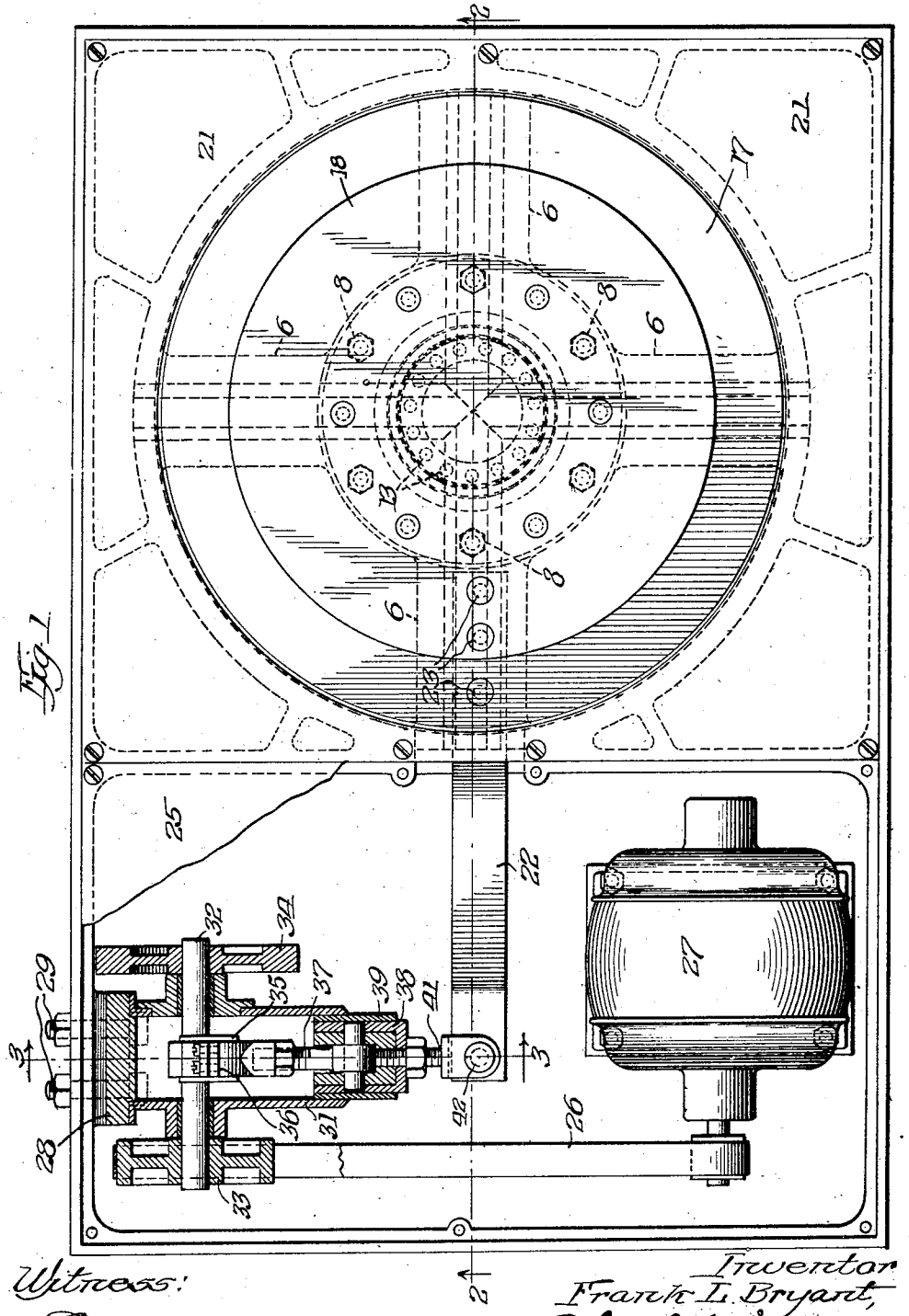
May 4, 1926. 1,582,968

F. L. BRYANT

PACKING APPARATUS

Filed April 30, 1924 2 Sheets-Sheet 1



Witness:

Geo. C. Dorson

Inventor

Frank L. Bryant,

By Chas. J. Wilson Atty.

May 4, 1926. 1,582,968

F. L. BRYANT

PACKING APPARATUS

Filed April 30, 1924 2 Sheets-Sheet 2

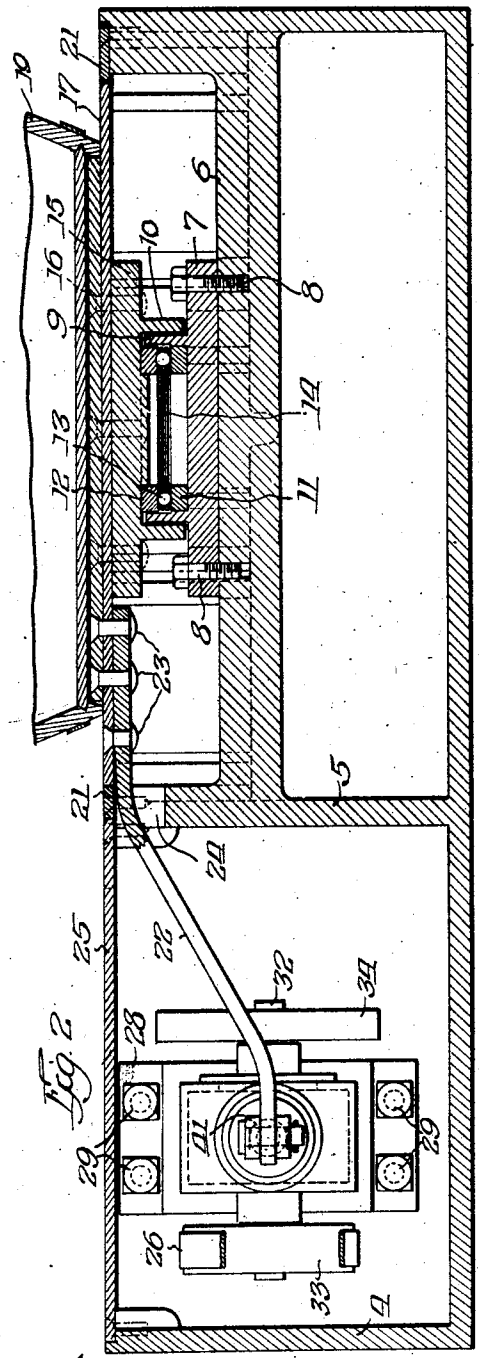


Fig. 2

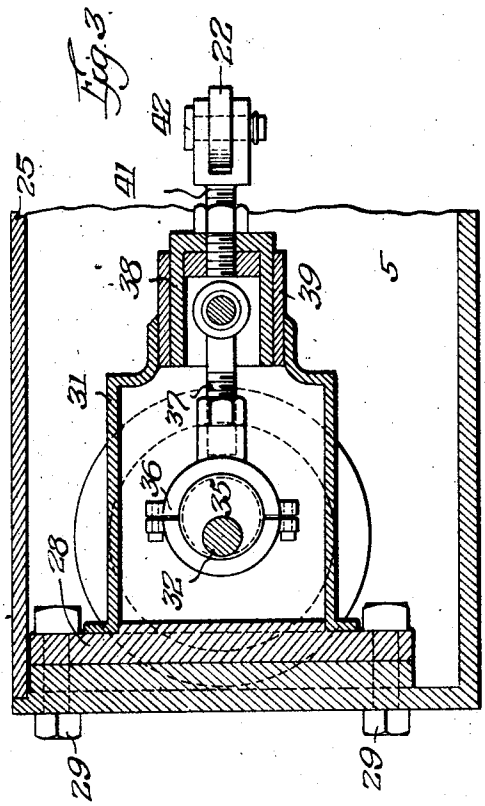


Fig. 3

Witness:
Geo. C. Brown

Inventor
Frank L. Bryant
By Ira J. Wilson Atty

Patented May 4, 1926. 1,582,968

UNITED STATES PATENT OFFICE.

FRANK L. BRYANT, OF JOLIET, ILLINOIS.

PACKING APPARATUS.

Application filed April 30, 1924. Serial No. 710,203.

To all whom it may concern:

Be it known that I, FRANK L. BRYANT, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Packing Apparatus, of which the following is a specification.

This invention pertains generally to packing apparatus and more particularly to a type adapted to cause a settling and compacting of the material being packed in a barrel or other container, for the purpose of enabling the packing of a maximum quantity of the material into the container.

In some industries the materials which are shipped in containers have become in the method of their production highly impregnated with large quantities of air so that they assume a condition very nearly approaching a fluid and are more or less light and fluffy so that it is difficult to get a desired quantity of the material into the shipping containers. If the material is simply delivered into the containers in its semi-fluid condition without agitation the containers while full when packed will after a time become only partially full as a result of the settling of the material

One of the primary purposes of this invention, therefore, is to agitate the container into which the material is being delivered so that the material will settle as the container is being filled, thereby enabling a maximum quantity of the material to be loaded into each container.

The agitation of the containers, however, must be carefully performed or otherwise the material instead of becoming compacted will be even further fluffed up and if the agitation of the container is sufficiently violent the material will be slopped out over the top of the container during the filling.

Another purpose of my invention, therefore, is to provide an apparatus which will impart just sufficient agitation to the container being filled to cause the settling and compacting of the material therein and without causing further fluffing of the material or resulting in the spilling of the material over the top of the container.

A further object is to provide an apparatus which will be simple in construction, economical to manufacture, and one which will be efficient and durable in operation.

Other objects and advantages of my invention should be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawings.

Referring to the drawings,—

Fig. 1 is a plan view of a packing apparatus embodying my invention.

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1, and

Fig. 3 is a similar sectional view on the line 3—3 of Fig. 1.

Referring now to the drawings more in detail, it will be observed that my apparatus comprises primarily a box like frame structure 4 provided intermediate its ends with a vertical partition or supporting wall 5 and horizontally disposed supporting webs 6 carrying at their intersection a supporting plate 7 secured by bolts 8 or other preferred means to the webs.

The plate 7 is provided with an upwardly extending annular flange 9 within which is disposed a ball bearing comprising the annular lower race 11, a companion upper race 12 and the interposed balls 13 held in position by the cage 14. An upper supporting plate 15 is carried upon the upper race 12 and this plate is held against displacement by a depending flange 10 encircling the upwardly projecting flange 9.

To the upper face of the plate 15 there is secured by rivets 16 or otherwise, a circular platform consisting primarily of the plate 17. Upon this platform there is disposed a retaining plate 18 of any preferred shape, this plate in the present instance being shown as circular in form and adapted to center and retain against displacement a container 19, which in the present instance is in the form of a barrel. A cover plate 21 shaped to fit the upper periphery of a portion of the frame and provided with a central opening adapted to accommodate the platform 17 covers the space surrounding the platform and preferably lies flush with the platform, as will be apparent from Fig. 2, so that the containers may be readily moved into filling position and removed therefrom.

An arm 22 secured by rivets 23, or otherwise, to the lower face of the platform, projects radially therefrom through an opening 24 in the wall 5 into position for connection with an agitating device mounted in the

frame on the opposite side of the partition wall 5 from the platform and enclosed beneath a removable cover plate 25.

While this agitating device may be of any preferred construction adapted to rapidly impart the reciprocatory motion and may be in the form of a pneumatic apparatus, an electro magnetic device or other preferred type, I have shown herein for illustrative purposes a mechanical agitator adapted to be driven through a belt 26 from an electric motor 27 mounted within the frame of the apparatus.

The agitator as shown comprises a base 28 rigidly secured by bolts 29 to one of the side walls of the frame, from which base a housing 31 projects horizontally toward the end of the arm or lever 22. The housing is provided with suitable journals in which is rotatably mounted a shaft 32 carrying at one end a pulley 33 around which the belt is trained and at its other end a flywheel 34. Within the housing the shaft is provided with an eccentric 35 connected by an eccentric strap 36 with a connecting rod 37 which is pivotally attached at its outer end to a crosshead 38 reciprocable in a bearing 39 carried by the housing. An eye 41 projects longitudinally from the outer end of the crosshead, this eye being connected with the outer end of the lever 22 by a pivot pin 42.

In the operation of my apparatus the shaft 32 is driven from the motor 27 to impart through the eccentric and its connections a rapid reciprocatory motion to the outer end of the arm 22. The stroke of the crosshead carrying the eye 41 is relatively short and the lever arm 22 being relatively long, the platform is oscillated back and forth about a concentric vertical axis through a relatively short arc. This movement of the platform transmitted directly to the container resting thereon causes the material of the character previously described being delivered into the container to settle and become compacted in the container without being so violently agitated as to become fluffed or to become spilled over the sides of the container. A maximum quantity of the material may, therefore, be packed in the container and because of the rapid but slight movements of the container the settling of the material is extremely rapid and, therefore, the containers may be filled very rapidly.

While I have shown and described a preferred embodiment of my invention, obviously the structural details may be varied within wide limits without exceeding the scope of the invention as defined in the following claims.

I claim:

1. In a packing apparatus, the combination of a frame provided with a top having an opening therein, an oscillatable platform disposed in said opening and substantially flush with the top, means on the platform for maintaining a container in concentric relation with the platform, a circular bearing upon which said platform is supported, an arm fixed to and projecting radially from said platform, and means connected with said arm for rapidly oscillating the platform to vibrate the container mounted thereon.

2. In a packing apparatus, the combination of a box shaped frame, a cover plate therefor provided with a circular opening, a circular platform disposed within said opening and substantially flush with said cover plate, an annular ball bearing whereby said platform is supported from the frame, and means for rapidly oscillating said platform.

3. In a packing apparatus, the combination of a frame, a bearing plate carried thereby and provided with an outwardly extending annular flange, a ball bearing disposed in horizontal position within the confines of said flange, a second bearing plate supported upon said ball bearing and provided with a depending flange encircling said first mentioned flange, a circular platform fixed upon said second plate, a center plate upon the upper face of said platform, and means for oscillating said platform upon said bearing.

4. In a packing apparatus, the combination with a frame divided by a transverse partition into a plurality of compartments, a cover plate for one of said compartments provided with a circular opening, a circular platform disposed within said opening with its upper surface substantially flush with said plate, anti-friction means disposed within said compartment beneath the platform whereby said platform is supported so as to be capable of oscillation about a central vertical axis, an arm projecting radially from said platform into the other compartment, means in said compartment connected with said arm for oscillating said platform, and a cover plate for said second compartment.

5. In a packing apparatus, the combination of a frame, cover plates therefor, one of which is provided with a circular opening, a container supporting platform arranged within said opening, anti-friction means carried by the frame for supporting said platform so that it is capable of oscillatory movements, an arm projecting radially from the platform, and means including a rotatable shaft, an eccentric thereon and a connection between said eccentric and said arm whereby said arm is actuated to oscillate said platform.

FRANK L. BRYANT.