United States Patent

[11] **3,552,723**

[72] Inventor **William W. Stefany**
Bernardsville, N.J.

[21] Appl. No. **767,779**
[22] Filed **Oct. 15, 1968**
[45] Patented **Jan. 5, 1971**
[73] Assignee **Red Devil Incorporated**
Union, N.J.
a corporation of New Jersey

[54] **PAINT STIRRER**
3 Claims, 4 Drawing Figs.

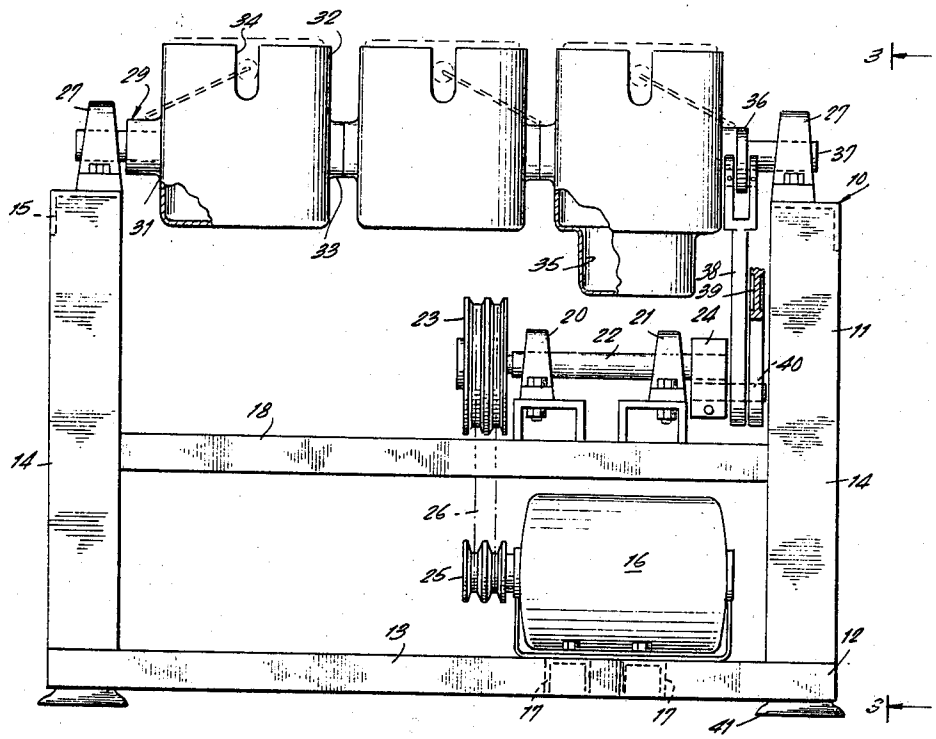
[52] **U.S. Cl.** **259/56**
[51] **Int. Cl.** **B01f 11/00**
[50] **Field of Search** 259/54, 56, 72, 75

[56] **References Cited**
UNITED STATES PATENTS

1,908,561	5/1933	Schletz et al.	259/56
3,437,317	4/1969	Micin	259/75

Primary Examiner—William I. Price
Attorney—Albert F. Kronman

ABSTRACT: A device for stirring paint within sealed cans in which the can is given an unequal rocking motion about a pivot point causing the paint to circulate in one direction within the can.



PATENTED JAN 5 1971

3,552,723

SHEET 1 OF 3

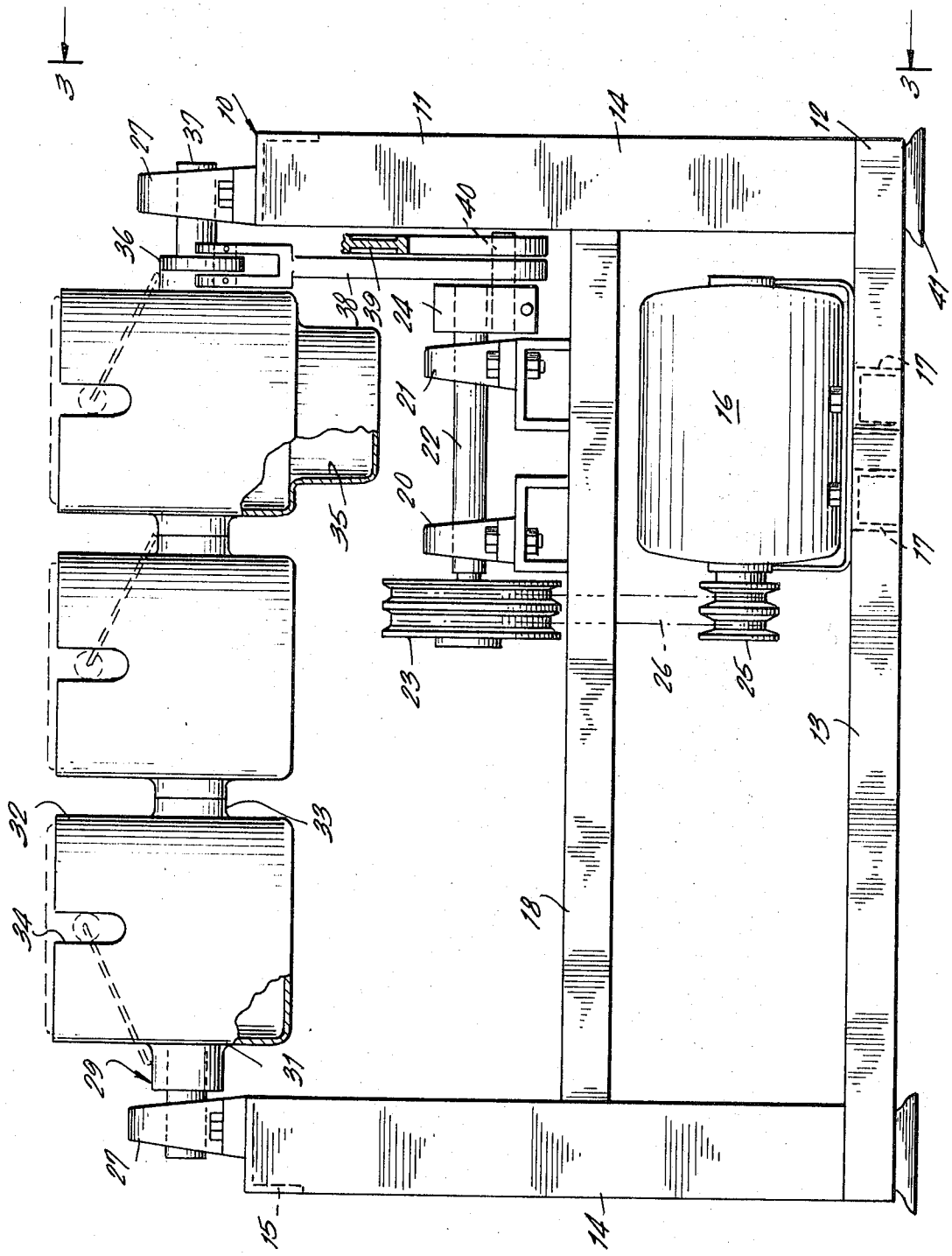


FIG. 1

INVENTOR.
WILLIAM W. STEFANY

Albert F. Kroeman

ATTORNEY

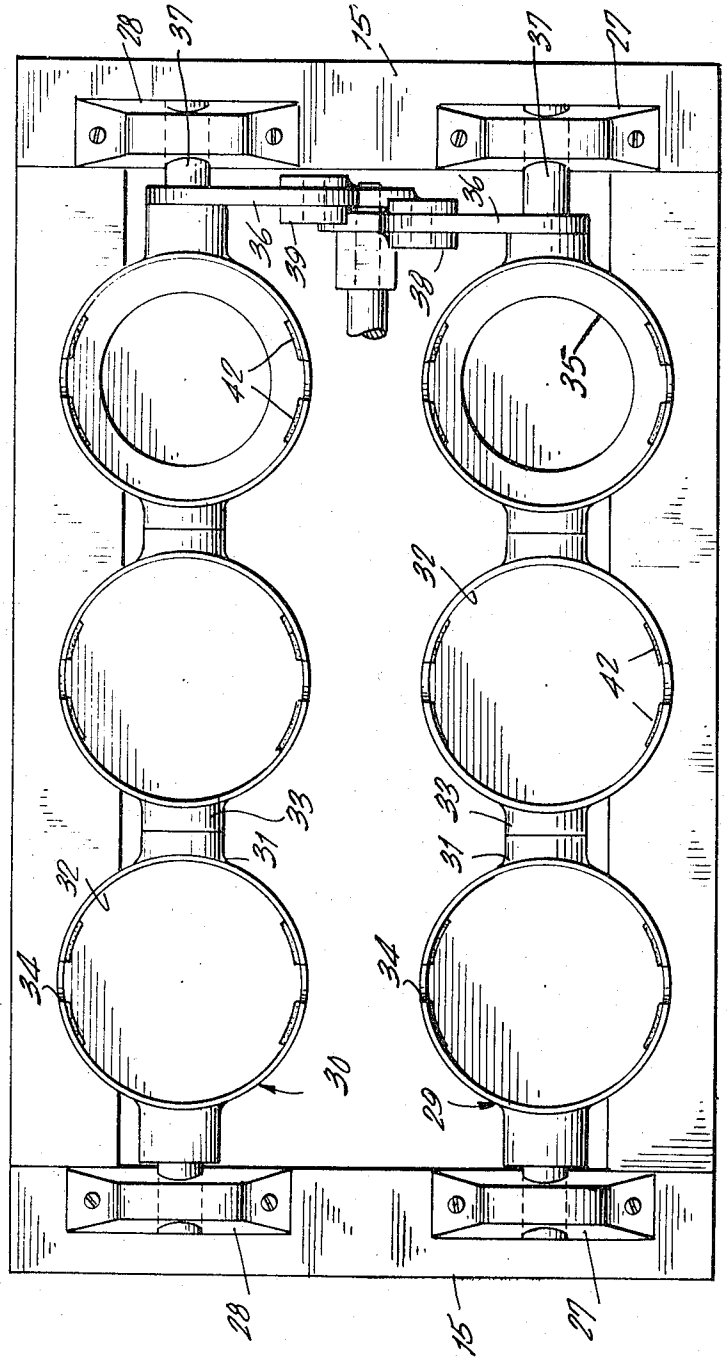


FIG. 2

INVENTOR.
WILLIAM N. STEFANY
Albert H. Kaufman
ATTORNEY

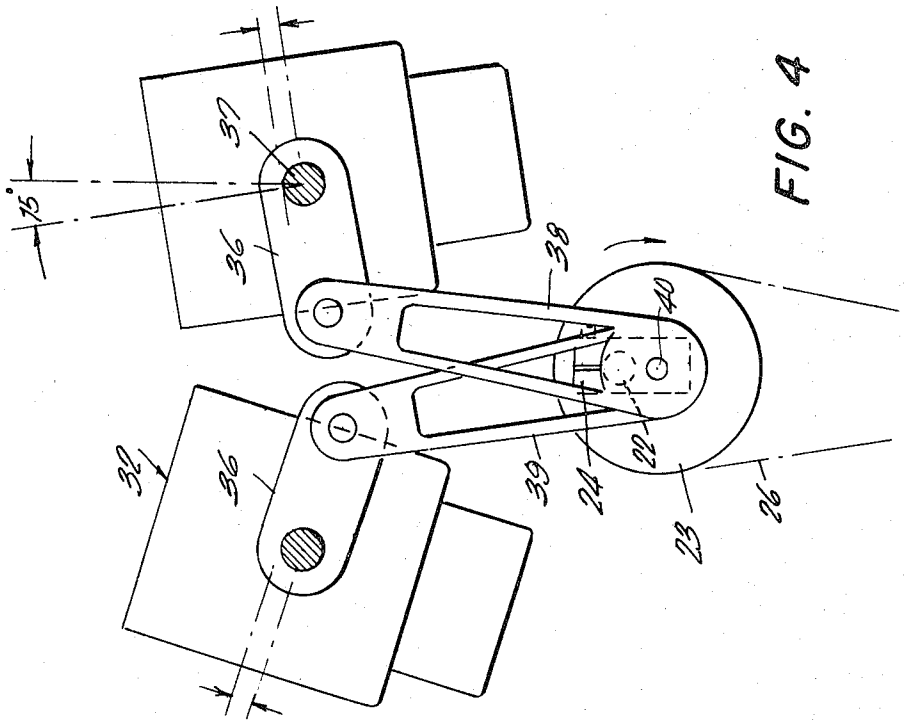


FIG. 4

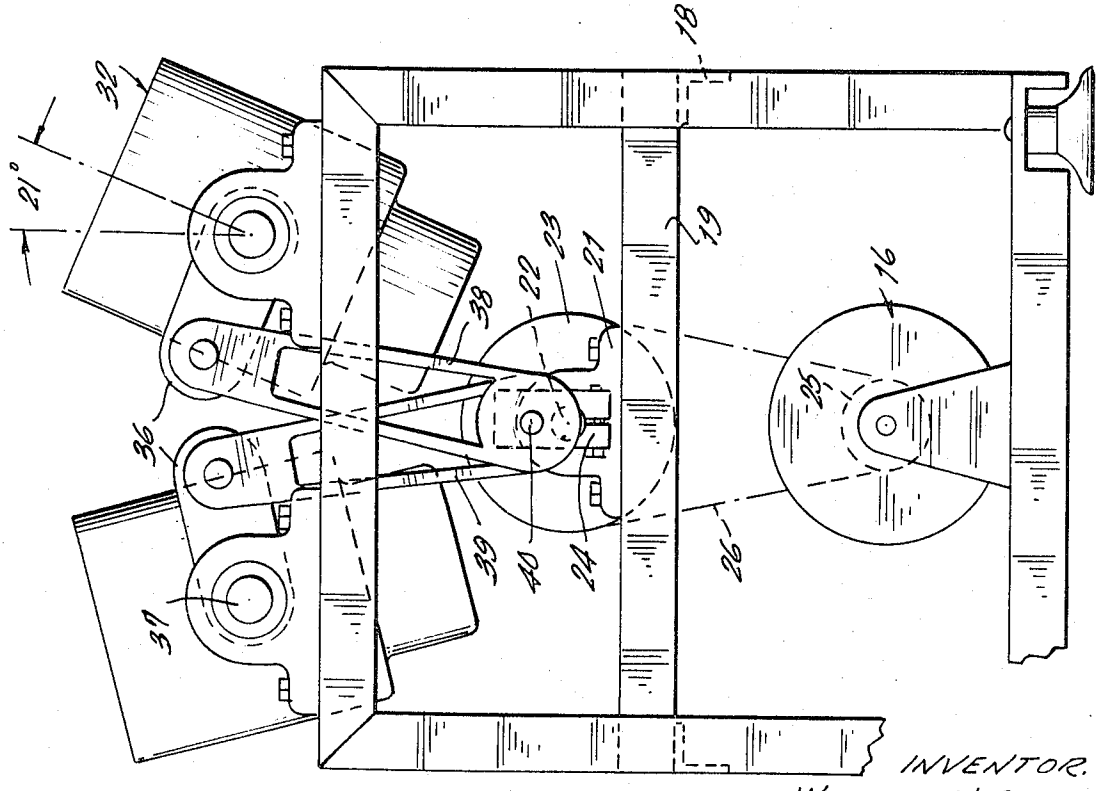


FIG. 3

INVENTOR.
WILLIAM W. STEFANY
Elbert H. Kaufman
ATTORNEY

PAINT STIRRER

BACKGROUND OF THE INVENTION

Where it is desired to homogenize or mix the contents of a can of paint or other viscous or separable material it has been the practice to clamp the sealed can within a motor driven shaker. Because of the violent action of such shaking devices it was necessary that they be securely anchored to the floor making their installation substantially permanent. In addition, a very powerful clamp was required to secure the can in place during the shaking operation. Such clamping devices required a considerable time to tighten and loosen during each mixing cycle. Opening a can to add a desired amount of coloring or tinting material was also a time consuming operation.

SUMMARY OF THE INVENTION

The present invention, in a preferred embodiment, employs two spaced rockable cradle members mounted upon a rigid frame. A series of can receiving wells are provided in the cradle members. Each of the cradle members are coupled to a motor driven crank which rocks them first in one direction and then in the opposite direction about a pivot point. The travel in one direction is governed by the crank to exceed the travel in the opposite direction. As a result of the dissimilar forces acting upon the cans within the cradles, the contents of the cans is caused to flow or circulate in one direction, rapidly stirring and homogenizing the contents.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings, forming part hereof, similar parts have been given the same reference numerals and in which drawings:

FIG. 1 is a view in side elevation of a complete embodiment of the present invention;

FIG. 2 is a top view of the paint stirrer shown in FIG. 1;

FIG. 3 is a view taken on line 3–3 of FIG. 1;

FIG. 4 is a somewhat diagrammatic view of the action of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, **10** indicates a paint stirring machine having a frame **11**. The frame **11** consists of a base **12** formed of four channel iron members **13** welded together into a rectangular configuration. Upstanding angle iron members **14** are welded to the base **12** at each corner thereof. Cross top braces **15** made of angle iron are welded to the upstanding members **14** at each end of the frame **11**.

Power for the paint stirring machine is provided by an electric motor **16** which is supported on a small platform **17** formed of channel iron strips welded at each end across the base **12**. The motor **16** is bolted to the strips of the platform **17** in the usual manner.

Longitudinally disposed angle iron strips **18** are welded at each end to the upstanding members **14** between the base **12** and the top braces **15**. Spaced transverse channel members **19** are secured to the strips **18** as by welding. Two, spaced pillow blocks **20, 21** are bolted to the channel members **19** to freely support a shaft **22**.

A pulley **23** is keyed or otherwise secured to one end of the shaft **22** and a cranklike eccentric **24** is secured to the opposite end of the shaft. Rotary power is transferred from the motor **16** by way of its output shaft pulley **25** and V-belts **26** to the pulley **23**.

Two sets of spaced pillow blocks **27, 28** are bolted to the cross top braces **15** at each end of the frame **11**. The pillow blocks **27, 28** serve to swingably support two cradles **29, 30**.

The cradles **29, 30**, as best shown in FIGS. **1** and **2** are made up of a series of segments **31** welded or otherwise secured together laterally. Each segment, which may be a metal casting, includes a paint can receiving well **32** and outwardly extending stub shafts **33**. Adjacent segments are secured together at the stub shafts **33** to form an elongated cradle assembly. Friction strips **42** of rubber or the like are cemented within each well **32** to retain the cans therein.

The stub shafts **33** are located below the transverse center line of the wells **32** as best shown in FIG. **1**. This disposition of the stub shafts **33** contributes to the circulating action of the paint within the cans as it imparts a whip to the upper part of the cans as they rock from side to side.

The wells **32** may be provided with recesses **34** at the top thereof to receive the outwardly extending bail securing portion of the can as best shown in FIG. **1**. One or more of the receiving wells **32** may also be provided with a reduced diameter well **35** in the bottom thereof to receive cans of smaller diameter such as quart size cans.

An actuating lever **36** best shown in FIGS. **1, 3**, and **4**, is secured at one end to the axle members **37** which are keyed or otherwise secured to the outermost stub shafts **33** of the cradle **29, 30**, and which are journaled within the sets of pillow blocks **27, 28**. The free end of the levers **36** are coupled to a link **38, 39**, which in turn is journaled upon a drive rod **40** carried by the cranklike eccentric **24**.

The operation of the present device will be apparent from the foregoing and an examination of FIGS. **3** and **4**. With the paint cans placed within the wells **32** of the cradles **29, 30**, the motor **16** is started and the rotary power transferred from the motor pulley **25** to the pulley **23** by way of the V-belts **26**. The shaft **22** is rotated carrying with it the eccentric crank **24**. As the drive pin **40** turns with the crank **24**, the arms **38, 39** are caused to move in a generally vertical up and down motion imparting a rocking motion to the cradles **29, 30**, by way of the levers **36**. By reason of the geometry of the arms **38, 39**, and the levers **36**, the cradles **29, 30**, will be caused to rock through a greater angle in one direction than in the other. As shown in FIG. **3**, the wells **32** will swing through an angle of 21° on the outward travel and 15° on the inward travel. This dissimilar travel of the wells and the cans therein results in a greater force acting upon the contents of the can during one-half of the cycle than during the other. The contents are thus caused to flow within the can in one direction, which flow results in a complete circulation of or stirring of the viscous material within the can.

The symmetric arrangement of the cradles **29, 30**, about the stirring device permits the device to operate without undue vibration and without moving around on the floor. It has been found that conventional rubber suction cups **41** secured to the base of the device will keep it in place during use.

From the foregoing it will be seen that there has been provided a device for stirring paint or other viscous materials capable of handling a large number of cans simultaneously or individual cans if required without the necessity for clamping each can into the machine. The can contents can be mixed in a short period of time and can lids can be opened and closed without the need for operating can clamping structures.

I claim:

1. A stirring machine for cans of viscous material comprising a frame, spaced cradle members rockably supported by said frame, a source of rotary power on said frame, crank means driven by said rotary power source, a link coupled to the crank means at one end and to one of the cradle means at its other end, at least one can receiving well in each of the cradle members and outwardly extending stub shafts secured to the well below the transverse center line of the well to rockably support the well.

2. A machine according to claim **1** in which an actuating lever is secured to the end of each cradle member and freely coupled to the end of the link.

3. A machine according to claim **2** in which the combined crank means, link and actuating lever impart a rotation to the cradle members about the vertical of 15° in one direction and 20° in the opposite direction.