elements 14 are adapted to alternately receive short cords 15 and long cords 16, each of which, at its lower end portion, is secured to the upper end portion of a stalk 17 of a bunch of bananas 18. As shown, particularly by reference to Fig. 2, the length of the cords 16 is such as to permit the lower row of bananas to be vertically spaced from the upper row, so as to prevent impact of the bunches 18 in one row with those in the other row when pendulous movements are imparted to the cords 15 and 16. Furthermore, the space between the several hanger elements 14 is such as to permit the cords 16 to pass between the bunches 18 in the top row without contacting the fruit thereof.

A power winch 19 is secured, by means of bolts or the like 20, to the intermediate portion of the horizontal frame member 4. Preferably and as shown, the winch 19 comprises a winding drum not shown, over which a cable 21 is wound, and an electric motor 22. The outer end of the cable 21 is secured to the intermediate portion of the cross beam 6 in any suitable manner. A switch 23, positioned for convenient access to the operator, is connected to the electric motor 22 of the winch 19 for imparting raising and lowering movements to the cross head 5, through the medium of wires, not shown, within a preferably rigid conduit 24.

When my novel structure above-described is positioned on an unloading platform in closely-spaced relation to the unloading door or an adjacent freight car, the side shown in Figs. 1 and 2 is made to face the door of the freight car. Operation and use of this novel structure is as follows: By manipulation of the switch 23, the cross head 5 is lowered to the position of Fig. 1 and a cross beam 13 is placed thereon so that the opposite ends thereof come to rest upon the shelf elements 9 and 10, preferably in spaced relation to the elements 12 and intermediate the flanges 11. Banana bunches 18 are secured to alternate hanger elements 14 by short cords or ropes 15, as shown in Fig. 1. Thereafter, the cross head 5 is caused to be elevated to the relative position of Fig. 2 by manipulation of the switch 23. In this position, banana bunches 18 are secured to long cords or ropes 16 interposed between the short cords 15, as shown in Fig. 2. Removal of the loading beam 13 from the shelf elements 9 and 10 and transportation thereof to a curing room or elsewhere is accomplished, as above indicated, by means of the novel lifting and handling truck for banana bunches, described in my copending patent application S. N. 213,878.

While I have disclosed a commercial form of my invention, it is obvious that the same is capable of modification without departure from the spirit and scope of the invention as defined in the appended claims.

What I claim is:

1. In a device of the class described, a pair of laterally-spaced vertical guide frame members, a cross beam spanning said members and having its opposite ends slidably engageable with said guide frame members, opposed laterally-spaced load-carrying shelf elements rigidly secured to said cross beam and underlying same in vertically-spaced relation thereto, a loading beam, said loading beam having a vertical height less than the distance between said shelf elements and said cross beam whereby to permit opposite ends of said beam to be placed onto and removed from said shelf elements, and means limiting lateral movements of said loading beam with respect to said shelf elements whereby said beams are removable laterally from said shelf elements only by first imparting vertical movements to said beam.

2. The structure defined in claim 1 in further combination with means limiting longitudinal movements of said loading beam with respect to said shelf elements.

3. The structure defined in claim 1 in further combination with stop means on each of said shelf elements limiting longitudinal movements of said loading beam in opposite directions, the stop elements associated with each of said shelf elements being spaced from the free edge of the opposite shelf element a distance less than the length of said loading beam whereby to permit removal of said beam from said shelf elements only by first consecutively imparting vertical and then lateral movements to said beam.

RAYMOND M. WINSLOW.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
708,874	Dubois	Sept. 9, 1902
1,774,623	Williams	Sept. 2, 1930
2,125,546	Corr	Aug. 2, 1938