Feb. 4, 1930. L. MOTLEY 1,745,437

MEANS FOR WATERPROOFING SACKS, BAGS, OR OTHER ARTICLES

Filed Jan. 23, 1929 2 Sheets-Sheet 1

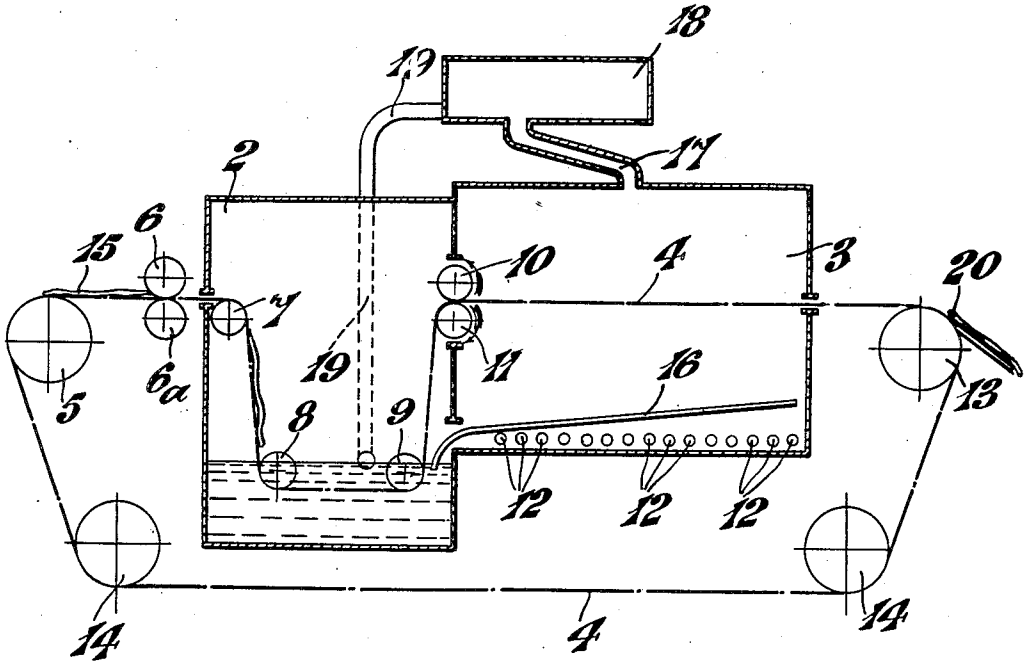


Fig. 1.

Inventor
Lewis Motley
By B. Singer, Atty.

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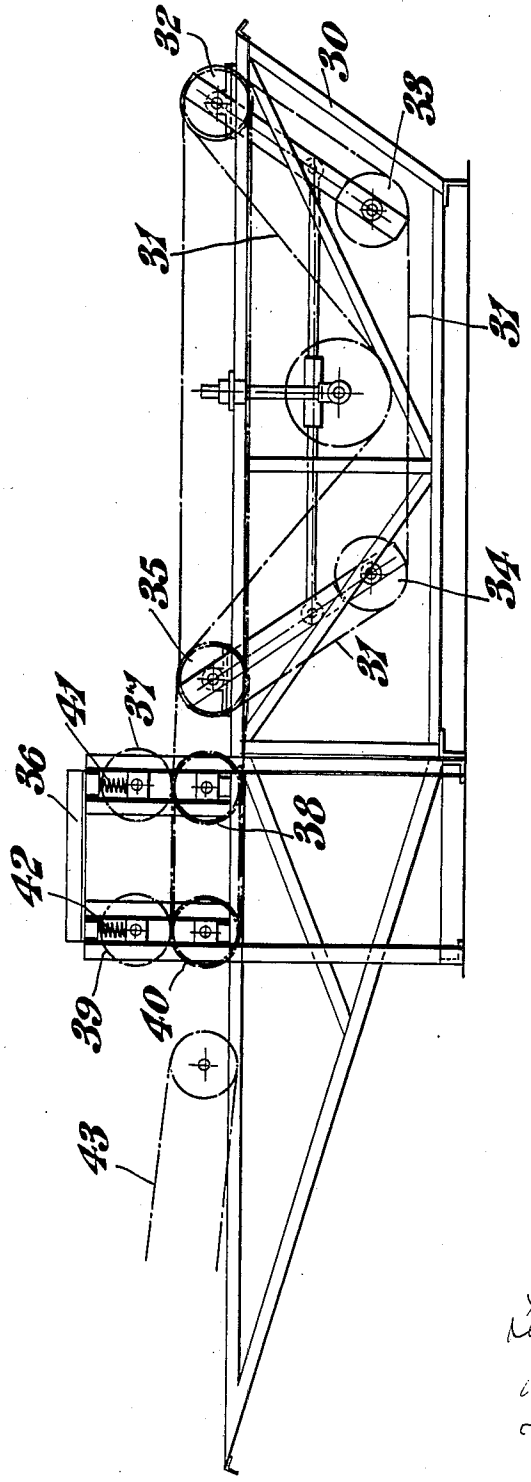


Fig. 2.

Inventor
Lewis Motley
By B. Singer, Atty

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UNITED STATES PATENT OFFICE

LEWIS MOTLEY, OF STAINES, ENGLAND

MEANS FOR WATERPROOFING SACKS, BAGS, OR OTHER ARTICLES

Application filed January 23, 1929, Serial No. 334,560, and in Great Britain January 7, 1928.

This invention appertains to certain new and useful improvements in apparatus which is designed especially for impregnating articles, such as textile bags, with a fluid waterproofing material. The invention consists in providing a flat endless carrier with means for associating therewith made up articles, as fabric bags, whereby the same in extended condition are passed between rollers and then into a chamber which contains suitable fluid waterproofiing material into which the carrier and the bags are submerged and after submerging are elevated and subjected to pressure between rollers, thereafter the bags being carried through a heating chamber and released from the carrier.

My invention further consists in a subsequent treatment of the bags whereby they are treated with powder or other material to render the same non-adhesive when stacked.

My invention further consists in providing the heating chamber with means whereby the volatile products may be discharged into the first chamber.

In the accompanying drawings,—

Figure 1 is a side elevation showing diagrammatically the positions of the parts which constitute my invention; and

Figure 2 is a modified form of my invention and appertains more particularly to the apparatus for further treating the bags after being impregnated with waterproofing material.

Referring to the drawings, 2 designates a tank or receptacle which is adapted to contain waterproofing material in liquid form. 3 represents a chamber which is divided from the tank by an interrupted wall, substantially as shown. The structure heretofore described is of suitable width and is provided at the opposite ends with inlet and outlet openings for an endless carrier 4 of suitable width. This endless carrier passes about a roller 5 and then passes between cooperating compression rollers 6 and 6^a into the tank 2 and over a roller 7 located within the tank. This endless carrier then passes about guide rollers 8 and 9 located near the lower end of the tank 2, after which the carrier is passed between pressing rollers 10 and 11 into a steam heated chamber 3, the travel within the chamber 3 being substantially horizontal. The chamber 3 is provided at its lower portion with heating pipes 12 which may be supplied with steam from any suitable source. After the endless carrier has passed out of the chamber 3, it engages with outside rollers 13 and 14, 14 and then passes over the roller 5, the upper surface of the roller being substantially on a line with the abutting peripheries of the compression rollers 6 and 6^a.

The chamber 3 is provided above the steam heating pipes 12 with a plate 16 which is maintained at an angle with its discharge end curved to extend within the tank 2, the purpose thereof being to discharge into the tank 2 any surplus or drip of the coating material which may drop from the bags and the endless carrier.

The chamber 3 is connected by a conduit 17 with a condenser 18 having a pipe 19 whereby the vapor from the fluid coating material may be condensed and discharged into the tank-chamber 2.

In Figure 1 of the drawings I have indicated at 15 an untreated bag which engages the carrier, is smoothed by passage between the compression rollers 6 and 6^a and then passes over a guide roller 7 located within the tank, further travel of the bag being over the partially submerged guide rollers 8 and 9 and then upwardly between the compression rollers 10 and 11. The bags are passed horizontally through the heated chamber 3 and may be removed or discharged after passing the center of the roller 13, as indicated by 20.

In a modified form of my invention as illustrated in Fig. 2, a tank 30 is adapted to receive the waterproofing material or solution and, in this modified form, an endless belt 31 is guided over rollers 32, 33, 34 and 35, these rollers being mounted so that tension may be applied to the endless carrier by adjustment of an intermediate roller.

Beyond the tank a structure 36 is provided with pressing rollers 37, 38, 39 and 40, the upper rollers 37 and 39 each being vertically movable and spring pressed towards the respective rollers 38 and 40. In this modified

form of my invention, the upper rollers 37 and 39 may be provided with springs 41 and 42 for controlling the pressure towards the fixed rollers beneath, and the rollers may be provided with scrapers of any suitable form. The bags, in this modified form, may be carried by a belt 43 to a drying chamber and they may be powdered with talc to prevent them from adhering when stacked.

I claim:

1. An apparatus for coating bags consisting of a casing constructed to provide two chambers which are partially separated by a partition, one of the chambers below the plane of the bottom of the other chamber constituting a receptacle for fluid, openings through the outer walls of the casing, an endless carrier with which bags are associated, a plurality of rollers for guiding the carrier and bags associated therewith into and out of the receptacle for fluid and then into the other chamber, means for heating the second chamber, and means for connecting the chambers so that vapor generated in the second chamber will be discharged into the first chamber.

2. In an apparatus for treating bags constructed in accordance with claim 1 wherein the vapor generated in a drying chamber is condensed and discharged into a tank wherein articles to be coated are submerged.

3. The combination in an apparatus for coating bags and like textile articles comprising a casing constructed to provide chambers, one of the chambers extending below the plane of the bottom of the second chamber to provide a tank, a partition, means for heating the second chamber, a plate above the floor of the second chamber which extends into the tank, and a condenser which communicates with the heating chamber and discharges the products of condensation into the tank at the lower portion of the first chamber.

In witness whereof I affix my signature.

LEWIS MOTLEY.