(No Model.)

2 Sheets—Sheet 1.

C. J. McLENNAN.

AGITATOR FOR MIXED PAINTS.

No. 510,545. Patented Dec. 12, 1893.

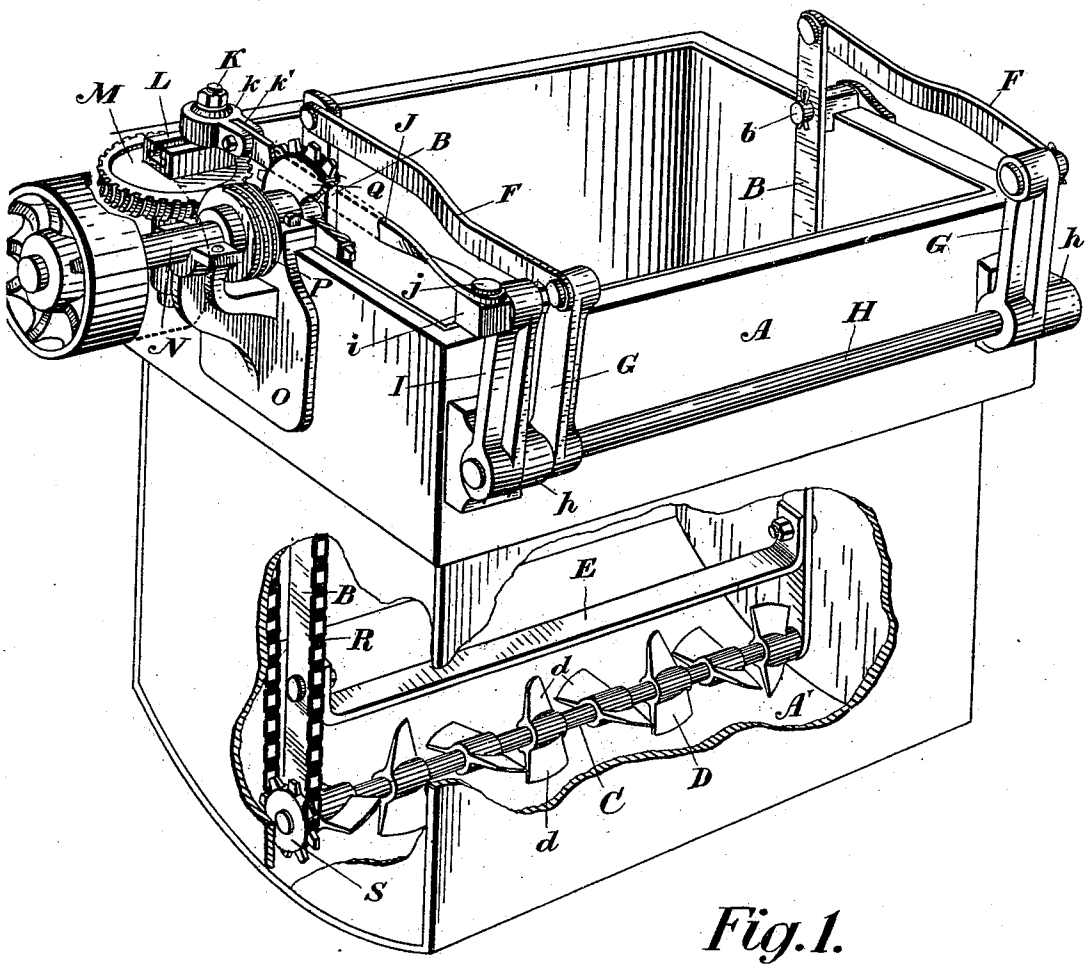

Fig. 1.

Witnesses,

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H. C. Young.

Inventor:

C. J. McLennan.

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(No Model.)

2 Sheets—Sheet 2.

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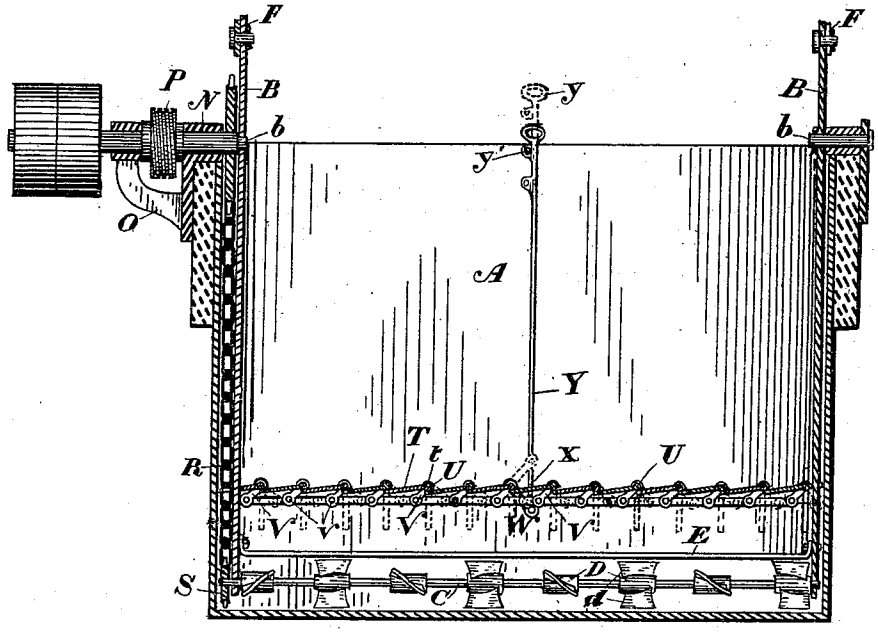

Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES JOHN McLENNAN, OF TORONTO, CANADA.

AGITATOR FOR MIXED PAINTS.

SPECIFICATION forming part of Letters Patent No. 510,545, dated December 12, 1893.

Application filed April 20, 1893. Serial No. 471,081. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHN McLENNAN, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Agitators for Mixed Paints, of which the following is a specification.

My invention relates to improvements in agitators for mixed paints, which has been the subject matter of former applications and the object of the present invention is to provide an alternative means whereby the sediment which settles at the bottom in paint already mixed may be kept stirred into the main body of the paint, and it consists essentially of journaling at the bottom of two swinging bars a shaft provided with a series of beaters, which as they rotate come into close proximity with the bottom of the receptacle or tank, which bottom is formed in the shape of an arc of a circle from the pivotal center of the swinging bar, which is connected by bars to arms on a rock-shaft which is operated so as to cause the rotating beaters to travel backwardly and forwardly across the arc-shaped bottom of the tank or receptacle in the manner hereinafter more particularly explained.

Figure 1 is a perspective view of my paint receptacle or tank, portion of the side being broken away to exhibit the construction and operation of my invention. Fig. 2 is a longitudinal section through Fig. 1, showing in addition my hinged flaps designed when closed to prevent too much paint from settling at the bottom of the tank, and means for operating the same.

In the drawings like letters of reference indicate corresponding parts in each figure.

A, is the receptacle, which is designed to be filled or partially filled with paint.

B, are swinging bars pivoted on the stud, *b*, at the top of the tank.

C, is a shaft journaled in the bottom ends of the swinging bars, B, and provided with a series of beaters, D, having the outwardly extending wings, *d*.

E, is a cross bar or guard which is bolted at each end to the swinging bars, B, and designed to prevent any article which is dipped within the tank from coming in contact with the beaters.

F, are connecting bars, one end of which is pivotally connected to the top of the swinging bars, B, and the other pivotally connected to the top of the arms, G, secured to the rock shaft, H, which is journaled in bearings, *h*, secured to the side of the tank or receptacle, A.

I, is an arm secured to the end of the rock shaft, H, and having journaled in its upper end a swivel block, *i*.

J, is a connecting rod pivotally connected at one end by the pins, *j*, to the swivel block, I, and at the other end between the jaws, *k'*, of the ring, *k*, through which extends the adjustable pin, K, secured in the grooved block, L, attached to or forming part of the worm wheel, M.

N, is the main driving shaft which is journaled in bearings in the bracket, O. One of the caps of the journal is shown removed. The shaft, N, is provided with a suitable loose and driving pulley as indicated.

P, is a worm secured on the driving shaft, N, and meshing with the worm wheel, M.

Q, is a sprocket wheel secured on the inner end of the shaft, N, inside of the stud or small end, *b*, of the shaft.

The sprocket wheel, Q, is connected by sprocket chain, R, to the sprocket pinion, S, secured on the end of the shaft, C, which is journaled in the swinging bars, B, as before stated.

T, is a series of hinged flaps hinged at, *t*, on the longitudinal bars, U.

V, is a series of arms attached to the pivot pins of the flaps, T, and pivotally connected at, *v*, to the connecting bar W.

X is an arm attached at one end to one of the pivot pins, *t*, of the flaps, T.

Y, is a rod which is pivotally connected to the arm, X, and provided with a loop end, *y*. The rod, Y, is held in position at the top by the pin, *y'*. It will be seen by raising the arm, X, by the rod, Y, into the position shown by dotted lines in Fig. 2, that upon the beaters being rotated, such downwardly extending flaps will not interfere with the beaters keeping the paint thoroughly mixed from top to bottom of the tank.

Having now described the principal parts involved in my invention I shall briefly describe the operation. When the shaft N, is caused to rotate, the worm, P, meshing with

the worm wheel, M, causes it to slowly rotate and by means of the crank pin, *k*, and its connection by the rod, J, to the arm, I, on the rock shaft H, the swinging bars, B, connected by the arms, F, to the arms, G, on the rock shaft, are caused to gradually swing on the pivoted studs, *b*, so that the bottom end travels backward and forward very gradually across the arc-shaped bottom, A', of the tank or receptacle, A. At the same time the beaters, D, are caused to very quickly rotate through the sprocket wheel, S, sprocket chain, R, and sprocket wheel, Q, secured on the inner end of the shaft, N. By this means constant commotion is caused at the bottom of the tank and as the beaters sweep backwardly and forwardly from one side to the other it will be seen that it will be impossible for any sediment to collect at the bottom of the receptacle and that the mixed paint will be kept in a state of mixture of a uniform thickness throughout. Should the paint settle when not in use and the beaters not moving, it will be seen that by the simple arrangement above described that all sediment may be gradually and perfectly stirred up again into the body of the mixed paint and kept perfectly mixed during the movement of the beaters.

In order to prevent any possibility of the paint settling at the bottom of the tank in sufficient quantity so as to prevent the beaters from being rotated when the paint has not been used for a long time I have provided as before stated the hinged flaps, T. It will be seen that such flaps when raised into the position shown in full lines in the drawings will receive the sediment from the major portion of the tank and that only a slight sediment will accumulate at the bottom, which sediment would not be sufficient to prevent the beaters from being rotated by the mechanism shown.

As the major portion of the sediment would settle upon the flaps, T, it will be seen that upon the flaps being thrown down into the position shown in dotted lines such sediment will be broken into individual sections which will be dropped down between the flaps and come in contact with the rotating beaters which will very quickly break them up. The flaps it will also be seen will be especially advantageous where the shaft of the beaters is journaled in stationary bearings and has not the arc lateral movement as described.

I am aware that prior to my invention it had been proposed to construct a washing machine with a corrugated wash board located near the top of the receptacle or box, and to arrange a rocker bar in a framework above the receptacle with a cylinder in contact with the corrugated wash board and operated from the rocker bar and I do not claim so broadly as to include such a construction.

What I claim as my invention is—

1. In combination with a receptacle for containing mixed paint for dipping purposes, having an arc shaped bottom, swing bars having their upper portions pivotally connected to the upper edges of the walls of the receptacle and depending within the same in proximity to said walls, shaft carrying beaters or stirrers journaled in the lower ends of said bars in close proximity to the bottom of the receptacle, and operating connections to the swinging shaft, substantially as described.

2. In combination with a receptacle having an arc shaped bottom, bars pivotally supported from the edges of the receptacle and depending within the same in proximity to the bottom, the upper ends of said bars extending above their pivots, a shaft carrying beaters journaled in the lower ends of the bars, an operating shaft located above the edge of the receptacle, connections from said driving shaft to the swing shaft for operating the same, and connections to the upper ends of the bars for swinging said shaft, substantially as described.

3. The combination with the beaters, D, secured on the shaft, C, journaled in the lower ends of the swinging bars, B, means for imparting an arc-shaped lateral movement to the beaters and for rotating the same, of the guard, E, arranged as and for the purpose specified.

4. The combination with the receptacle A, of the swinging bars B, the shaft C journaled therein carrying the beaters D, the bars F connected to the upper ends of said bars B, the rock shaft having arms G connected to the other ends of the bars F, the arm I also connected to the rock shaft, the bar J, the wheel M provided with crank pin K for engaging bar J and the worm P for driving the worm wheel, substantially as described.

5. The combination, with the receptacle A, of the swinging bars, B, the shaft C, journaled therein carrying beaters D, the bars F connected to the swinging bars, the rock shaft H having the arms G connected to bars F, the arm I, the bar J, the crank pin K, the worm gear wheel M, the worm P, the sprocket wheel Q on the driving shaft, the sprocket wheel S on shaft C, and the chain R connecting said sprockets, substantially as and for the purpose set forth.

6. The combination with a receptacle having an arc shaped bottom, and a swinging shaft carrying agitators located in proximity to said bottom, of the hinged flaps T adapted to form a partition above said swinging shaft, the bar W connecting said flaps, an arm on one of the pivot pins of the flaps and the operating rod connected to said arm, substantially as described.

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Witnesses:
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H. T. S. YOUNG.