No. 791,367. PATENTED MAY 30, 1905.

L. H. REYNOLDS & H. H. ROSE.

BARREL RECEIVING AND HANDLING APPARATUS.

APPLICATION FILED AUG. 8, 1904.

2 SHEETS—SHEET 1.

Fig. 3.

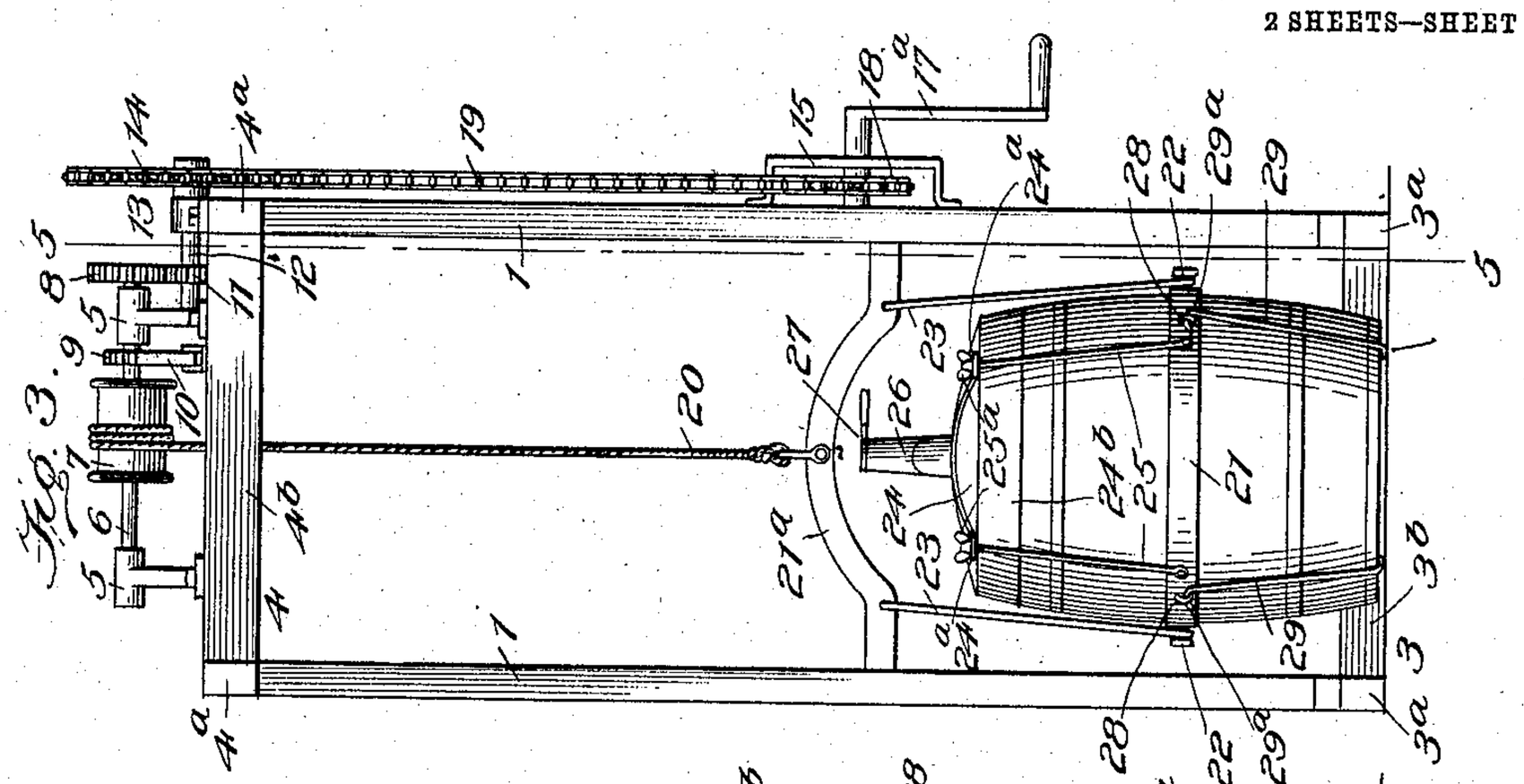

Fig. 2.

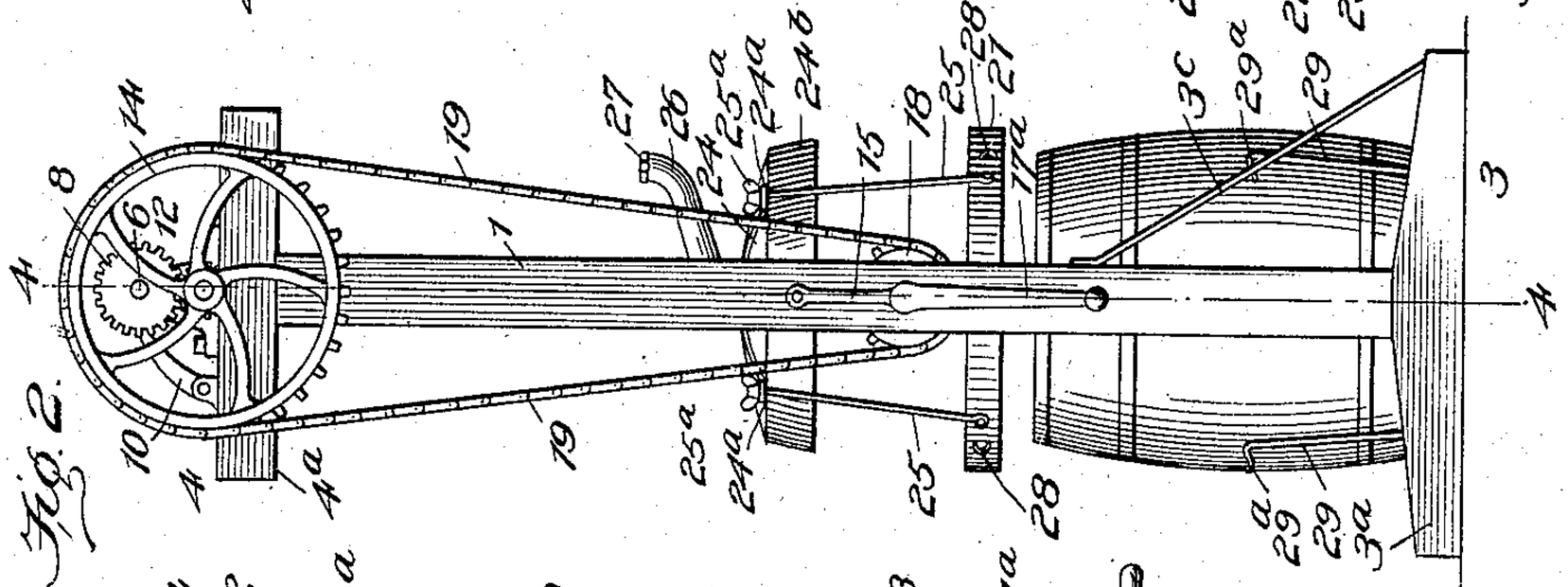

Fig. 1.

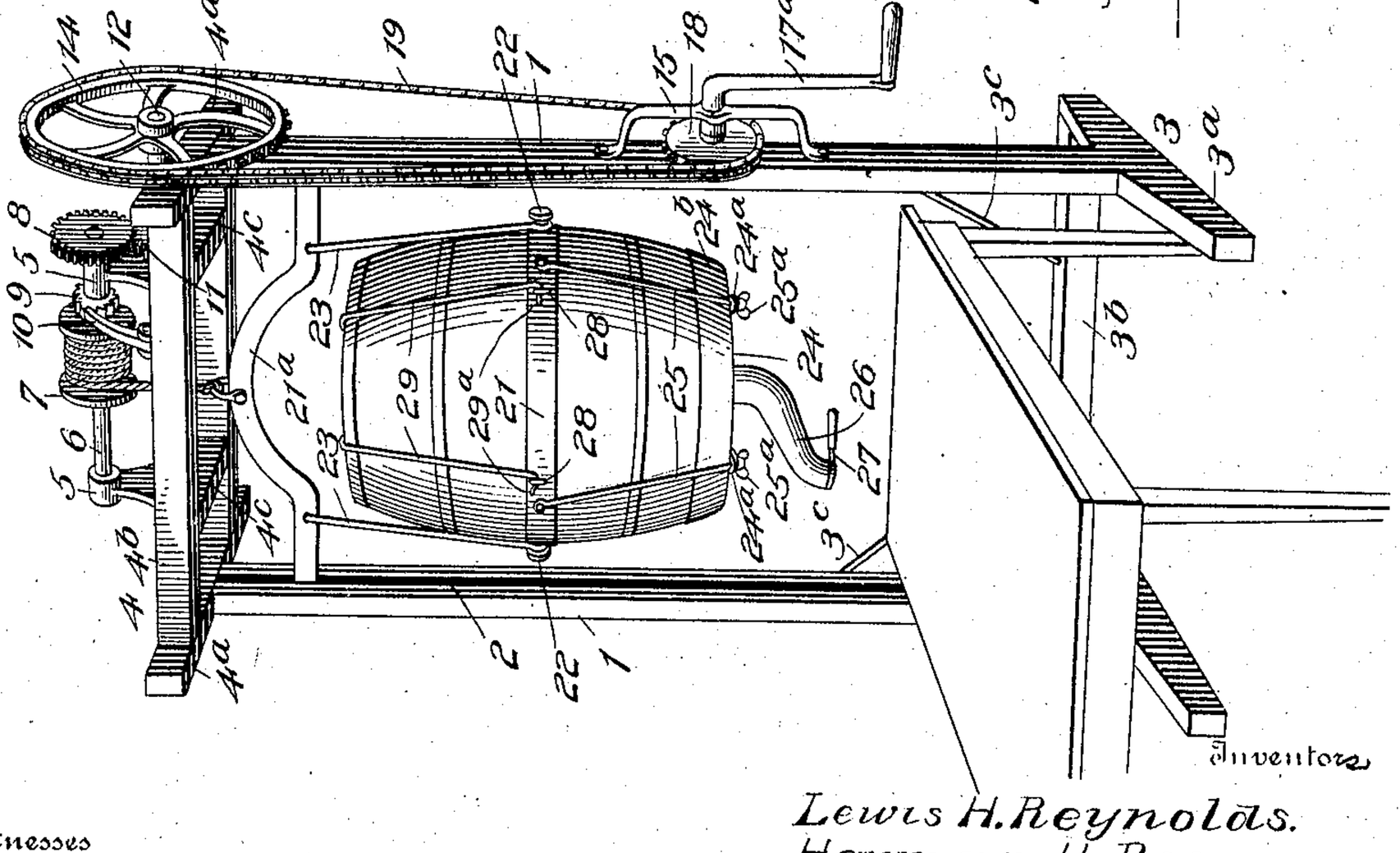

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Fig. 5.

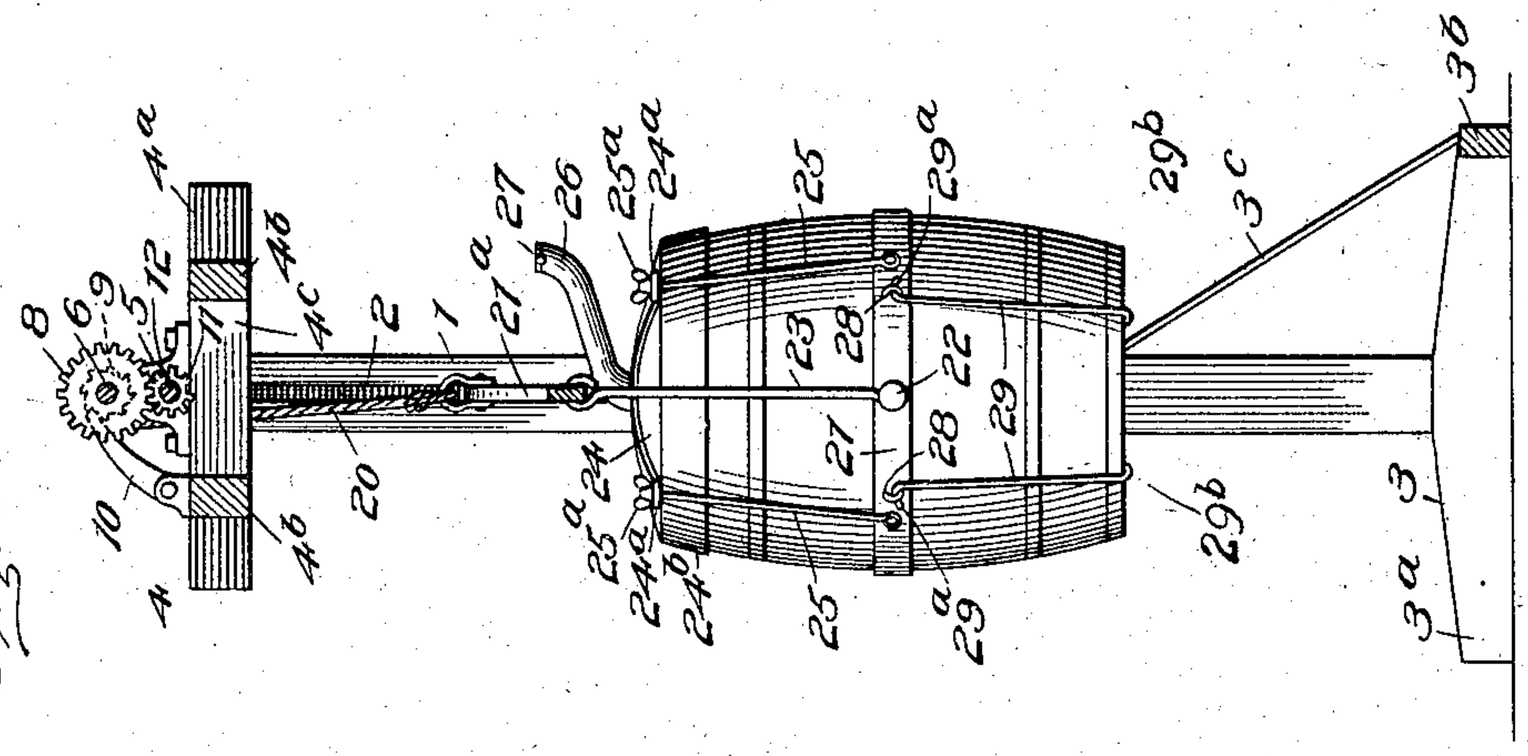
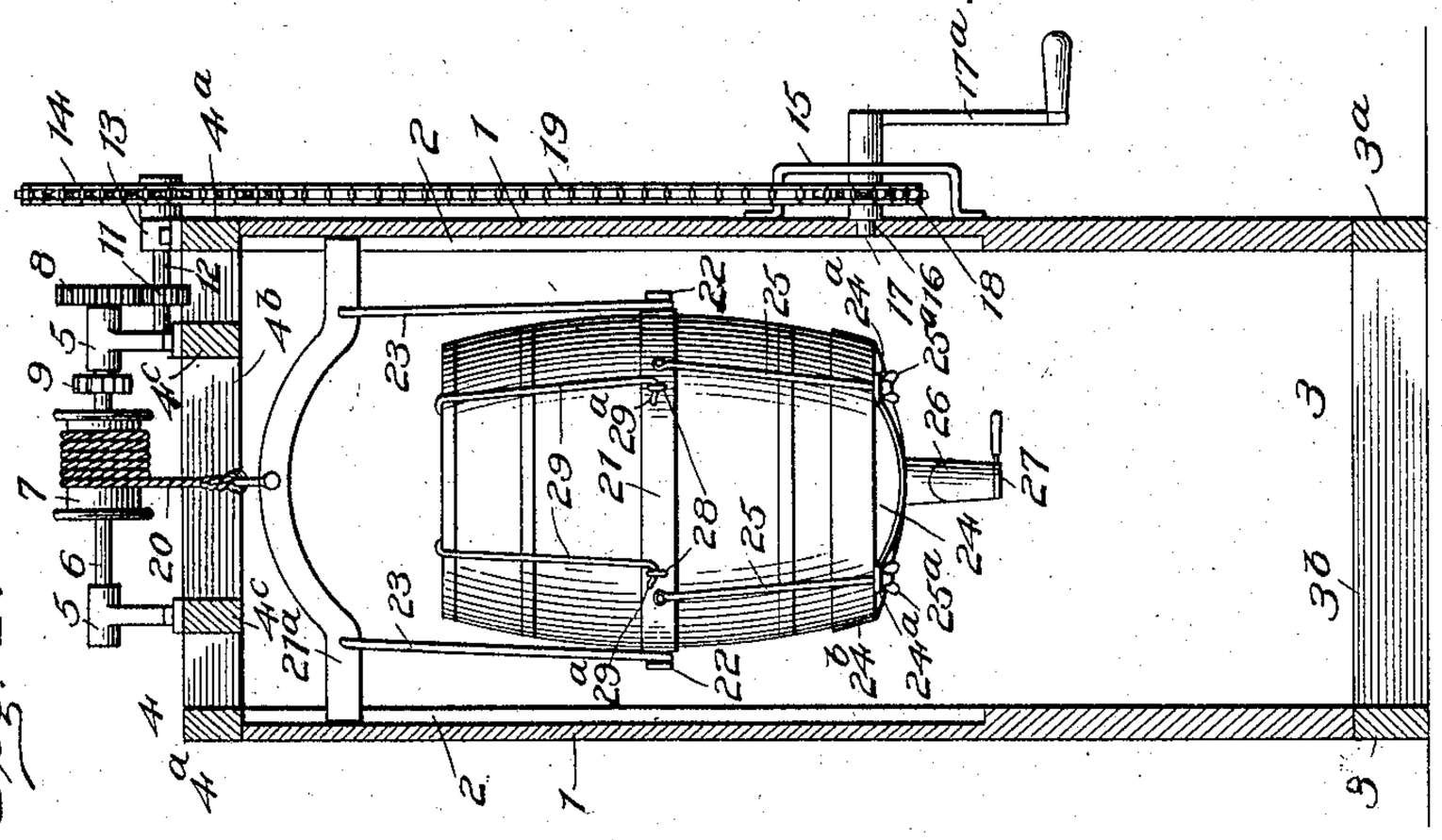


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEWIS H. REYNOLDS AND HERMAN H. ROSE, OF TOMAH, WISCONSIN.

BARREL RECEIVING AND HANDLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 791,367, dated May 30, 1905.

Application filed August 8, 1904. Serial No. 219,993.

To all whom it may concern:

Be it known that we, LEWIS H. REYNOLDS and HERMAN H. ROSE, residing at Tomah, in the county of Monroe and State of Wisconsin, have invented certain new and useful Improvements in Barrel Receiving and Handling Apparatus, of which the following is a specification.

Our invention relates to improvements in barrel receiving and handling apparatus for use in handling barrels containing sugar or any other material; and it more particularly seeks to provide an apparatus of this character of a very simple and durable construction wherein means are provided to receive a barrel, cover its open end, raise the barrel to a desired elevation, and permit its being turned on a horizontal axis to bring the barrel upside down to permit the withdrawal of its contents through the open head and at the same time maintain the barrel in its elevated position.

Generically our invention provides a suitable framework having guides to receive a yoke member from which is sustained the barrel-closing hopper and barrel-receiving frame and a windlass for elevating or lowering the barrel-receiving frame together with the barrel.

With other objects in view, which will be hereinafter explained, the invention comprises certain novel construction and combination of parts, all of which will be first described in detail and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view showing our invention applied for use. Fig. 2 is a side elevation of our invention, showing the manner of admitting the barrel to the apparatus. Fig. 3 is a front elevation showing the barrel-holding frame and cover in position. Fig. 4 is a vertical section on the line 4 4 of Fig. 2, showing the barrel in its final elevated position. Fig. 5 is a vertical cross-section on the line 5 5 of Fig. 3, the barrel being shown in an intermediate position.

Referring now to the accompanying drawings, in which like numerals of reference indicate like parts in all the figures, 1 1 designate a pair of uprights or supports having on their inner side longitudinal grooves 2 2, extending from near the top to about two-thirds the distance downward, said uprights being secured to the base-frame 3 at the bottom. The base-frame 3 comprises side or foot members 3^a 3^a, the cross member 3^b, and the brace-rod 3^c, as shown.

Secured to the top of the uprights 1 1 is a horizontal frame 4, comprising side portions 4^a 4^a, the end portions 4^b 4^b, and the cross-bars 4^c 4^c, to which cross-bars 4^c 4^c the windlass is mounted in bearings 5, secured thereto. The windlass comprises a shaft 6, mounted in bearings 5 5 and carrying a drum 7, connected to turn therewith, and also a cog-wheel 8, secured to one end of the shaft 6 and meshing with a pinion 11 on the short shaft-section 12, which is mounted in the bearing 13 on the frame and which carries a large sprocket-wheel 14 at its outer end.

9 designates a ratchet-disk carried by the shaft 6, with which the pawl 10 on the top frame 4 engages to hold the shaft 6, with its drum, in its various positions.

To one of the uprights 1 is secured a U-shaped bracket 15, in which and in the bearing 16 on the upright 1 the crank-shaft 17 is journaled. To the shaft 17 and between the U-shaped bracket and the upright 1 is secured a sprocket 18 of about one-third the diameter of the sprocket 14 and around which and the sprocket 14 an endless chain 19 passes, whereby when motion is imparted to the sprocket 18 by turning the crank 17^a, secured to the shaft 17, such motion will be transmitted to the sprocket 14 and thence to the drum 7 to wind up a cable 20, having one end secured to the drum and the other end secured to a yoke 21, which has its ends held and movable in the grooves or guideways 2 2 of the uprights 1 1.

The barrel-receiving frame comprises a hoop or band 21 to take around the greatest circumference of the barrel, and the said hoop 21 has radial lugs 22 22, to which the supporting-rods 23 23, which are also joined with the yoke 21, are pivotally secured. This barrel-receiving frame also includes a hopper-shaped hood or cover 24 for the barrel-head, and the said hood is provided with apertured ears 24^a 24^a to receive the stay-rods 25 25, secured to the hoop 21 and passing through the

ears 24^a 24^a to receive winged adjusting-nuts 25^a 25^a, as clearly shown in Figs. 1, 2, and 3. This hopper or hood 24 has a peripheral flange 24^b designed to tightly fit on the barrel end and is also provided with a discharge-spout 26, extending from the center of the cover toward the front and then in the same linear direction as the longitudinal axis of the barrel. The spout 26 is provided with a cut-off valve 27 to regulate the discharge of the contents of the barrel therethrough. The hoop or band 21 is also provided with a plurality of eye members 28 28 to receive the hooked ends 29^a of the rods 29, which have their other ends, 29^b, hook-shaped to hook over the bottom rim of the barrel, as clearly shown in Fig. 1.

So far as described the operation of the invention is substantially as follows: The windlass is first operated to raise the barrel-receiving frame a sufficient distance to permit of placing the barrel in position to be received thereby. The barrel is then moved into place between the uprights 1 1, after which the head of the barrel is removed. The operator next lets down the receiving-frame and its carrying-yoke until the hood and hoop are in place over the barrel, the hood or cover fitting upon the opened end of the barrel. The hooks 29 are then adjusted into position, after which the nuts 25^a are manipulated to cause the cover or hood to tightly fit the barrel end and also to tightly hold the barrel in its position in the hood-frame. The barrel is then hoisted sufficiently to clear the floor about one-half way up, after which the barrel is turned through an angle of one hundred and eighty degrees on the axis through the lugs 22 22 to invert the barrel, which is then completely hoisted to the position shown in Fig. 1 to permit of moving a suitable table under the barrel and between the uprights 1 1, as clearly shown in Fig. 1. This table may contain the scales or other receptacles in which the contents of the barrel is to be discharged when the spout-valve is open.

In practice we preferably construct the hood or cover-spout of a tubular section of about four inches diameter where it joins with the head and of about three inches diameter at its discharge end.

From the foregoing, taken in connection with the accompanying drawings, it is thought the construction, complete operation, and many advantages of the invention will be readily apparent to those skilled in the art to which it appertains. It should also be understood that slight changes in the detail construction of parts may be made without departing from the invention or the scope of the appended claims.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an apparatus of the character stated, comprising a supporting-frame including vertical standards, a bottom or base frame and a top frame, of a barrel receiving and holding frame, comprising a yoke member, a hoop or band pivotally hung from the yoke member to encircle the barrel, a hood or cover for the barrel end adjustably connected with said hoop, and hook members detachably secured to said hoop or band and adapted to hook under the end of the barrel, and means mounted on the supporting-frame and connected with said yoke member for raising and lowering the barrel holding and supporting frame, for the purposes specified.

2. An apparatus of the character stated, comprising a supporting-frame including a U-shaped base, vertical grooved standards secured thereto, and a top frame secured to said standards, a barrel-holding frame pivotally suspended from said yoke member, and including a hoop or band, a closure member or hood adapted to fit over the end of the barrel, means for adjustably connecting said hood with said hoop, and hook members for connecting the hoop with the bottom of the barrel, said barrel-holding frame being so arranged with respect to the yoke to permit of inverting the barrel to cause it to rest in said hood, and a valved outlet-spout for said hood, for the purposes specified.

3. An apparatus of the character stated, comprising a supporting-frame including a U-shaped base, vertical grooved standards secured thereto, and a top frame secured to said standards, a barrel-holding frame pivotally suspended from said yoke member, and including a hoop or band, a closure member or hood adapted to fit over the end of the barrel, means for detachably connecting the hoop with the bottom of the barrel, said barrel-holding frame being so arranged with respect to the yoke to permit of inverting the barrel to cause it to rest in said hood, and a valved outlet-spout for said hood, and means for elevating said barrel-holding frame at predetermined times, for the purposes specified.

4. An apparatus of the character stated, comprising a supporting-frame including a U-shaped base, vertical grooved standards secured thereto, and a top frame secured to said standards, a barrel-holding frame pivotally suspended from said yoke member, and including a hoop or band, a closure member or hood adapted to fit over the end of the barrel, means for detachably connecting the hoop with the bottom of the barrel, said barrel-holding frame being so arranged with respect to the yoke to permit of inverting the barrel to cause it to rest in said hood, and a valved outlet-spout for said hood, and means for elevating said barrel-holding frame at predetermined times, and maintaining said frame in its elevated position, for the purposes specified.

5. In an apparatus of the character stated, a supporting-frame including a pair of verti-

cal beams forming guideways, a cross member mounted in said guideways, a barrel-receiving frame pivotally suspended from said cross member, said receiving-frame including a hoop or band to encircle the barrel, a hood having a valved discharge-spout adapted to fit over the end of the barrel, said hood having apertured ears, rods secured at one end to the hoop and passing through said hood-ears, adjusting-nuts on said rods to adjust said hood to or from said hoop, and hooks connected with said hoop and adapted to hook under the edge of the barrel end, said supporting-frame also including a horizontal frame secured to the top of the vertical beams, a drum-shaft mounted on said horizontal frame and carrying a drum, a gear and a ratchet, a pawl mounted on said horizontal frame for engaging said ratchet, a cable joining said drum with said cross member, a supplemental shaft mounted on said horizontal frame and carrying a pinion for meshing with the drum-shaft gear, and a sprocket-wheel, a crank-operated shaft mounted on one of the vertical beams, a sprocket-wheel connected to said crank-operated shaft, and an endless chain taking over said first-mentioned sprocket-wheel and said last-mentioned sprocket-wheel, for the purposes specified.

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