

J. GALLEAZZI.
BARREL FILLING MACHINE.
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1,276,341.

Patented Aug. 20, 1918.

FIG. 1

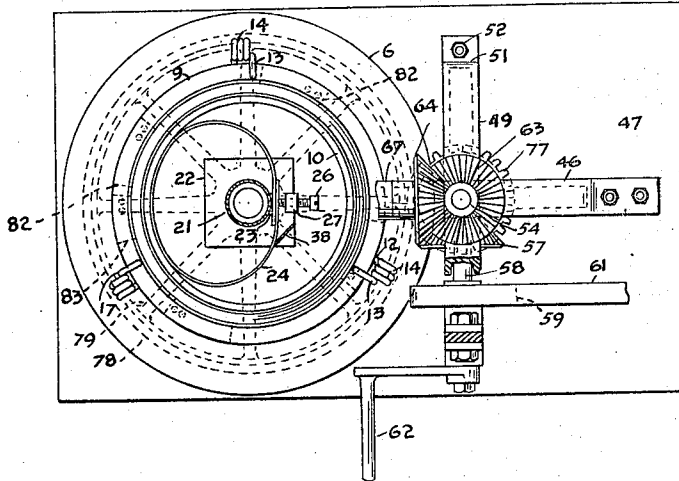


FIG. 3

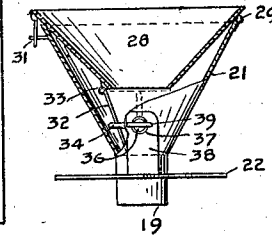


FIG. 2

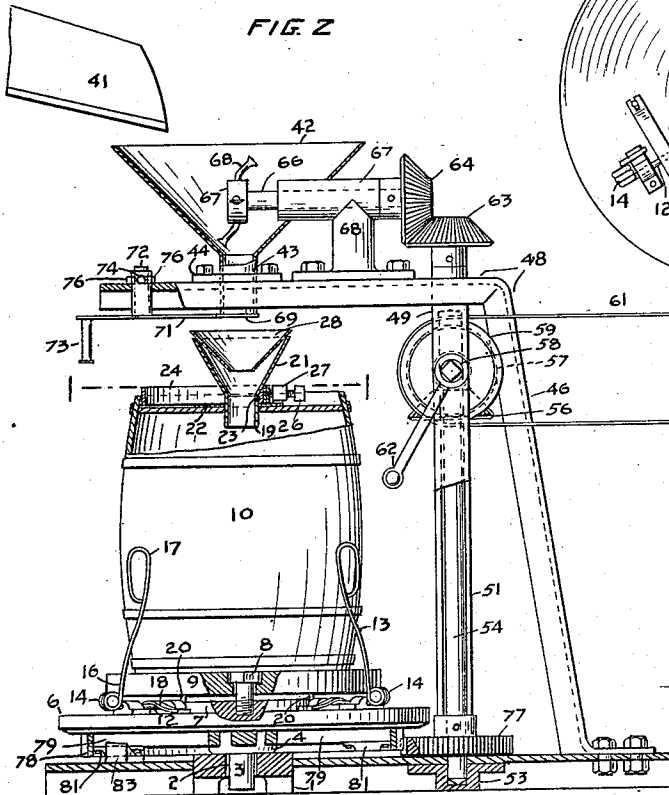
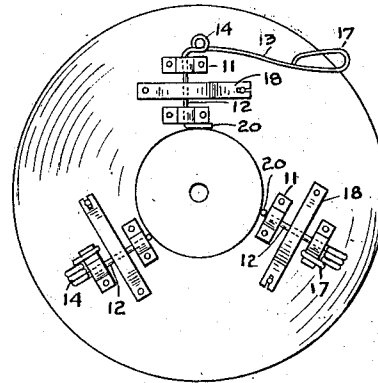
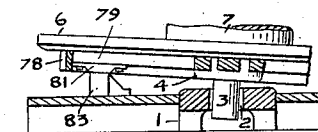


FIG. 4

FIG. 5



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JOSEPH GALLEAZZI, OF SAN FRANCISCO, CALIFORNIA.

BARREL-FILLING MACHINE.

1,276,341.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH GALLEAZZI, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Barrel-Filling Machines, of which the following is a specification.

This invention relates to improvements in machines for filling barrels with fine pulverulent material such as cement, and the object of the invention is to provide such a machine which will insure the thorough settling down or packing of the cement or other pulverulent material in the barrel, and by which the supply of material to the barrel can be conveniently controlled.

In the accompanying drawing, Figure 1 is a horizontal sectional view of the machine on the line 1—1 of Fig. 2; Fig. 2 is a broken side view thereof; Fig. 3 is an enlarged broken side view showing a feed control for the hopper; Fig. 4 is a plan view of a platform upon which the barrel is secured; Fig. 5 is a broken sectional view thereof, and of a base upon which said platform rotates.

Referring to the drawing, upon a suitable foundation is constructed a support 1 having a central hole 2 in which is received a guide pin 3 depending from a hub or disk 4 rotatable on said support, said disk 4 being secured to the under side of a circular platform 6. On the upper side of this platform is a central pillar 7, to which is loosely secured by a countersunk screw 8 the center of a table 9, upon which is supported the barrel 10 which is to be filled. At equal intervals around said platform and near its periphery are mounted bearings 11 for the shaft-like lower ends 12 of supporters 13, each consisting of a spring rod of about an inch in thickness, formed into a coil 14 adjacent to the shaft 12 and extending upwardly from said coil, as shown at 16 and at its upper end formed into a loop 17 adapted to be pressed against the side of the barrel by the tension of said coiled spring 14. However, any loop 17 may be moved out of contact with the barrel by turning the shaft-like portion 12 thereof in the bearings, said portion 12 extending in a plane parallel with the planes of the coils of the spring. A spring plate 18 secured to the platform bears against the shaft 12 of the supporter

and prevents said shaft from turning and the loop portion from moving laterally out of engagement with the barrel unless positively so moved. The inner end of each shaft is bent at right angles thereto and parallel with the upwardly extending supporter 13, to form fingers 20. When the supporters extend upwardly these fingers likewise extend upwardly and lift the table from the pillar 7. When one supporter is moved from a position supporting the barrel into a horizontal position below the table 9, so as to be out of the way of the barrel, the corresponding finger 20 is likewise lowered, and since the table 9 is only loosely connected by the screw 8, it sinks down on the side at which the supporter is lowered. The table now sloping downward, the barrel can easily be slid off the table. The placing of an empty barrel on the table is similarly facilitated.

Into a central hole in the head of the barrel extends the lower cylindrical portion 19 of a hopper 21, a plate 22 resting upon the head of the barrel and having an aperture through which the cylindrical lower portion of the hopper depends, and also having a bent-up portion 23 resting against the side of said lower portion, said hopper being held firmly in place by a curved spring 24 of which a side rests against the inner surface of the end of the barrel, while the ends are pressed against the portion 23 by a screw 26 screwed through a standard 27 on said plate 22. Supported upon the lower hopper 21 is an upper hopper 28 hinged on one side, as shown at 29, to the hopper 21, and removably secured thereto, as shown at 31, on the other side. The lower end of said upper hopper 28 can be closed when desired by means of a swinging gate 32 hinged to the lower end of said hopper, as shown at 33, said gate being turned by a crank arm 34 on a shaft 36 rotatable in a bearing 37 supported by a standard 38 on the plate 22, and having a handle 39 by which the shaft can be turned. By turning said shaft through a right angle, said crank arm can be moved from a horizontal position, as shown in full lines in Fig. 3, when the gate is wide open, to a vertical position, as shown in dotted lines in said figure, when the gate is closed, and conversely.

Pulverulent material is fed into said hop-

per by means of a chute 41, down which the material descends, falling into an upper hopper 42 having a cylindrical lower portion 43 extending through a plate 44 mounted on a channel-iron arm 46 supported upon a frame 47 upon said foundation and extending first obliquely upward and then horizontally as shown at 48. Said arm is additionally supported by the central horizontal portion 49 of a yoke 51, the side of which is secured, as shown at 52, to the frame.

To the under side of said frame 47 is secured a step bearing 53 in which is stepped the lower end of a vertical shaft 54, the upper end of which has a bearing in the horizontal portion 48 of the arm 46. Said vertical shaft carries a bevel gear 56, which meshes with a bevel gear 57 on a horizontal shaft 58, having bearings in the side members of the yoke-shaped support 51, and carrying a pulley 59 around which travels a belt 61 by which said shaft 58 may be rotated. Said shaft may be also rotated if desired by means of a crank handle 62 secured upon the end of said shaft. By the rotation of said horizontal shaft 58, said vertical shaft 54 is also rotated, thereby rotating a miter gear 63 secured upon the upper end of said vertical shaft. Said miter gear 63 meshes with a miter gear 64 on a horizontal shaft 66 rotating in a bearing 67 supported by a pedestal 68 secured to the horizontal portion 48 of the arm 46, said bearing passing through a side of the upper hopper 42. Said horizontal shaft 66 carries at its end within said hopper a tubular holder 67 in which are held stirring arms 68. By the rotation of said shaft 66, therefore, the pulverulent material in said hopper 42 is constantly stirred. Its escape from the upper hopper is controlled by a gate 69 at one end of a horizontal arm 71 secured to the lower end of a vertical shaft 72 having a bearing in the portion 48 of the arm 46 and adapted to be rotated by a crank handle 73 on the other end of the arm 71. The vertical shaft 72 carries a pin 74, which, in the rotary movement of the shaft 72, is arrested by either of two studs 76, extending upwardly from the arm 46 to limit the movement of the vertical shaft, and thus limit the movement of the gate in either direction.

Secured to the vertical shaft 54 is a pinion 77, which meshes with a crown gear 78, depending from the platform 6. Thus by the rotation of said vertical shaft 54 the platform, and likewise the barrel, are rotated horizontally. Extending from the hub or disk 4 to said crown gear 78 are a number of uniformly spaced arms or spokes 79, and secured to, and depending from, the outer end of each spoke is a wearing plate 81. The wearing plates of said spokes are adapted to ride up, and drop from, uniformly spaced inclined planes or cams 82 secured on

the frame 47. There are here shown eight such spokes and four cams, so that spokes ride up on, and drop from all four cams simultaneously, the effect of which is to raise and drop the barrel, without tilting it, as many times in each revolution as there are spokes. But in addition there is provided a single cam 83, which is engaged by the spokes in succession, which engagement has the effect of tilting the barrel, as many times as it is raised without tilting. The cams 82 cause the pulverulent material to settle in the barrel, while the cam 83 causes the pulverulent material to be moved from the center to the side of the barrel and thus to be distributed evenly.

I claim:—

1. In a barrel support, the combination of a table for supporting the barrel, a platform supporting the table, radially extending bearings on said platform, shafts rotatable in said bearings, fingers extending upwardly from the inner ends of said shafts and adapted to support the barrel, and arms extending upwardly from the outer ends of the shafts.

2. In a barrel support, the combination of a table for supporting the barrel, a platform supporting the table, a circular series of bearings on said platform, spring rods the lower ends of which are rotatable in said bearings, said rods extending upwardly from said bearings at their ends, and so coiled that their upper ends are adapted to press against a barrel on said table.

3. In a machine for filling barrels, the combination of a table for supporting the barrel, a movable platform for supporting the table, a circular series of radially extending bearings on said platform, spring rods the lower ends of which are rotatable in said bearings, said rods extending upwardly from said bearings and coiled in vertical planes parallel with said lower ends, their upper ends being adapted to press against a barrel on said table, means for filling the barrel, and means for simultaneously rotating the platform and imparting thereto a series of rapid vertical movements.

4. In a machine for filling barrels, the combination of a table for supporting the barrel, a movable platform for supporting the table, a circular series of bearings on said platform, spring rods the lower ends of which are rotatable in said bearings, said rods extending upwardly from said bearings, and so coiled that their upper ends are adapted to press against a barrel on said table, means for filling the barrel, and means for simultaneously rotating the platform and imparting thereto a series of rapid vertical movements.

5. In a machine for filling barrels, the combination of a platform for supporting

the barrel, a base upon which said platform can rotate, means for rotating the platform, equally spaced cams on said base, equally spaced devices on the under side of said platform arranged in the rotation of the platform to engage said cams simultaneously to raise and lower the platform, and
5 a cam on the base arranged to engage each of said devices in succession to raise a portion only of said platform, the remainder 10 of the devices being at that time free from engagement with cams.

JOSEPH GALLEAZZI.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."