March 30, 1954 J. J. KAUFMAN 2,673,654

BARREL AND DRUM TRUCK

Filed Sept. 17, 1951 2 Sheets-Sheet 1

Fig. 1.

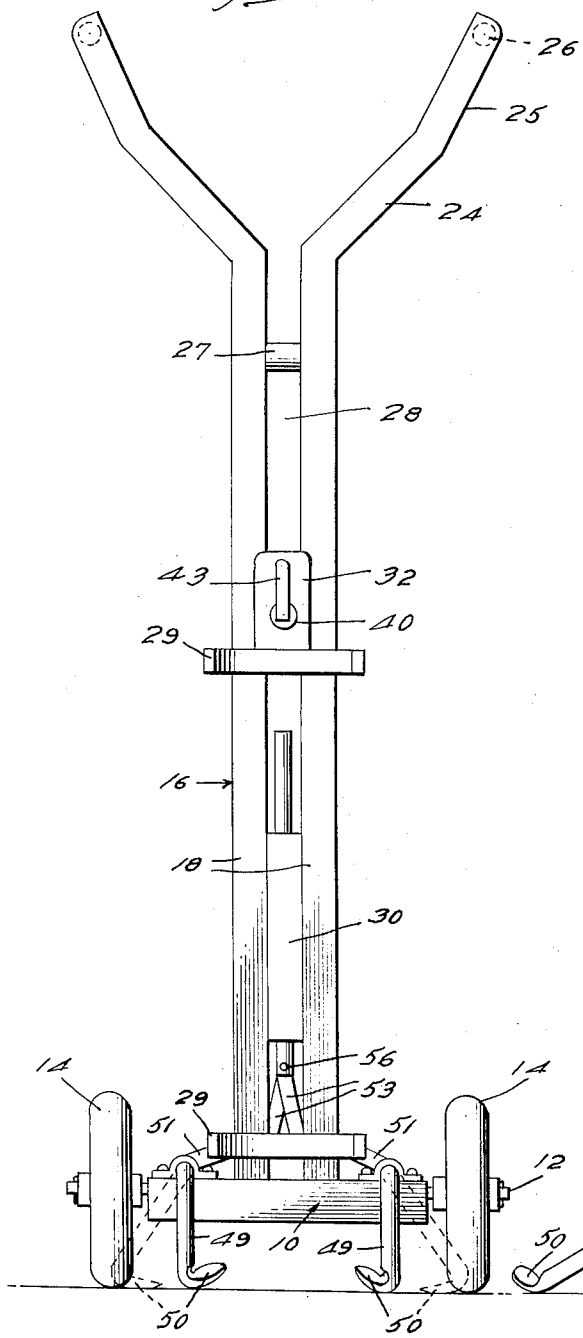
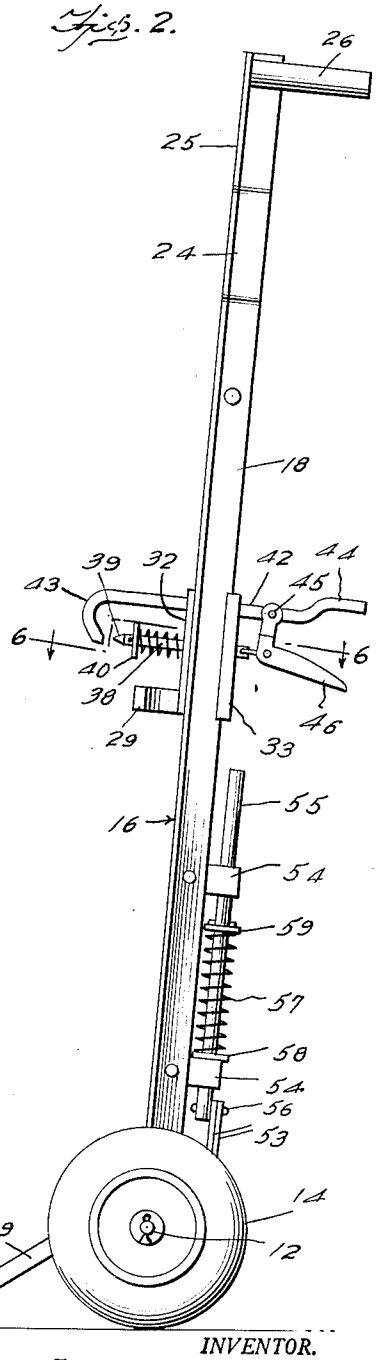


Fig. 2.



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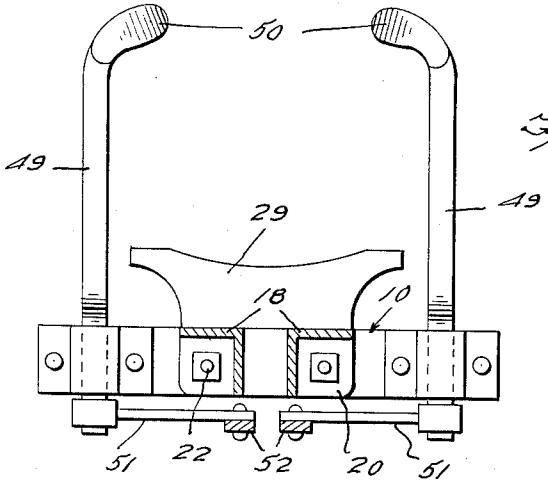


Fig. 4.

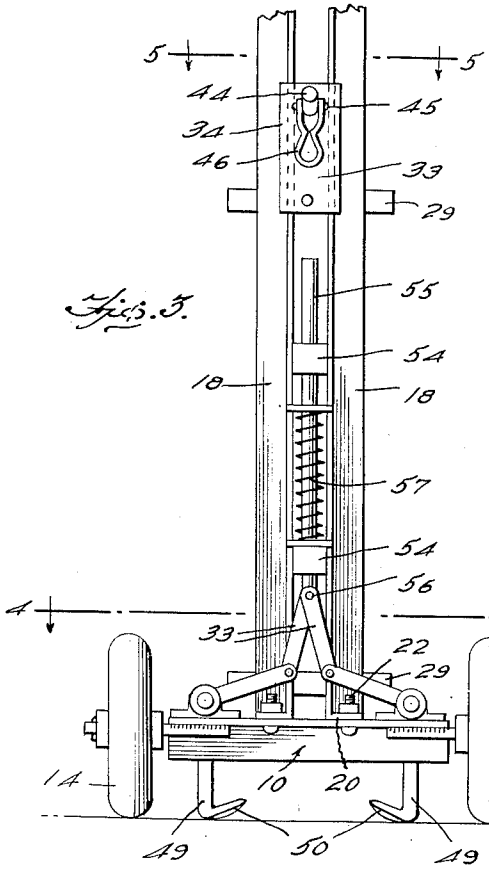


Fig. 5.

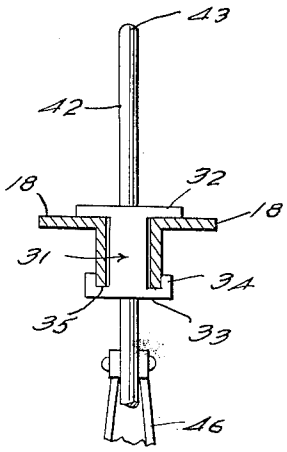
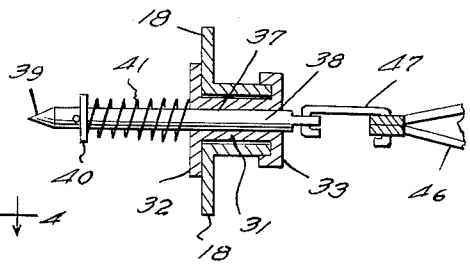


Fig. 6.



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BARREL AND DRUM TRUCK

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2 Claims. (Cl. 214—377)

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This invention relates to improvements in hand trucks and is directed particularly to trucks of this type which are designed for handling of barrels or metal drums.

A primary object of the present invention is to provide a wheeled barrel truck by means of which a metal drum or similar type of barrel when standing on end, can be easily grasped and shifted into an inclined position and held elevated from the ground so that the truck on which it is supported can be readily moved to shift the barrel or drum as desired.

Another object of the invention is to provide a barrel truck wherein means is provided for automatically engaging the barrel beneath the bottom edge thereof after the top edge or rim has been secured to the body of the truck and the truck oscillated to an inclined position for effecting the tipping of the barrel, so that the barrel is thus held free from the ground to be easily shifted by the truck on which it is supported.

A still further and more specific object of the invention is to provide a barrel truck comprising a bottom or base portion and an elongated body beam, with wheels connected with the base portion and means carried by the body portion for engaging top rim of the barrel or drum to effect a tilting of the latter, and means adjacent to the bottom or base portion of the truck for engaging beneath the bottom rim of the drum and supporting the latter after it has been tilted with the truck structure.

A still further and more specific object of the invention is to provide in a barrel truck of the above described character, bottom supporting arms which are spring actuated to automatically shift into position beneath the bottom edge or rim of the drum after the latter has been grasped at the top edge or top rim and tipped in the manner described, thereby making it possible to pick up and transport a barrel or drum with the truck of the present invention without having to manipulate any securing devices after the initial engagement of the top edge or rim of the drum by the gripping hook.

Other objects and advantages of the invention will become apparent as the description of the same proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of the specification, with the understanding, however, that the invention is not to be limited to the exact details of construction shown and described since

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obvious modifications will occur to a person skilled in the art.

In the drawings:

Figure 1 is a view in front elevation of a truck constructed in accordance with the present invention.

Figure 2 is a view in side elevation of the same.

Figure 3 is a view in rear elevation of the lower portion of the truck structure.

Figure 4 is a transverse section taken substantially on the line 4—4 of Figure 3.

Figure 5 is a transverse section taken substantially on the line 5—5 of Figure 3.

Figure 6 is a transverse section taken substantially on the line 6—6 of Figure 2.

Referring now more particularly to the drawings the numeral 10 designates a base beam or bottom portion which may be of any desired material but is preferably in the form of a straight angle iron bar. In each end of this angle iron base beam is secured an axle 12 and upon each axle is rotatably mounted a wheel 14. Two separate short axles may be secured to the ends of the base beam 10 or a single long axle may be secured lengthwise to the beam if desired.

Midway between the ends of the base beam is secured the long frame or body portion of the truck which is generally designated 16 and which, as shown, comprises two spaced parallel bars 18 which are also, preferably, of angle iron material. The lower ends of these bars may be provided with foot plates 20 which rest upon the beam 10, to be secured to the beam by bolts 22, or the frame beams 18 may be welded or otherwise suitably secured to the base beam as desired.

At their upper or outer ends the frame beams 18 each has a laterally extending bar 24 terminating in the short end extension 25 which parallels the body beam or frame beam 18 and each of these end extensions has secured thereto an end of a handle or hand grip 26. These hand grips 26 are in spaced parallel relation and are perpendicular to the frame beams 18, being suitably spaced apart to enable the operator of the truck to conveniently grasp them so as to handle the truck with the least amount of effort.

Adjacent to the upper ends of the frame beams 18 there is fixed between the beams a spacer member 27. The beams are accordingly maintained in spaced parallel relation as shown providing the central passage or slot 28.

Adjacent to the bottom ends of the frame beams 18 there is secured a bottom cradle 29 hav-

ing a forwardly directed concave edge or face to receive the side of a barrel or drum.

Just above the bottom cradle 29 there is secured between the beams 18 the relatively long filler block 30, the function of which will be hereinafter set forth.

Above the block 30 there is positioned between the beams 18 a slide member 31 which has a wide face plate 32, portions of the longitudinal edges of which overlie the front faces of the beams 18, and a back plate 33 which is provided with forwardly directed edge flanges 34 which form guide channels or slots 35 which receive the back edges of the spaced flanges of the angle bar beams 18 as shown in Figure 6.

Disposed across the lower part of the face plate 32 of the slide member is an upper cradle 36 which like the bottom cradle 29 has a concave forward face to receive the curved side of a barrel or drum.

Above the top cradle 36 the slide member has a passage 37 formed therethrough in which is slidably positioned the pin 38, the forward end of which is pointed as indicated at 39. Adjacent to the forward end or point 39 of the pin 38 there is fixed a collar 40 against which presses one end of a spring 41 which encircles the pin and bears at its other end against the face plate 32 thus constantly urging the pin forwardly.

Above the pin 38 there is extended through the slide member 31 and fixed therein against movement, the long shank 42 of a barrel chine engaging hook 43. This hook 43 is positioned in advance of the end of the pin 38 and the point of the hook is approximately in line with the point of the pin or slightly below the same as shown in Figure 2.

The rear end of the hook shank 42 is upwardly offset slightly to provide a handle 44 and just in front of this handle 44 there is pivotally secured to the shank at the point 45, a lever 46 which is connected with the rear end of the pin 38 by a link 47. Thus it will be seen that when the handle 44 is grasped and the lever 46 is pulled up toward the handle the pin 38 will be retracted against the tension of the spring 41. This is done when the hook 43 is to be engaged over the top edge or chine of a drum and when the handle 46 is released the spring 41 will move the point 39 into engagement with the drum wall or outer side of the chine below the flange thereof so as to prevent the drum slipping downward.

At the outer side of each frame beam 18 the base or axle beam 10 has secured thereon a bearing 48 the axis of which is perpendicular to the turning axes of the wheels 14.

Rotatably supported in each bearing 48 is the rear end portion of a forwardly extending lift arm 49. Each of these lift arms terminates in the flattened inwardly directed tip or claw 50 which, when the truck is swung to a substantially vertical position will rest flat upon the ground.

The rear end of each arm 49 at the back of the base or axle beam 10, carries the right angularly disposed crank arm 51. The arms 51 are directed upwardly in convergent relation and each has connected thereto at its free end by a pivot 52, an end of a link 53.

On the back of the filler block 30 are secured the vertically spaced guides 54 and slidably extended through these guides is a rod 55.

The lower end of the rod 55 is pivotally connected as at 56 with the converging overlapped ends of the links 53 as shown in Figure 3.

Encircling the rod 55 is a relatively strong expansion spring 57, the lower end of which rests against a collar 58 secured upon the top side of the bottom guide 54 while the upper end presses against a collar 59 which encircles the rod 55 below and in spaced relation with the top guide 54. Thus it will be seen that the spring 57 constantly urges the rod 55 to shift upwardly and thus pull up on the links 53 and the crank arms 51 so as to oscillate the lift arms 49 in a direction to swing the claws 50 inwardly.

In the operation of the present drum and barrel truck the truck is moved up to the barrel or drum when the latter is up ended or standing on its end. The first operation then is to engage the hook 43 over the rim or flange of the barrel after which, by grasping the handles 26, the truck is pulled or swung back, which operation brings the bottom parts of the truck up to the barrel. In doing this the hooks 50 are spread out which brings them into a position where, when the operator pulls the barrel back, the hooks go under the bottom edge or flange of the barrel.

As will be readily understood, when the hooks are spread out in the manner stated, the spring 57 will be placed under compression and when the hooks are in a position where they can go under the barrel the compressed or tension spring 57 forces the hooks toward one another so that the ends will engage under the barrel flange in the manner stated.

Thus the drum will be caught and supported on the ends of the lift arms and will be securely held against downward movement so that it can be moved forwardly with the truck to a desired position.

The weight of the barrel or drum on the movable arms forces the latter towards the barrel thereby making it impossible for the barrel to slip through the arms. The cradles and upper hook 43 hold the barrel in such a manner that it cannot roll off and the turned ends or claws of the arms at the bottom of the barrel also assist in keeping it from rolling to either side.

It will be readily apparent from the foregoing that the present drum and barrel truck is so designed that a barrel can be picked up and handled as desired without the operator having to touch the barrel or drum with his hands.

I claim:

1. In a truck for barrels and the like, a wheeled horizontal body, a pair of spaced parallel bars extending from the rear side of said body, hand grips at the free ends of said bars, means adjustably supported by and between said bars for gripping the top chime of the barrel, a pair of forwardly extending arms mounted on said body for lateral turning movements, the forward end portions of said arms being downwardly inclined, flattened tips inturned angularly from the free ends of the said forward end portions of said arms, a block secured between the lower end portions of said bars, a pair of vertically spaced guides carried by the under side of said block, a rod slidably extending through said guides, a coil spring on said rod between the guides and bearing at its lower end against the bottom guide and coupled at its other end with the rod to force the same upward, a crank arm rigidly secured at one end to the rear end of each of the first arms, said crank arms being in upward convergent relation, a pair of coupling links each pivotally attached at one end to the other end of a crank arm, and a pivot coupling between the

lower end of said rod and the other ends of said links.

2. The invention as defined in claim 1, with the said first arms having end portions journalled in spaced relation on the top side of said body and their other ends downturned, said arms having the free ends of the downturned portions terminating in said tips, the space between the latter portions being less than the mean diameter of the barrel whereby the arms will be separated upon the forcible movement of the barrel therebetween, said coil spring being placed under tension by such movement of the barrel whereby to reversely move the arms inward to engage said tips beneath the lower chime of the barrel upon the tilting of the latter with the body and bars.

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