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AUTOMATIC AGITATING APPARATUS.

APPLICATION FILED MAY 11, 1910.

987,126. Patented Mar. 21, 1911.

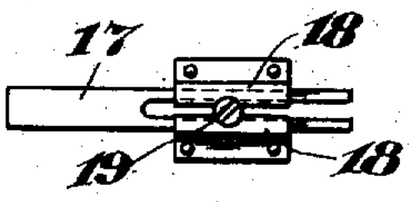


Fig. 2




Fig. 1

Witnesses:

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## AUTOMATIC AGITATING APPARATUS.

987,126. Specification of Letters Patent. **Patented Mar. 21, 1911.**

Application filed May 11, 1910. Serial No. 560,741.

*To all whom it may concern:*

Be it known that I, JOSEPH T. F. FRECHETTE, a subject of Great Britain, residing at St. Gabriel de Brandon, Province of Quebec, Canada, have invented certain new and useful Improvements in Automatic Agitating Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention to be hereinafter described relates to agitating apparatus and more particularly to an automatic agitating apparatus.

Broadly speaking, it comprises a tank or vessel adapted to contain a fluid to be agitated, a rod slidably mounted in the vessel, agitating blades or vanes movably mounted on the rod, a yielding device adapted to resist upward movement of the rod, a lever loosely connected at one end to the rod, a bucket adjustably connected to the opposite end of the lever, means for periodically filling the bucket to operate the lever, and means for tripping the bucket to empty it.

In order to more clearly disclose the construction, operation, and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings, like reference characters designate the same parts in the different views.

In the drawings: Figure 1 is a side elevation of the invention complete, showing the lower part of the vessel in section; and Fig. 2 is a detail plan view of the spring plates for holding the rod 2 in lowered position.

The main object of the invention is to provide an agitator of simple economical durable and efficient construction, and one which will be positively automatic in its operation. It is to be used to keep the liquid agitated all the time, and can be used to great advantage to keep the cream from rising on milk. Likewise it might be used to advantage as a mixer in case it is desired to mix a large quantity of liquid chemicals.

Referring to the drawings in detail, 1 indictates a suitable vessel or tank of any usual and well known construction and adapted to contain the fluid to be agitated. Within this vessel is slidably mounted a rod or shaft 2 on the lower part of which are adjustably and revolubly mounted hubs provided with inclined agitating blades 3, the blades of one hub being inclined in a direction opposite to that of the blades of the other hub. The hubs are mounted between stop collars 4 which may be slid along the shaft and securely clamped in position by set screws 5.

Projecting from the top of the receptacle is an arm 6 in which is pivoted a lever 7 one end of which is provided with a slot $7^1$ adapted to slidably receive a pivot pin 8 carried in a head 9 which may be adjustably connected to the upper end of the rod by means of the clamping screw 10. The opposite end of the lever is provided with a longitudinal bore 11 adapted to slidably receive the shank 12 of a forked rod in which is pivotally mounted a bucket 13. A binding or set screw 14 may be used to secure the rod 12 in adjusted positions. The bucket 13 is adapted to receive water from a spout 15 leading from a tank 16 or other suitable source of supply.

In order to prevent imperfect operation of the lever, when the bucket is only partly filled, a yielding or resilient forked spring plate 17 is provided. The unforked end of this plate is adapted to be seated in a deep notch in the rod 2, as shown in Fig. 1. The opposite or forked end slides beneath the clamping plates 18 and on opposite sides of the tightening screw 19 which passes down between the plates 18 and takes into the top of the receptacle. By tightening the screw, the plates 18 are drawn down to frictionally engage the forked end of the plate and so prevent its movement. Loosening the screw, of course, permits adjustment of the plate. In this way, the tension of the plate and its holding action on rod 2, may be varied, as desired.

In the operation of the apparatus, the tension of the plate 17 may be adjusted to hold the rod 2 against movement until the bucket 13 has become filled. The adjustment of the bucket 13 relatively to the fulcrum of the lever, of course, has a great deal to do in determining the adjustment of the plate 17. As the leverage is increased, the tension or power of the plate 17 must be correspondingly increased. The receptacle 16 is filled with water which runs out through the pipe 15 into the bucket 13 until the weight of the water in the bucket overcomes the weight of the rod 2 and the agitator

blades. When this point is reached the bucket descends and in so doing raises the rod and agitator blades. When the bucket has reached a predetermined point it will be emptied as hereinafter explained. When this takes place there will be nothing to counterbalance the weight of the rod and agitator blades so that they will descend. In so descending they will bring the bucket back into its former position. In other words the water is merely a motive power to raise the rod and agitator.

As the lever moves downwardly under the weight of the filled bucket, it is necessary, of course, to empty the bucket to permit the return movement of the rod 2. In order to accomplish this result, a cord or like device 20 is connected at one end to the bottom of the bucket and is provided with a loop 21 at its opposite end adapted to be selectively seated in any one of a series of notches 22 formed in the woodwork of the spout 15. By arranging the loop in one or another of the notches, the bucket may be tripped and emptied at practically any desired predetermined point in its downward movement.

It is thought that the operation and use of the invention will be clear from the preceding detailed description.

Changes may be made in the construction arrangement and disposition of the several parts of the invention without in any way departing from the field and scope of the same and it is meant to include all such within this application wherein only a preferred form has been disclosed.

Having fully described my invention, what I claim and desire to protect by Letters Patent is:

1. An agitating apparatus of the character described comprising a receptacle, a rod slidably mounted therein, agitating blades mounted on the rod, a lever adapted to operate the rod, a bucket mounted in one end of the lever and adapted to actuate the same, means for filling the bucket, and means for emptying the same.

2. An agitator of the character described comprising a receptacle, a rod slidably mounted therein, agitating blades mounted on said rod, a lever adapted to operate said rod, a bucket pivotally mounted on one end of said lever, means for filling said bucket, and means for emptying said bucket.

3. An agitator of the character described comprising a receptacle, a rod slidably mounted therein, agitating blades mounted on said rod, a lever adapted to operate said rod, a bucket pivotally mounted on said lever, means for filling said bucket, and automatic trip mechanism for emptying said bucket.

4. An agitator of the character described comprising a receptacle, a rod slidably mounted therein, agitating blades mounted on said rod, a lever adapted to actuate said rod, a bucket adjustably mounted on one end of said lever, means for filling said bucket, and means for emptying said bucket.

5. An agitator of the character described comprising a receptacle, a rod slidably mounted therein, a lever adapted to operate the rod, a bucket pivotally mounted on the lever, a tank, a spout connected to the tank and adapted to deliver water therefrom to the bucket and trip connections between the spout and said bucket.

6. An agitator of the character described comprising a receptacle, a rod slidably mounted therein, a lever adapted to operate the rod, a bucket pivotally mounted on the lever, a tank, a spout connected to the tank and adapted to deliver water therefrom to the bucket, and adjustable trip connections between the spout and said bucket.

7. An agitator of the character described comprising a receptacle, a rod slidably mounted in said receptacle, means for retarding the upward movement of the rod, a lever adapted to operate the rod, and means for actuating the lever.

8. An agitator of the character described comprising a receptacle, a rod provided with a notch and slidably mounted in the receptacle, a spring plate adapted to engage the shoulder of the notch and retard upward movement of the rod, and means for operating the rod.

9. An agitator of the character described comprising a receptacle, a rod provided with a notch and slidably mounted in the receptacle, a spring plate adapted to engage the shoulder of the notch to resist upward movement of the rod, means for regulating the tension of the spring plate, and means for operating said rod.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH T. F. FRECHETTE.

Witnesses:

ANS. LOCAS,

OVID ARSENAULT.