

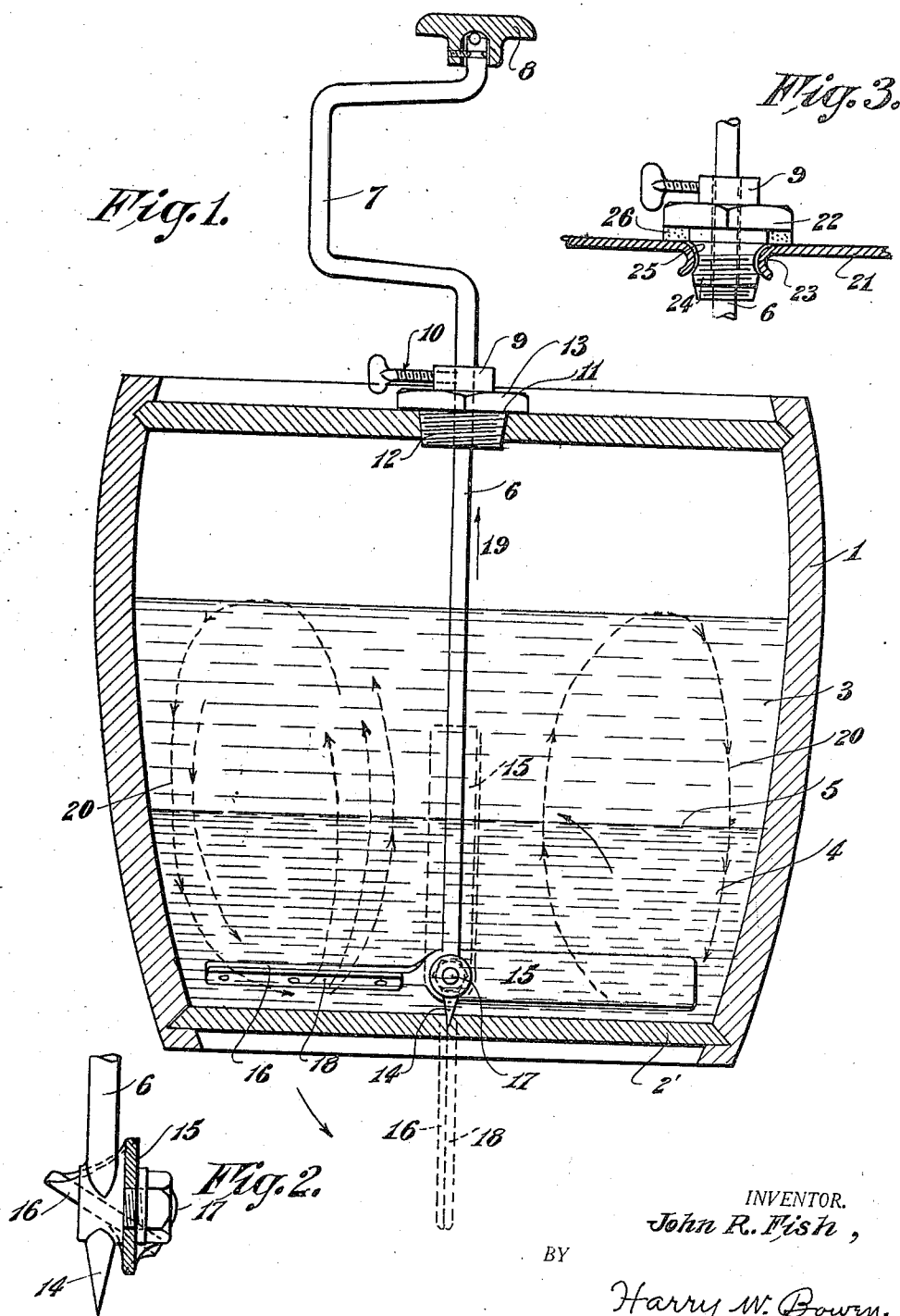
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J. R. FISH

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AGITATOR

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## UNITED STATES PATENT OFFICE.

JOHN R. FISH, OF WEST SPRINGFIELD, MASSACHUSETTS.

AGITATOR.

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*To all whom it may concern:*

Be it known that I, JOHN R. FISH, a citizen of the United States of America, residing at West Springfield, county of Hampden, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Agitators, of which the following is a specification.

This invention relates to improvements in agitators and particularly to devices for mixing paint and other viscous liquids in which a sediment or settling of the mixture occurs in the bottom part of the receptacle.

At the present time some of the devices in use for mixing and stirring paint are attached to the barrel when they are filled and ready for shipping. This method is objectionable in that the blades which are used for mixing or stirring the paint become so rigidly embedded in the bottom of the barrel caused by the settling of the mineral part of the paint, that oftentimes the mixing device will break when an attempt is made to use the mixer for stirring or mixing the paint in the bottom of the barrel.

My present improvement is designed to be readily inserted into the barrel or can after the receptacle containing the paint is shipped. In this way all danger of breakage of the mixing device is eliminated and furthermore it may be readily inserted and removed from the barrel or can when not in use and therefore the same device may be employed in mixing or stirring the paint in other barrels.

Broadly my device comprises a rod or shaft having suitable means for rotating the same which rod is provided at its lower or outer end, with a propeller like or stirring device that is pivotally connected thereto. One end of the propeller device is made heavier or over-weighted, whereby when the rod is drawn upward out of the paint in the barrel the propeller will automatically turn or rotate on its pivotal support and assume a position that is substantially along side of and parallel with the rod permitting the operator to readily remove the device as a whole through the opening which is cut in the upper or one end of the barrel. The device is designed to be used in wooden barrels or tin cans in which paint is often shipped.

Referring to the drawings:  
Fig. 1 is a vertical sectional view through the axis of the barrel showing the interior

thereof with the device inserted therein, the full lines indicating the position of the propeller when in use and the dotted line when it is inserted or removed from the barrel.

Fig. 2 is a detail view showing the pivotal connection of the propeller with the stirring rod or staff which rod is formed with a sharpened inner end and

Fig. 3 is a detail view illustrating the method of attaching the device to the receptacle or tin container.

Referring to the drawings:

1 designates the barrel or cask having the usual heads 2 and 2'; 3 indicates the oil which naturally assumes a position on or above the mineral settleings of the paint which is indicated at 4. The line or strata between the oil and the mineral part of the paint being indicated at 5. The device in detail comprises a rod or shaft 6 having an offset or crank portion 7 and a suitable rotatable knob 8 similar to a bit brace. Located on the rod 6 is a slidable and rod adjusting collar 9 and a set screw 10 for rigidly clamping the collar to the shaft in different positions. 11 indicates a threaded plug or nut having an opening therethrough for receiving the rod 6. This rod is formed with the tapered threads 12 and the flange part 13, which engages the upper or outer end of the head 2 and forms a tight joint with the head. An opening is formed in the head into which the tapered threads 12 embed themselves. The lower end of the rod 6 is formed with a sharp end indicated at 14 for entering the wood of the bottom 2 for providing a bearing for the rod. Pivotally connected to the lower end of the rod 6 is a propeller or agitator having oppositely extending blades 15 and 16, the pivot being indicated at 17. 17' is a nut for securing the propeller in place. One end of the propeller is over-weighted by means of the additional plate 18 whereby when the rod 6 is drawn upward, as indicated by the arrow 19 the propeller or agitator will turn on its pivot and automatically assume the position indicated in dotted lines, whereby the agitator as a whole may be withdrawn from the barrel through the opening in which the closure plug 11 is located. In operation, the user inserts the agitator through this opening and adjusts and secures the collar 9 on the rod 6 by means of the set screw 10. It engages the upper surface of the plug 11. This will limit the downward position of the agitator

blades and after the paint is more thoroughly mixed the blades may be lowered from time to time by readjusting the collar 9 until the point 14 engages the head or bottom 2'; whereby the rotation of the blades 15 and 16 will cause the oil and the mineral part of the paint to flow in the direction indicated by the dotted lines 20 thus thoroughly mixing the contents of the barrel. The opening through the plug 11 causes the shaft 6 to assume a vertical position by reason of the bearing in the opening of the plug and when the shaft 6 is lowered to the full extent the sharp part 14 provides an additional bearing on the surface.

Referring to the detail shown in Fig. 3 in which 21 indicates one end of a tin can which may be used for the container. The nut 22 is formed with the curved or annular cut-out portion 23 and a tapered threaded portion 24. The annular portion 23 causes the tin at the edge of the opening to be crimped or bent as indicated at 25 thus effectually closing the opening in the tin. In order to guard against any leakage a gasket or washer of suitable backing material 26 is inserted between the upper surface of the tin plate and the flange part of the nut or plug 22.

One of the advantages of the structure is that it may be inserted through the opening of the head and readily withdrawn without taking the device apart and reassembling it in any way.

It is to be understood that when the propeller blades reach the bottom part of the barrel they will immediately assume the horizontal position as shown. It should be observed that the threads of the tapered threaded plug 22 merge into the annular groove 23.

What I claim is:

1. In an agitator, the combination, of a shaft, a plug having an opening there-through to receive the shaft, said plug being designed to enter an opening in the head of a barrel, two connected agitator blades pivotally connected to the shaft, one end of one of the blades being overweighted for causing the two blades to automatically assume a position parallel with the shaft, whereby the agitator may be removed from the barrel through the opening in which the plug is located.

2. An agitator for the purpose described, comprising an operative shaft member, a stirring member pivotally connected thereto, and having oppositely located portions, said stirring portions having one member of greater weight than the other member thereof to cause the same to automatically assume positions that are substantially parallel with the operative shaft member, whereby the stirring member may be inserted through an opening in the container in

which the material to be stirred or mixed is contained.

3. In a device for mixing paint or the like, the combination of a shaft member, an adjustable and shaft supporting device thereon and located at the outer end of the container, a plug to receive the shaft member and designed to be threaded into an opening in the said container, said shaft member having an agitator device pivotally connected thereto, said device being so constructed that it will automatically align itself in the same general direction as the axis of the shaft when not in use and whereby it may be inserted and removed from the container, said adjustable member being designed to vary the vertical position of the agitator blades within the container.

4. In a paint mixing device, the combination, of an operating member, means pivotally connected thereto for stirring the paint, comprising a plurality of integral propeller blades, some of the blades being overweighted for causing the same to turn on the operating member and assume a position along side of and close to the operating member when the device is raised from a supporting surface, whereby the device may be inserted in and passed through an opening in the container as described and means for varying the distance the propeller blades may be inserted and operated within the container, said means comprising an adjustable sleeve member on the operating member and designed to engage the upper surface of a closure member for the opening in the container.

5. In a paint mixing device, the combination, a shaft, stirring elements pivotally connected near to the lower end of the shaft, one of the elements being heavier than the others to cause the elements to automatically turn on their pivot connection when not in use and assume a vertical position and to assume a horizontal position when in use as described, and means for operating the shaft.

6. In a paint mixing device, the combination, a shaft, stirring elements pivotally connected to the shaft, one of the elements being heavier than the others to cause the same to automatically turn together as a unit on their pivot connection with the shaft when not in use and assume a vertical position and to assume a horizontal position when in use as described, and means for operating the shaft, said shaft having separate means for rotatably supporting the same at its opposite ends.

7. In a paint mixing device, the combination, of a plug for closing an opening in a container for the paint, said plug having an opening therethrough to receive an operating shaft, an adjustable device on said shaft for engaging the upper end of the

plug for supporting the shaft at different elevations, a stirring device connected to the shaft and means for operating the shaft, said stirring device being so connected to the shaft as to permit it to automatically assume a position close to the shaft to permit it to pass through the opening when the plug is removed.

5 the shaft as to permit it to automatically assume a position close to the shaft to permit it to pass through the opening when the plug is removed.  
10 8. A paint mixing device designed to be inserted and removed through an opening in the container and comprising, in combination, a plug for closing the opening and having an opening therethrough to receive an operating shaft, an adjustable device on the shaft for engaging the plug to limit the insertion of the shaft into the container, propeller blades pivotally connected to the shaft and designed for forcing the contents of the container upward when the shaft is rotated, one of the blades being heavier than the others to cause all of them to turn into a vertical position when not in use.

JOHN R. FISH.