This invention relates to improvements in malted milk dispensers and the object of the invention is to provide a practical and efficient apparatus for dispensing malted milk.

With this object in view the apparatus is arranged and constructed as hereinafter set forth and as illustrated in the accompanying drawings.

Figure 1 is a plan view on a greatly reduced scale of a malted milk dispenser embodying my invention.

Figure 2 is a view of the dispenser in cross section with parts removed and parts broken away.

Figure 3 is a plan view of the dispensing mechanism with parts in section on the line 3—3 of Figure 2.

Figure 4 is a similar view showing the parts in a different position.

Figure 5 is a bottom view of the feeding disk valve.

Figure 6 is a side view of the main body member of the apparatus.

Referring to the drawing the reference numeral 7 denotes a suitable base member having an upper cylindrical body receiving portion 8 provided with two bosses or projections 9, 9, Figure 3. Below the portion 8 the base 7 is cut out as at 10 in the front of the apparatus, and the portion 7 forms practically a semi-conical downwardly flaring foot.

The malted milk is contained within a suitable container 11 having an open neck 12 which may be screwed into the main body or pocket member 13 at 14. The member 13 has an annular wall or portion 15 which fits snugly within the base portion 8, and an annular horizontal flange 16 which rests on said portion 8. The body 13 fits within the portion 8 in predetermined position by reason of a key 17 on the body which is seated between the aforesaid bosses 9, 9. Thus the body cannot rotate in the base.

The body member 13 is provided with a plurality of pockets 18, 18 which taper downwardly being slightly larger at the bottom. In the center the body is bored out to receive a sleeve or hollow stem 19 of the disk valve 20. The stem 19 extends upwards through the body and carries at the top a measuring disk valve in fixed permanent relation to the feed disk valve 21, so that the two disks 20 and 21 move together when operated.

The feed valve 20 is provided with a single feed opening 39 while the measuring valve 21 is cut away as at 23 so that it will cover only three of the four pockets 18.

Within the stem 19 is located a bolt or vertical shaft 24 which at the top carries a pusher blade 25 in which a horizontal agitator wire 26 is fixed at right angles to the blade.

At the bottom the shaft carries a handle 27 having a spring actuated pawl 28 adapted to engage the teeth 29, 29 in the circumference of the feed disk valve 20. A spring 30 secured to the side of the body 13, see Figure 6, prevents return movement of the feed disk valve, while a stop 31 limits the throw of the handle as will appear hereinafter.

Within the base 7 there is detachably supported a direction feed member or funnel 32 supported by means of bayonet slots 33 and pins 34 (only one is shown). The pins 34 may be cast integral with the base 7.

To the measuring disk valve 21 suitable agitators 35, 35 are affixed and extend up into the container 11. In Figure 2 these agitators are shown turned at right angles to their regular position as shown in Figure 3. The container 11 has a filler opening 36 closed with a stopper 37. The edge 38 of the cut out 10 in the base 7 forms a stop for the movement of the handle in one direction as will presently appear.

In assembling the apparatus, the feed disk valve 20 is placed at the bottom of the body 13 and the sleeve 19 pushed upwards through the bore therein. Then the measuring disk valve 21 is affixed to the said stem with its cut away portion 22 in diametrically opposite relation to the feed opening 23 in the said valve.

The bolt 24 is then placed within the sleeve 19. The parts thus assembled are placed within the base with the key 17 between the bosses 9, 9. Next the handle 27 is attached to the bottom of the bolt and projects outwardly from the apparatus through the cut out 10 therein.

The container 11 may now be screwed into the base and filled with malted milk through the opening 36 in the top. Finally the funnel is attached from below the apparatus.

The operation is as follows. The handle is moved backwards and forwards a few times thus insuring that all the pockets 18 are filled with malted milk, it being understood that when the handle is moved from
the position in Figure 3 to the position in Figure 4, the pawl 28 engages the nearest tooth 29 to rotate the two disk valves ninety degrees until the handle hits the stop 31.

During this forward or feeding movement of the handle, the disk valves move together, and at the same time the pusher blade 25 and the agitator 26 are also operated.

In order to accomplish the next feeding movement, the handle is moved backwards into the position shown in Figure 3 and during this backward or agitating movement, the disk valves remain stationary, but the pusher blade and agitator 26 are also moved backwards with the shaft 24.

Assuming that some of the pockets 18 have thus been filled with malted milk as a result of the continued action of the movable elements within the container, the detailed operation and function of the several parts are as follows.

Starting with the parts in the position in Figure 3, it will be observed that the pocket A has emptied its contents of malted milk through the feed disk valve opening 39 into the glass or other receptacle which has previously been placed under the funnel. At the same time, due to the previous agitation the pocket B has been filled with malted milk and the pocket C is now being filled.

On the feeding stroke of the handle from Figure 3 to Figure 4, the pusher blade 25 pushes the material in front of it into over the pocket C to insure its complete filling and the material behind the blade will also fall into C in advance of the measuring disk valve which measures the quantity of material in pocket C by being moved in over the same and cutting off the material in the pocket flush with the top thereof and separates it from the material in the container.

During this movement the feed opening 39 has been moved from pocket A to pocket B, and if the latter is filled, said pocket B will empty into the glass. Also pocket D will be uncovered and material pushed into it by the blade 25. Next follows the backwards or agitating stroke of the handle when it will be observed, that the pusher blade again pushes material into D and creates a space behind the blade so that more material will fall into D.

On the next feeding stroke the feed opening 39 will be moved in under C which will empty its contents into the glass, and the measuring disk will measure the contents in D. Again an agitating stroke follows succeeded by a feeding stroke which places the feed opening 39 under the pocket D which thereupon empties and the cycle is completed.

During the entire operation it will be noted that there is a double agitating movement. The material is agitated between the feeding strokes and also during each feeding stroke.

It is very difficult to feed or dispense malted milk by means of a dispenser because the milk absorbs moisture very quickly and sticks and clings to the parts of the apparatus. So far as I know no milk dispenser has ever been successfully operated in practice for any length of time and it may be said that none are in use.

The dispenser herein described is entirely successful having been actually tested and operated for a great length of time. The movements of the agitators and pusher blades prevents the material from clogging and the complete filling of each pocket prior to the feeding therefrom insures a regular feed of the same quantity of material for each stroke of the machine.

It is not necessary that the body of the machine be provided with four pockets. A lesser number may be used. Also the shape of the agitators and other details, sizes and proportions may be altered. The container may be constructed to hold a suitable quantity of the malted milk and may be arranged for attachment to the apparatus in any desirable manner.

In view of the foregoing I do not wish to be limited to the precise details of arrangement or construction, but changes may be made within the legitimate and intended scope of the appended claims.

I claim:

1. A dispensing apparatus for malted milk comprising a body having a plurality of bottomless pockets, a container mounted above said body and communicating with said pockets, a central sleeve rotatably mounted in said body, a measuring disk secured to said sleeve, a pusher blade secured to said sleeve and a feed valve disk adapted to register successively with the said pockets, a shaft within said sleeve, agitating means carried by said shaft above the body, a manually operated handle, means connecting said handle and shaft to operate the agitating means at each movement of the handle and means for intermittently connecting said handle and feed valve disk to operate the latter and the said measuring disk once for every two manually operated movements of the handle.

2. A dispensing apparatus for malted milk comprising a support, a body resting thereon and having a plurality of pockets open at both ends, a container detachably secured to said body and communicating with said pockets, a measuring disk above said body, a feed valve disk below said body, means connecting the said two disks, a shaft in said body, a pusher blade secured to said shaft above the measuring disk, a handle on said shaft, means on said handle and feed valve
disk for intermittently connecting the same to operate the said two disks together with the pusher blade during the feeding stroke of the apparatus, said handle being capable of a return stroke whereby to operate said pusher blade in the opposite direction after each feeding stroke as aforesaid.

3. A dispensing apparatus for malted milk comprising a body having vertically disposed pockets open at both ends, a central sleeve rotatably mounted in said body, two movable disks secured to said sleeve, one above and one below said body, each disk having a cut away portion whereby to register alternately and not simultaneously with the said pockets, a shaft in said sleeve, a pusher blade secured to said shaft within the container and above the said upper disk and a handle for simultaneously operating said disks and pusher blade in one direction during the feeding stroke of the apparatus and for operating the said shaft and pusher blade in the opposite direction alternately with the said feeding stroke.

LEWIS E. MORRISON.