No. 624,078. Patented May 2, 1899.

H. R. PATRIARCHE.

HOISTING OR LOWERING DEVICE.

(Application filed Feb. 24, 1899.)

(No Model.)

Fig. 1.

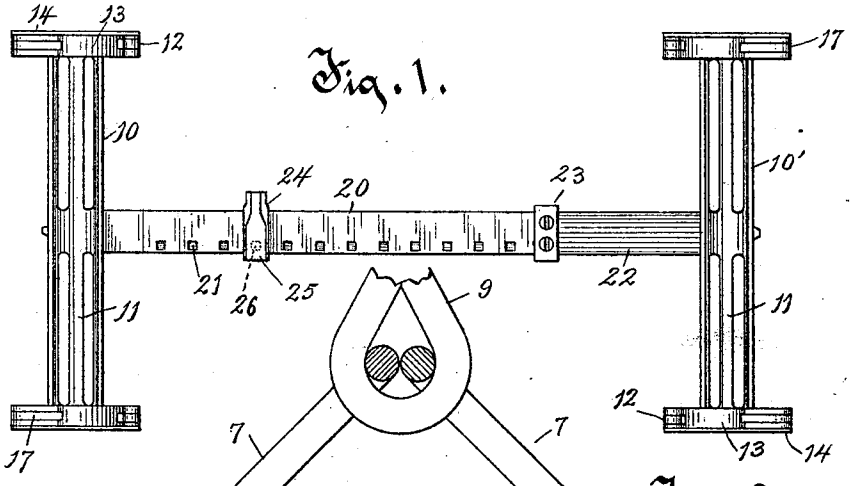


Fig. 2.

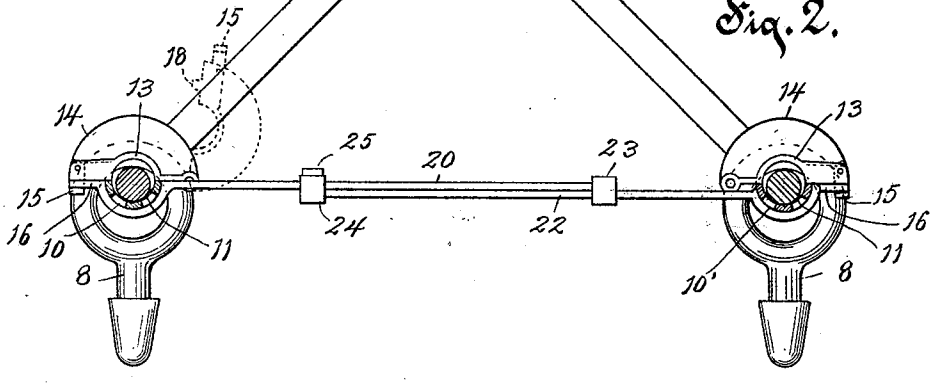


Fig. 3.

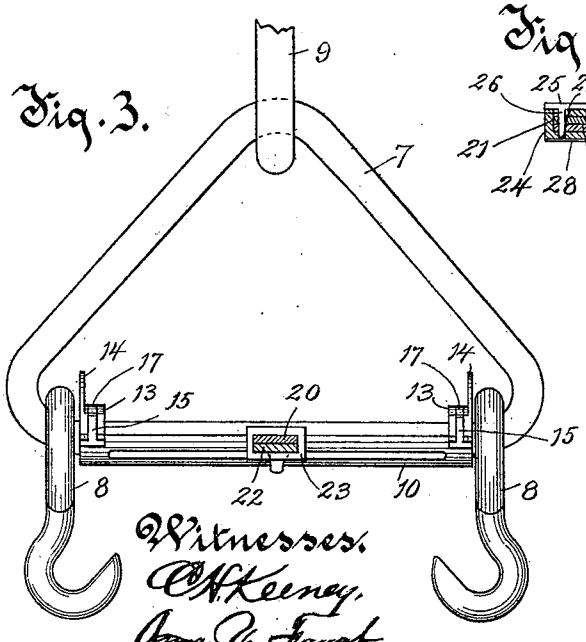


Fig. 5.

Fig. 4.

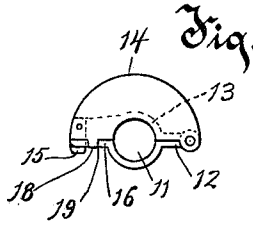
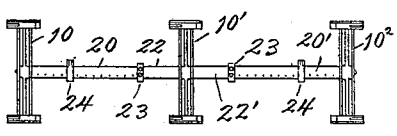


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HOISTING OR LOWERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 624,078, dated May 2, 1899.

Application filed February 24, 1899. Serial No. 706,690. (No model.)

To all whom it may concern:

Be it known that I, HUGH R. PATRIARCHE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Hoisting or Lowering Devices, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in hoisting and lowering devices more especially intended for use on freight vessels for elevating and lowering barrels and the like.

The most commonly-employed means for elevating barrels from and lowering into the hold of a vessel is the provision of two slings suspended from a hoisting-rope, each of said slings carrying loosely two hooks, which hooks are adapted for adjustment to the chimes of a barrel. This arrangement in practice has been found to be open to serious objections—as, for instance, in hauling up the slings after the barrels have been detached there is nothing to prevent said slings from becoming tangled, which when this occurs, and practice demonstrates that it almost invariably does occur, entails considerable trouble, annoyance, and some loss of time in untangling. A further objection to the form of hoisting mechanism referred to resides in the fact that three men are usually required to operate the mechanism—viz., one man to operate the hoisting and lowering rope and two men to handle the hooks in order to engage the same with the chimes of the barrel.

It is the primary object of my invention to overcome the above-named disadvantages in a simple manner.

Another object resides in the provision of means for increasing or diminishing the width of the frame, for the purpose hereinafter specified.

A further object of the invention is the provision of means for raising or lowering three barrels or kegs at one operation.

A still further object resides in the provision of a construction whereby a sling carrying hooks of a certain style may be readily removed and another sling carrying hooks of a different form or size substituted therefor.

With the above and other incidental objects in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully pointed out.

In the accompanying drawings, Figure 1 is a plan view of my invention. Fig. 2 is an elevation of Fig. 1 with the longitudinal bars in section, showing in dotted lines the hinged upper portion of the eye at the end of one of the bars as raised. Fig. 3 is a cross-section of the device through the adjustable connecting arms or bars. Fig. 4 is a detail of one end of one of the longitudinal arms. Fig. 5 is a cross-section through the overlapping adjustable bars; and Fig. 6 is a plan view, on a reduced scale, of the construction adapted for elevating or lowering three barrels, kegs, or the like at one operation.

Referring to the drawings, the numerals 7 7 indicate slings, each consisting of a rope arranged in ordinary loop form. Each of these slings carries two hooks 8 8, which are of the ordinary form of hooks used in this class of devices, the shank of each hook being advisably provided with an eye, through which the rope forming the sling loosely passes. To the upper portions of the slings is connected the lower end of a hoisting and lowering rope 9, the opposite end of said rope being advisably connected to a windlass or other suitable winding mechanism. (Not shown.)

My improvements consist of a frame, to which the slings are connected, said frame consisting of two arms and a connecting cross member. The arms are indicated by the numerals 10 10′. These arms are shown as of a concavo-convex form in cross-section, with the cavities uppermost, thereby forming grooves 11 11. The opposite end of each arm is provided with a projecting lug 12, and to this lug is hinged a half-circular strap 13. Extending upwardly from the outer edge of each strap is a plate 14, which plate forms a guard and prevents the eyed portion of the hook from slipping over onto the longitudinal arm of the frame. The unhinged end of each curved strap 13 has pivoted thereto a latch 15, said latch when the curved strap is in normal position adapted to be turned so as to enter the slot or bifurcated end of a projecting catch 16, the head of the latch passing beneath said catch, and thereby holding the curved strap 13 locked until the latch is turned upwardly out of engagement with the

slot of the catch 16. The free end of a flat spring 17 bears on the latch, and the tension of this spring is sufficient to hold the latch in engaging position until said latch is turned upwardly on its pivot by force applied directly thereto. The hinged strap 13 is also preferably provided at its unhinged end with a depending lug 18, which is adapted to pass into a slot 19 of the bifurcated catch 16 when said hinged strap is turned downwardly to closed position, the said lug 18 thereby serving to steady the hinged strap in said closed position.

The transverse connecting member for the arms consists of two parts—viz., a bar 20, extending from the arm 10 and provided throughout its length with a series of openings 21, and a bar 22, extending from the arm 10′. The portion 20, as will be seen from the drawings, overlaps the other portion 22 of the connecting member. The bar 20 is provided at its extremity with a rigid collar 23, which loosely surrounds the bar 22, and said bar 22 in turn is provided at its extremity with a rigid collar 24, which loosely surrounds the bar 20. Pivoted between lugs projecting from one end of this collar 24 is a latch 25, said latch provided at or near its free end with a depending dog or finger 26. The latch when turned down on its pivot is adapted to extend over the upper side of the collar 24, and this upper side of said collar is provided with an opening 27, said opening adapted to be brought into register with any of the openings 21 of the bar 20. When the latch is turned down on its pivot, as just explained, the depending dog or finger thereof is adapted to engage the registering opening in the collar 24 and in the bar 20 and also pass into an opening in bar 22 and finally seat itself in a socket in the bottom of collar 24. By this provision the two parts of the adjustable connecting member are locked in adjusted position. On the under side of the collar 24 is secured a spring 28, the free end of said spring bearing against the pivoted end of the latch, and thereby holding said latch firmly in locking position.

In Fig. 6 of the drawings I show a modification of the invention to adapt it for elevating or lowering three barrels, kegs, or the like at one operation. This consists in providing an extra arm 10^2, constructed exactly similar to the arms 10 10′. The arm 10^2 is connected to the adjacent arm 10′ by a similar adjustable connecting member to that which connects the arms 10 10′ and consisting of two bars designated by the numerals 20′ and 22′. The connecting-bar 20′ is similar to the connecting-bar 20 and the connecting-bar 22′ to the connecting-bar 22. The same form of collars 23 and 24 is employed and the same form of latch 25.

Figs. 2 and 3 show the relation of the slings with reference to the frame. From these figures it will be seen that the lower portions of the slings pass through the eyes provided at the ends of the arms and are seated in the grooves 11.

In applying my improved device a man grasps either of the arms or the transverse connecting member and arranges said arms over two adjacent barrels. Two of the hooks are then made to engage the chimes of the barrels at corresponding ends of said barrels, and then the two other hooks are made to engage the chimes of the opposite ends of the barrel, or where the device shown in Fig. 6 is employed the two hooks of the third arm 10^2 are made to engage the chimes at the opposite ends of the third barrel or keg. The device is now properly connected, so that the barrels may be lowered into the hold of the vessel or elevated from the hold, as the case may be. This is accomplished by unwinding or winding up the rope 9, in accordance with whether it is desired to lower or elevate the barrels. In case the distance between two of the arms is not such as to permit said arms to extend properly along the lengths of the barrels this space may be readily adjusted, so as to be increased or decreased, by merely disengaging the latch 25 and adjusting the arms closer together or farther apart, as required, the latch 25 being made to again engage when the proper adjustment is obtained. By this means it will be obvious that the distance between the arms may be readily regulated in order to adapt said arms to fit adjacent barrels, no matter what the diameter of said barrels may be. The two collars 23 and 24 of the two-part adjustable connecting member prevent separation of said parts of the connecting member, and collar 24 also forms, in connection with the latch and the openings in the part 20, a means for locking the two-part adjustable connecting member in adjusted position.

The grooves 11 in the arms hold the two slings entirely separate, and thereby effectually prevent said slings from tangling and twisting. The provision of the framework, consisting of the arms and the transverse connecting member, also provides a single frame of such character as to enable one man to handle and properly adjust all the hooks in the manner hereinbefore fully pointed out.

The provision of the hinged curved straps 13 at the ends of the arms, which when turned downwardly form, in connection with the concave formation of the arm, a complete eye or circle, makes it possible to readily remove one sling when desired and substitute another sling therefor having hooks of a different form or size mounted thereon. It will be understood that the slings usually employed in devices of this class are continuous slings, and a number of these slings are provided having different forms of hooks thereon. My construction therefore presents an advantage in this respect in thus providing for readily removing one sling and substituting another.

While I prefer to employ the two arms 10 10′ with the transverse connecting member, yet I do not wish to be understood as limiting myself thereto, inasmuch as two arms of the construction or substantially the construction shown and adapted to be used in connection with the slings, as described or substantially as described, and without the provision of the transverse connecting member I consider within the spirit and scope of my invention. I also desire to be understood as claiming merely a single arm of the construction or substantially the construction described, as comprehended by my invention.

What I claim as my invention is—

1. In a hoisting and lowering device, the combination, of an arm adapted to be placed over a barrel, receptacle, or other article to be elevated or lowered, said arm provided at opposite ends with hinged straps, adapted, when turned down, to form complete eyes, means for releasably holding each hinged strap in closed position, a sling passing through the eyes of the arm and extending longitudinally of said arm, and hooks freely carried by the sling, and unconnected with the arm.

2. In a hoisting and lowering device, the combination, of an arm adapted to be placed over a barrel, receptacle, or other article to be elevated or lowered, said arm provided at opposite ends with hinged straps adapted, when turned down, to form complete eyes, a spring-pressed latch pivoted to the unhinged end of the strap, and adapted to engage and to be disengaged from a slotted catch projecting from the arm, a sling passing through the eyes of the arm, and extending longitudinally of said arm, and hooks freely carried by the sling, and unconnected with the arm.

3. In a hoisting and lowering device, the combination, of arms adapted to be placed over the barrel, receptacle, or other article to be elevated or lowered, each arm provided at opposite ends with hinged straps adapted, when turned down, to form complete eyes, means for releasably holding each hinged strap in closed position, slings, each sling passing through the eyes of an arm and extending longitudinally thereof, and hooks freely carried by the slings, and unconnected with the arms.

4. The combination, with an arm for a hoisting and lowering device, said arm provided at opposite ends with hinged straps adapted, when turned down, to form complete eyes, of means for releasably holding each hinged strap in closed position.

5. The combination, with an arm for a hoisting and lowering device, said arm provided at opposite ends with hinged straps, adapted, when turned down, to form complete eyes, of a spring-pressed latch pivoted to the unhinged end of the strap, and adapted to engage and to be disengaged from a slotted catch extending from the arm.

6. A frame for a hoisting and lowering device, comprising arms, and a transverse connecting member, said arms adapted to be placed over the barrels, receptacles, or articles to be elevated or lowered and said transverse connecting member consisting of two overlapping parts extending respectively from the respective arms, one of said parts provided with a series of slots or openings, collars carried by each part of the connecting member, and loosely surrounding the other part of said connecting member, and a latch carried by one of the collars and adapted to work through an opening in said collar and to engage any of the series of slots or openings in the part beneath the same.

7. A frame for a hoisting and lowering device, comprising end arms, an intermediate arm, and transverse connecting members, said arms adapted to be placed over the barrels, receptacles, or articles to be elevated or lowered, and said transverse connecting members consisting of bars extending from opposite sides of the intermediate arm, and a bar extending inwardly from each end arm, the respective inwardly-extending bars of the end arms lapping the respective bars of the intermediate arm, and means for retaining said lapping bars in adjusted position.

8. An arm for a hoisting and lowering device, said arm provided at opposite ends with eyes, each eyed portion provided with an upwardly-extending plate, forming a guard.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH R. PATRIARCHE.

Witnesses:
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