April 9, 1929. V. P. WENDLE 1,708,343

SEAM FORMING MACHINE

Filed July 2, 1926 2 Sheets-Sheet 1

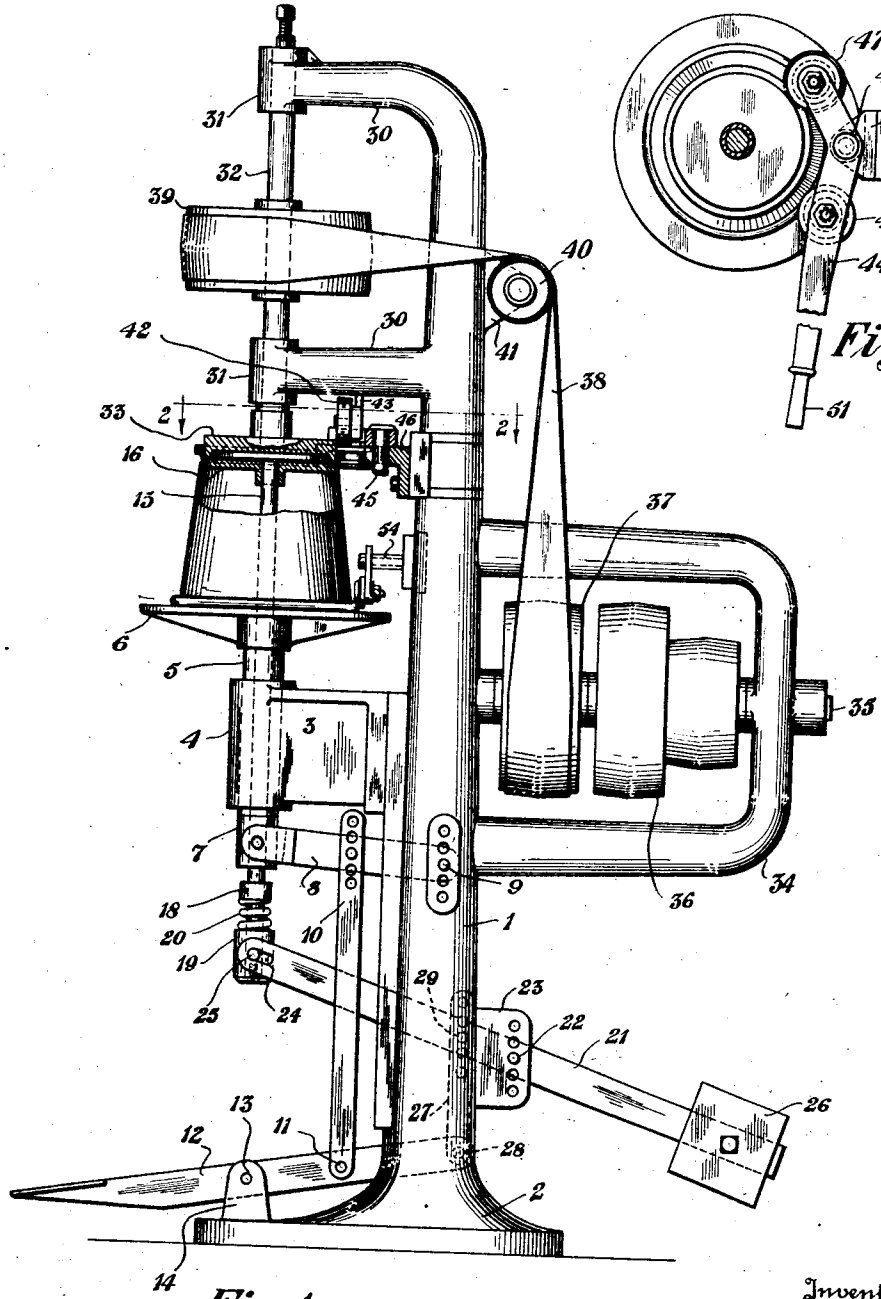


Fig. 1.

Fig. 2.

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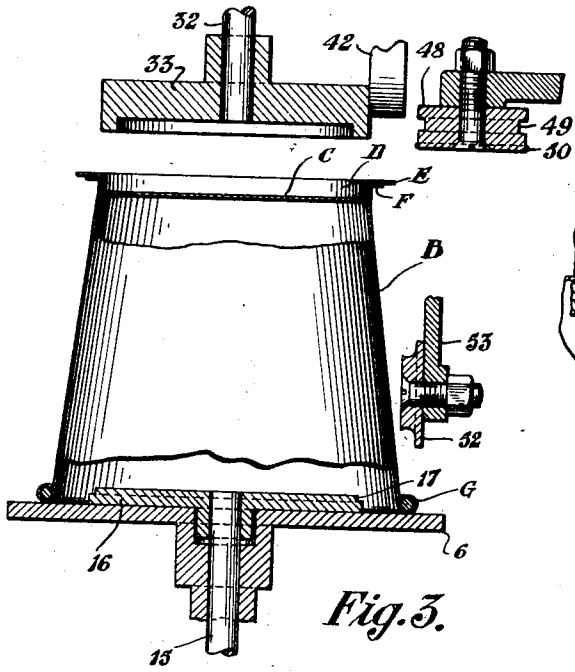


Fig. 3.

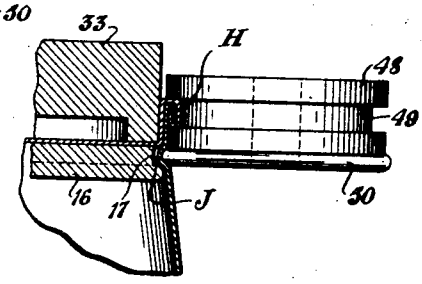


Fig. 5.

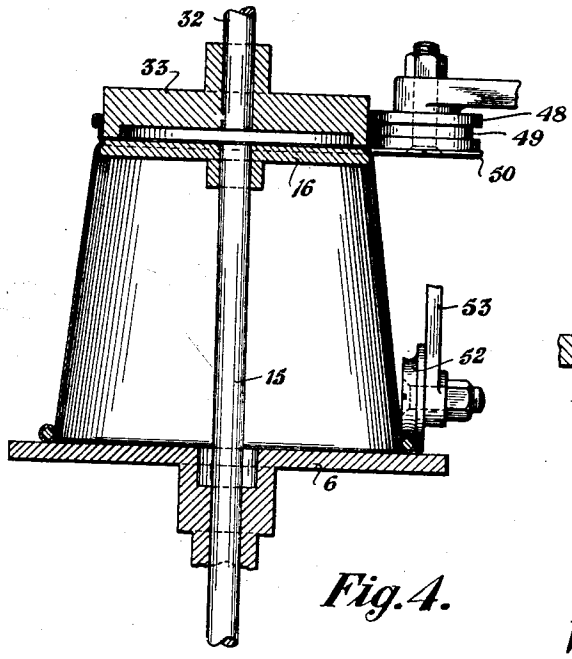


Fig. 4.

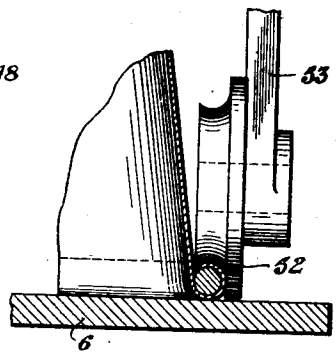


Fig. 6.

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Patented Apr. 9, 1929. 1,708,343

UNITED STATES PATENT OFFICE.

VIRGIL P. WENDLE, OF DOVER, OHIO, ASSIGNOR TO THE REEVES MANUFACTURING COMPANY, OF DOVER, OHIO, A CORPORATION OF OHIO.

SEAM-FORMING MACHINE.

Application filed July 2, 1926. Serial No. 120,121.

The invention relates to a machine for fastening the bottoms in buckets and similar receptacles and more particularly to a mechanism of this type for placing an annular groove in the bucket adjacent to the bottom in order to form a tight seal at the seam.

The object of the present improvement is to provide a machine of this character with a rotating head for engaging the outer surface of the bucket bottom, a rotatable table being provided for supporting the upper edge of the bucket, in inverted position, a disc being mounted upon a vertically movable rotatable shaft for engaging the inner side of the bucket bottom and clamping the same against said rotating head, said disc having a peripheral groove which cooperates with a beaded roller for pressing the side wall of the bucket inward tightly over the bottom to form a tight seal at the joint or seam; a bead wiring roll being provided for cooperating with the rotatable table for back wiring the bead at the open edge of the bucket.

An embodiment of the invention is illustrated in the accompanying drawings, in which

Figure 1 is a side elevation of the improved machine, parts being broken away for the purpose of illustration;

Fig. 2, a section on the line 2—2, Fig. 1;

Fig. 3, a fragmentary sectional view showing the relative position of the parts in the initial position;

Fig. 4, a similar view in the operative position;

Fig. 5, an enlarged fragmentary sectional view showing the action of the seam flattening and grooving roller, and

Fig. 6, a similar view showing the back wiring of the bead.

Similar numerals refer to similar parts throughout the drawings.

The machine may be supported upon a column 1 having a pedestal 2 which may be mounted in any suitable manner upon the floor. A bracket arm 3 is carried at one side of the column and provided with a vertical bearing 4 through which is slidably and rotatably journaled a tubular shaft 5 upon the upper end of which is fixed the circular table 6.

The lower end of this tubular shaft is rotatably connected to a sleeve 7 arranged to be raised and lowered by a lever 8 pivoted at one end to the column as at 9 and connected intermediate its extremities to a link 10, the lower end of which is pivotally connected as at 11 to one end portion of the treadle 12 which is pivoted, intermediate its ends, as at 13, upon the ear 14 extended upward from the pedestal 2.

The spindle 15 is rotatably and slidably mounted within the tubular shaft 5 and provided at its upper end with the disc 16 having the annular groove 17 at its upper edge and arranged to normally rest upon the table 6 as illustrated in Fig. 3.

A collar 18 is provided upon this spindle, below the sleeve 7 and a sleeve 19 is slidably and rotatably mounted upon the spindle below said collar, a coil spring 20 being interposed between the sleeve 19 and collar 18.

The lever 21 is pivoted intermediate its extremities, as at 22, upon a block 23 fixed upon the lower portion of the pedestal 1, one end of said lever being slotted as at 24 to engage a pin 25, carried by the sleeve 19, the other end of the lever having an adjustable counterweight 26 thereon.

A link 27 is pivotally connected at its lower end to the free end of the treadle lever 12, as indicated at 28, the upper end being connected to the lever 21 intermediate the pivotal points 22 and the sleeve 19, as shown at 29. Adjustment may be obtained for all of these pivotal points by providing a plurality of apertures to engage each of the various pivots as illustrated in Figure 1.

Spaced arms 30 are located in the upper portion of the column and provided with the bearings 31 axially alined with the spindle 15, a vertical shaft 32 being journaled in said bearings and carrying at its lower end the rotating head 33.

A U-shaped bracket 34, located upon one side of the column, carries the drive shaft 35 having the drive pulley 36 which may be operatively connected to any suitable source of power. The pulley 37 is also mounted upon the shaft 35 and connected by the belt 38 with a pulley 39 upon the vertical shaft 32, this belt passing over an idle pulley 40 mounted upon a bracket 41 carried upon the column 1.

A flattening roller 42 is carried upon a vertically movable stem 43, supported upon the lower arm 30, and arranged to be oper-

ated to flatten the flanges of the bucket and bucket bottom as will be later described.

An angular lever 44 is pivoted, intermediate its ends, as at 45 upon a bracket 46 carried by the column 1. This lever carries at one side of its pivotal point a grooved double seaming roller 47 of usual and well known construction and upon the other side of its pivotal point is mounted a seam flattening and tightening roll 48, having a groove 49 for flattening the seam and a bead 50 arranged to cooperate with the groove in the disk 16 for tightening the seam or joint between the bucket and bucket bottom.

An operating handle 51 is provided upon the annular lever 44 by means of which the rollers 47 and 48 may be alternately moved into operative position to operate upon the seam as will be hereinafter described.

A back wiring roller 52 is carried upon a vertically adjustable rod 53 mounted upon a bracket 54 at one side of the column and arranged to cooperate with the table 6 for back wiring the bead at the open edge of the bucket.

In operating the machine the body portion of the bucket, shown at B, is placed upon the table 6, the parts being in the position shown in Fig. 3. The bottom C of the bucket is formed as shown in said figure having the annular flange D terminating in the outturned annular flange E arranged to rest upon the shorter annular flange F at the bottom edge of the bucket. The bead G at the open upper edge of the bucket is in the form shown in Fig. 3, the free edge thereof not being back wired at this point.

The treadle 12 is depressed, raising the table 6 until the bead is engaged by the back wiring roller 52 and raising the disc 16 relative to the table and a greater distance than the table until the seam engages the bottom C of the bucket and clamps the seam tightly against the rotating head 33, thus automatically centering the bucket in the mechanism and causing the bucket together with the table 6 and disc 16 to rotate with the head 33.

The flattening roller 42 may then be operated to engage the upper side of the flange E and flatten this flange tightly upon the flange F of the bucket after which the flattening roller is raised and the handle 51 operated bringing the double seaming roller 47 into engagement with the flanges E—F, forming a double seam H between the bucket and bucket bottom.

The handle 51 is then moved in the other direction, bringing the seam flattening and tightening roller 48 into engagement with the bucket, as shown in Figs. 4 and 5, the groove 49 by cooperation with the head 33 flattening the seam tightly against the bucket while at the same time the bead 50 cooperating with the annular groove 17 in the disc 16 annularly depresses the side wall of the bucket over the edge of the bottom of the bucket as shown at J, tightening the seam or joint between the bucket and bucket bottom.

At the same time the back wiring roller 52 back wires the bead as best shown in Fig. 6. It has been found by experience that by making buckets in this manner and afterwards galvanizing them an absolutely water-tight joint is provided between the bucket and bucket bottom since the side wall of the bucket is depressed by the roller 48 tightly over the bottom of the bucket, the groove 17 permitting the material to be thus formed while the disc 16 retains the side wall of the bucket against distortion.

I claim:

1. A seam forming machine including a rotating head, a rotatable table for receiving an inverted receptacle, a rotatable peripherally grooved disc concentric with the table and head, means for raising the disc relative to the table to clamp the bottom of the receptacle between the disc and head and a seam forming roller arranged to form a seam between the receptacle and bottom and having a peripheral bead arranged to cooperate with the peripheral groove in the disc to depress the side wall of the receptacle over the bottom thereof.

2. A machine including a rotating head, a rotatable table for receiving an inverted receptacle having a bead at its open end, a rotatable disc concentric with the head and table, means for raising the disc to clamp the bottom of the receptacle between the disc and head and a grooved roller cooperating with the table to back wire the bead.

3. A seam forming machine including a rotating head, a rotatable table for receiving an inverted receptacle and bottom portion to be attached to the receptacle, a rotatable disc concentric with the table and head and movable relative to and between the table and head, means for raising the table and disc an unequal distance relative to each other to clamp the receptacle between the table and head and to clamp the bottom between the disc and head, and a seam and groove forming roller cooperating with the head and disc to form a seam between the receptacle and bottom and to form a groove in the receptacle over the bottom thereof.

4. A seam forming machine including a rotating head, a rotatable table for receiving an inverted receptacle and bottom portion to be attached to the receptacle, a rotatable disc concentric with the table and head, means for raising the disc to clamp the bottom between the disc and head, and a seam and groove forming roller cooperating with the head and disc to form a seam between the receptacle and the bottom and to form

a groove in the receptacle over the bottom thereof.

5. A seam forming machine including a rotating head, a rotatable table for receiving an inverted receptacle and bottom portion to be attached to the receptacle, a rotatable disc concentric with the table and head and movable relative to and between the table and head, and means for raising the table and disc an unequal distance relative to each other to clamp the receptacle between the table and head and to clamp the bottom between the disc and head.

In testimony that I claim the above, I have hereunto subscribed my name.

VIRGIL P. WENDLE.