June 27, 1939. H. C. MARINER 2,163,758

STIRRING DEVICE AND TOOL

Filed Nov. 17, 1937

FIG. 1.

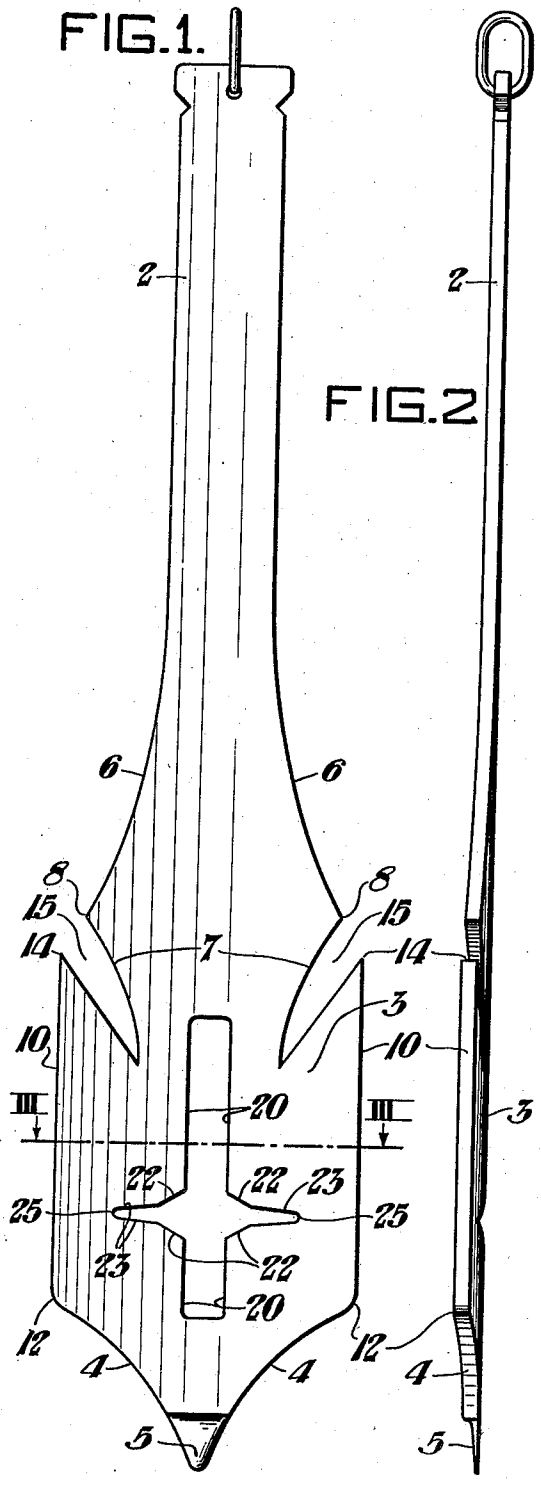


FIG. 2

FIG. 4.

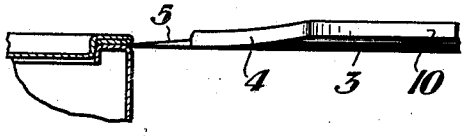


FIG. 5.

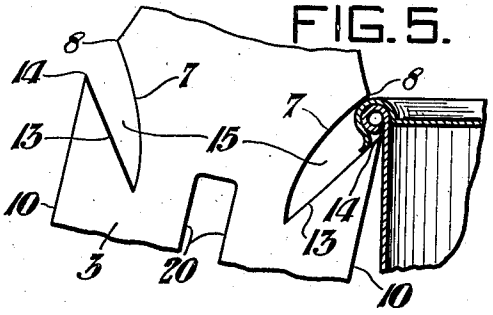


FIG. 6.

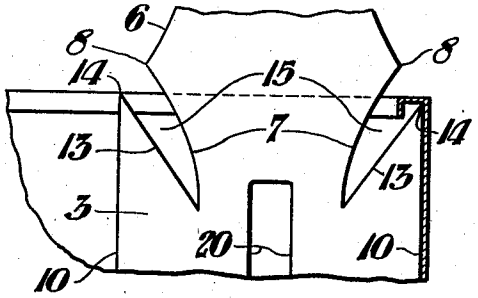


FIG. 7.

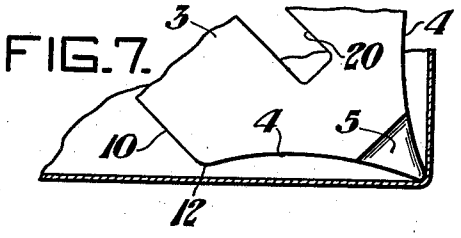


FIG. 3.



Inventor:
HOLLIS C. MARINER,
by: Robert U. Geib, Jr.
his Attorney.

Patented June 27, 1939 2,163,758

UNITED STATES PATENT OFFICE

2,163,758

STIRRING DEVICE AND TOOL

Hollis C. Mariner, Pittsburgh, Pa.

Application November 17, 1937, Serial No. 175,046

4 Claims. (Cl. 259—144)

This invention relates to stirring devices such as are used for stirring paint and the like and also to tools used for opening and removing the contents of containers.

In using paint, it is necessary, after opening the container, to thoroughly mix all of the ingredients and this has proved a troublesome and messy task. To begin with, painters "on-the-job" often misplace tools for opening the paint containers, and even after opening them have considerable difficulty in thoroughly mixing all of the ingredients. There is a substantial composite of solids, such as lead, etc., over the entire bottom of the container and also over the entire top thereof. The major portion of the solids on the bottom of the container can be readily mixed with the liquid therein by the use of a stick or the like. However, a tool having a small terminal area is needed to dislodge those portions of the solids on the bottom of the container which are around the extreme edges thereof. It is, of course, extremely easy to remove solid particles from the inner surface of the closure of the container; but this is not the case with those particles of solids which adhere to the inner surface of the unremovable portion of the top of the container.

There are other difficulties in addition to the foregoing: for example, those stirring devices of the prior art of which I am aware, are characterized by their tendency to permit the ingredients being stirred to creep up the handle thereof and onto the hands of the person operating them.

It is among the objects of the present invention to provide a novel tool and stirring device which may be used to open containers, dislodge solid particles from the entire interior thereof, and also to thoroughly intermix all of the ingredients without the usual tendency of the ingredients to spread up the device and onto the hands of the persons operating it.

Another object is to provide a novel tool and stirring device of the class described which may be easily and cheaply made in one piece, which, besides serving the interests of economy, eliminates the use of a plurality of instrumentalities heretofore employed and thereby reduces the possibility of loss or misplacement.

The invention, then, comprises the features hereafter fully described, and as particularly pointed out in the claims the following description and the annexed drawing setting forth in detail a certain illustrative embodiment of the invention, this being indicative of but one of a number of ways in which the principles of the invention may be employed.

In said annexed drawing:

Figure 1 is a side elevation of a preferred form of the novel tool and stirring device of the invention;

Figure 2 is an end elevation of the showing of Figure 1;

Figure 3 is a sectional view on the line III—III of Figure 1;

Figure 4 is a fragmentary end elevation of the end of the tool and stirring device of the invention illustrating the manner in which it may be employed to open a container, the latter being shown fragmentarily in section;

Figure 5 is a fragmentary side elevation of the mid-portion of the novel tool and stirring device illustrating the manner in which it may be employed to open a container of a different height from that shown in Figure 4;

Figure 6 is a view embodying that portion of the tool and stirring device which is shown in Figure 5, and illustrates the manner in which it may be employed to displace solid particles from the interior surface of the side of a container of the type illustrated in Figure 4 and also those particles which are adhered to the inner surface of the unremovable portion of the top; and,

Figure 7 is a fragmentary side elevation of that portion of the tool and stirring device which is shown in Figure 4, and illustrates the manner in which the terminal extremity thereof may be employed to displace the solid particles which are adhered to the edge of the inner surface of the bottom of the container.

Referring more particularly to the drawing, the numeral **2** generally designates the tool and stirring device of the invention, the major portion of which comprises an elongated substantially flat handle. One end of the elongated substantially flat handle **2** is considerably widened as shown at **3** to provide a blade portion, the terminus of which is composed of inwardly curved surfaces **4** which converge into a substantially pointed extremity **5**. As shown in Figures 4 and 7, the pointed extremity **5** of the blade portion **3** is reduced in thickness for a substantial distance inwardly in order to permit its insertion under the closure of a container of that type shown in Figure 4; and also under the unremovable portion of the top thereof. This is particularly efficacious in that type of container (not shown) wherein the inner face of the unremovable portion of the top thereof is planar.

Referring to Figure 1, the edges of the elon-

gated substantially flat handle 2, which connect it with the wider blade portion 3, are shown as being outwardly curved as at 6 and then inwardly curved as at 7, to provide intermediate pointed edge portions 8. The edges 10 of the blade portion 3 are straight throughout to their connection, at somewhat rounded corners 12, with the previously described inwardly curved surfaces 4 which comprise the terminus of the blade portion. The straight edges 10 of the blade portion 3 are connected to the inwardly curved portions 7 of the substantially flat handle 2 by inwardly converging straight edges 13, forming re-entrant angles and thus providing relatively sharp corners 14 which lie opposite the relatively sharp corners 8 of the handle 2 and provide pockets 15 therebetween which, taken together with the corners 8 and 14 provide oppositely disposed closure-removing devices which function in the manner illustrated in Figure 5.

Referring to Figures 2 and 3, it will be noted that the blade portion 3 is slightly concavo-convex on its longitudinal axis. The concavity-convexity being more pronounced in the mid-portion of the blade 3 and gradually terminating into that portion of the handle 2 which comprises the outwardly curved edges 6.

The blade portion 3 is provided with a centrally disposed longitudinally extending elongated slot 20 of substantially rectangular form. It will be noted that the upper end of this slot 20 terminates in the handle 2 at a point which is above the bottoms of the recesses 15, but below the pointed corners 14 of the blade portion 3 and also the pointed corners 8 of the handle 2. Somewhat below its horizontal center line, the slot 20 is provided with a pair of spaced convergent surfaces 22 which blend into convergent surfaces 23 of less angularity and terminate in rounded end portions 25.

I have found that the recesses 15 and the slot 20 when embodied in substantially the same forms and dimensions illustrated with respect to the corresponding characteristics of the blade portion 3 produce a stirring action of great efficiency and permits the larger particles to pass through until broken down thereby; and that this, together with the concavity-convexity of the blade portion 3 positively prevents the substances being stirred from creeping up the handle portion 2 and onto the hand of the operator. Therefore, in addition to serving as closure-removing devices, the recesses 15 have the function of setting up a swirling action that results in the speedy intermixing of the substances being stirred.

Other modes of applying the principles of the invention may be employed, changes being made as regards the details described, providing the features stated that any of the following claims, or the equivalent of such, be employed.

I, therefore, particularly point out and distinctly claim as my invention:

I claim:

1. A stirring device for liquids and the like comprising a handle portion, and a blade portion connected thereto, the edges of said handle portion and said blade portion being connected by divergent curves, the edges of said blade portion being substantially straight throughout the major portion of their length, the edges of the outer end of said blade portion being formed by inwardly convergent curves which terminate in a substantially pointed extremity, said blade portion being provided with at least one peripheral notch adjacent its connection with said handle portion, said peripheral notch being adapted to permit the passage of the medium to be stirred therethrough and formed to provide a closure opener.

2. A stirring device for liquids and the like comprising a handle portion, and a blade portion connected thereto, the edges of said handle portion and said blade portion being connected by divergent curves, the edges of said blade portion being substantially straight throughout the major portion of their length, the edges of the outer end of said blade portion being formed by inwardly convergent curves which terminate in a substantially pointed extremity, said blade portion being concavo-convex on its longitudinal axis and provided with at least one peripheral notch adjacent its connection with said handle portion, said peripheral notch being adapted to permit the passage of the medium to be stirred therethrough and formed to provide a closure opener.

3. A stirring device for liquids and the like comprising a handle portion, and a blade portion connected thereto, the edges of said handle portion and said blade portion being connected by divergent curves, the edges of said blade portion being substantially straight throughout the major portion of their length, the edges of the outer end of said blade portion being formed by inwardly convergent curves which terminate in a substantially pointed extremity, the substantially pointed extremity of said blade portion being of reduced thickness to thereby serve as a prying tool, said blade portion being provided with at least one peripheral notch adjacent its connection with said handle portion, said peripheral notch being adapted to permit the passage of the medium to be stirred therethrough and formed to provide a closure opener.

4. A stirring device for liquids and the like comprising a handle portion, and a blade portion connected thereto, the edges of said handle portion and said blade portion being connected by divergent curves, the edges of said blade portion being substantially straight throughout the major portion of their length, the edges of the outer end of said blade portion being formed by inwardly convergent curves which terminate in a substantially pointed extremity, the substantially pointed extremity of said blade portion being of reduced thickness to thereby serve as a prying tool, said blade portion being concavo-convex on its longitudinal axis and provided with at least one peripheral notch adjacent its connection with said handle portion, said peripheral notch being adapted to permit the passage therethrough of the medium to be stirred and formed to provide a closure opener, said blade portion having an elongated longitudinally extending slot which terminates inwardly with respect to the outer extremity thereof, said elongated longitudinally extending slot being enlarged intermediate its ends.

HOLLIS C. MARINER.