C. P. DELAHUNTY.

CLOSING DEVICE FOR DYEING VATS.

APPLICATION FILED MAY 23, 1912.

1,049,322.

Patented Dec. 31, 1912.

2 SHEETS—SHEET 1.

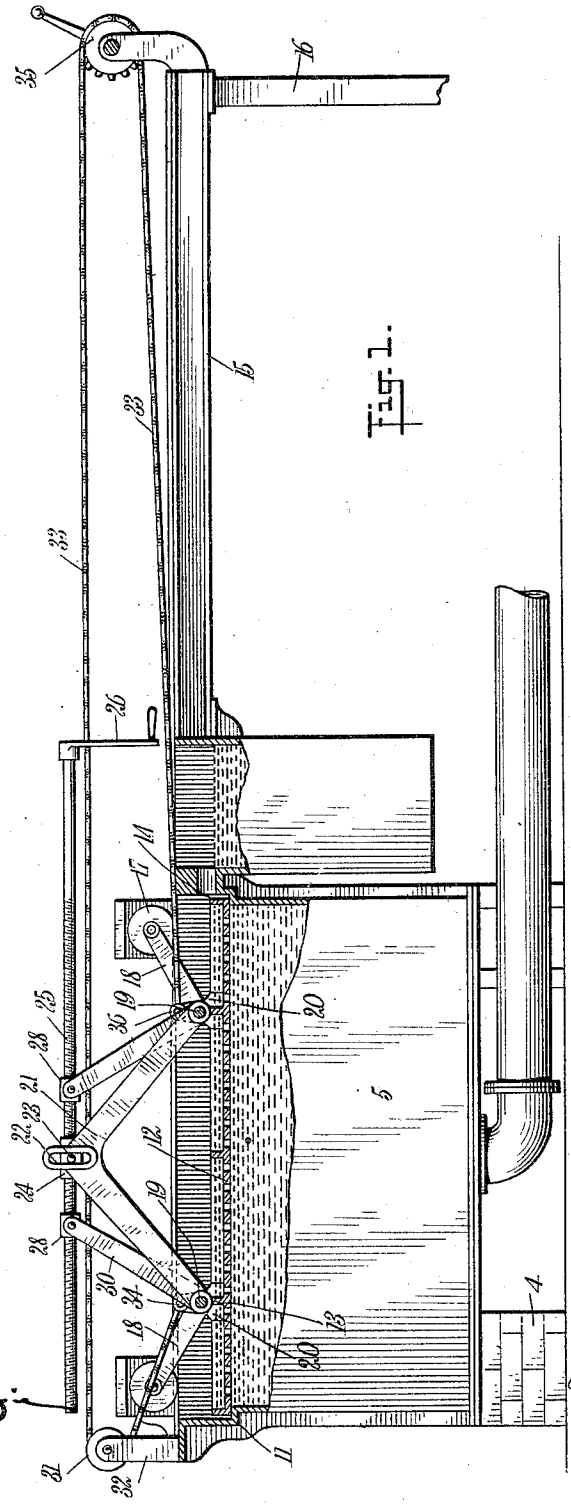

Fig. 1.

WITNESSES

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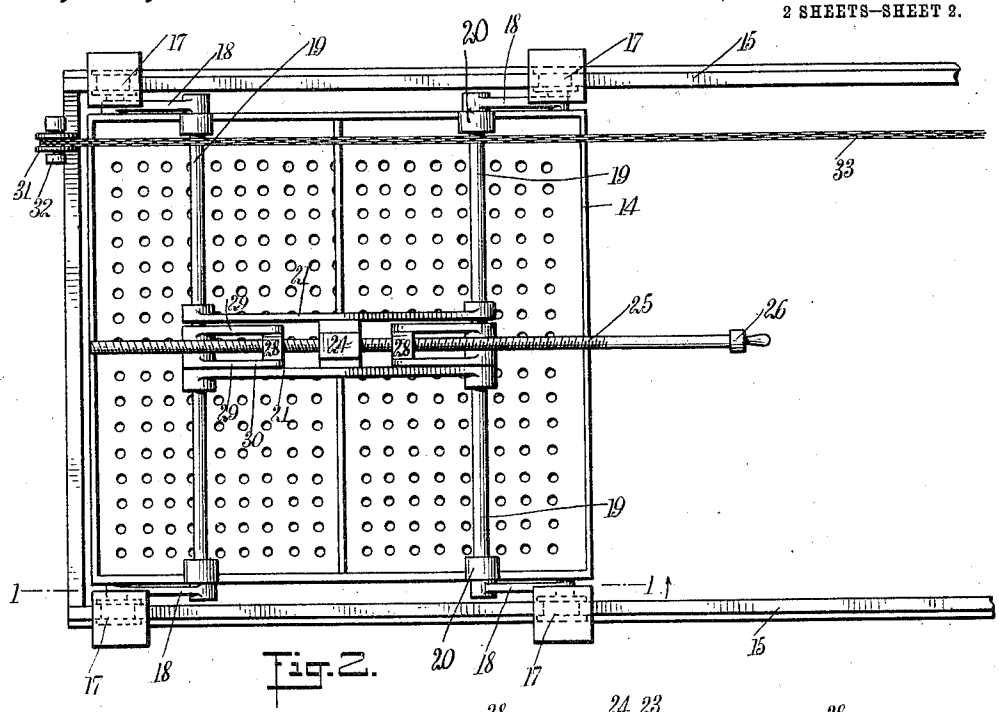

Fig. 2.

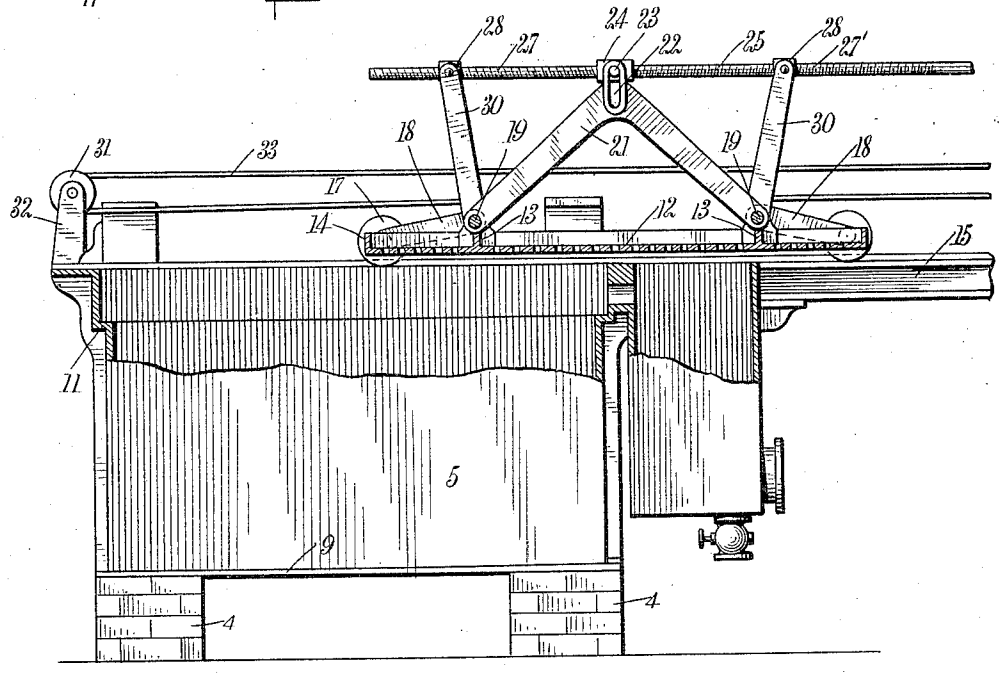

Fig. 3.

WITNESSES

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CLARENCE P. DELAHUNTY, OF WEST PITTSTON, PENNSYLVANIA.

CLOSING DEVICE FOR DYEING-VATS.

1,049,322. Specification of Letters Patent. Patented Dec. 31, 1912.

Original application filed October 30, 1911, Serial No. 657,482. Divided and this application filed May 23, 1912. Serial No. 699,146.

To all whom it may concern:

Be it known that I, CLARENCE P. DELAHUNTY, a citizen of the United States, and a resident of West Pittston, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Closing Device for Dyeing-Vats, of which the following is a full, clear, and exact description.

My invention relates to a new and improved form of cover for dyeing vats, and is a division of my application Serial No. 657,482, filed October 30, 1911.

An object of my present invention is to provide a readily manipulated cover, which may be actuated manually irrespective of its weight and is especially adapted for large sized tanks where some mechanical arrangement must be utilized in order to entirely uncover the vat, so that the opening is entirely unobstructed when filling the vat. This and other objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

I attain the above-outlined objects by positioning a cover slidable upon a track, on opposite sides of the dyeing vat, and raising and lowering this cover by a lever connection, and moving the cover and raising mechanism bodily along the track, to uncover the vat.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a longitudinal vertical sectional view taken on the line 1—1 of Fig. 2, partly in elevation and showing a preferred embodiment of my invention, and also showing the cover in place on the vat; Fig. 2 is a plan view, looking down upon the preferred embodiment of my invention, the right-hand standards being broken away; and Fig. 3 is a view similar to Fig. 1, with certain parts omitted, showing the cover in a raised and partly retracted position.

Mounted upon suitable supports or foundations 4 is a dyeing vat 5, preferably constructed of metal, which vat is shown of a general rectangular construction. The upper sides of the vat are offset to form shoulders 11, upon which shoulders is adapted to rest a perforated cover 12. The cover in a machine of this character, must necessarily be of some material weight, and in this instance is shown to be of heavy metal construction, having reinforced ribs 13 extending transversely across the same, and having edge flanges 14 surrounding the same. It has been found difficult to manipulate a cover of this character, and to facilitate the positioning of the cover on the vat, and to uncover the vat, there is mounted on opposite sides of the vat and extending some material distance beyond one end of the same, a pair of parallel tracks 15, one track on each transversely opposite side of the vat, the free end of which track is supported by suitable standards 16.

Mounted upon the tracks 15 are two pairs of rollers 17 spaced apart a distance substantially equal to the length of the cover 12. The rollers 17 at each end of the cover are each loosely mounted on one end of an arm 18, the other end of which arm is rigidly connected to a transversely disposed rod 19, which rod is journaled in a pair of transversely-disposed lugs 20 mounted on the upper side of the cover 12, adjacent its opposite lateral edges. The two rods 19 are connected in spaced-apart position by means of a pair of spaced-apart inverted and vertically-extending V-shaped members 21. In the apex of each of these members is formed a vertically-extending slot 22, movable in each of which slots is a pin 23 extending from opposite sides of a holding block 24, which block is positioned between the V-shaped members 21, substantially above the center of the cover 12, and rigidly mounted on a threaded rod 25, which rod is actuated by a crank 26 at one end. The threads on the rod are of opposite character on the opposite sides of the block 24, as, for instance, those to the left may be right-hand threads 27 and those to the right of the block, left-hand threads 27′. Each of the sets of threads is engaged by a threaded block 28, upon opposite sides of which block 28 are pivoted bifurcated members 29 of an arm 30, the opposite and lower ends of which arms are rigidly connected with the rod 19 on the corresponding side of the block 24. It will be seen that this forms a lever connection, so that rotating the rod 25, shown in Figs. 1 and 2, will separate the blocks 28. Each set of arms 18 and 30 constitute in effect a bell crank having its pivot or axis at 19. Since the rollers 17 carried by

the ends of the arms 18 have a constant elevation, when the upper ends of the arms 30 are swung away from each other by rotation of the rod 25, the pivots 19 and cover 12 will be lifted, the rollers 17 serving as fulcrums for the bell cranks for this purpose. Of course, the reversal of this movement will rotate the rods 19 in the opposite direction and position the cover 12 upon its supporting shoulder 11, compressing the material in the vat 5. When in its raised position, the cover 12 may be drawn along the track 15, to uncover the vat, by means of a chain-and-pulley connection. This connection may be formed by supporting a pulley 31 on a bracket 32, from one end of the vat 5, and attaching one end of a chain 33 to a stud 34 disposed adjacent the rod 19 nearest the pulley 31, passing the chain over said pulley and over a toothed wheel 35 mounted at the opposite end of the machine from the pulley 31, and back to a stud 36 disposed adjacent the other rod 19. This chain 33 extends parallel to the track 15, and actuating the chain by rotating the crank 37, the cover 12 will be drawn along the track, to cover or uncover the vat 5.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a dyeing machine, a vat, a cover for said vat, a pair of parallel tracks disposed on opposite sides of said vat, rollers mounted on said tracks, means adapted to elevate said cover from said vat, said elevating means comprising a plurality of bell cranks pivoted to the cover, one end of one arm of each bell crank being connected to a roller, the arms of the bell cranks remote from the rollers being extended upwardly, and means operable simultaneously thereupon to separate said upwardly extending arms to cause the bell cranks and cover to swing with respect to the rollers.

2. In a dyeing machine, a vat, a cover for said vat, means supporting said cover on said vat, a lever connection between said vat and said cover, and a screw actuating said lever, whereby the rotation of said screw will separate the members of said lever to raise said cover from said vat.

3. In a dyeing machine, a vat, a pair of tracks disposed on opposite sides of said vat, rollers mounted on said tracks, a cover, means connecting said cover with said wheels, a pair of sprocket wheels disposed at opposite ends of said track, a chain passing over said wheels and having its opposite ends attached to said cover, and means for actuating one of said wheels to cause said chain to draw said cover along said tracks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE P. DELAHUNTY.

Witnesses:
E. D. PARKER,
WM. COMSTOCK.