F. H. LAUE.

HOISTING APPARATUS.

APPLICATION FILED OCT. 6, 1919.

1,408,522. Patented Mar. 7, 1922.

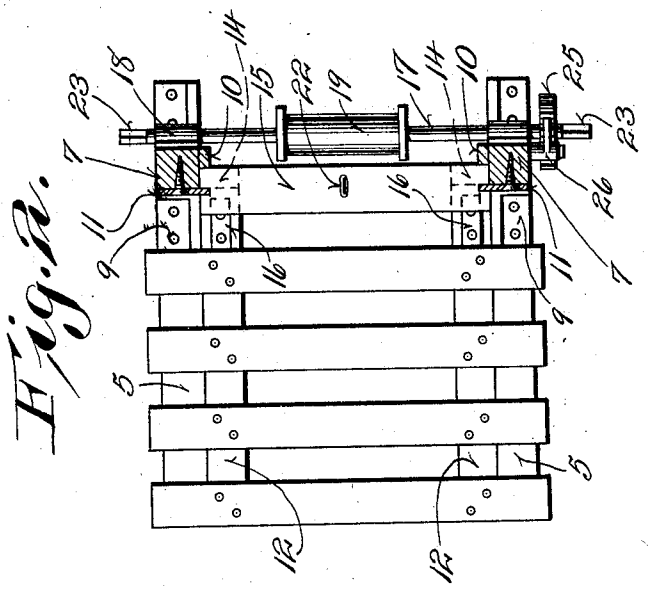


Fig. 2.

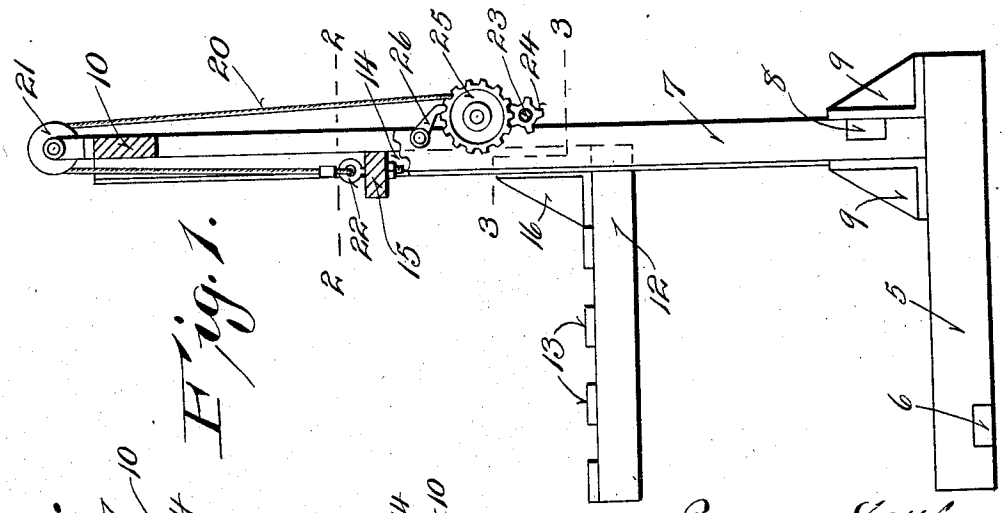


Fig. 1.

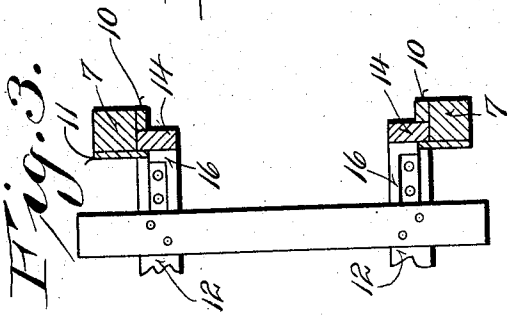


Fig. 3.

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UNITED STATES PATENT OFFICE.

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HOISTING APPARATUS.

1,408,522. Specification of Letters Patent. Patented Mar. 7, 1922.

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To all whom it may concern:

Be it known that I, FREDERICK H. LAUE, a citizen of the United States, and resident of Avoca, in the county of Iowa and State of Wisconsin, have invented certain new and useful Improvements in Hoisting Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in hoisting apparatus, and is more particularly directed to the provision of a readily portable unit including a vertical movable work carrying platform whereby heavy objects may be conveniently raised or lowered and then shifted from the platform.

It is in general the object of my invention to simplify and otherwise improve the structure and to increase the efficiency of devices of this character.

It is more particularly my object to provide a relatively light hoisting apparatus which may be conveniently shifted from place to place, which occupies a minimum amount of floor space, and which may find particular application in raising blocks of ice from the floor to the overhead ice chamber of a refrigerator of that relatively large type employed in various retail selling establishments.

It is still further my object to provide a maximum amount of strength in a device of this character having its major portions formed of wood to provide sufficient lightness permitting the device to be moved about readily from place to place, which would be necessary in use.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of parts as hereinafter described and claimed by the appended claims.

In the accompanying drawings:

Figure 1 is a view partly in side elevation and partly in vertical section of a hoisting device embodying my invention.

Figure 2 is a vertical sectional view through the device on a plane indicated by the line 2—2 of Figure 1.

Figure 3 is a detailed sectional view through the device as indicated by the line 3—3 of Figure 1.

Referring now more particularly to the drawings, my improved hoisting device comprising a pair of parallel base sills 5 connected at their forward ends by a cross sill 6 which is of considerable lesser height than said base sills. A pair of standards 7 rise from the rear end portions of the base sills, the lower ends of the standards being connected by a cross sill 8. Brace members 9 further connect the front and rear sides of the standard with the base sill 5. The upper ends of the sills are connected by a relatively narrow cross sill 10. The opposed faces of the standards are provided with channels which are formed in the present instance by vertical strips 10 at the rear portion of said channel faces and by metallic plates 11 secured to the front faces of the standards and projecting inwardly thereof.

The work carrying platform of my device comprises a pair of sills 12 on which are secured a series of transverse slats 13 and the sills are spaced apart a sufficient distance to fit snugly between the base sills 5, the ends of the slats being projected past the sills 12 and being adapted to seat on the base sills 5 when the platform is in lowered position. Posts 14 rise from the inner end of the sills 12 and are slidable in the channel ways of the main standards 7, the upper ends of these posts being connected by a relatively wide cross piece 15 which has its ends recessed to slidably receive the inner sides of the channel plates 11. Brace members 16 are secured to the adjacent portions of the posts 14 and sills 12.

For raising and lowering the weight carrying platform, a shaft 17 is journaled in bearings 18 secured at the rear intermediate portions of the standards 7 and this shaft carries a central windlass drum on which is wound a cable 20 which is extended upwardly from the drum and trained about a pulley 21 upon the top cross sill 10, the cable being then extended downwardly and secured to an eye 22 on the central portion of the cross piece 15 of the work carrying platform. A second shaft 23 is journaled under the shaft 22 and carries a pinion 24 meshing with a gear wheel 25 on the shaft 17, both ends of this lower shaft 23 being extended and squared for the reception of crank handles whereby said shaft may be rotated to rotate the windlass shaft and in turn to raise the platform. The platform may be held in any desired raised position by a pawl 26 pivoted to the standard ad-

jacent the gear wheel 25, above said wheel, and selectively engageable with the teeth of the gear wheel.

An exceedingly simple, durable, compact and conveniently manipulated hoisting apparatus has thus been provided which is particularly adapted for use in saloons or other establishments having a refrigerator with an overhead ice chamber whereby the blocks of ice may be lifted and then shoved into the chamber, although it will be appreciated that my device may find other uses incidental to raising or lowering various heavy objects. By reason of its particular construction, the device is relatively light and otherwise conveniently portable whereby it may be placed out of the way when not in use. It will be noted that by reason of the connection of the hoisting cable with the upper ends of the platform posts which slide in channels of the main standard, a most advantageous distribution of the load stresses is effected, reducing to a minimum the lateral twisting stresses on the channel sides incidental to loading and hoisting the platform. It will be further noted that by the movement of the platform sills between the base sills 5, the platform may be lowered immediately adjacent the floor, and the ends of the platform slats 13 rest on the base sills 5, thus preventing said slat ends from being broken off incidental to shifting a heavy article onto or off of the platform.

While I have shown and described a preferred embodiment of my invention, it will be appreciated that various changes and modifications of structure may be employed to meet differing conditions of use and manufacture, without departing in any manner from the spirit of my invention.

I claim:

A device of the character described, comprising a base having a pair of spaced sills, means connecting the sills, posts rising from said base, strips secured to the inner sides of said posts, plates secured to the front sides of said posts and projecting inwardly beyond the edges of said posts, thus forming channels between said plates and strips, a platform seating between said sills, posts rising from said platform and slidable in said channels, a relatively wide cross piece connecting the upper ends of said platform posts and having recesses in its ends, receiving said plates and guided vertically thereon, and a windlass having a cable secured to the central portion of the cross piece for raising and lowering the platform.

In testimony that I claim the foregoing I have hereunto set my hand at Avoca in the county of Iowa and State of Wisconsin.

FREDERICK H. LAUE.