June 20, 1933. A. C. WALKER 1,914,656

BARREL SUPPORTING AND HANDLING DEVICE

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FIG. I.

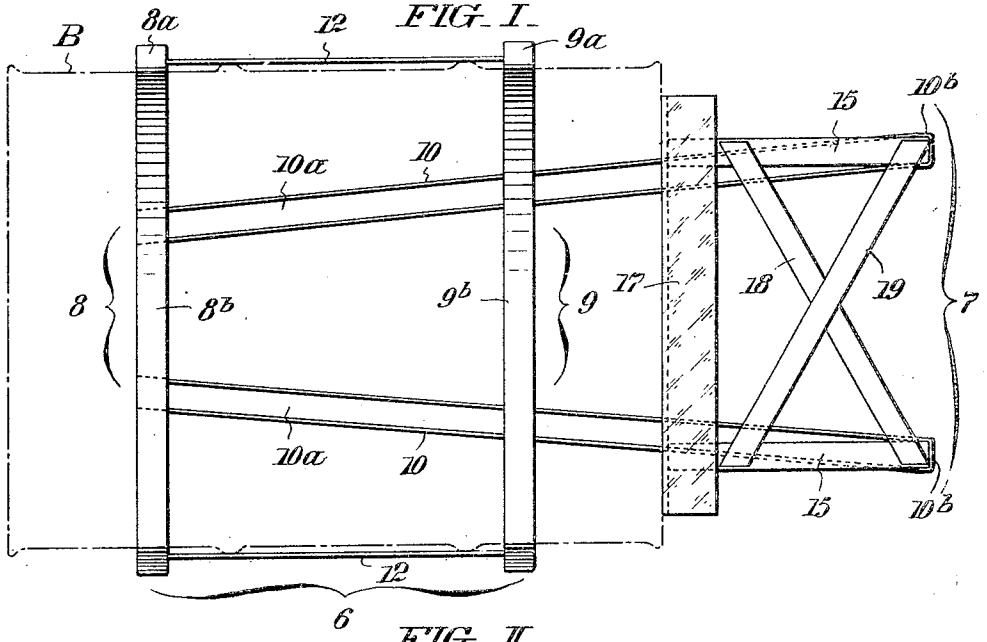
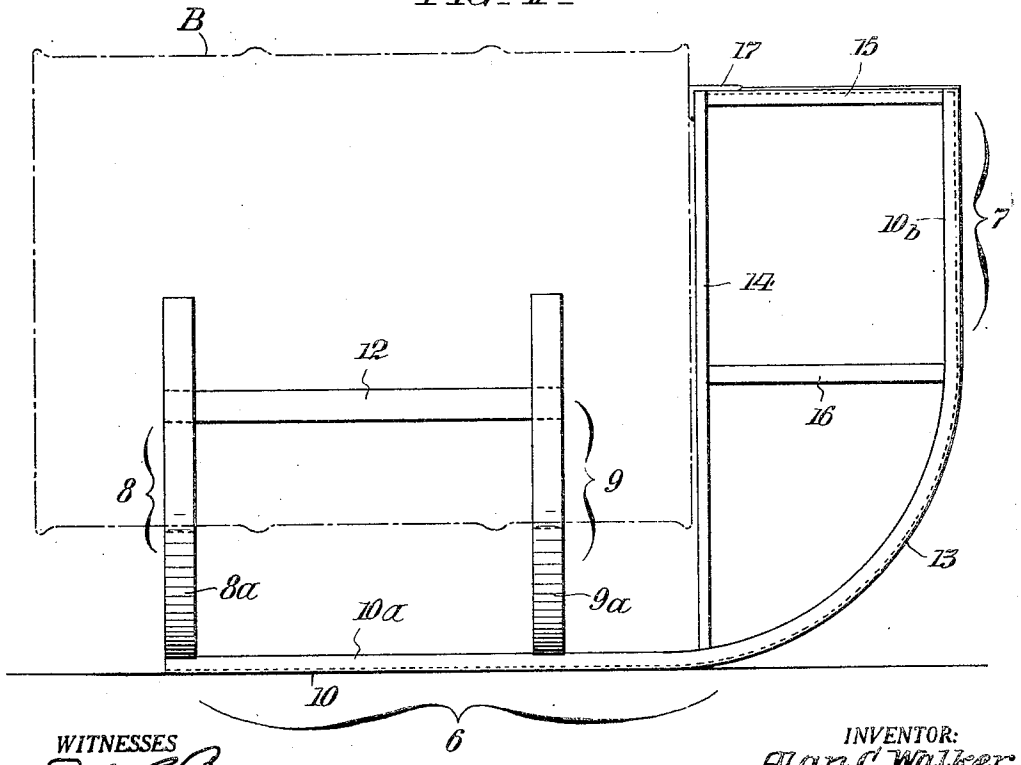


FIG. II.



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FIG. III.

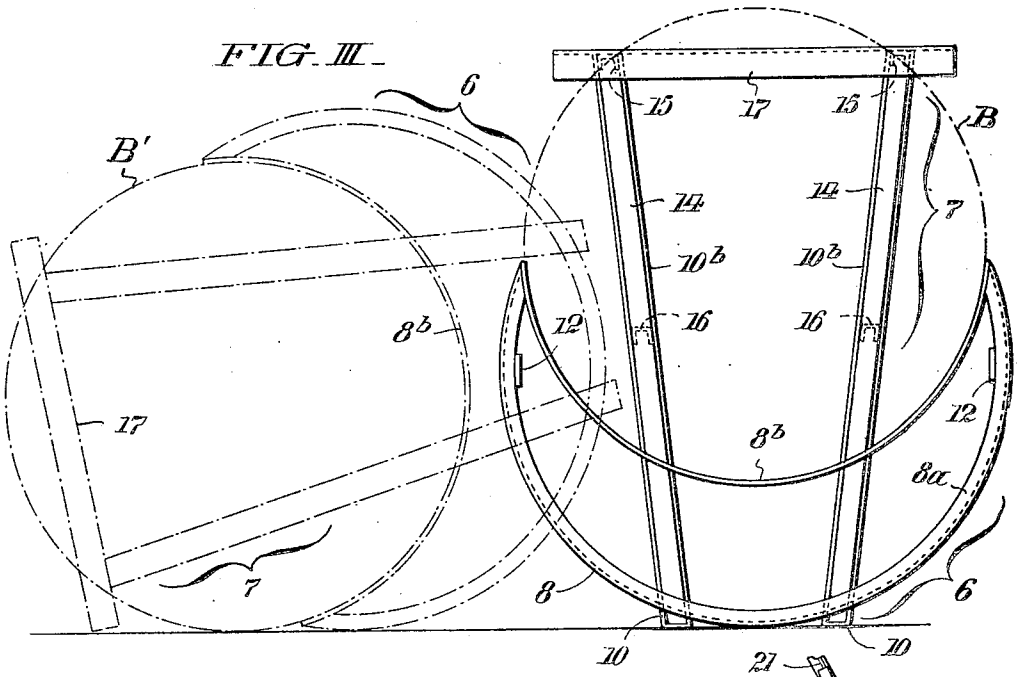


FIG. V.

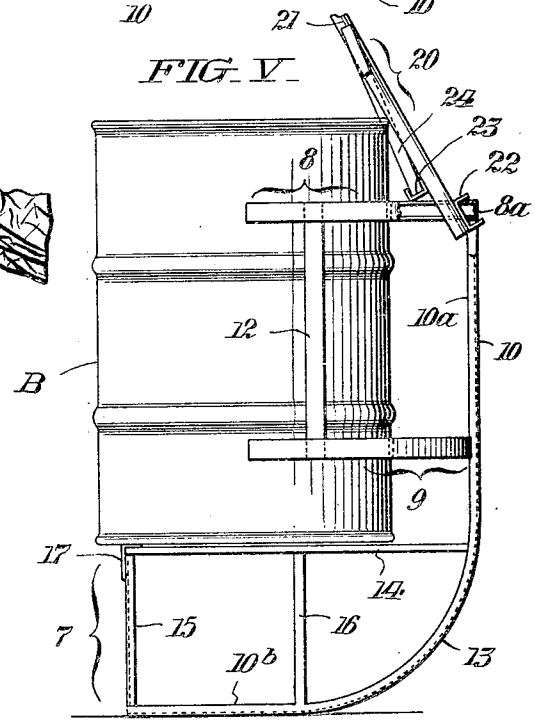
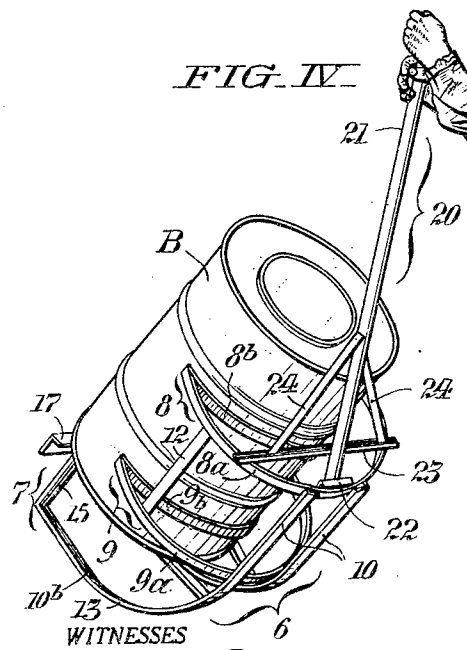


FIG. IV.



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UNITED STATES PATENT OFFICE

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BARREL SUPPORTING AND HANDLING DEVICE

Application filed September 30, 1931. Serial No. 566,039.

This invention relates to devices for supporting and handling barrels or drums, filled with fluid such as lubricating oils and the like.

My invention is in part directed toward the provision of a simple and inexpensive device of the kind referred to, which is capable of supporting a barrel or drum either in horizontal or upright position and at a suitable elevation for the purposes of ready drainage; and which has incorporated with it means whereby the barrel or drum may be raised from the ground with the utmost ease and with expenditure of a minimum of effort, to place it in either of the two positions mentioned.

A further aim of my invention is to provide a device of the specified character which may be utilized as a handling means for lifting barrels, through progressive stages, from the ground to higher levels and vice versa, for example incident to loading or unloading wagons or trucks.

Another object of my invention is to attain, in a barrel supporting and handling device having the recited attributes, the advantage of manufacturing economy, and the rigidity and lightness inherent to construction from metal.

Still other objects and attendant advantages will be manifest from the detailed description following in connection with the attached drawings, wherein Fig. I shows a plan view of a barrel supporting and handling device conveniently embodying my invention.

Fig. II is a side elevation of the device.

Fig. III is an elevation of the device looking from the left as considered in Figs. I and II.

Fig. IV is a perspective view showing how the device is manipulated incident to raising a barrel to upright position; and,

Fig. V is a side elevation of the device with the barrel supported in upright position.

In the illustrated embodiment, the barrel supporting and handling device of my invention has the form of a cradle 6 with a perpendicular head portion 7 at one end thereof, the whole being constructed, in the present instance, from structural iron. As shown, the cradle proper consists of a pair of suitably-spaced transversely-arranged crescent-shaped rocker members 8 and 9 made up respectively of curved segments 8*a*, 8*b* and 9*a*, 9*b* of channel and bar iron connected end to end, with the broad faces of the channels outermost. These transverse members 8 and 9, are joined at their central regions by a pair of longitudinal runners 10 likewise of channel iron with their broad faces outermost, as well as by a pair of supplemental longitudinals 12 of bar stock. From Figs. III and IV it will be observed that the curved segments 8*b* and 9*b* of the transverse members 8 and 9 jointly constitute a concave barrel engaging surface in eccentric relation to a convex rocking surface jointly afforded by the curved segments 8*a* and 9*a*. The runners 10, on the other hand, jointly provide a longitudinal ground-engaging flat to stabilize the device with a barrel B supported horizontally thereon as in Figs. II and III.

The runners 10, it will be noted, are symmetrically divergent rearwardly (toward the right in Figs. I and II) from the points of their connection to the rocker member 8, and extended beyond the rocker member 9 where they are bent at right angles with formation of well rounded curves 13 between their straight extremities 10*a*, 10*b*. Extending perpendicularly from the straight segments 10*a* of the runners 10 somewhat forward of the rocker member 9, are upright bar members 14 which are joined with the segments 10*b* at the top by longitudinals 15, and at intermediate points by supplemental longitudinals 16. The upright bars 14 are moreover connected transversely of the upper ends by an angle bar 17; while crossed tie straps 18 and 19 extending diagonally between the longitudinals 15 lend rigidity to the head 7 of the cradle. Although rivets may be employed to permanently secure the various components of the device together in the relation described, for the sake of economy in manufacture, I prefer to weld them together.

The use of the device is as follows: Assuming the barrel or drum B to be horizontal-

ly on the ground as shown in dot and dash lines at B′ in Fig. III, the device is brought up so that the curved segments 8*b* and 9*b* of the rocker members 8 and 9 engage the barrel side, and the head 7 of the cradle contacts with the corresponding end of the said barrel. The cradle is thereupon rocked transversely through an angle of 90° to the full line position of Fig. III with the flats of the runners 10 resting on the ground to maintain the device in stable equilibrium and supporting the barrel B horizontally at a sufficient elevation to permit ready drainage thereof from its forward end.

If upright placement of the barrel is desired for the purpose of draining it, the cradle 6 is rocked longitudinally on the angle curvatures 13 of its runners 10 from the full line horizontal position of Figs. II and III and through the position of Fig. IV to the vertical position of Fig. V. As a result, the straight perpendicular extremities 10*b* of the runners 10 are brought into contact with the ground to maintain the cradle in stable equilibrium with the barrel B supported on end by the cradle head 7, likewise at an elevation convenient for the purpose aforementioned. To facilitate the last described maneuver, I provide a manipulating implement such as shown at 20 in Figs. IV and V. This implement comprises an elongate lever handle 21 made from a length of tubing or piping, with a claw 22 at the bottom end thereof for engaging the curved segment 8*a* of the rocker member 8 of the cradle on the in side at the center. A cross piece 23, secured to the handle 21 somewhat above the claw 22 and reinforced by angularly placed braces 24, is adapted to concurrently engage the segment 8*a* of the rocker member 8 at two points remote from the center of the latter. After application of the implement 20 to the cradle 6 while the latter is in the horizontal position of Figs. II and III, the handle 21 is simply raised after the manner illustrated in Fig. IV. As a consequence of the leverage afforded by the implement 20, the operation of raising the barrel B to upright position as hereinbefore described, is obviously rendered very easy of accomplishment with a minimum of exertion.

Attention is directed to the fact that the spacing of the perpendiculars 14 and the crosswise angle bar 17 of the head 7 relative to the perpendicular extremities 10*b* of the runners 10 is greater than the spacing of the arcuate segments 8*a*, 9*a* and 8*b*, 9*b* of the two rocker members 8 and 9. The device can accordingly be utilized as a means for progressively lifting barrels to higher levels incident to loading trucks or wagons.

Having thus described my invention, I claim:

1. A barrel handling device having the form of a cradle with a convex rocking surface, and a registering concave barrel-engaging surface in eccentric relation to said rocking surface, whereby, when transverse rocking motion is imparted to the device, the barrel is lifted horizontally from the ground to a higher elevation, and means enabling longitudinal rocking motion of the device to raise the barrel to a higher level.

2. A barrel handling device having the form of a cradle with a convex rocking surface, a concave barrel-engaging surface in eccentric relation to the rocking surface, and a perpendicular head portion at one end mergent with the cradle proper through a corner rounding, whereby, when transverse rocking motion is imparted to the device, the barrel is lifted horizontally from the ground to a higher elevation, and when longitudinal rocking motion is subsequently imparted to the device about the corner roundings aforesaid, the barrel is finally lifted upright to a still higher level and supported on the head of the cradle.

3. A barrel supporting and handling device in the form of a cradle having a transverse convex rocking surface with a central flat and a registering concave barrel-engaging surface in eccentric relation to the rocking surface, whereby when a ninety degree rocking movement is imparted to the device, the barrel is lifted horizontally from the ground to a higher level with the cradle resting in stable equilibrium on the central flat of the convex rocking surface aforesaid, and means enabling longitudinal rocking motion of the device to raise the barrel to a higher level.

4. A barrel supporting and handling device in the form of a cradle having a convex rocking surface with a central longitudinal flat, a concave barrel-engaging surface in eccentric relation to the rocking surface, and a perpendicular head portion at one end mergent with the central longitudinal flat of the rocking surface through a corner rounding, whereby, when transverse rocking movement is imparted to the device, the barrel is lifted horizontally from the ground to a higher level with the cradle resting in stable equilibrium on the central flat of its rocking surface, and when longitudinal movement is subsequently imparted to the device about the corner rounding aforesaid, the barrel is lifted upright and supported in stable equilibrium upon the aforesaid end portion of the cradle.

5. A barrel supporting and handling device in the form of a cradle constructed from structural iron with a number of similar transversely-arranged crescent-shaped rocker members jointly affording a convex rocking surface and a concave barrel-engaging surface in eccentric relation to the rocking surface, and a pair of longitudinal connecting runners jointly providing a central flat in

the rocking surface aforesaid to stabilize the cradle in horizontal position with the barrel supported thereon at an elevation.

6. A barrel supporting and handling device in the form of a cradle constructed from structural iron with a number of similar transversely-arranged crescent-shaped rocker members jointly affording a convex rocking surface and concave barrel-engaging surface in eccentric relation to the said rocking surface, and a pair of connecting runners jointly providing a flat centrally of the rocking surface to stabilize the cradle in horizontal position with the barrel supported thereon at an elevation, the said runners being bent at right angles through corner roundings to form in conjunction with supplemental verticals and longitudinals a perpendicular head portion for one end of the cradle adapted to support the barrel upright likewise at an elevation from the ground when said cradle is raised on end.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 19th day of Sept. 1931.

ALAN C. WALKER.