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P. I. KING

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BARREL LIFTER AND CONVEYER

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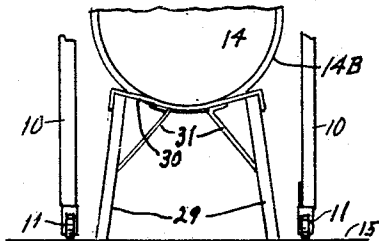


FIG. 6.

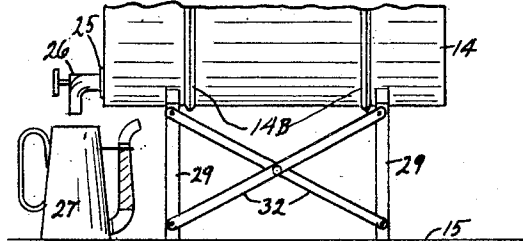


FIG. 7.

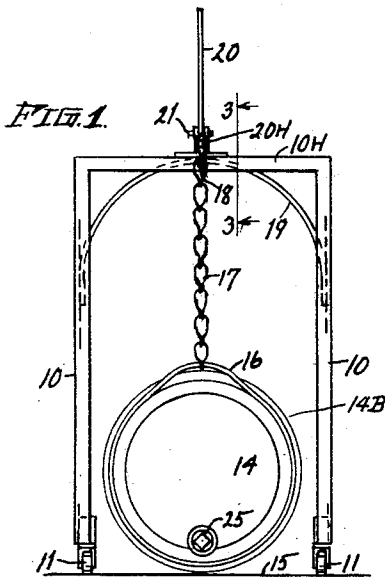


FIG. 1.

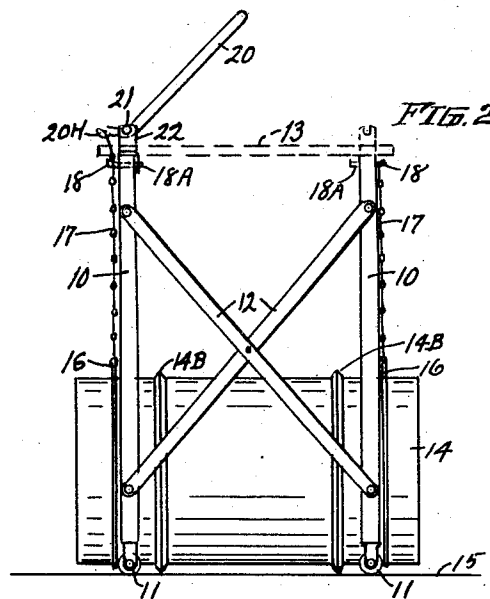


FIG. 2.

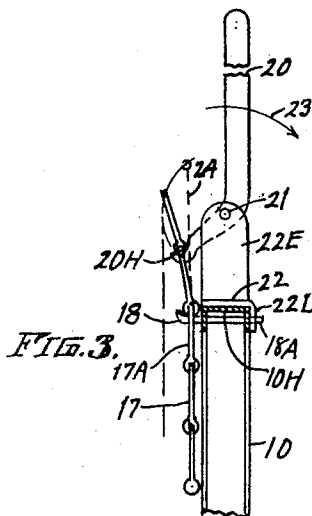


FIG. 3.

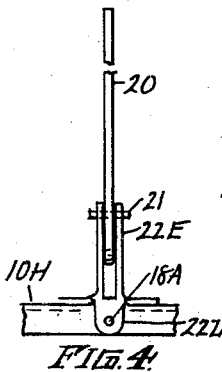


FIG. 4.

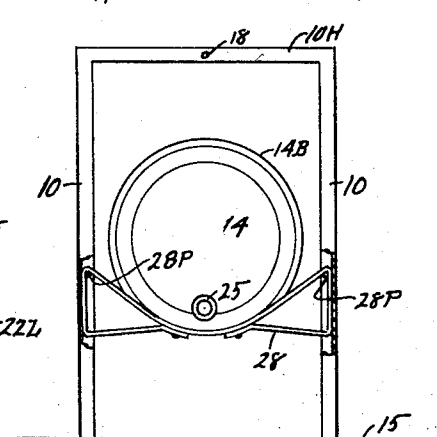


FIG. 5.

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BARREL LIFTER AND CONVEYER

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My invention relates to portable hoisting apparatuses in general and more particularly to a device herein designated as a barrel lifter and conveyer designed mainly for the purpose of lifting, conveying and setting oil drums in accessible positions. Other uses and objects of the invention are hereinafter fully set forth, reference being had to the accompanying drawing, in which,—

Fig. 1 is an end elevation of my device in operative position straddling an oil drum about to be raised from the floor.

Fig. 2 is a right side elevation of Fig. 1.

Fig. 3 is an enlarged sectional elevation of the hoisting means used, about as on line 3—3 of Fig. 1. Fig. 4 is a right side elevation of Fig. 3.

Fig. 5 is a modification of Fig. 1 omitting the hoisting apparatus and showing a removable barrel support for storing an oil drum within the frame.

Figs. 6 and 7 are respectively front and side elevations of a floor engaging auxiliary rack and the lower half of an oil-drum supported in elevation position.

Referring to the drawing by reference numerals, my device comprises a main frame consisting preferably of two inverted U-shaped bars 10, the lower extremities of which are provided with sockets for casters 11. The said bars 10 are preferably each a single piece of channel iron, and are retained rigidly in spaced parallel relation to each other by suitable side bars such as the two crossed bars 12 (see Fig. 2). The top parts of members 10 are on a common level and may be permanently covered as with cover boards 13, designated by dotted lines in Fig. 2, said cover boards being available for storage of various articles.

The main frame thus far described is of course open at both ends and portable on its casters to be placed in longitudinal position over and straddling an oil-drum 14 as best shown in Figs. 1 and 2. Such drums are commonly made with integral spaced, encircling beads 14B on which the drum rests, as on a floor 15, supporting the main body of the drum spaced slightly above the floor. This enables a metal ring 16 to be slipped

concentrically inwardly and around each end of the drum, the ring being of course of a size to loosely encircle the drum. 17 is a chain attached with one end to the ring and adapted to be extended vertically toward the horizontal part 10H, where a link may be engaged on an outwardly projecting prong 18 fixed in said part 10H, the said prong comprising preferably a pin retained transversely in bar 10H and protruding inwardly of said bar also, as at 18A. Each chain is of such length as to extend with a few links above its link which contacts with prong 18 and when its ring 16 is in loose contact with a drum 14 resting on floor 15.

19 in Fig. 1 designates an arched brace in the upper part of either end frame 10—10H.

An oil-drum and my device are placed in the position shown in Fig. 1 preparatory to raising the drum to a pre-determined height for tapping the latter, and certain hoisting means are provided for pulling the rings 16 upwardly by engaging the chain in successive actions by a lever device which will now be described.

The hoisting device comprises a beam-lever 20 pivoted at 21 between two parallel upright ears 22E of a lever-bracket 22 adapted to rest on the top of bar 10H and having a downward integral lug 22L perforated so as to be slipped onto and removably engage the inwardly projecting part 18A of pin 18. The lever is movable in a vertical plane, and has a short forward arm with its extremity formed as an upwardly open hook 20H, while the other arm is relatively long and used as a lever. Obviously the lever 20 is normally positioned directly over pin 18, particularly its short outwardly directed arm. The lever is so proportioned that when its long arm is about vertical, its short arm is directed out and down and its hook 20H engageable with a link of chain 17 just above the link of the latter 17A (Fig. 3) which engages pin 18. Then lever 20 is swung inwardly as indicated by arrow 23, the short arm of it moving out and upwardly as indicated by the arcuate line 24 (Fig. 3). This action or arcuate outward movement of hook 20H pulls the chain off of prong 18 but continued move-

ment of lever 20 causes hook 20H to swing inwardly again when hook 20H rises, thereby bringing chain 17 back toward prong 18 to engage it with a lower link of the chain. The latter position of the chain is indicated by the dotted line 24 (Fig. 3).

Obviously when hook 20H has reached its uppermost position it is readily released from the link it has engaged and may be returned to original position shown in full lines in Fig. 3 to engage another link above link 17A and raise the drum accordingly step by step.

The hoisting means just described may be provided one for each end of the frame to raise both ends of a drum simultaneously, if so desired. However, this is deemed unnecessary as one hoisting device may suffice. After a hoisting action has taken place at one end of the frame it is freely removed from contact with peg 18A and transferred to the other end of the frame to raise the other end of the drum 14.

25 designates the outlet of an oil-drum in which may be put a suitable tap 26 to be used only when the drum is elevated sufficiently to tap the contents as needed, as into a container 27.

In some cases it may be desired to use my device as a holder for the drum until it has been emptied. In this case I provide a removable skeletonized metal frame 28 (see Fig. 5) insertable between the vertical members 10 and retained therein at a suitable height by merely providing removable pins 28P retained in properly located apertures in the members 10 at each end of the main frame. Obviously, a drum is easily raised as described, then a pair of support frames 28 set in place under it, and the drum is then lowered to come to a rest on the said support frames. It will now be readily understood that a drum thus elevated in the rack and retained therein may be readily moved about to any desired location.

In other instances my portable device may be used for moving and placing a number of drums in various locations or in groups. For this condition I provide a secondary or auxiliary rack best shown in Figs. 6 and 7. This auxiliary rack comprises two identical end frames each consisting of a pair of legs 29 connected at their upper ends by a downwardly arched strap 30 suitably braced as at 31, said end frames being connected by side braces 32. This entire auxiliary frame is of such size as to be placed longitudinally under an elevated drum 14, the drum being let down to rest on the arched members 30, after which the portable hoisting frame is wheeled away.

The use of my device has been fully disclosed in the foregoing specification. Various modifications of structure may be embodied without departing from the scope and

spirit of the invention. The article is particularly useful for so called gas and oil service stations where drums of oil and other products are otherwise difficult to handle and where space is limited. The hoisting apparatus is merely a beam lever with one short and one long arm, the arcuate movement of one arm of which takes the chain off of prong 18, raises the chain and drum and the same arcuate movement brings the chain back toward the prong to engage it with another link of the chain raised to a position for such engagement and simultaneously hoists the drum 14.

I claim:

1. A drum rack and conveyer of the class described comprising an upright roller supported main frame having downwardly open end frame members braced and connected to each other at the side and top parts, said main frame being adapted to be positioned longitudinally over and straddling a cylindrical drum or the like, a pair of ring members adapted to loosely encircle opposite end parts of such drum, a chain for each ring and extending upwardly from it toward the upper central part of each end frame member, lever actuated means at said latter part adapted to engage the chain and pull it upwardly to raise the drum in successive lever actions and means on the frame for engaging the chain, other than the lever means, before and after each hoisting action of said lever means.

2. A portable barrel lifter and conveyer device comprising a roller supported main frame consisting of two arched end members, opposite ends of said frame opening downwardly and side brace means rigidly connecting said end members, said frame being adapted to be positioned to straddle a barrel or the like, a barrel engaging ring member for each said arched frame end to encircle the barrel in approximately a common vertical plane with said frame end, a chain extending upwardly from each ring toward the upper central part of the frame end, a prong in said latter part arranged to be engaged by a link of the chain, and a hoisting apparatus mounted on the frame over said prong and comprising a beam lever with a short hooked arm positioned over said prong and a long arm integral thereof, the end of said hooked arm being oscillatable in an arcuate path over the prong and adapted to engage a link of the chain above said prong, said short lever arm being adapted to be moved upwardly by downward movement of the long arm to first disengage the chain from the prong, then move it upwardly and subsequently inwardly to re-engage the prong with a lower link of the chain.

3. The structure specified in claim 1 in which said lever actuated means comprises a movable unit consisting of a lever, a lever

5 bracket adapted to removably engage the top
part of an end member of the main frame,
said lever being fulcrumed in the bracket, a
perforated lug on said bracket and means on
the frame comprising a fixed pin to engage
and hold said perforated lug and the lever
bracket during hoisting action.

In testimony whereof I affix my signature.

PETER I. KING.

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