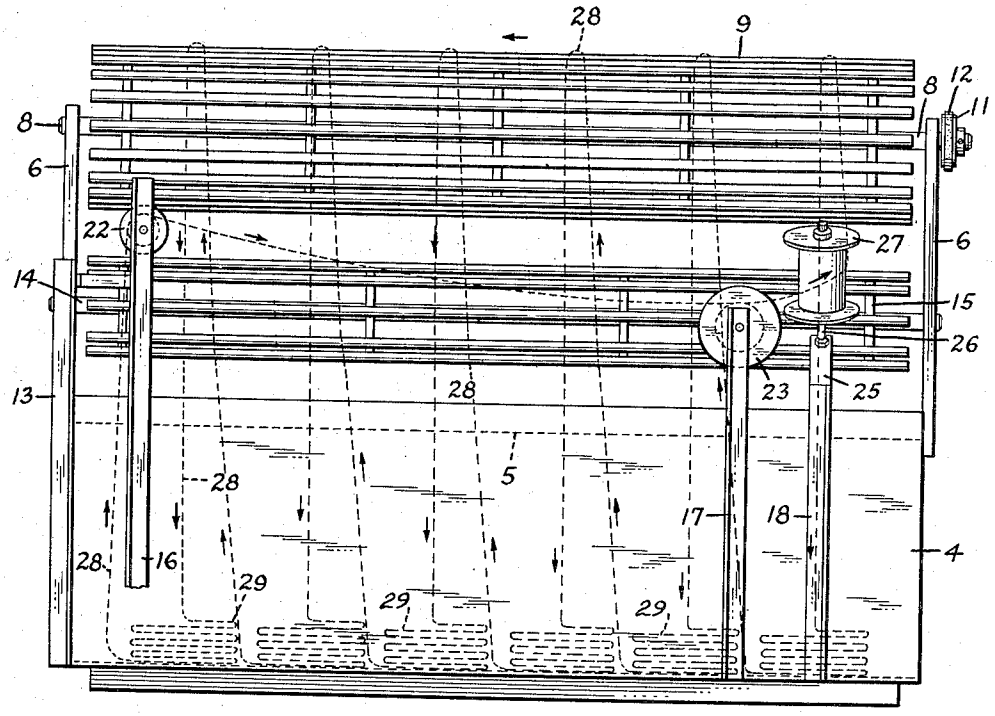
July 27, 1954 W. J. CRAMER, JR., ET AL 2,684,586

TEXTILE APPARATUS FOR THE TREATMENT OF TEXTILE FABRIC IN ROPE FORM WITH A LIQUID MEDIUM

Filed Nov. 29, 1950 2 Sheets-Sheet 1

FIG. 1.



INVENTORS.
WILLIAM J. CRAMER, JR.
CLARENCE F. HORN
FRANK E. LIZER
BY
Dalton & Dalton
ATTORNEYS.

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FIG.2.

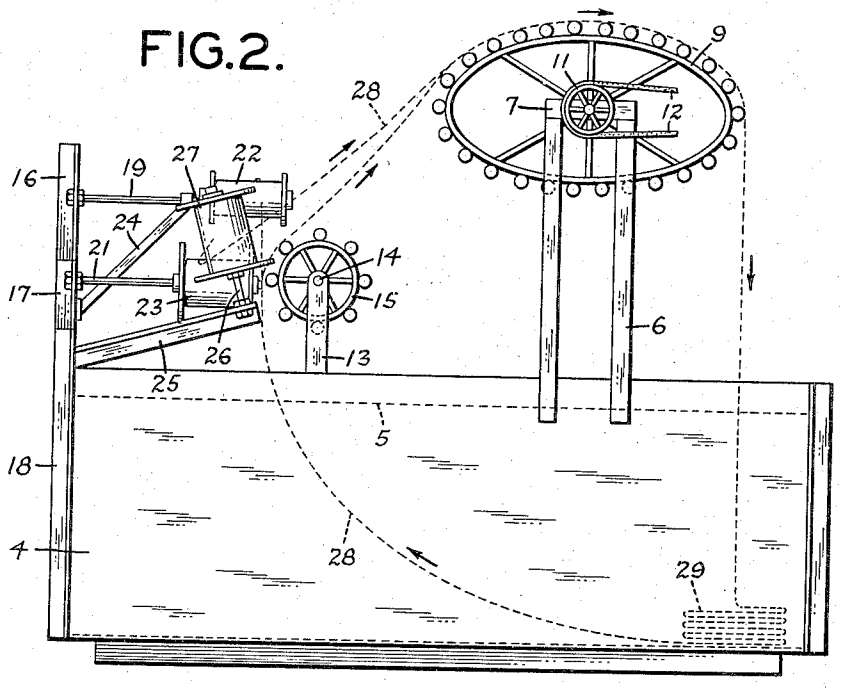
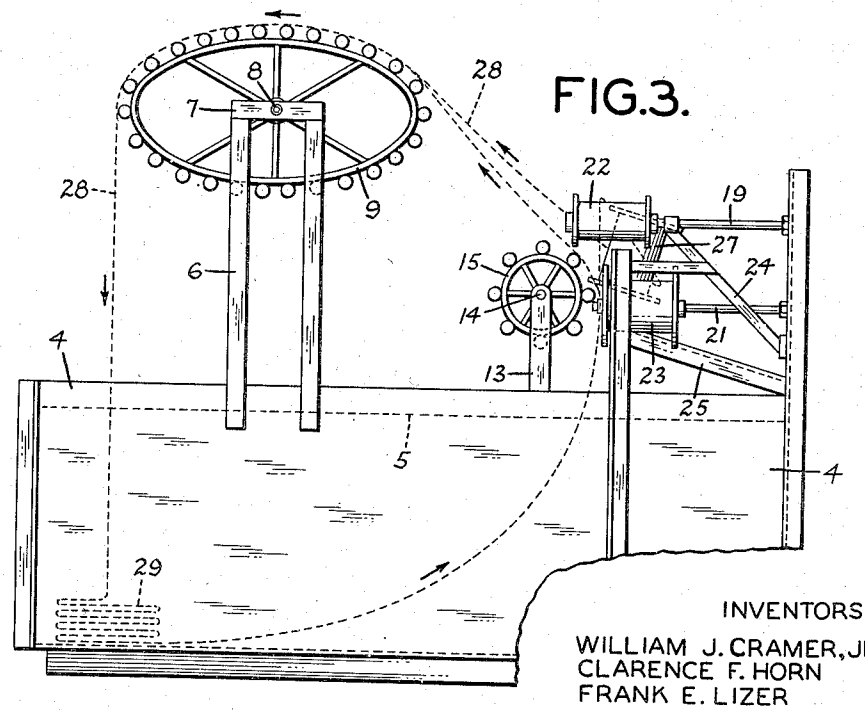


FIG.3.



INVENTORS.
WILLIAM J. CRAMER, JR.
CLARENCE F. HORN
FRANK E. LIZER
BY
ATTORNEYS.

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TEXTILE APPARATUS FOR THE TREATMENT OF TEXTILE FABRIC IN ROPE FORM WITH A LIQUID MEDIUM

William J. Cramer, Jr., Clarence F. Horn, and Frank E. Lizer, Cumberland, Md., assignors to Celanese Corporation of America, New York, N. Y., a corporation of Delaware

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1 Claim. (Cl. 68—176)

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This invention relates to a textile apparatus, and relates more particularly to an improved winch for the liquid treatment, in a continuous manner, of textile fabric in endless rope or other folded form.

A well-known type of winch for the treatment of textile fabric with liquid media comprises a vat for the liquid over which are operatively supported on horizontal and parallel shafts two rotatable reels of different size and shape. The larger of the two reels is positively driven, is oval in shape, and is adapted to effect the advance of the rope of textile fabric carried thereon in the form of a helix and to deposit the same in plies or folds on the bottom of the vat. The smaller reel is an idler, circular in shape and cooperates with the oval reel, the rope of textile fabric being passed around the idler as well as around the oval reel. Employing such a winch the rope of textile fabric is given repeated liquid treatment, the rope of textile fabric being removed from the liquid where it had been piled, passed across the front of the winch and threaded onto the reels at the feed ends thereof. Heretofore, many expedients for removing the rope of textile fabric from the vat and rethreading it on the reels have been employed. These expedients included complicated mechanisms involving drives, conveyors, tubes, troughs, with pumps for circulating the treating liquid, for conducting the rope of textile material, et cetera. However, the prior devices, besides being expensive and intricate, were unsatisfactory since they applied tension to the rope of textile fabric and/or abraded and chafed the same.

It is an important object of this invention to provide a simple and efficient means for guiding the rope of textile fabric from the vat below the discharge end of the reels, across the front of the winch for rethreading onto the reels, which means is free from the foregoing and other disadvantages.

Other objects of this invention will appear from the following description and appended claim.

In the accompanying drawings wherein a preferred embodiment of our invention is shown,

Fig. 1 is a front elevational view of a winch embodying the guide means of our invention,

Fig. 2 is an elevation of one side of the winch, and

Fig. 3 is an elevation of the other side of the winch.

Like reference numerals indicate like parts throughout the several views of the drawings.

Referring now to the drawings for a detailed

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description of our invention, the reference numeral 4 indicates a vat for the treating liquid, the upper level of which is shown by broken line 5. Fixed to each side of vat 4 is a framework 6. In the crosspieces 7 of the frameworks 6 is journaled a shaft 8 on which is mounted an oval reel 9. The shaft 8 is extended on one end thereof to receive a pulley 11 which is operatively connected by a suitable belt 12 to a motor (not shown) or to any other source of power.

On each side of the vat 4 is also fixed an upright 13 in the upper extremities of which is journaled a shaft 14 parallel to shaft 8 and on which is mounted idler reel 15.

Suitably attached to the front wall of vat 4 are uprights 16, 17 and 18 of angle-iron. To each of uprights 16 and 17, which are substantially at opposite ends of the front wall, are bolted shafts 19 and 21, respectively, which are parallel to each other and on which are rotatably mounted flanged rollers 22 and 23, respectively. The shaft 19 is also supported by a bracing member 24. Fixed to upright 18 at an acute angle thereto is a bracket 25 of angle-iron and at the free end of said bracket is bolted a shaft 26 on which is rotatably mounted a flanged roller 27. The latter roller is angularly positioned with respect to roller 27 for a purpose hereinafter set forth.

In operation, the textile fabric 28 to be treated, which is in endless rope form having had its ends stitched together, is suitably positioned on the reels in the form of a helix. As the reels are caused to rotate, the rope of textile fabric is deposited in the liquid in the vat 4 in the form of folds 29 by virtue of the movement of oval reel 9. In order to remove the textile fabric from the liquid and to guide the same across the winch to be rethreaded onto the reels, the rope of fabric is taken from the bottom of the pile of folds 29 and trained first over horizontal roller 22, then carried across the front of the winch and trained over horizontal roller 23, and finally around angular positioned roller 27 from which it is passed onto reel 9.

By the use of the rollers 22, 23 and 27 in the positions shown, which, if desired, may be provided with frictionless bearings, substantially all chafing friction and strain on the textile fabric is avoided.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

Having described our invention, what we desire to secure by Letters Patent is:

In a winch for treating textile fabric in rope form with a liquid medium as said fabric passes into and out of said liquid medium, a vat for holding a liquid treating medium, elongated means rotatable about a horizontal axis positioned in a plane parallel to one edge of the vat for advancing the rope of textile fabrics in the form of a helix from one end of the advancing means to the other end of the advancing means, a plurality of rollers supported along the edge of the vat which is parallel to the plane in which the axis of the advancing means is positioned, one of the rollers being positioned adjacent one end of the advancing means to guide the rope of textile fabric leaving the liquid medium and having its axis horizontal and positioned in a plane extending at right angles to the axis of the advancing means, a second roller being positioned toward the other end of the advancing means and having its axis parallel to the axis of the first roller, and a third roller

positioned adjacent the second roller and closer to the said other end of the advancing means for guiding the rope of textile fabric back onto the advancing means, said third roller having its axis inclined upwardly between the horizontal and the vertical and having its axis positioned in a plane extending at right angles to the axis of the advancing means, said second roller acting to guide the rope of textile fabric from the first roller to the third roller.

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