Jan. 26, 1932. C. DOERING 1,842,391

BARREL MANIPULATING DEVICE

Filed Sept. 20, 1930

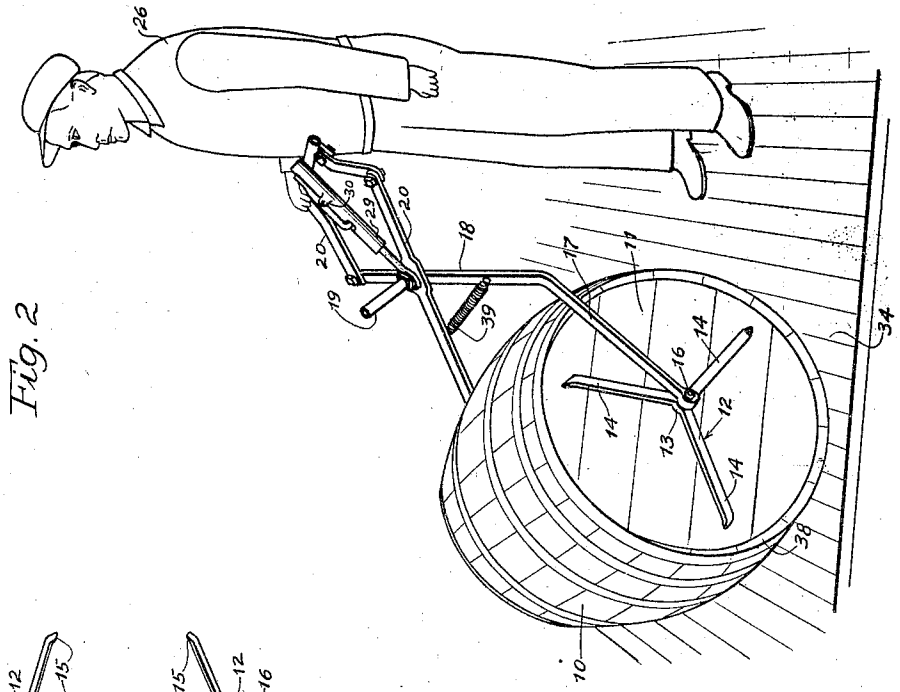


Fig. 2

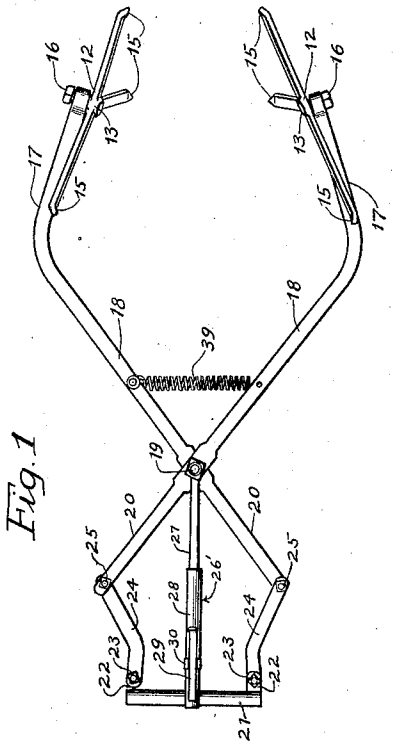


Fig. 1

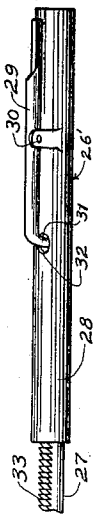


Fig. 3

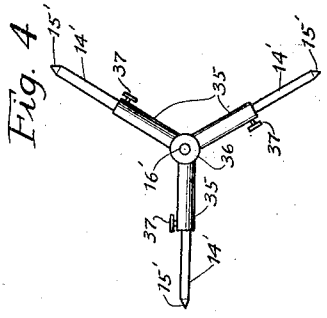


Fig. 4

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Patented Jan. 26, 1932 1,842,391

UNITED STATES PATENT OFFICE

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BARREL MANIPULATING DEVICE

Application filed September 20, 1930. Serial No. 483,182.

This invention relates to handling devices and more particularly to barrel manipulating devices, although it may be employed with equal advantage for other purposes.

It contemplates more especially the provision of portable means capable of ready application to barrels for effecting the convenient rolling transportation thereof.

Containers such as barrels are normally incapable of convenient handling for transportation from one location to another. This is especially true with loaded barrels in spite of the fact that their circular periphery presents a manner of convenient rolling traction traverse.

The difficulty resides in the requirement that the attendant must assume a posture which precludes the most efficacious application of forces to promote rolling traverse. Then, too, manual handling requires the application of a turning tangential force having only a component thereof useful in effecting linear traverse.

In consequence thereof, known manual methods and barrel manipulating expedients have not proven entirely satisfactory or effective. Manipulating devices of this character must be capable of ready application to containers of varying sizes to meet industrial requirements and these rendered instantly removable so as to entail negligible delay and effort in the use thereof. The grasp of the container must be firm and capable of ready control either for the instant grasp or release of the container such as a barrel.

One object of the present invention is to provide novel means for manipulating containers to effect the traction transfer thereof.

Another object is to simplify the construction and improve the operation of devices of the character mentioned.

Still another object is to provide handling means for barrel containers to effectively control the traction traverse thereof.

A further object is to provide lever means capable of grasping the ends of a barrel to effect the traverse thereof over the floor surface for transportation.

A still further object is the provision of rotatively carried confronting members for grasping the ends of a circular container to remotely impart linear traverse thereto.

Still a further object is the provision of barrel end grasping levers with means for maintaining the fixed adjustment thereof to constitute a rigid container manipulating device.

Other objects and advantages will appear from the following description of an illustrated embodiment of the invention.

In the drawings:

Figure 1 is a plan view of a device embodying features of the present invention.

Figure 2 is a perspective view showing the application of the device shown in Figure 1, to a barrel for effecting the manual traverse thereof.

Figure 3 is an enlarged fragmentary perspective view of a ratchet mechanism constituting an element of the device shown in Figures 1 and 2.

Figure 4 is a plan view of an adjustable container engaging member capable of substitution for the engaging members shown in Figure 2.

The structure selected for illustration is shown in association with a container such as a conventional barrel 10 having the usual circular end closures 11. In order to effectively grasp the container 10, a pair of confronting members 12 are provided for engagement with the ends 11 of the container 10.

The members 12 comprise a hub 13 having radially extending arms 14, in this instance three, which terminate in inwardly pointed extremities 15 effective to slightly embed the material of the container ends 11, thereby affording a more secure grasp thereof responsive to the approach thereof. As shown, the members 12 have the hubs 13 thereof suitably bored to receive a pintle or stud 16 fixed therein or otherwise formed thereon for rigid extension therefrom.

The studs 16 are preferably journalled in somewhat enlarged extremities of levers 17 which are bent to define crossed arms 18. The arms 18 intersect for pivotal connection by a pin 19 with continuing diverging lever extensions 20 on the other side thereof.

A handle member or bar 21 has transverse

lugs 22 formed thereon proximate to the extremities thereof, these carrying pins or studs 23 for pivotally connecting diverging links 24 thereto. The links 24 have the other extremities thereof pivotally connected to the lever extensions 20 owing to pins or studs 25, thereby operatively connecting the handle bar 21 to effect the approach or separation of the confronting container engaging members 12. This is effected by the attendant 26 whose grasp of the pintle extension 19 for displacement toward the handle bar 21 held against the attendant's body, will separate the confronting members 12 to enable the removal thereof from the container, in this instance the barrel 10. Displacement of the pintle 19 in the opposite direction with respect to the handle bar 21, effects the grasping approach of the confronting members to engage the ends 11 of the container 10 preferably with their respective axes in alignment.

In order to maintain the confronting members 12 in their adjusted positions, a ratchet device 26 is interposed between the pintle 19 and handle bar 21. The ratchet device 26 consists, in this instance, of a rod 27 having the looped extremity thereof engaged by the pintle 19 for telescopic extension within a tubular member 28 fixed to the handle bar 21 in any suitable manner. A pawl 29 is pivoted to the tubular member as at 30 so that the bent extremity 31 thereof will project through an aperture 32 in the wall thereof for engagement with serrations or ratchet teeth 33 provided on the rod 27. In consequence thereof, the levers 17 with their rotative confronting members 12 may be held in any adjusted position so that the linkage connected thereto together with the handle bar 21 will comprise a rigid frame serving to transfer the direct linear forces of locomotion remotely imparted by the attendant 26. Rotation is imparted to the barrel 10 together with the engaging members 12 thereof, and the linear traverse effected as a result of its traction with the sustaining surface 34.

In order that the confronting members 12 may be adaptable to containers, preferably barrels of different size and configuration, it is possible to provide extensible arms 14′ which are telescopically received in radial tubular members 35 integrally or otherwise formed with the hub 36. The hub 36 is, in this instance, also provided with a stud 16′ for rotary attachment to the levers 17 in the manner described supra. The arms 14′ may be extended to any desired diameter and held in adjusted position by means of set screws 37 which threadedly project through the tubular member 35 for engagement with the arms 14′. The arms 14′ terminate in inwardly extending pointed extremities 15′ to more effectively grasp the surface of a container.

Other forms of adjustment may be provided, and this is capable of being modified as commercial practice may dictate. With this arrangement, the extremities 15′ of the arms 14′ may be extended to engage the rim 38 of a container to effectively maintain a grasp thereon especially with metallic barrels and similar devices which vary in size and diameter.

In order to normally urge the approach of the confronting members 12, a spring 39 is preferably interposed between the lever 17, thereby compelling the separation thereof for a distance greater than the width of the barrel 10 so that the confronting members 12 may be automatically brought in contact with the ends 11 thereof responsive to the spring 39. The attendant thereupon grasps the pedal extension 19 with one hand and holds the handle bar 21 with the other so as to effect the separation thereof to the end of causing the pointed extremities 15′ of the confronting members 12 to engage the ends 11 with the necessary firmness as to establish a fixed joinder.

The pawl 29 thereupon engages the ratchet teeth 33 to maintain the levers 17 rigid so that the handle bar 21 may be manipulated for causing the traverse of the container 10 along the sustaining surface 34 for convenient transportation with minimum effort. Removal of the confronting members 12 is effected by releasing the pawl 29 so as to enable the pintle 19 to be drawn toward the handle bar 21 held against the attendant 26. As a result, the lever 17 will separate so as to enable the convenient removal of the confronting members 12.

Various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention as defined in the appended claims.

I claim:

1. In a device of the character described, the combination with confronting members adapted to embrace the ends of a container, of pivotally connected levers for rotatively supporting said confronting members, handle means pivotally connected to said levers to effect the grasping approach or removing separation thereof relative to a container, and ratchet means associated with said levers for maintaining said confronting members in adjusted relation for manipulating the surface traction of the container through said handle means.

2. In a device of the character described, the combination with confronting members adapted to axially embrace the ends of a container, of pivotally connected levers for rotatively supporting said confronting members, means operatively connected to said levers to effect the grasping approach or removing separation thereof relative to a con-

tainer, handle means, links pivotally interposed between said handle means and levers, and ratchet means interposed between said levers and handle means to maintain said confronting members in adjusted position.

3. In a device of the character described, the combination with confronting members adapted to embrace the ends of a container, of pivotally connected levers for rotatively supporting said confronting members, means operatively connected to said levers to effect the grasping approach or removing separation thereof relative to a container, handle means, links pivotally interposed between said handle means and levers, telescopic members interposed between the fulcrum of said levers and said handle means, and pawl and ratchet means on said telescopic members for maintaining adjustment therebetween.

In witness whereof, I subscribe my name.

CHARLES DOERING.