

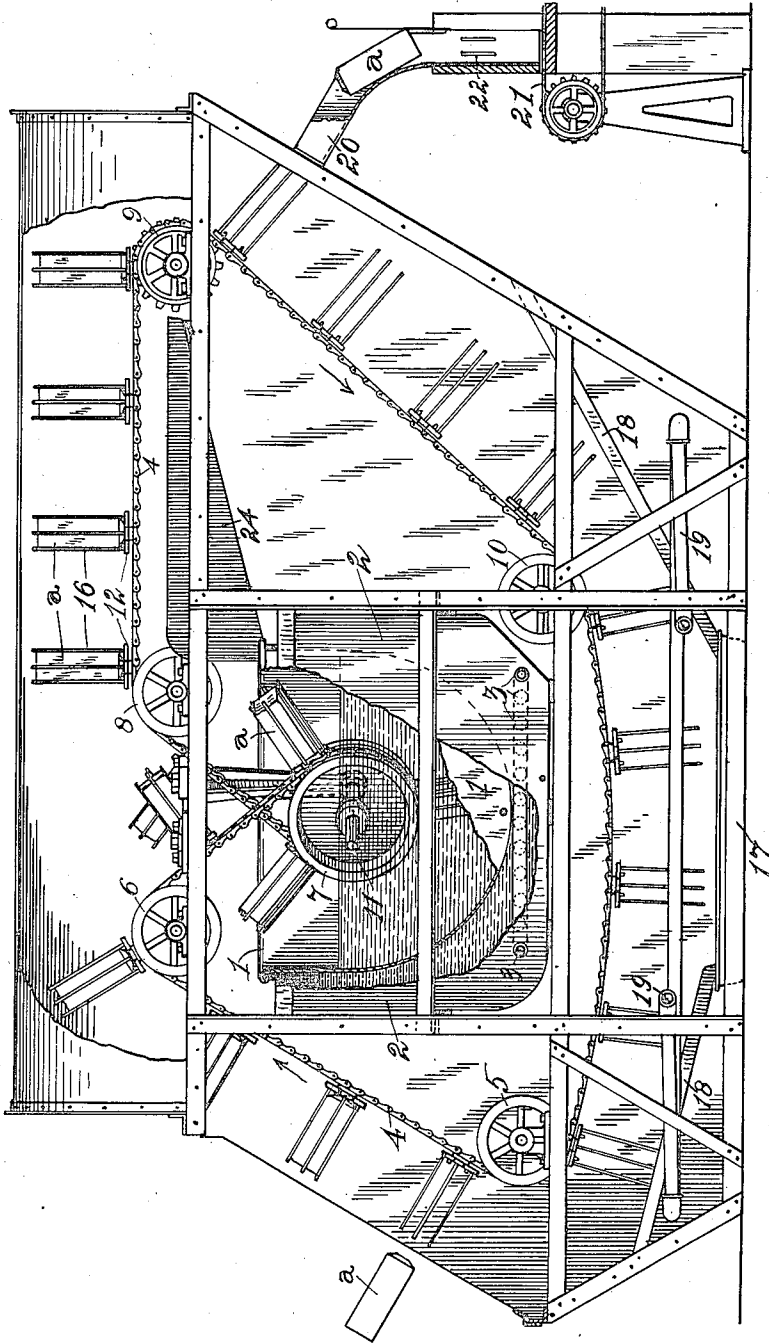
A. L. & F. N. WEIS.
PARAFFINING MACHINE.
APPLICATION FILED NOV. 27, 1911.

1,151,636.

Patented Aug. 31, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

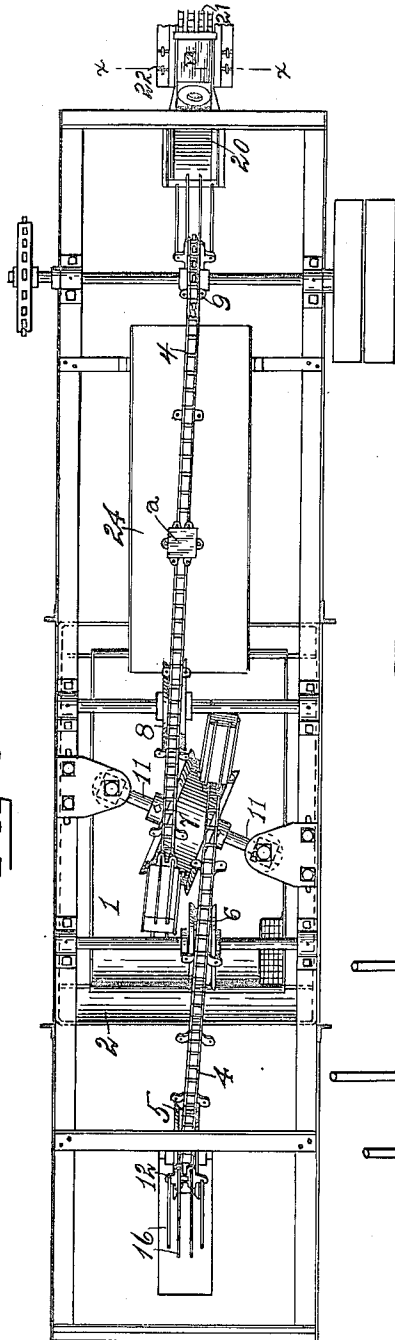


Fig. 4.

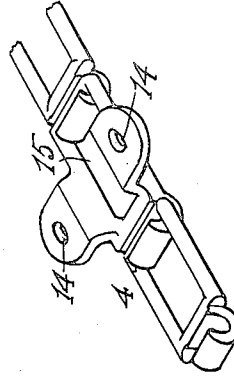


Fig. 5.

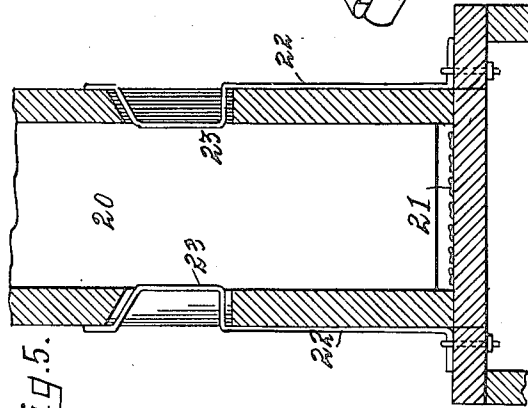
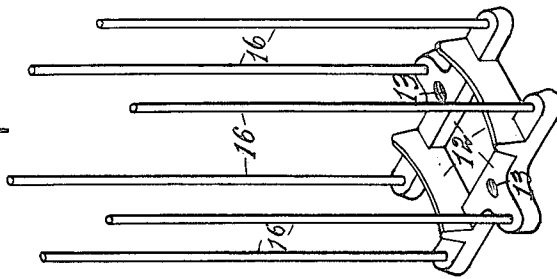


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PARAFFINING-MACHINE.

1,151,636.

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To all whom it may concern:

Be it known that we, ANDREW L. WEIS and FRANK N. WEIS, citizens of the United States, residing at Monroe, in the county of Monroe and State of Michigan, have invented certain new and useful Improvements in Paraffining-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

In the manufacture of paper receptacles for liquids, especially when the receptacles are designed to be used as milk-bottles, it is necessary that the receptacles be thoroughly coated with paraffin or like substance and— for economic reasons—that the operation should be performed rapidly and cheaply.

To this end, our invention consists of the construction, devices and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, in which,—

Figure 1 is a side-elevation of our machine with portions of the case and tank, hereinafter referred to, removed or broken away; Fig. 2, a top-plan view of the same; Fig. 3, a perspective view, on an enlarged scale, of the bottle-holder hereinafter referred to, detached; Fig. 4, a like view of a portion of the carrier-chain hereinafter referred to, and Fig. 5, a central vertical sectional elevation of a portion of the discharge chute hereinafter referred to, illustrating the means for retarding and directing the fall of the freshly coated receptacles.

Like parts are represented by corresponding reference numerals throughout the several views.

In the drawings, 1 is a tank, preferably of sheet metal, open at its top, having, preferably, a rounded bottom and being suitably supported within another tank 2. The inner paraffin tank,—for illustration,—has a flanged ring which rests upon the top of the hot water tank 2. The latter tank is bolted or otherwise secured in place within the frame of the machine. The water tank 2 is provided with steam pipes 3 by which the contents of the water tank are heated to melt

and to heat to the required temperature the paraffin in the tank 1.

4 is an endless belt which may be constructed of any suitable material, but is preferably composed of a chain made up of links which, for illustration, may be formed, as shown in Fig. 4. The belt 4 travels over pulleys 5, 6, 7, 8, 9 and 10. The pulley 7 is broad, as shown, and its shaft 11 is mounted and journaled across the tank 1 at an angle to the line of the travel of the belt, so that the belt or chain traverses a spiral path around the pulley, entering between the flanges of the pulley at one side of the pulley and leaving the pulley at the opposite flange, as clearly illustrated in Fig. 2. The pulley 7 is submerged, or nearly so, in the melted paraffin. One of the pulleys,—in the present instance, 9,—is mounted upon the driving shaft of the machine which is revolved by any suitable driving mechanism.

Secured to the outer side of the belt 4, at equi-distant intervals, are metal frames or grids 12 having holes 13 which correspond to and coincide with holes 14 in the links 15 in the chain or belt and by means of which the parts 12 are securely bolted or riveted in place upon the belt or chain.

Projecting outwardly from the parts 12 and radially from the several pulleys over which the belt passes are resilient prongs 16, spaced apart around the frame in such fashion as to provide between them a space for the reception—with a loose fit—of the paper receptacles *a* to be treated.

The frame of the machine, consisting of suitable angle-bars and which supports the gears and belt hereinbefore described, also supports the side, end and top coverings composed, preferably, of sheet-metal. The case or covering is open at its front end, that is, the end where the operator stands, seen at the left in Figs. 1 and 2.

At the bottom of the machine is a drip-pan 17 into which, at opposite ends, lead the inclined plates 18 disposed beneath the descending, ascending and lower horizontal reaches of the belt 4. This part of the machine is kept suitably heated by means of steam pipe 19.

At the rear end of the machine, back and below the pulley 9, is a discharge spout 20 leading down onto a traveling belt 21. This belt is of sufficient length to carry the

receptacles to a point where they are to be filled or otherwise disposed of. In milk traffic the paper bottles, fresh from the hot paraffin, are moved on the belt 21 to such distance and for such time as to permit them to cool sufficiently to be filled with milk. The advantage of at once filling and sealing the receptacle is manifest, the receptacles being now absolutely clean and sterile and the contents protected from contamination.

The operation of our device, thus far described, is as follows. The paraffin being heated to the proper degree and the belt 4 being in motion over its several pulleys in the direction of the arrows, the bottles *a*, as fast as the holders 12—16 present themselves to the operator, are slipped—mouth foremost—between the prongs 16 of the holders. The bottles proceed upwardly over pulley 6 thence downwardly, with the bottom inclined upwardly, around the pulley 7 and into and through the bath of melted paraffin. In its course through the paraffin the bottle is gradually turned with its mouth upwardly so that the bottle becomes filled with paraffin. As the bottle emerges from the paraffin its mouth is turned downwardly so that the bottle is now emptied. The bottle now proceeds upwardly over the top of the pulleys 8 and 9. As the bottles leave the turn of the pulley 9, they, by their own weight, slip downwardly away from the holders into the trough 20 and onto the belt 21. To retard the fall of the freshly coated bottle and to insure its landing bottom down on the belt 21, springs 22 are provided, secured adjacent to the trough and bent inwardly, as at 23, to slightly press the sides of the falling box as it drops upon the belt from the pulley 9. The holders proceed downwardly under the tanks and back to the place of beginning where they

are again in succession supplied with the bottles to be treated. During the course of the bottles horizontally from the pulleys 8 to 9, the belt, the holders, and the bottles are dripping with hot paraffin. These drippings fall onto the inclined plate 24 and run back into the tank 1. Any further drippings from the belt and holders are caught upon the inclined plates 18 and run into the drip-pan 17.

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

1. In a machine of the described character, a tank, an endless chain, holders upon the chain adapted to receive—mouth foremost—containers of the character described, pulleys which guide the chain and its holders forwardly and downwardly into the tank, then backwardly, upwardly and forwardly out of and away from the tank, whereby such containers describe a complete revolution in their course into and out of the tank and whereby they enter and recede from the tank with their mouths turned downwardly.

2. In a device of the described character, a tank, an endless chain, carriers on the chain, a series of pulleys for supporting and directing the chain, said series including a pair of pulleys disposed above the tanks in parallel planes, and a pulley within the tank having its shaft disposed at an angle to the line of movement of the chain.

In testimony whereof we affix our signatures in presence of two witnesses.

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