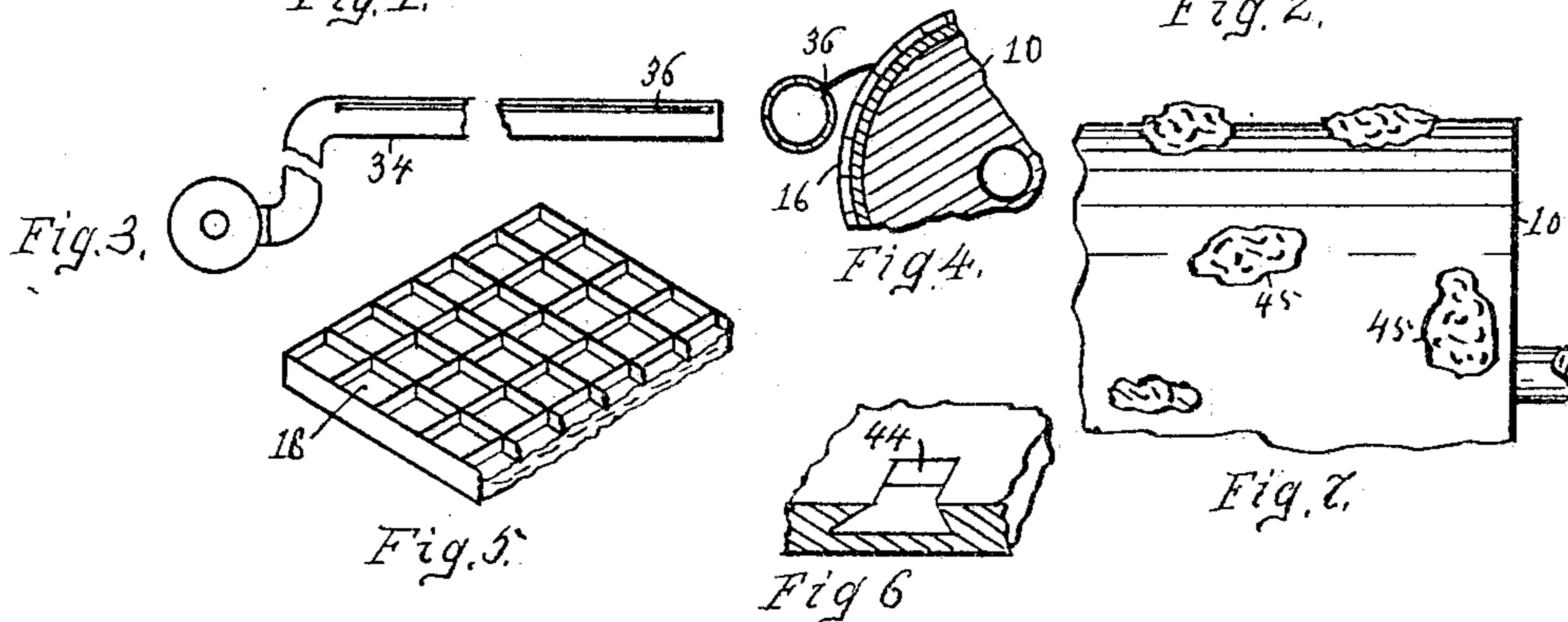
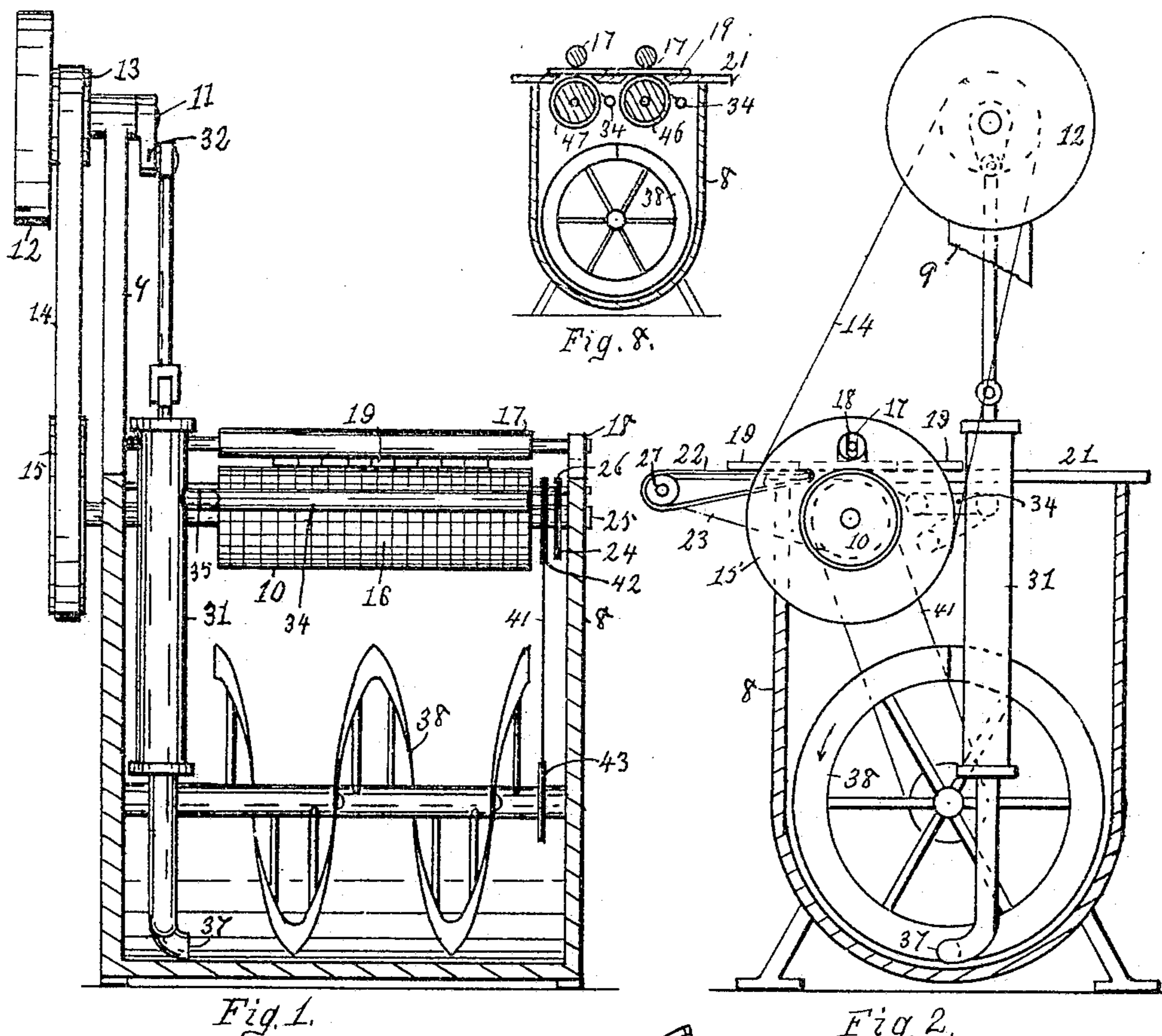


No. 782,277.

PATENTED FEB. 14, 1905.

E. G. RUDER.  
GLAZING MACHINE.  
APPLICATION FILED JULY 20, 1903.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

ERNST G. RUDER, OF HAMILTON, OHIO.

## GLAZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 782,277, dated February 14, 1905.

Application filed July 20, 1903. Serial No. 166,231.

*To all whom it may concern:*

Be it known that I, ERNST G. RUDER, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Glazing-Machines, of which the following is a specification.

My invention relates to glazing-machines of the class adapted to apply glazing liquid to the face of bisque tile; and the objects of my improvement are to provide means to regulate the quantity of glazing liquid applied to the tile, to deposit the glazing on the face of the tile in uniform thickness, to prevent the glaze from contact with the edges of the tile, to facilitate the glazing operation, and dispense with manual labor. These objects are attained in the following-described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my device with parts in section; Fig. 2, a side elevation with parts in section; Fig. 3, a plan of the pump-spout; Fig. 4, a transverse section of the pump-spout and portions of the coating-cylinder; Fig. 5, a portion of the cylinder-covering; Figs. 6 and 7, modified forms of construction of said covering; and Fig. 8, a modified form of construction, showing a plural number of coating-cylinders on the same tank.

In the drawings, 8 represents a tank formed with a semicylindrical bottom and provided with bracket 9, wherein crank-shaft 11 is journaled and rotated from the source of power by means of drive-pulley 12, secured thereon. Pulley 13, mounted on the same shaft, transmits power through belt 14 and pulley 15 to coating-cylinder 10, which is journaled in the top portion of the tank. The face of the cylinder is covered with india-rubber or other suitable material filled with indentations or small cups 16. Pressure-roll 17 is mounted directly over the cylinder and is movable vertically in slotted bearings 18. Said roll is intended to exert a light pressure on the bisques 19 as they are passed between it and the cylinder, and if its weight is not sufficient its pressure may be reinforced by springs in the usual manner. Said bisques or tiles are placed on feeding-table 21 and passed between the roll

and the cylinder and upon endless delivery-apron 22. Said apron is caused to travel at the same speed as the periphery of the cylinder by means of sprocket-chain 23, connecting wheel 24, secured on the cylinder-shaft 25, with wheel 26, secured on the driving-roll 27 of the apron. Pump 31, adapted to throw a continuous stream, is secured within the cylinder near one of its sides and actuated by crank 32, mounted on the crank-shaft. Spout 34, adjustably secured or swiveled on the pump at 35, is formed with a double bend and extended near to and across the face of the cylinder and parallel thereto. The extremity of said spout is closed, and discharge-opening 36 consists of a narrow slot formed in the side of the spout toward the cylinder and to the extent of the width of its face. The entrance-opening 37 of the pump is located at the bottom of the tank and near one of its sides, and agitator 38, preferably in the form of a helical conveyer, is journaled to rotate within the bottom portion of the tank to agitate and move the glazing liquid therein toward the said pump-opening. Said agitator is rotated by means of a chain 41 engaging with wheels 42 and 43, that are secured on the respective cylinder and agitator-shafts.

In operation the glazing liquid is carried by the pump from the bottom of the tank and discharged in a continuous sheet of even thickness through the slot in the spout upon the cupped face of the cylinder. It is thence carried by the rotation of the cylinder in contact with the face of the bisques during their passage over the cylinder and in contact therewith under the pressure of the roll. The bisques are so absorbent that the glazing liquid upon contact therewith congeals and adheres to their faces without contact with their edges. The quantity or thickness of the glazing fluid deposited on the bisques may be regulated by the vertical adjustment of the pump-spout in relation to the face of the cylinder. The higher up on the face of the cylinder the glazing liquid is delivered the more will be retained in the cups and carried in contact with the bisques without being spilled back in the tank.

A series of machines may be coupled in

train for the passage of the bisques successively therethrough to deposit additional glaze of different colors in patches for the purpose of producing the desired blend or mottled color after being fired in the kiln. For this purpose the different machines may be provided with cylinder-covers of different surface configurations or with larger cups 44, preferably wider at the bottom, as shown in Fig. 6, and distributed at desired intervals, or a series of sponges 45 may be caused to project at irregular intervals from the otherwise smooth surface of the cylinder or its elastic cover, as shown in Fig. 7.

A plural number of coats of the same glaze may be applied to the face of the bisques, when desired by providing a plural number of coating-cylinders for the same tank, as shown at 46 and 47 in Fig. 8. In this form of construction an adjustable pump-spout should be provided for each cylinder to discharge the contents of the tank thereon in a constant stream or sheet and in the desired quantity.

Having fully described my improvement, what I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination with a tank, a rotative cylinder mounted thereon, a pressure-roll mounted thereover, and a feeding-table, of adjustable means to deliver the contents of the tank in a continuous stream at different elevations upon the face of the cylinder.

2. The combination with a tank, a rotative cylinder, an elastic covering thereon and formed with cups in its surface, of a pump arranged to deliver the contents of the tank in a continuous stream upon the face of the cylinder-covering.

3. The combination with a tank, an agitator movable therein, a rotative cylinder mounted across the top of the tank, a pressure-roll mounted over the cylinder, a feeding-table leading toward and a delivery-apron leading from the top of the cylinder, of a pump arranged to deliver in a continuous stream the contents of the tank upon the face of the cylinder.

4. The combination with a tank a rotative cylinder mounted therein, and an elastic cover secured on the cylinder and containing a series of cups in its surface, each cup being enlarged toward its bottom, of means to deliver the contents of the tank in a continuous stream on the cylinder.

5. The combination with a tank, a cylinder mounted to rotate therein, and a pump adjustable to deliver the liquid contents of the tank at different elevations on the face of the cylinder,

of means at intervals on the face of the cylinder adapted to retain more of the liquid than other portions of its surface.

6. In combination a tank, an agitator therein, a plural number of cylinders mounted in the same plane, means to rotate them in the same direction, and a pump arranged to deliver the liquid contents of the tank on the upper portion of the face of the cylinders.

7. The combination of a tank, a cylinder having an elastic face and mounted in fixed bearings to rotate in a vertical plane, a vertically-adjustable spout communicating with the tank and formed with a discharge-slot adjacent to, and parallel with, the cylinder, whereby the contents of the tank may discharge on the cylinder at different elevations.

8. In combination, a tank, a rotative cylinder with an elastic face, and a pump arranged to deliver the liquid contents of the tank on the upper portion of the face of the cylinder.

9. In combination, a tank, a rotative cylinder having an elastic face filled with indentations, and a pump arranged to deliver the liquid contents of the tank on the upper portion of the face of the cylinder.

10. In combination, a tank, a rotative cylinder having an elastic face containing indentations, and a pump with an adjustable spout arranged to deliver the liquid contents of the tank at different elevations thereon.

11. In combination, a rotative cylinder, a feeding-table, a tank, an agitator therein, and adjustable means arranged to deliver the liquid contents of the tank at different elevations on the face of the cylinder.

12. The combination of a tank, a cylinder mounted to rotate in a vertical plane, a spout formed with a slot parallel with and adjacent to the face of the cylinder and of substantially the same length thereof, said spout being adjustable to different elevations in relation to the cylinder, and means arranged to convey the contents of the tank to the spout.

13. The combination of a tank, a cylinder mounted to rotate in a vertical plane and provided with an elastic face, an adjustable spout communicating with the tank and with the face of the cylinder through a discharge-slot formed therein parallel with the cylinder and substantially the same length thereof, whereby the contents of the cylinder may be evenly distributed at different elevations on the face of the cylinder.

ERNST G. RUDER.

Witnesses:

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