

Oct. 30, 1951

A. F. NATOLI

2,573,216

DEVICE FOR HOISTING AND LOWERING BARRELS, ETC

Filed Feb. 10, 1947

2 SHEETS—SHEET 1

Fig. 1.

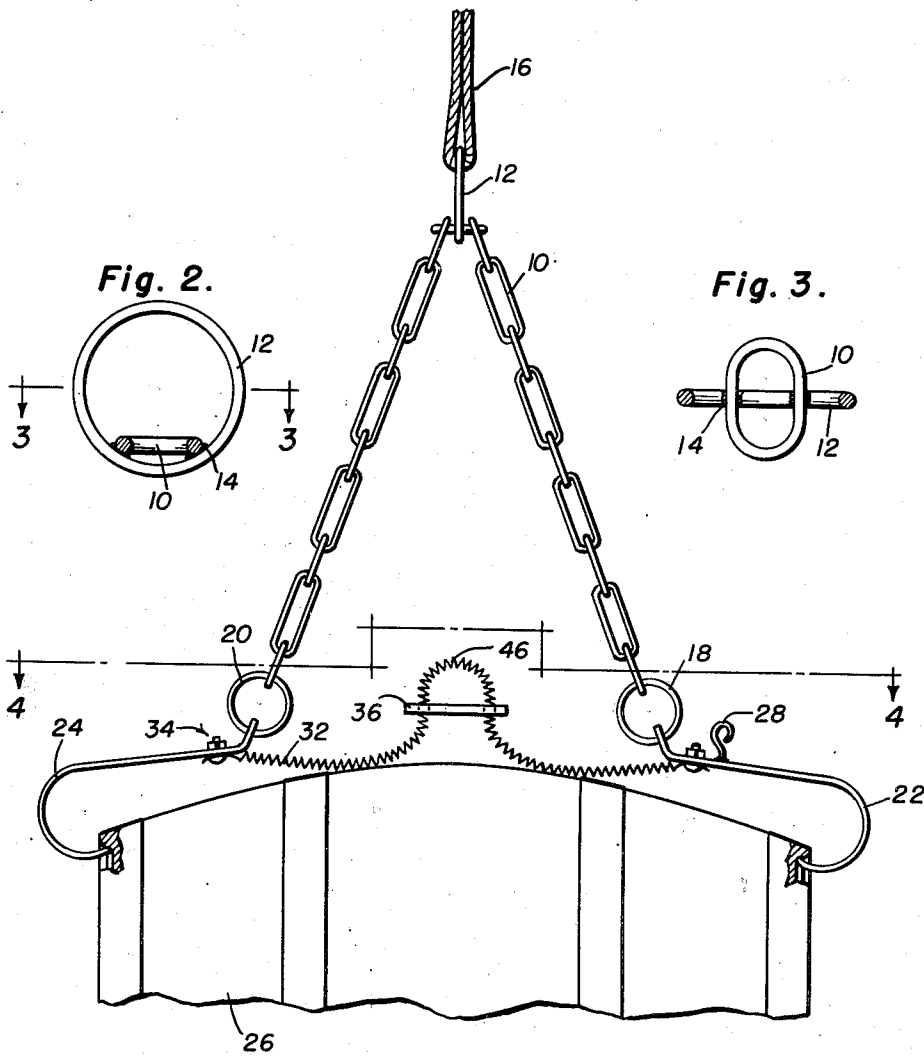


Fig. 2.

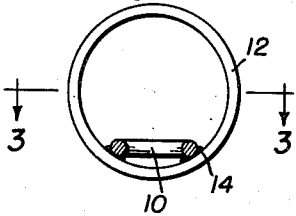
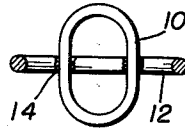


Fig. 3.



Inventor

Angelo F. Natoli

By

Clarence A. O'Brien  
and Harvey B. Jacobson  
Attorneys

Oct. 30, 1951

A. F. NATOLI

2,573,216

DEVICE FOR HOISTING AND LOWERING BARRELS, ETC

Filed Feb. 10, 1947

2 SHEETS—SHEET 2

Fig. 4.

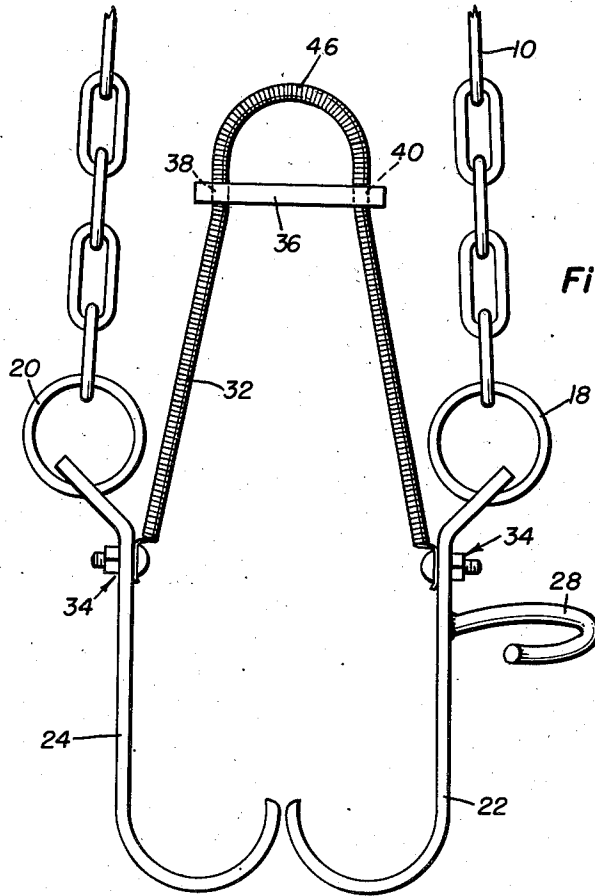
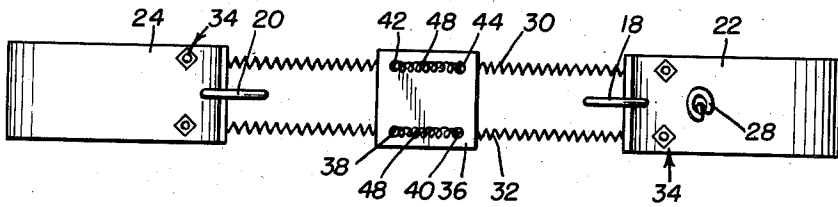


Fig. 5.

Inventor

Angelo F. Natoli

By

Clarence A. O'Brien  
and Harvey B. Jacobson  
Attorneys

# UNITED STATES PATENT OFFICE

2,573,216

## DEVICE FOR HOISTING AND LOWERING BARRELS, ETC.

Angelo F. Natoli, Braintree, Mass.

Application February 10, 1947, Serial No. 727,616

4 Claims. (Cl. 294—74)

1

This invention appertains to new and useful improvements in devices especially adapted to lift and lower certain impedimenta such as barrels, kegs, casks, bales and the like. Heretofore, kegs and the like were lifted by a pair of grappling hooks which firmly embraced said keg while tension was applied to said hooks. However, as soon as the tension was released the hooks simply feel inoperative over the sides of said keg.

The prime purpose of this invention is to provide means for preventing grappling hooks from being rendered inoperative when the application of the usual force is released from said hooks.

Another object of this invention is to provide means for resiliently biasing a pair of grappling hooks in an object embracing relation.

A further object of this invention is to provide adjusting means for said resilient biasing means.

A still further object of this invention is to provide means for conveniently and easily positioning the said grappling hooks and keg or other object being operated upon.

A still further object of this invention is to provide an efficient and improved device capable of performing the specifically enumerated objects, and which is practical and safe to operate.

Ancillary objects and features of novelty will become apparent in following the description of the illustrated preferred embodiment, depicted in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the preferred embodiment of the instant invention, showing said embodiment as used in conjunction with a conventional cask;

Figure 2 is a sectional detail view of the annulus used in conjunction with the present invention;

Figure 3 is a sectional view of the annulus disclosed in Figure 2 and taken substantially on the line 3—3 thereof and in the direction of the arrows;

Figure 4 is a transverse sectional detail view of the invention disclosed in Figure 1 and taken substantially on the line 4—4 thereof and in the direction of the arrows, and

Figure 5 is a fragmentary elevational view of the invention disclosed in Figure 1, the cask being removed.

Reference is now made in detail to the illustrated preferred embodiment of the instant invention, like reference characters being used throughout to indicate similar elements thereof.

It is well known in the art to lift and lower objects by the use of a chain and hooks in the

2

form of a sling. This invention, as pointed out hereinabove, has for its prime purpose to provide new and useful improvements adapted to be used in said conventional elements.

Taking Figure 1 for purposes of description, there is disclosed a chain member 10 having an annulus 12 rigidly secured to a selected link at substantially the center thereof. Any suitable securing means may be used, however, the preferred means is welding or brazing, as disclosed in Figures 2 and 3 at 14. It is here noted that this invention contemplates the use of other means such as cable, rope and the like, however, the use of a chain has been found preferable. The said annulus 12 is adapted to receive securing means 16 therethrough which is connected to a prime mover as is conventional in the art.

Enlarged links 18 and 20 are provided at the free ends of the said chain 10 to receive the hooks 22 and 24 therein. As is noted from an inspection of Figure 4, the said hooks are preferably constructed of rather wide substantially flat stock. This construction affords strength and adequate bearing surface to engage the cask 26.

An arcuate arm 28 is rigidly secured to a selected hook 22 as by welding or the like. It is apparent that arm 28 may be secured to said hook by other means such as threaded thereto or formed integral therewith. A function of the said arcuate arm is to provide means for shifting or positioning the grappling hooks and its associated mechanism both while the invention is operatively lifting cask 26 and while the said cask is resting on a suitable support or even on the ground.

Another function of this arcuate arm 28 is to receive the connecting means 16 thereunder while kegs or the like are being slid down a ramp. It is noted that the arcuate arm is located to one side of the center of lift and accordingly, if the rope 16 were slipped thereunder to be used as a braking means, the forward or leading end of the keg would be tilted upward thereby permitting the rearward end to act as a bearing or sliding surface on said ramp.

Referring now to the most important feature of the invention, it is seen that a pair of resilient biasing means 30 and 32 respectively are secured between said grappling hooks. Conventional securing means may be used, preferably simple screws and nuts generally indicated at 34. The function of the said springs is to urge the said grappling hooks inwardly against the object to be handled. It is apparent that when the tension

3

is released from the chain 10, the grappling hooks will be urged against the cask 26 by the action of said springs 30 and 32. Obviously, the grappling hooks will not fall from the cask to an inoperative position and if it is desired to lift the cask again, this operation may be performed without refitting the said grappling hooks to the upper portion of the member 26.

In the event that varied size impedimenta must be handled, an adjusting means is provided on said springs for varying the tension thereof. The said adjusting means consists of a flat plate 36 having a plurality of successively aligned apertures 38, 40, 42 and 44 therethrough respectively. The springs 30 and 32 are adapted to be slidably threaded through successive apertures therein whereby said plate may be slid relative to said springs thereby adjusting the tension of said springs through the medium of rendering a selected amount or portion 46 and 48 thereof inoperative. Obviously, this will exert more tension on the said grappling hooks 22 and 24 thereby permitting smaller barrels or kegs to be handled.

Due to the extreme mechanical simplicity characterizing this invention, a further description thereof is deemed unnecessary. It is understood that variations as to size and shape may be made herein without departing from the spirit of the invention. Accordingly, limitations are desired only in accordance with the scope of the following claims.

Having thus described my invention what is claimed as novel and improved is:

1. A lifting device comprising a chain member, lifting means secured substantially centrally thereof, grappling means swingingly mounted at the free ends of said member, resilient biasing means operatively secured between said grappling means, and means for adjusting said biasing means, said resilient biasing means including a spring, said grappling means comprising a plurality of hooks, said lifting means including a ring having a link of said chain rigidly attached thereto.

2. A lifting device comprising a chain member having a lifting ring substantially medially thereof, a link of said chain rigidly attached to said ring, grappling means swingingly mounted at the free ends of said member, resilient biasing means operatively secured between said grappling means, and means for adjusting said biasing means, said resilient biasing means comprising a plurality of

4

springs in substantially parallel relation, said grappling means comprising a plurality of hooks, said adjusting means comprising a plate having a plurality of apertures therein receiving said resilient biasing means.

3. In a lifting device, a chain member, an annulus rigidly secured substantially centrally thereof, hooks swingingly mounted at the ends of said chain member, springs secured between said hooks, an adjusting plate having a plurality of apertures therein, said springs slidably threaded through successive apertures whereby said plate may be slid relative to said springs thereby adjusting the effective length thereof, and a curved arm secured to one of said hooks adapted to be grasped in positioning said member and hooks.

4. A lifting device for barrels comprising a chain, a lifting ring rigidly secured to one of the links of said chain, thereby fixing said chain against sliding movement through said ring, a pair of hooks, one of said hooks being secured to one end of said chain and the other of said hooks being secured to the other end of said chain, each of said hooks having a bent terminal portion with an aperture therein and the end links of said chain being passed through said apertures to thereby connect said hooks to said chain, a spring secured at its ends to said hooks adjacent the portions of said hooks to which said chain is attached, a plate having a pair of apertures therein, and said spring being threaded through said apertures to thereby provide a slack adjuster for said spring.

ANGELO F. NATOLI.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
925,004	Maitland	June 15, 1909
1,212,984	Mazoch et al.	Jan. 16, 1917
1,326,802	Strathern	Dec. 30, 1919
1,819,390	Seager	Aug. 18, 1931

#### FOREIGN PATENTS

Number	Country	Date
3,042	Great Britain	Feb. 6, 1902
14,350	Netherlands	Feb. 15, 1926
19,620	Great Britain	Aug. 30, 1913