M. D. POTTER, DEC'D.
A. M. FREEMAN, SPECIAL AGENT.
HOISTING DEVICE.
APPLICATION FILED JAN. 11, 1921.

1,426,503.

Patented Aug. 22, 1922.

Fig. 3.

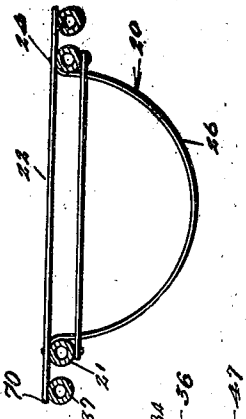


Fig. 4.

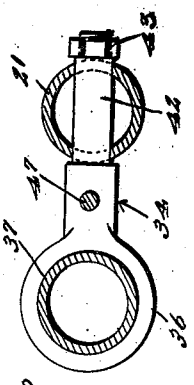


Fig. 2.

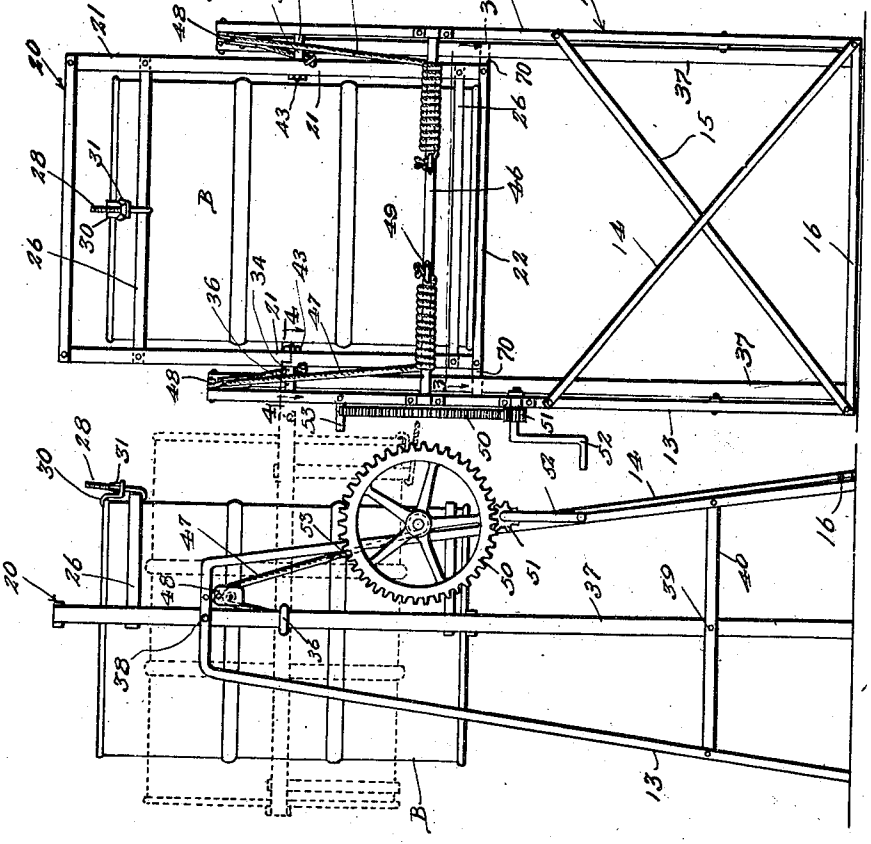


Fig. 1.

WITNESSES
R. A. Thomas

INVENTOR
M. D. Potter
BY Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

MOLTON D. POTTER, OF SIOUX FALLS, SOUTH DAKOTA; ALBERT M. FREEMAN SPECIAL AGENT OF THE ESTATE OF SAID MOLTON D. POTTER, DECEASED, ASSIGNOR TO W. E. DIBBLE, OF SIOUX FALLS, SOUTH DAKOTA.

HOISTING DEVICE.

1,426,503. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed January 11, 1921. Serial No. 436,520.

To all whom it may concern:

Be it known that I. MOLTON D. POTTER, a citizen of the United States, and a resident of Sioux Falls, in the county of Minnehaha and State of South Dakota, have invented certain new and useful Improvements in Hoisting Devices, of which the following is a specification.

This invention relates to hoisting devices especially adapted for use in hoisting barrels and the like.

The invention forming the subject matter of this application aims to provide a hoisting device for barrels having means whereby barrels may be hoisted to a point from where it is convenient to discharge the contents of the same, into a suitable receptacle without losing any of the liquid, as the same is discharged from the barrel.

A further object of the invention is to provide a barrel hoisting apparatus having simple means whereby the barrel may be tilted to a horizontal position upon being elevated.

A further object of the invention is to provide a barrel hoisting device which is simple to operate, of highly simplified construction and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of this application and wherein like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of the improved barrel hoisting apparatus.

Figure 2 is a front elevation of the same.

Figure 3 is a horizontal transverse sectional view through a cradle embodied in the invention, the view being taken on line 3—3 of Figure 2.

Figure 4 is a detail sectional view illustrating a trunnion embodied in the invention, the view being taken on line 4—4 of Figure 2.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 generally designates the frame of the improved barrel hoisting apparatus, which frame includes upstanding spaced parallel sides 12 and 13. As illustrated in Figure 2 the upstanding sides 12 and 13 are spaced by means of cross rods 14 and 15 which are secured to the intermediate and lower portions of the sides 12 and 13. The metal from which the sides 12 and 13 are constructed may be L-shaped or U-shaped in cross section so as to give the same the requisite strength. The lower ends of the sides 12 and 13 are connected by a transversely extending cross rod 16.

With reference to Figure 1 it will be observed that the cross rods 14, 15 and 16 are located only at one side of the frame so as to leave the other side of the frame entirely open to permit the barrel to be arranged between sides 12 and 13 without the necessity of lifting the barrels over the bracing devices.

The barrel B is adapted to be seated in a cradle 20 which as illustrated in Figure 2 includes longitudinally extending sides 21 connected at their ends by means of spaced rods 22. One pair of spaced rods is located at each end of the sides 21 and is secured to the same by means of fastening devices which may be in the form of bolts 24. When the cradle 20 is in its lowermost position, one of the end members 22 lies in contact with the ground or other supporting surface and the barrel is moved onto the lower end 22 so that the subsequent elevation of the cradle will result in the elevation of the barrel. With reference to Figure 1, it will be noted that when the cradle is in a horizontal position, the barrel rests upon a plurality of spaced parallel longitudinally curved strips 26 which approximately conform to the curvature of the barrel. One of the strips 26 is provided with a bolt 28 on which a clip 30 is held by means of a nut 31. The clip 30 which is carried by the bolt 28 is provided with a bill adapted to engage one end of the barrel so as to securely connect the same to the cradle. When the bill of the clip 30 is engaged with the barrel, the nut 31 may be tightened up so as to absolutely prevent the disconnection of the clip with the barrel.

The cradle 20 is provided intermediate its ends with a pair of laterally projecting trunnions generally designated by the numeral 34 provided with eyes 36 slidable about tubular guides 37. The tubular guides 37 are two in number and are secured to the inner sides of the frame by means of bolts

38 and 39. The bolts 39 extend through the tubular guide and through brace rods 40 connected to the branches of the sides 12 and 13. Each trunnion is provided with an attaching portion 42 which is extended through the tubular sides 21 of the cradle and held in position by means of a nut 43. When the cradle laden with the barrel reaches the limit of its upward movement the same may be swung to a horizontal position as illustrated in dotted lines in Figure 1 so that the contents of the barrel may be dispensed. The downward swinging movement of the cradle is limited by a transversely extending shaft 46 which constitutes a drum for a pair of flexible elements 47.

The flexible elements 47 are trained over pulleys 48 secured to the upper ends of the sides 12 and 13. One end of each flexible element is rigidly secured to the drum 46 as indicated at 49 and the other end of each flexible element is secured to one of the trunnions 34. By reason of this construction, the rotation of the drum 46 will result in the elevation of the barrel.

As illustrated in Figure 2, a spur gear 50 is mounted on one end portion of the drum 46 and is engaged by a smaller gear 51 mounted on an operating crank 52. The spur gear and the drum may be held in a set position by means of a pawl 53 carried by the side 13 of the frame.

In the use of the improved barrel hoisting apparatus, the barrel is positioned between the sides of the frame and upon the lower end 22 of the cradle. The clip 30 is now engaged with the upper end of the barrel for securely connecting the barrel to the cradle. Upon the rotation of the crank 52, the cradle and consequently the barrel will be elevated to a position illustrated in full lines in Figure 2. Upon the elevation of the barrel, the cradle may be swung to a horizontal position as illustrated in dotted lines in Figure 1 and as previously stated the drum 46 constitutes a stop element for limiting the downward swinging movement of the cradle. Of course when the cradle is elevated to the position illustrated in Figure 2, the pawl 53 may be engaged with the teeth of the spur gear 53 so as to hold the drum in a set position whereby the cradle will be prevented from moving downwardly.

With the barrel thus positioned horizontally as illustrated in dotted lines in Figure 1, the contents of the barrel may be dispensed in the desired quantities. By reason of the fact that the barrel is elevated a considerable distance with relation to the ground, a bucket or other receptacle may be located beneath the discharge end of the barrel to receive the contents of the same.

As illustrated in Figures 2 and 3, one end of the cradle is provided with lateral extensions 70 which engage the tubular guides 37 so as to limit the swinging movement of the cradle in one direction. This prevents the cradle from being inverted or upset at any time.

Having thus described the invention what is claimed is:—

1. An apparatus of the class described comprising a frame inclusive of spaced parallel sides and means connecting the sides, a pair of upright guides secured to the sides of said frame, a cradle having trunnions provided with eyes slidable on said upright guides, pulleys connected to said sides, flexible elements connected to said trunnions and trained over said pulleys, a drum carried by said frame and constituting a stop element for limiting the swinging movement of said cradle, said flexible elements being connected to said drum, an operating device for said drum, and means whereby said drum may be held in a set position.

2. An apparatus of the class described comprising a frame, a pair of guides carried by the frame, a cradle having trunnions provided with eyes slidable on said guides, flexible elements connected to said trunnions, a drum carried by said frame and constituting a stop element for limiting the swinging movement of said cradle, said flexible elements being connected to said drum, and an operating device for said drums.

3. A barrel lifter comprising a frame, a cradle slidably and swingingly associated with said frame and having barrel gripping means, a drum carried by said frame and limiting the swinging movement of said cradle in one direction, and a lifting cable connected to said drum and said cradle.

4. A barrel lifter comprising a frame, a cradle slidably and swingingly associated with said frame and having barrel gripping means, a drum carried by said frame and limiting the swinging movement of said cradle in one direction, a lifting cable connected to said drum and said cradle, and means to hold said cradle in an elevated position.

5. A barrel hoisting apparatus comprising a frame having spaced sides and bracing devices connected to the sides, one side of said frame being entirely open to permit of the entrance of a barrel, upright guides secured to said frame, a cradle having trunnions provided with eyes slidable on said guides, means carried by said cradle securely connecting a barrel thereto, an elevating device for said cradle, and means to secure said cradle in an elevated position.

6. A barrel lifter comprising a frame, a cradle slidably and swingingly associated with said frame and having barrel gripping means, a drum carried by said frame and limiting the swinging movement of said cradle in one direction, and a lifting cable connected to said drum and said cradle, said

cradle being provided with lateral extensions engaging said frame and constituting a means to limit the swinging movement of the cradle in one direction.

7. A barrel hoisting apparatus comprising a frame having spaced sides and bracing devices connected to said sides, one side of said frame being entirely open to permit the entrance of a barrel, guards carried by said frame, a cradle slidably and swingingly connected to said guides, a shaft extending transversely of said frame and constituting a means to limit the swinging movement of said cradle in one direction, one end of said cradle being provided with an extension adapted to engage said guides whereby to limit the swinging movement of the cradle in the other direction, a cable connected to said cradle and to said shaft and adapted for elevating the cradle, and an operating device connected to said shaft.

MOLTON D. POTTER.