

[54] COLLAPSIBLE HOISTING APPARATUS

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[51] Int. Cl. B66c 23/06

[58] Field of Search 212/56, 32, 36; 214/75 H

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Primary Examiner—Robert J. Spar

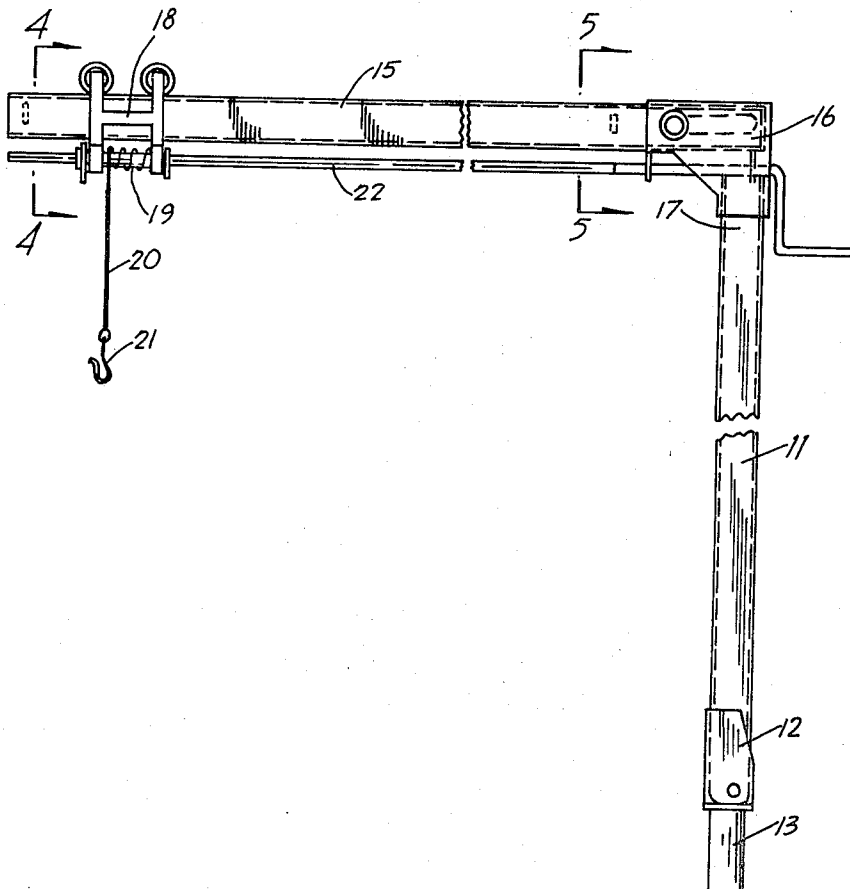
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[57] ABSTRACT

Collapsible hoisting apparatus comprises an upright member having a shoe at one end and a swivel pin mounted in the shoe and adapted to pivotally seat in a socket. A boom head affixes one end of a boom to the other end of the upright member for rotation from a position in which the boom is parallel to the upright member in the plane of the boom and the upright member to a position in which the boom is at right angles to the upright member in the plane. A trolley device is movably mounted on the boom for movement along the length thereof. A cable winding device is rotatably mounted on the trolley device. A cable having a hook at one end thereof and affixed to the cable winding device at the other end thereof is wound on the cable winding device. A turning device coupled to the cable winding device extends beyond the boom head for selective manual winding and unwinding of the cable.

3 Claims, 8 Drawing Figures



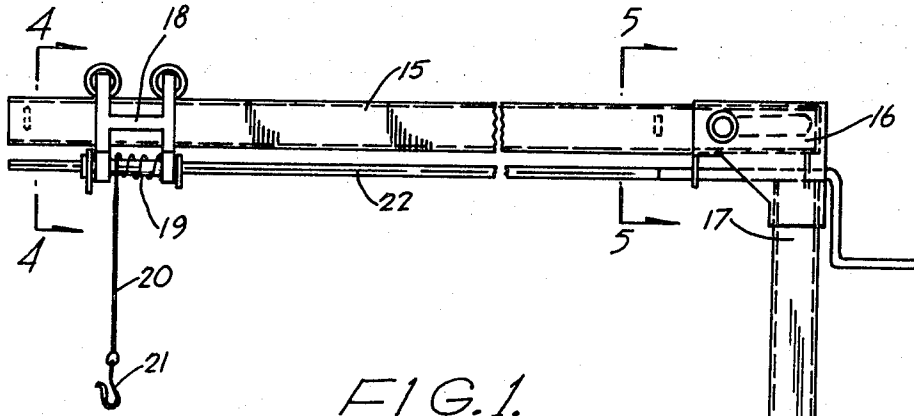


FIG. 1.

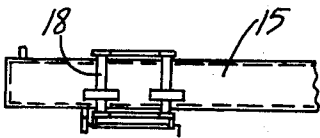


FIG. 2.

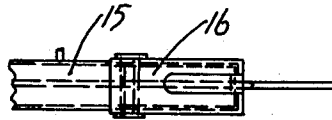


FIG. 3.

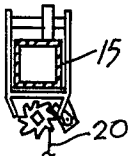


FIG. 4.

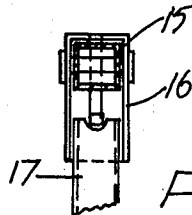


FIG. 5.

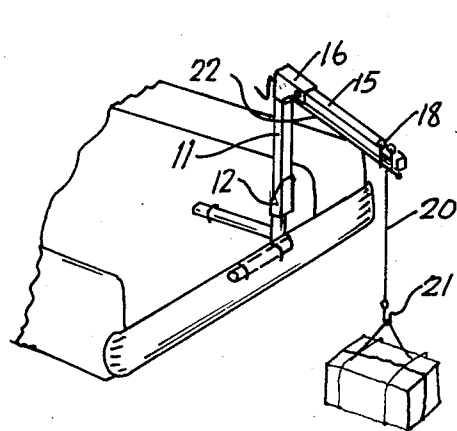


FIG. 6.

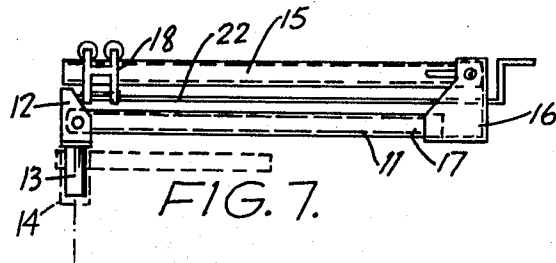


FIG. 7.

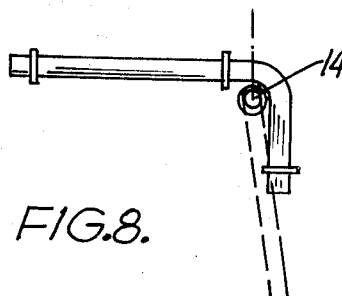


FIG. 8.

COLLAPSIBLE HOISTING APPARATUS

DESCRIPTION OF THE INVENTION

The present invention relates to collapsible hoisting apparatus.

The principal object of the invention is to provide collapsible hoisting apparatus of simple, but sturdy, efficient, effective and reliable structure, which is assembled and disassembled with facility, convenience, rapidity and ease, and which is readily mounted in the trunk of a vehicle and easily fits in such trunk in its disassembled or folded condition.

In order that the invention may be readily carried into effect, it will now be described with reference to the accompanying drawings, wherein:

FIG. 1 is a side view of an embodiment of the collapsible hoisting apparatus of the invention, in assembled condition;

FIG. 2 is a top view of the free end of the boom and the trolley device;

FIG. 3 is a top view of the other end of the boom;

FIG. 4 is a sectional view, taken along the lines 4-4, of FIG. 1;

FIG. 5 is a sectional view, taken along the lines 5-5, of FIG. 1;

FIG. 6 is a schematic diagram of the embodiment of FIG. 1 of the collapsible hoisting apparatus of the invention in use;

FIG. 7 is a side view of the collapsible hoisting apparatus of the invention in folded or disassembled condition; and

FIG. 8 is a top view of a socket for supporting the upright member of the collapsible hoisting apparatus of the invention.

In the FIGS., the same components are identified by the same reference numerals.

The collapsible hoisting apparatus of the invention comprises an upright member 11 (FIGS. 1, 6 and 7) having a shoe 12 (FIGS. 1, 6 and 7) at one end. A swivel pin 13 (FIGS. 1 and 7) is mounted in the shoe 12 and is adapted to pivotally seat in a socket 14 (FIG. 7).

A boom 15 (FIGS. 1 to 7) is provided. A boom head 16 (FIGS. 1, 3, 5, 6 and 7) affixes one end of the boom 15 to the other end 17 (FIGS. 1, 5 and 7) of the upright member 11 for rotation from a position in which the boom is parallel to the upright member in the plane of the boom and the upright member, which is the folded or disassembled condition, shown in FIG. 7, to a position in which the boom is at right angles to the upright member in such plane, which is the assembled condition, shown in FIGS. 1 and 6.

A trolley device 18 (FIGS. 1, 2, 6 and 7) is movably mounted on the boom 15 for movement along the length thereof. A cable winding device 19 (FIG. 1) is rotatably mounted on the trolley device 18. A cable 20 (FIGS. 1 and 6) has a hook 21 (FIGS. 1 and 6) at one end thereof and is affixed to the cable winding device at the other end thereof. The cable 20 is wound on the

cable winding device 19.

A turning device 22 (FIGS. 1, 6 and 7) is coupled to the cable winding device 19 and extends beyond the boom head 16 for selective manual winding and unwinding of the cable 20. The boom head includes a locking device for releasably locking the boom 15 in position at right angles to the upright member 11.

The shoe 12 affixes the upright member 11 to the swivel pin 13 for rotation from a position in which the upright member is at right angles to the swivel pin in the plane of the upright member and the swivel pin, which is the folded or collapsed condition, shown in FIG. 7, to a position in which the upright member is coaxial with the swivel pin in such plane, which is the assembled condition, shown in FIGS. 1 and 6. The shoe includes a locking device for releasably locking the upright member 11 in position coaxially with the swivel pin 13.

While the invention has been described by means of a specific example and in a specific embodiment, I do not wish to be limited thereto, for obvious modifications will occur to those skilled in the art without departing from the spirit and scope of the invention.

I claim:

1. Collapsible hoisting apparatus, comprising an upright member having a shoe at one end and a swivel pin mounted in the shoe and adapted to pivotally seat in a socket;

a boom;

a boom head affixing one end of the boom to the other end of the upright member for rotation from a position in which the boom is parallel to the upright member in the plane of the boom and the upright member to a position in which the boom is at right angles to the upright member in said plane; trolley means movably mounted on the boom for movement along the length thereof;

cable winding means rotatably mounted on the trolley means;

a cable having a hook at one end thereof and affixed to the cable winding means at the other end thereof and wound on the cable winding means; and turning means coupled to the cable winding means and extending beyond the boom head for selective manual winding and unwinding of the cable.

2. Collapsible hoisting apparatus as claimed in claim 1, wherein the boom head includes locking means for releasably locking the boom in position at right angles to the upright member.

3. Collapsible hoisting apparatus as claimed in claim 1, wherein the shoe affixes the upright member to the swivel pin for rotation from a position in which the upright member is at right angles to the swivel pin in the plane of the upright member and the swivel pin to a position in which the upright member is coaxial with the swivel pin in said plane, and wherein the shoe includes locking means for releasably locking the upright member in position coaxially with the swivel pin.

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