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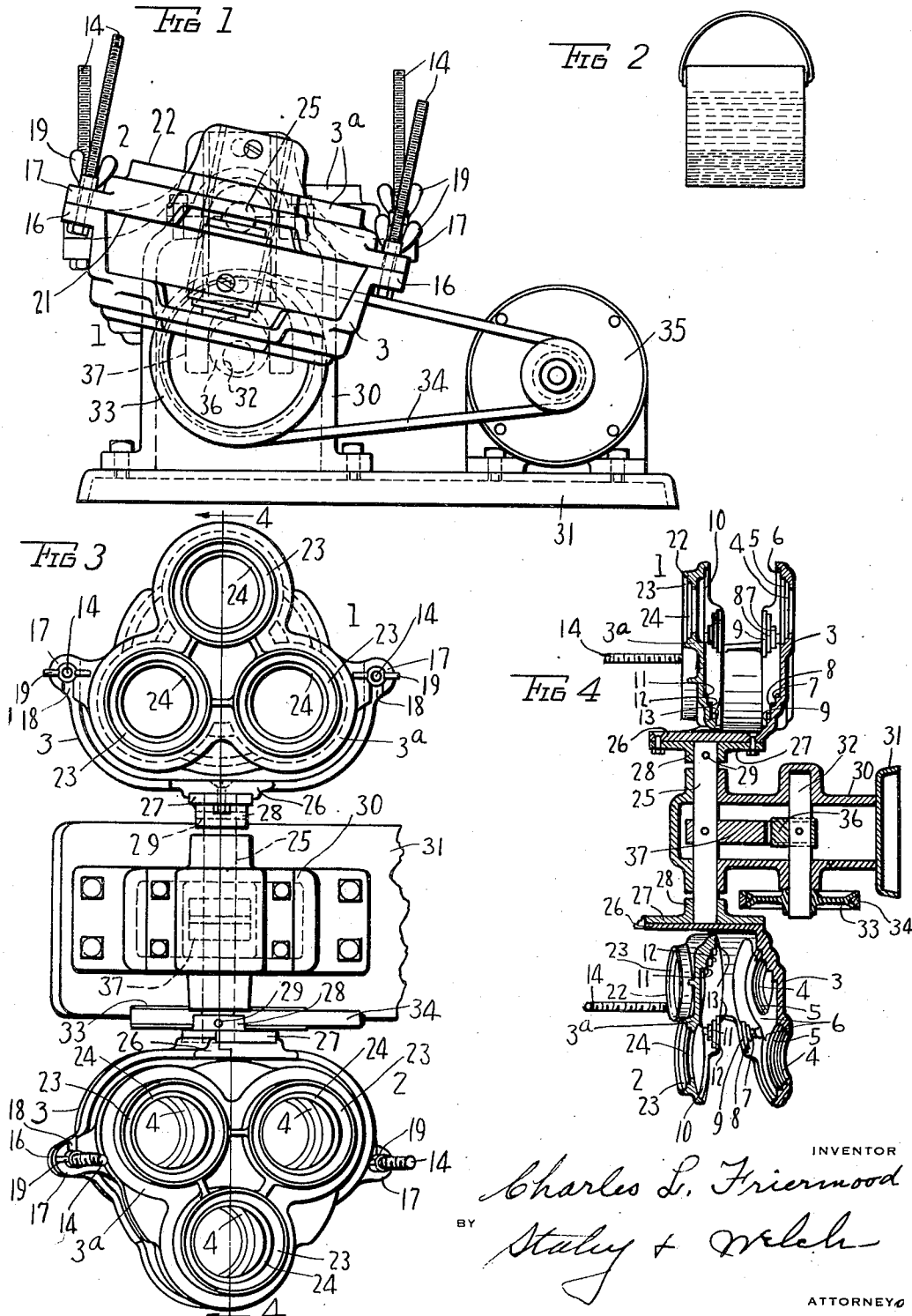
C. L. FRIERMOOD

2,060,932

AGITATING APPARATUS

Filed Feb. 25, 1936

2 Sheets-Sheet 1



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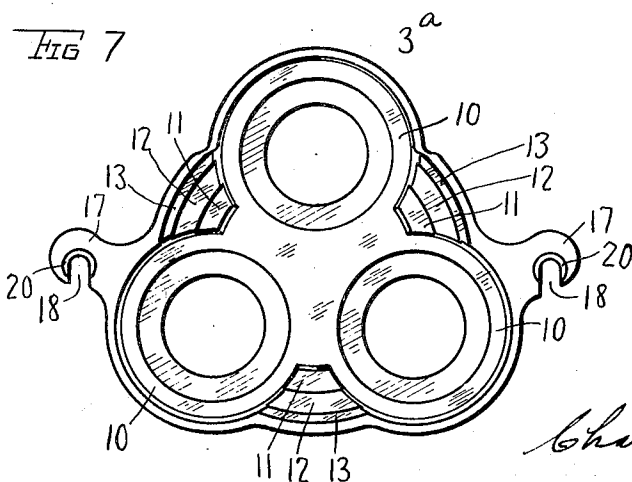
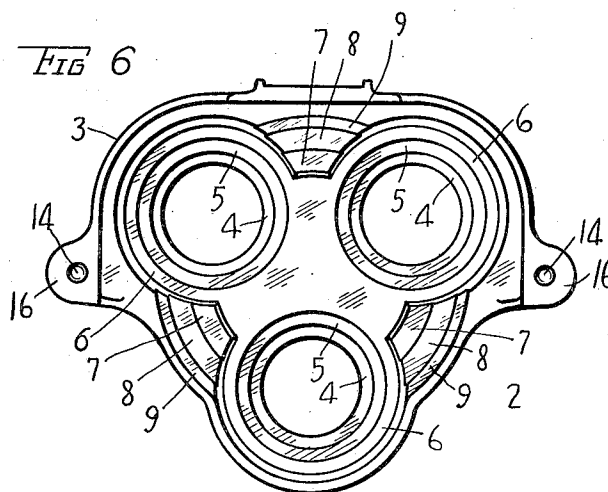
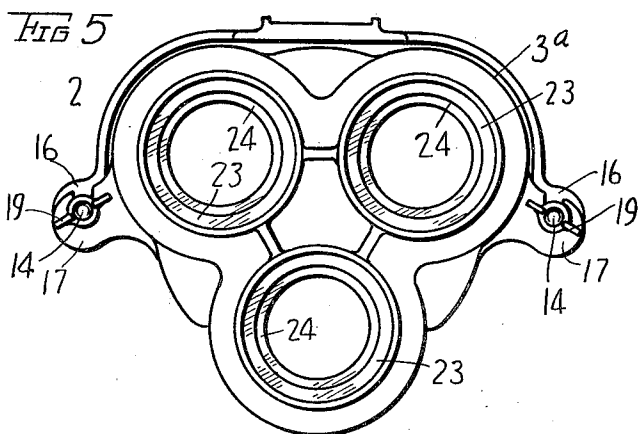
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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AGITATING APPARATUS

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Application February 25, 1936, Serial No. 65,625

7 Claims. (Cl. 259—56)

This invention relates to an apparatus for agitating liquids in the original container, it more particularly relating to a machine for agitating paint before it is removed from the cans, although not necessarily limited to that particular use; this application being a continuation in part of my pending application Serial No. 37,059.

The solids of paints that stand for a long while, as on a shelf in a store, settle to the bottom of the container in a thick, pasty mass, leaving the oil and other liquids above almost clear.

The machine is designed to re-mix the settled solids with the fluids in the same container without opening the container. Usually gallon, half-gallon, quart, pint and one-half pint size containers are in use and the solids of the paint therein are readily broken up in this machine.

One of the objects of the invention is to provide an apparatus of the character described which is simple and economic in construction and effective in operation.

A further object of the invention is to provide a holder for the paint receptacles which is readily adaptable to small or large cans, the holder being so constructed that a plurality of small cans may be clamped in each holder, a pair of holders being employed in the present machine.

A further and more specific object of the invention is to provide a holder for the paint receptacles having two clamping members, one of which is reversible so as to cooperate with the companion clamping member to clamp large size cans when in one position and when in the other position to cooperate with the companion clamping member to clamp a plurality of small cans; a further object in this connection being to eliminate the necessity of filler blocks.

In the accompanying drawings:

Fig. 1 is a side elevation of an apparatus in which the improvements are embodied.

Fig. 2 is an elevation of a container for liquids such as paint which the apparatus is designed to agitate.

Fig. 3 is a top plan view with some of the parts at the right hand side of Fig. 1 omitted.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is an enlarged plan view of one side of the upper or movable clamping device for the paint receptacle.

Fig. 6 is an enlarged plan of the companion or lower clamping device of one of the paint can holders.

Fig. 7 is a plan view of the opposite side of the clamping device shown in Fig. 5.

The machine has two holders 1 and 2 in each

of which one or more paint containers may be clamped, the number depending on the size, there being sufficient space provided to receive the largest container of which the machine is capable of agitating which in the present case is a Canadian one-gallon container. In this space one or more smaller containers may be accommodated, and any or all of the containers clamped in a holder of the improved construction are securely held.

As shown in Fig. 6, the lower non-removable and non-adjustable portion 3 of a receptacle 1 or 2 is so formed as to provide circular, comparatively shallow depressions in which a container is placed. It will be noticed that some of the depressions intersect the spaces in which other depressions are located, yet it will be further noticed that there is sufficient remaining contour to insure that a container or plurality of containers is properly located and securely held for the agitating operation.

For example, there is seen in Fig. 6 a series of two depressions 4 and 5, the bottom of these depressions forming seats concentrically disposed with each other, the depth of which recesses can be seen by referring to Fig. 4. In each of the depressions 4 of a lower member 3, a one-half pint can may be placed, making a total of six containers for both holders, or in other words, three containers in each holder. If desirable, however, for the one-half pint size one one-half pint container may be mounted upon another to give a total capacity of six one-half pint containers for each holder or a total capacity for both holders of twelve one-half pint containers. In the depression 5, pint cans are received. Centrally disposed with the depressions 4 and 5 is a quart-size depression 6 of but partially complete outline, yet the portion remaining is somewhat more than a semi-circle, sufficient to properly and safely locate a quart container. A total of six pint or six quart-size containers may be agitated in the machine at one time, three in each holder.

These depressions are arranged to form a triangle to conserve space and concentrically disposed with the central portion of the triangular arrangement of each receptacle, is a series of three partial depressions, and like the previously described depressions 4, 5, and 6, are in stepped relation. The partial or interrupted depression 7 is formed by utilizing the spaces between the depressions 4, 5, and 6, and is of such diameter as to accommodate a one-half gallon container, and since the spaces between the above-mentioned

depressions are in triangular disposition, so the portions of the depression 7 provide equidistantly spaced portions to safely locate this container. Also, as the depression 6 is one step above the depression 5 which in turn is a step above the depression 4, so the depression 7 is one step above quart depression 6.

In like manner there are similar higher interrupted depressions 8 and 9, the purpose of the higher depression 8 being to accommodate a gallon container, while the still higher depression 9 is of such size to receive a container of the Canadian or Imperial gallon capacity.

The removable and adjustable member 3A of each receptacle is of somewhat similar outline in that there is on one side thereof a series of depressions corresponding to the depressions 6, 7, 8, and 9, or respectively the quart, half-gallon, one-gallon (U. S.) and one-gallon (Canadian).

These depressions are seen in Fig 7 at 10, representing the quart size, at 11, 12, and 13, representing the half-gallon, one-gallon (U. S.) and one-gallon (Can.) respectively. The view, Fig. 7, shows the removable member 3A inverted in order to better show the depressions. It will be understood that when the containers just mentioned are to be secured in the holders the side of the removable and adjustable member 3A, shown in Fig. 7, will face the non-removable and non-adjustable member 3 as seen in Fig. 4. To clamp the removable member 3A to the lower non-removable member 3, there is provided a pair of diametrically spaced threaded rods 14 secured in ears 16 integrally attached to the lower member 3. At corresponding points on the removable member 3A are ears 17 having slotted openings 18 (Fig. 7) in which the threaded rods 14 are received, wing nuts 19 are provided on the rods 14 and 15, and to provide that the member 3A will be securely held, there are circular depressions 20 recessed in the surface of each of the ears 17. These recesses 20 (Fig. 7) are of such diameter as to snugly receive the cylindrical body of the wing nut. Consequently, very little time is lost in removing the removable member 3A or in placing the member in secure attachment to the lower member 3.

In order to keep down the length of the rods 14, the removable member 3A is dished as seen in the upper portion of the sectional view Fig. 4. By reference to Fig. 1, the straight line 21 indicates what might be called the bottom of the member and in connection with other views, it will be seen that all of the various depressions are located above this line (Fig. 1). Consequently, when the member 3A is raised to the height necessary to accommodate the large Canadian gallon container, the ears 17 are at a lower elevation than the top of this container, and by this the length of the rods is determined.

Dishing the member as described is advantageous as mentioned, but in providing for the large containers, the space between the dished portions of the non-removable and removable members is greater, even when the removable members rest directly on the non-removable member, than the heights of the pint and half-pint containers, and therefore these small containers would not be securely retained. Since the dishing of the member 3A as described provides that the body portion thereof is entirely at one side of the previously mentioned line 21, it follows that by inverting the member 3A, the portion 22 seen in Fig. 1 at a higher elevation will by inversion be comparatively closely adjacent the depressions in

the lower non-removable member 3, so much so that the smaller pint and half-pint containers are readily clamped in place, thus eliminating the necessity of filler blocks. The depressions in the removable and adjustable member 3A for these last-mentioned containers are indicated at 23 for the pint size and 24 for the half-pint size, in Fig. 5, which view is a plan view of a portion of Fig. 1, and these depressions 23 and 24 complement the previously described depressions 4 and 5 of the non-removable and non-adjustable member 3.

Each of the holders is connected to a rock shaft 25 and to that end the non-removable and non-adjustable member of the holder 3 is provided with a bracket 26 to the rear side of which is secured a plate 27 which has a hollow trunnion 28 into which the end of the rock shaft fits; a set screw 29 threaded in the trunnion being employed to secure the parts together. This rock shaft is rotatably mounted in suitable bearings formed on a hollow casting or housing 30 which is supported on a base 31. Near the lower end of the housing 30 is a shaft 32 on the outer end of which is a V-belt pulley 33 whereby by a belt 34 an electric motor 35 turns the shaft 32. On the shaft 32 inside the housing is an eccentric 36. Straddling the eccentric is the open forked end of a lever 37 secured to the rock shaft 25, whereby as the shaft 32 and eccentric 36 rotate the rock shaft rocks back and forth and thereby agitates any cans or other containers clamped in the holders.

Having thus described my invention, I claim:

1. In a paint agitator, a holder for containers comprising two clamping members, one at least of which is adjustable to and from the other, one of said members having on one face thereof a plurality of seats for different sized containers and the other member being reversible and having seats for the containers on each face thereof complementary to the seats on the companion member.

2. In a paint agitator, a holder for containers comprising two clamping members, one of said clamping members being non-adjustable and the other clamping member being adjustable to and from the non-adjustable member, said non-adjustable member having on one face thereof a plurality of seats for different sized containers and the adjustable member being reversible and having seats for the containers on each face thereof complementary to the seats on the companion member.

3. In a paint agitator, a holder for containers comprising two clamping members, one of said members having on one face thereof a plurality of seats for different sized containers, the other clamping member being reversible and adjustable to and from the companion member and having seats for the containers on each face thereof complementary to the seats on the companion member.

4. In a paint agitator, a holder for containers comprising two clamping members, one of said members having on one face thereof a plurality of seats for different sized containers, the other clamping member being reversible and adjustable to and from the companion member and having seats for the containers on each face thereof complementary to the seats on the companion member, and threaded rods connected with one clamping member and projecting through apertured ears in the other member, to-

gether with thumb nuts on said rod for tightening said member against the containers.

5 5. In a paint agitator, a holder for containers comprising two clamping members, one of said members being non-adjustable, the other of said members being adjustable to and from said non-adjustable member, said non-adjustable member having a plurality of series of stepped seats to receive small sized containers and also a plural-
10 ity of series of stepped seats to receive large sized containers, said adjustable member being reversible and having on one face thereof a plurality of series of stepped seats corresponding to the stepped seats on the other member which receive
15 the small sized containers and having on the opposite face thereof a plurality of seats corresponding to the seats on the other member which receive the larger sized containers.

6. In a paint agitator, a holder for containers
20 comprising two clamping members, one of said members being non-adjustable, said non-adjustable member having arranged on one face thereof a plurality of series of concentric stepped seats to receive small sized containers and also having
25 in the spaces between said series of concentric stepped seats a plurality of series of stepped seats to receive larger sized containers, said other clamping member being reversible and having on one face thereof a plurality of series of concentric stepped seats corresponding to the stepped
30 seats on the other member which receive the small sized containers and having on the opposite face thereof a plurality of series of stepped seats corresponding to the stepped seats on the other

member which receive the large sized containers, said reversible clamping member being adjustable to and from the other member, together with means for clamping the reversible member on the containers received on said seats.

7. In a paint agitator, a holder for containers comprising two clamping members, one of said members being non-adjustable, said latter member having on one face thereof a plurality of series of concentrically arranged stepped seats to receive small sized containers and also included in each series another concentrically arranged seat to receive a larger sized container, said member also having in the spaces between said series of beforementioned seats a plurality
15 of stepped seats to receive still larger sized containers, the other clamping member being reversible and adjustable to and from said non-adjustable member, said reversible member having on one face thereof a plurality of concentrically arranged stepped seats corresponding to the stepped seats on the non-adjustable member which receives the small sized containers, said latter seats being projected beyond the horizontal plane of the main body of said non-adjust-
25 able member, said reversible clamping member also having on the opposite face thereof a plurality of seats corresponding to the concentric seats on said non-adjustable member which receives the larger sized container and also having
30 a plurality of stepped seats corresponding to the stepped seats on said non-adjustable member which receives the still larger sized containers.

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