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(54) **GEOMETRIC AND PERFORATED PAINT MIXER AND PAINT ROLLER CLEANER**

(76) Inventor: **Mike Whitney**, Elk Creek, CA (US)

Correspondence Address:
Sonya C. Harris
PO Box 2607
Fairfax, VA 22031 (US)

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Publication Classification

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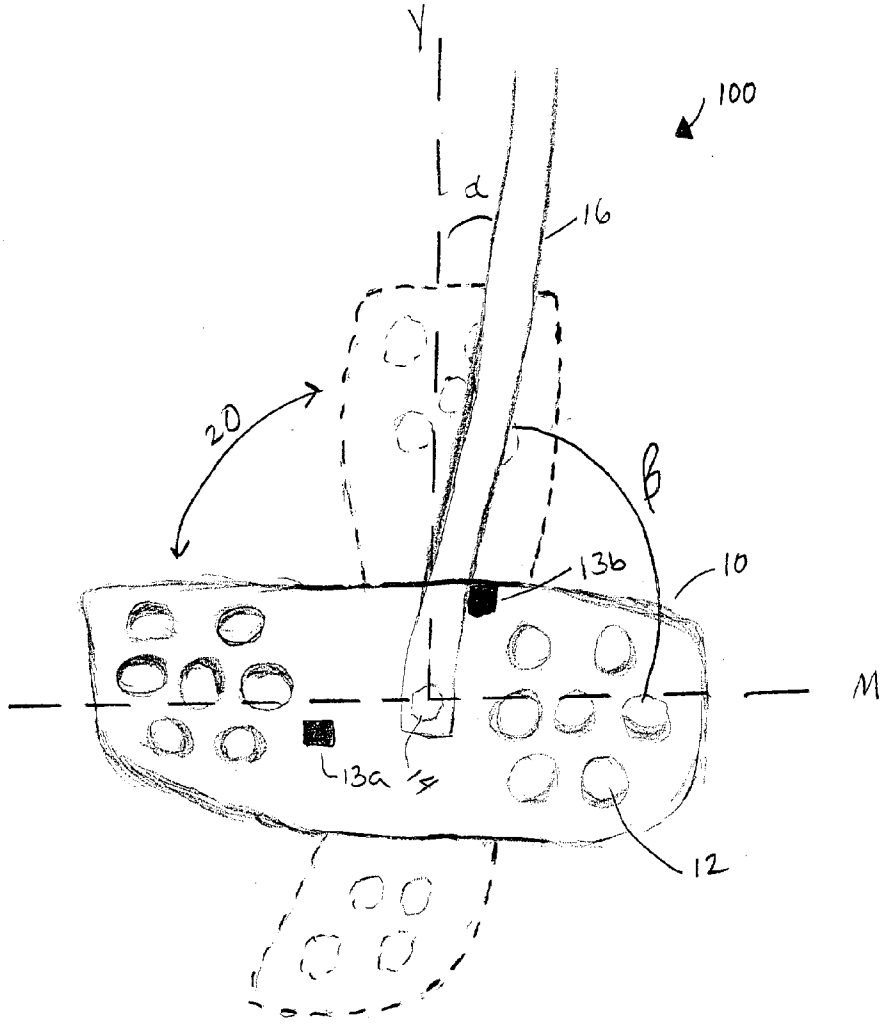
(57) **ABSTRACT**

The present invention sets forth a painting implement which enables the user to mix paint and to clean conventional paint rollers utilizing a hand drill. The painting implement is selectively adjustable to be configured to mix paint and to support a paint roller for cleaning, thereby being capable of providing several functions. Implements of different diameters may be provided, for cleaning and using an assortment of sizes of paint rollers. The implement is provided with a paddle member that is perforated and of a geometric wave-like form to enhance mixing.



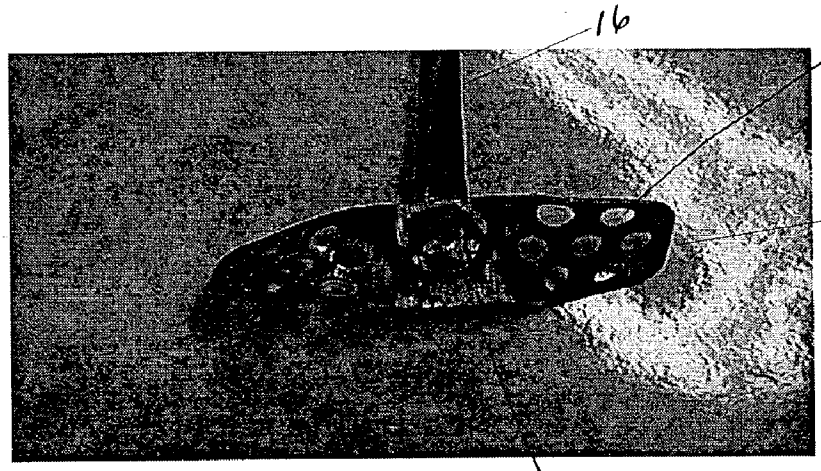


Fig 1A

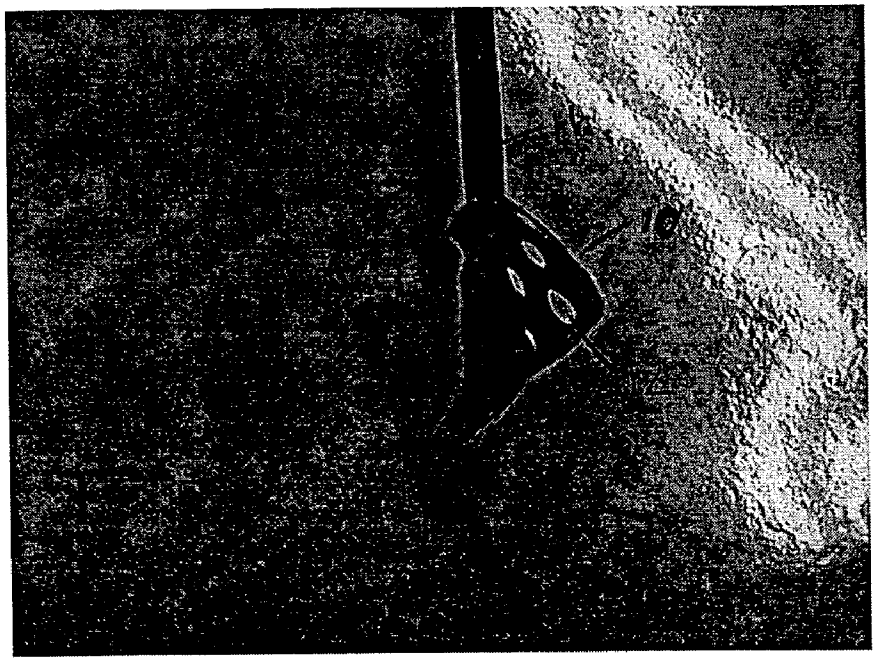


Fig 1B

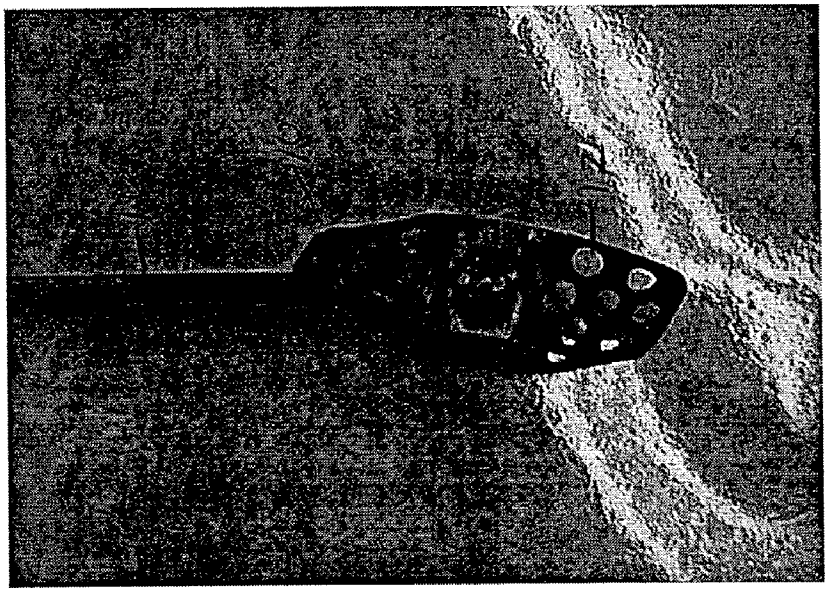


Fig 2A

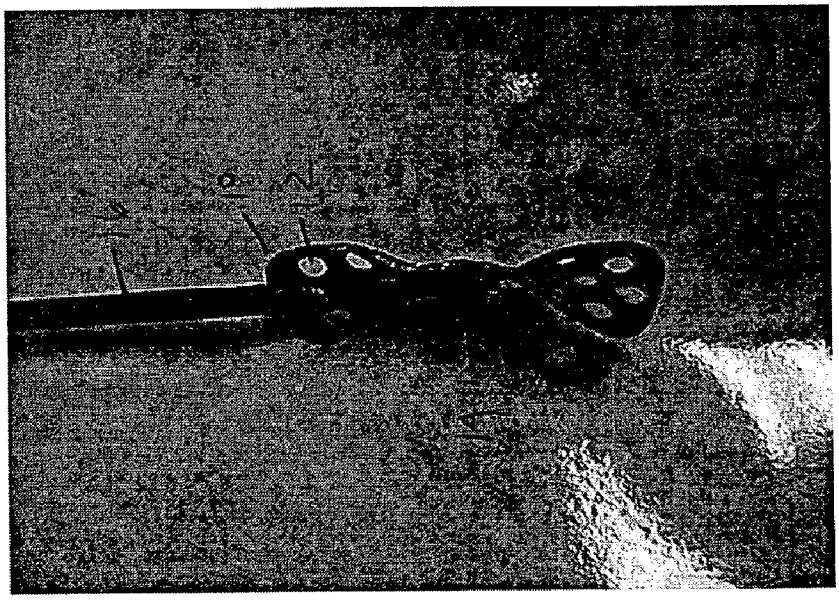
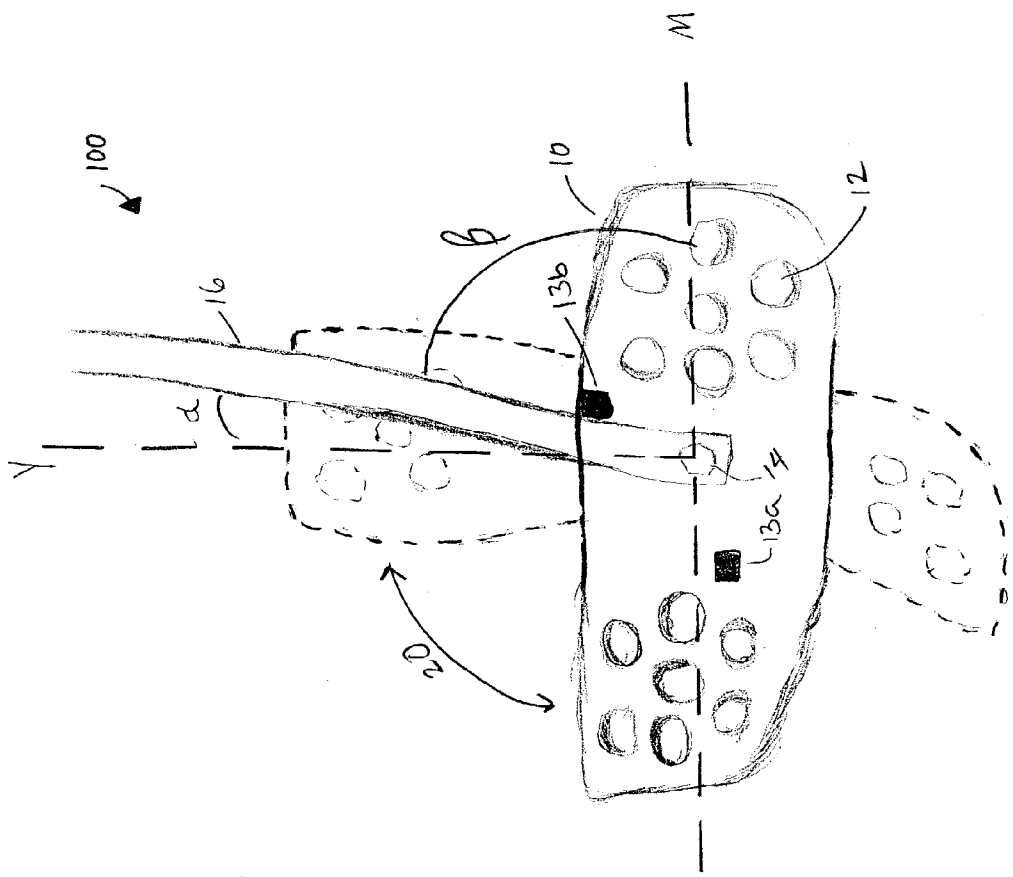


Fig 2B

FIG 3



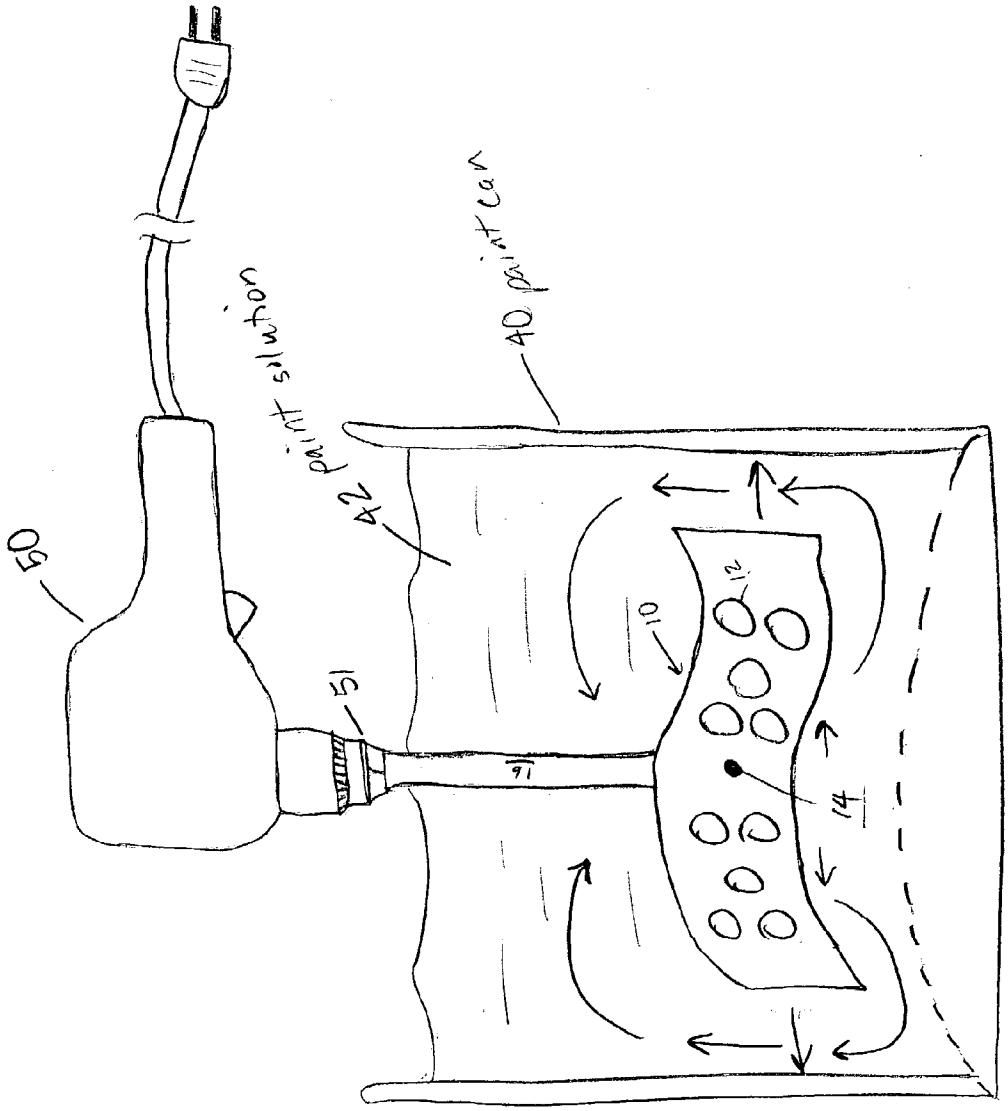


Fig 4A

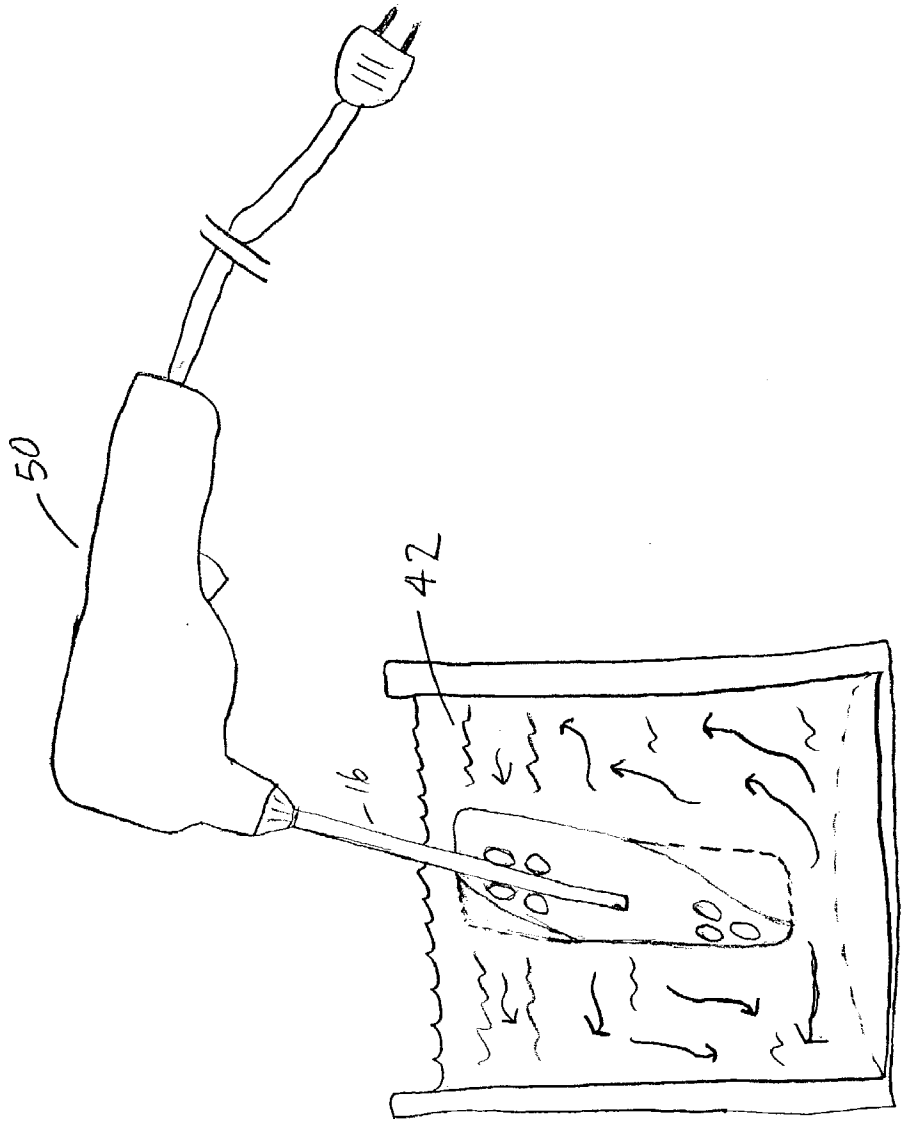


FIG-4B

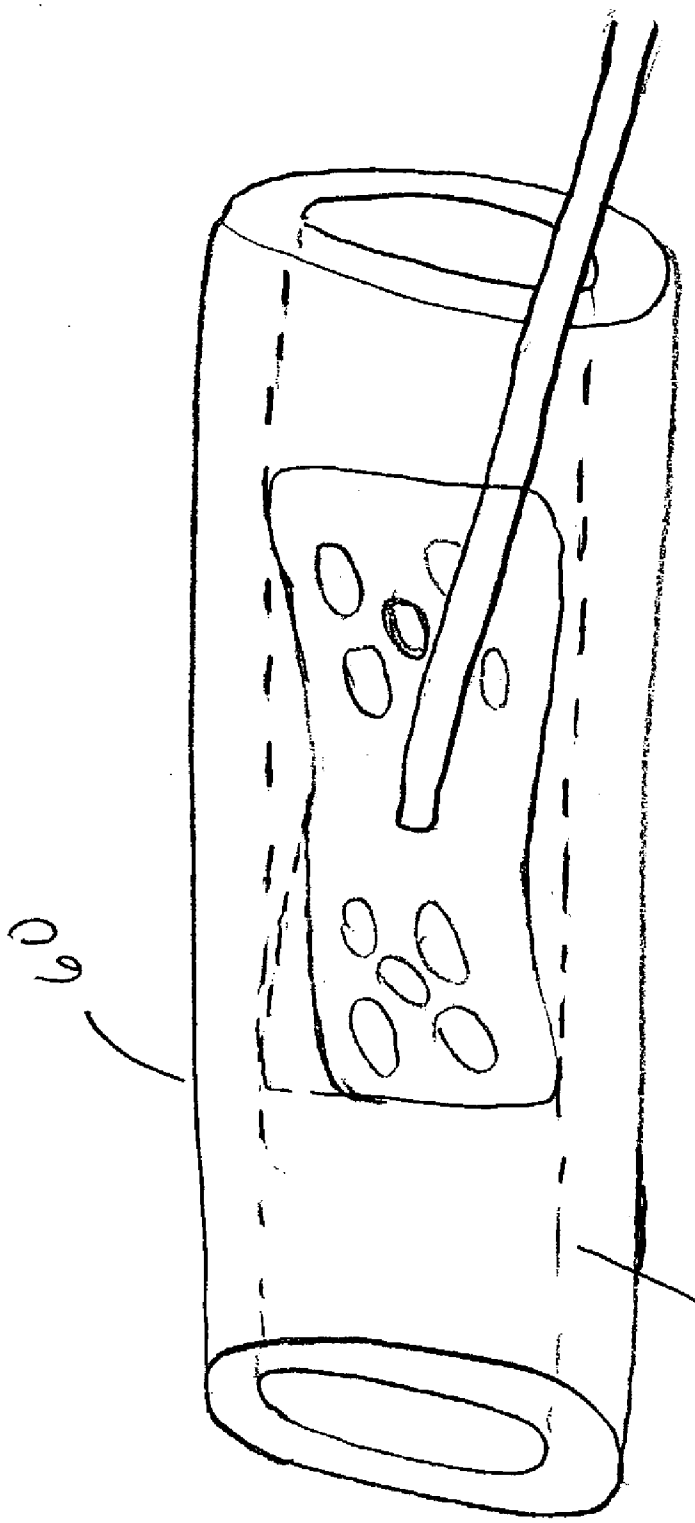


FIG 5

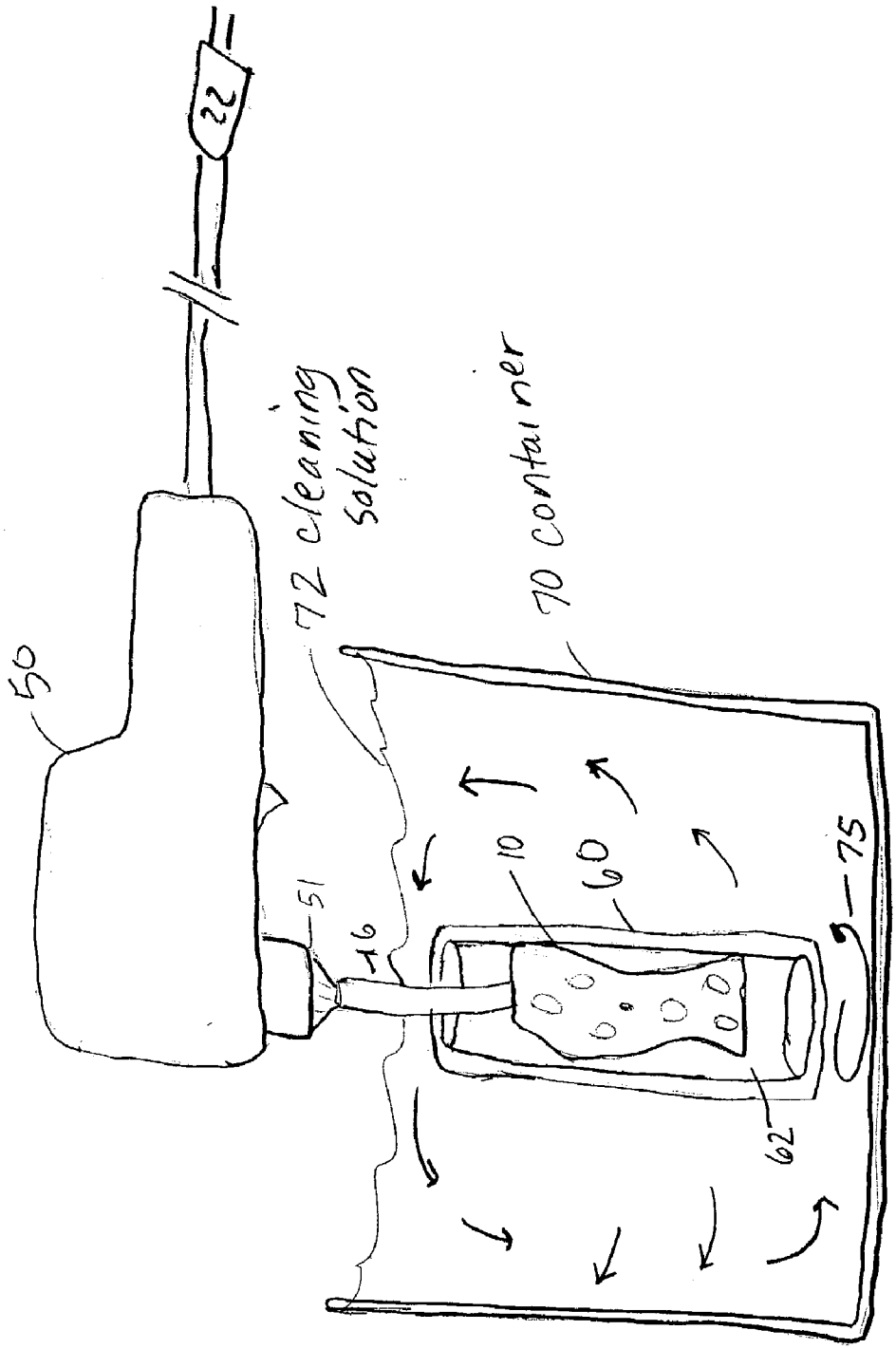


FIG 6

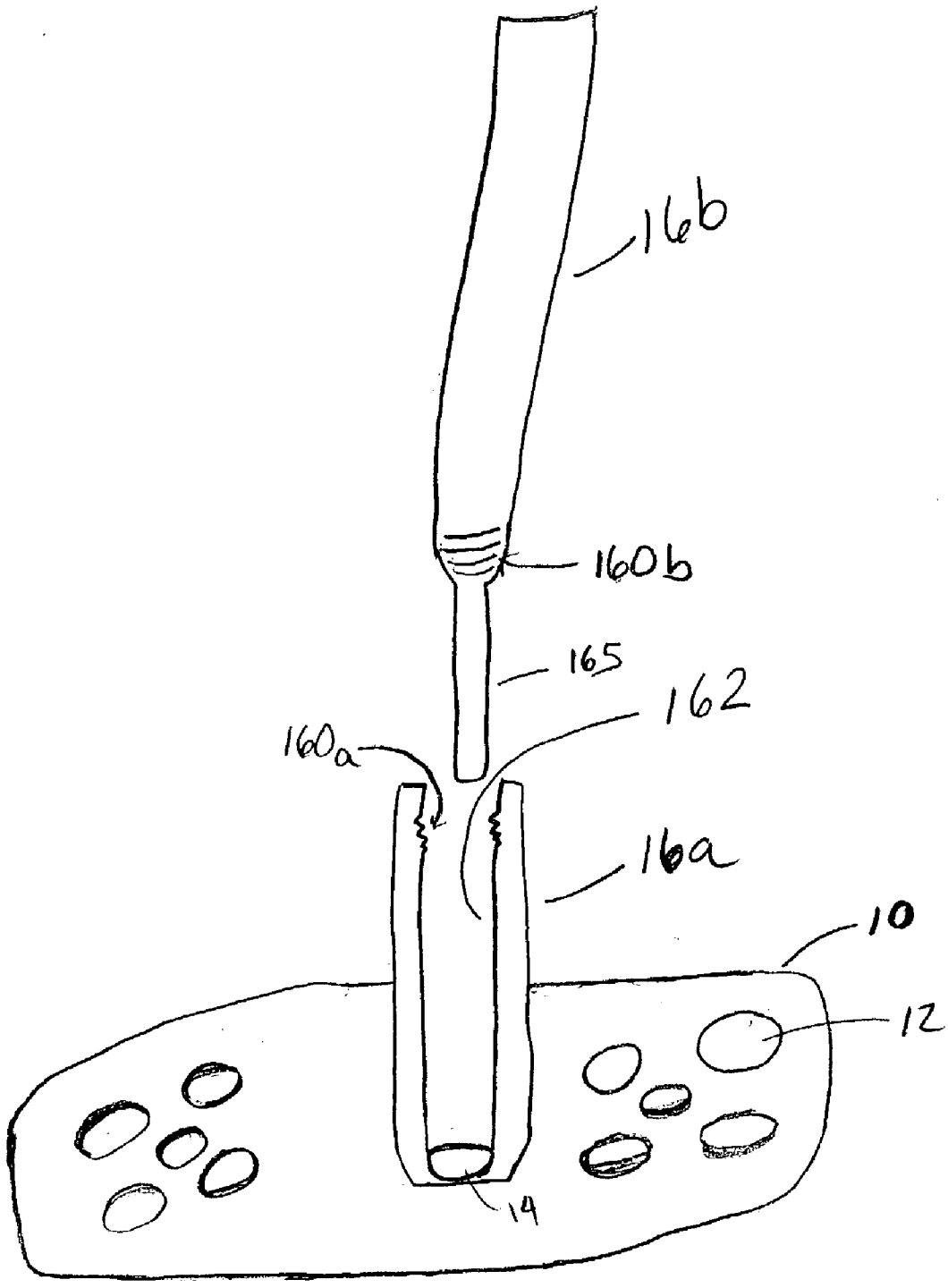


FIG 7

GEOMETRIC AND PERFORATED PAINT MIXER AND PAINT ROLLER CLEANER

REFERENCE TO RELATED APPLICATION

[0001] This is a Continuation-in-Part of Ser. No. 09/621,079, filed Jul. 21, 2000, entitled Paint Cleanup Kit; which is a Continuation-In-Part of Ser. No. 09/273,473, filed Mar. 22, 1999.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to painting accessories, and more particularly to a painting implement that assists in diverse operations of hand painting, such as mixing and stirring paint solutions, as well as aiding in cleaning the used paint roller.

[0004] 2. Description of the Prior Art

[0005] Painting by hand, particularly building walls and partitions and other large objects, requires different tools such as brushes and rollers for applying paint to surfaces being painted. When a painter interrupts his or her work for any reason, it is a wise precaution to clean brushes and rollers so that paint will not dry and cake thereon. Frequently this is done by wiping brushes and even rollers on a convenient surface, such as the inner flange of a paint can. However, wiping leaves a considerable amount of paint on the brush or roller.

[0006] The prior art has taken note of the problem of efficient cleaning paint supplies, and has proposed apparatus to expedite cleaning. The prior art as seen in U.S. Pat. Nos. 3,925,908 (issued to Kirkley J. Dunn on Dec. 16, 1975); U.S. Pat. No. 6,012,473 (issued to Takehiko Koyama on Jan. 11, 2000); U.S. Pat. No. 3,460,268 (issued to Carl F. Greathouse on Aug. 12, 1969); U.S. Pat. No. 4,545,395 (issued to Kolb on Oct. 8, 1985); U.S. Pat. No. 5,984,518 (issued to King et al. on Nov. 16, 1999); and U.S. Pat. No. 2,931,661, (issued to Joseph N. Harris on Apr. 5, 1960) as cited in the copending parent application Ser. No. 09/621,079 are all incorporated herein as reference.

[0007] The prior art is replete with devices designed to address the problems of adequate paint mixing as shown in the references to Cooke (U.S. Pat. No. 4,054,272), Silverman (U.S. Pat. No. 2,799,485), Gibson (U.S. Pat. No. 1,841,435); and Place (U.S. Pat. No. 2,896,925). These disclosed patents provide novel means of mixing paint solutions however none of these devices may also be used during the painting process serving as a paint solution mixer in addition to a paint roller cleaner.

[0008] None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed.

SUMMARY OF THE INVENTION

[0009] The present invention sets forth a painting implement which enables the user to mix paint and to clean conventional paint rollers utilizing a hand drill. The painting implement is selectively adjustable to be configured to mix paint and to support a paint roller for cleaning, thereby being capable of providing several functions. Implements of different diameters may be provided, for cleaning and using an assortment of sizes of paint rollers. The implement is provided with a paddle member that is perforated and of a geometric wave-like form to enhance mixing.

[0010] It is therefore an object of the invention to provide an implement for painting that performs several painting related functions including mixing and cleaning.

[0011] It is another object of the invention that the implements engage a hand drill for imparting rotation for paint mixing, and cleaning of paint rollers.

[0012] It is a further object of the invention that the implement engage paint rollers of different dimensions, thereby cooperating with standard painting tools.

[0013] It is an object of the invention to provide a painting implement for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

[0014] It is a further object of the invention to provide a painting implement that assumes two different functional positions with ease.

[0015] It is an object of the invention to provide a painting implement that is effective but simple in design resulting in lower manufacturing costs.

[0016] These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] Various other objects, features, and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein:

[0018] **FIG. 1A** is a front view of the inventive painting implement in a first position.

[0019] **FIG. 1B** is a side view of the inventive painting implement in a first position.

[0020] **FIG. 2A** is a front view of the inventive painting implement in a second position.

[0021] **FIG. 2B** is a side view of the inventive painting implement in a second position.

[0022] **FIG. 3** is a back view of the inventive painting implement with arrows indicating movement between two positions.

[0023] **FIG. 4A** is an environmental view of the inventive painting implement in accordance with the present invention in use as a paint mixer.

[0024] **FIG. 4B** is an environmental view of the inventive painting implement, in accordance with the present invention, in use as a paint mixer for quart-sized, or small, paint cans and/or containers.

[0025] **FIG. 5** is an environmental view of the painting implement in use as a support for a paint roller in accordance with the present invention.

[0026] **FIG. 6** is an environmental view of the paint implement in use cleaning a paint roller.

[0027] **FIG. 7** is a front view of the paint implement being connected by a two-part rod, in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0028] **FIGS. 1A and 1B** show the inventive, geometrically shaped painting implement **100**. As seen in **FIG. 1A**, the inventive painting implement **100** has a paddle member **10** that is perforated and has a geometric wave-like form. **FIG. 1B** better illustrates the geometric, spiral, wave-like characteristic in the side view of the implement **100**.

[0029] The paddle member **10** is attached to a rod shaft **16** preferably at the center of said paddle member **10** by a pivoting fastener **14**. The fastener **14** may comprise any suitable means of connection allowing the paddle member **10** to move between two positions, discussed further below. For instance, the fastener **14** may include known rivets, pivots, bolts, nuts, etc. which provide selective movement of said member **10**.

[0030] The inventive painting implement **100** may be set at two functionally distinct positions depending on the operation being performed with paddle member **10**. **FIGS. 1A and 1B** illustrate the first position, which is employed when the implement **100** is used as a paint mixer/stirrer. As shown in **FIGS. 4A & 4B**, the rod shaft **16** is an elongated, rigid shaft coupling the paddle member **10** to an electrically operated hand drill **50**.

[0031] **FIGS. 2A and 2B** illustrate the painting implement **100** in a second position wherein the paddle member **10** is positioned substantially parallel, with an offset of an acute angle with respect to the rod shaft **16** (described further below). In this second position, the implement **100** functions as an element for directly supporting a paint roller **60**, as shown in **FIG. 5**. The paddle member **10** is inserted into the interior wall **62** of paint roller **60**.

[0032] **FIG. 3** illustrates the movements between the two functional positions with arrow **20**. Longitudinal axis Y is indicated by a dotted line adjacent shaft **16**. The paddle member **16** has a major axis M indicated by a dotted line. When the paddle member **10** is in the first position, the major axis of the paddle member, M, is perpendicular with respect to the shaft axis Y. When the paddle member **10** is in the second position, shown in phantom, the longitudinal axis Y of shaft **16** is aligned substantially parallel at an acute angle, α, with respect to the major axis M of the paddle **10**. This small displacement, affording a small offset from actual parallel alignment allows for frictional fitting of the paddle member **10** within a paint roller **60**.

[0033] The two functional positions of the paddle member **10** are maintained in a locked position by friction. While in either the first or second position, a set of protrusions **13***a* and **13***b* are formed on the interior side **11** of the paddle member **10** (**FIG. 3**). These protrusions **13***a* and **13***b* are specifically formed on particular locations of the interior side **11** such that their locations provide a stopping means locking the paddle member in either the first or second position.

[0034] **FIGS. 4A & 4B** show the implement **100** in use stirring a paint solution **42** within a paint container **40**. The arrows indicate movement currents of the paint solution **42** as it is being mixed. The perforations **12** within paddle member **10** in conjunction with the spiral, wave-like form of paddle member **10** both play a major part in further assisting with the mixing i.e., stirring motion) of paint solution **42** when the paddle is in motion.

[0035] In addition, as best seen in **FIG. 3**, diagonal orientation of shaft **16** provides a skewed, offset of shaft **16** to not only ensure secured placement within a paint roller **60**, but also to enhance the rotational movement of implement **100**. The proximal end **16***p* of shaft **16** is formed with a twist resulting in a diagonal shift from axis Y along the length of the shaft **16**, thus forming angle α. This shift also produces a diagonal shift from normal with respect to the major axis M, thus forming angle β. Due to the skewed offset design of shaft **16**, centrifugal forces are greatly increased as an oscillating "whipping" action results when torque is applied via mechanical driving means **50**. Conceivably, in the absence of a mechanical driving means (such as a drill **50**) the proximal end **17** of the shaft **16** may be clasped between the hands of a user and rotated or spun within the paint solution **42** for mixture.

[0036] Additionally, this second position may also be employed to assist with the cleaning of a paint roller **60**. As shown in **FIG. 6**, paint roller **60** may be inserted in a container **70** containing a cleaning solution **72**. A hand drill **50** coupled to the paddle member **10** (by way of shaft **16**) spins the roller **60**, as indicated by arrow **75**. The centrifugal forces produced by the offset shape of the paddle member **10** during the spinning aids in the removal of paint embedded within the fibers of roller **60** by producing a whipping action. This oscillation greatly enhances the cleaning process. The spiral, wave-like form of the paddle member **10** also further enhances the circulation of fluid within container **72**.

[0037] The present invention is susceptible to variations and modifications which may be introduced thereto without departing from the inventive concept. For example, paddle member **10** may be removable from rod shaft **16**, rather than having a rivet **14**. Instead, paddle member **10** could be retained by friction in the two operative positions if desired. Additionally, the size of the paddle member **10** may vary so that each it may be usable with paint rollers **60** of different dimensions. The paddle member **10** may have edges formed in a beveled manner (not shown) to facilitate other uses of the paddle **10** such as opening paint cans, etc.

[0038] In an alternate embodiment, as shown in **FIG. 7**, the shaft may be configured as a two-part shaft having proximal part **16***a* and a distal part **16***b*. This two=part shaft embodiment facilitates attachment of painting element **10** to very small paint rollers, or the sort. Herein, the proximal part **16***a* is formed with a hollow interior **162** having a mating section **160***a* (such as threads, grooves, lip-snaps, and the like). The distal part **16***b* has an elongated stem-like portion **165** that is received by hollow interior **162** of the proximal part **16***a*.

[0039] Distal part **16***b* may also have a threaded portion **160***b* which mates with thread portion **160***a* of proximal part **162** for secured attachment of the two parts. As in the preferred embodiment, this two-part shaft (**16***a* & **16***b*) may be configured with a skewed offset resulting in a diagonal orientation with respect to the longitudinal axis to similarly aid in increasing centrifugal forces for enhanced stirring

motions. Although shown in one position, the two-part embodiment also allows the paddle member **10** to assume both functional positions.

[**0040**] It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A painting implement, said implement comprising:

a paddle member, said paddle member having an interior and an exterior side, wherein said paddle member is formed of a wave-like geometric configuration having angled portions;

a shaft having a proximal end and a distal end for operatively connecting to a drive means for applying external forces, and

means for rotably attaching said paddle member to said shaft,

wherein said means for attaching is configured to selectively allow said paddle member placement between a first and second position, said first position comprising the paddle member perpendicularly aligned relative to a longitudinal axis of said shaft and said second position comprising the paddle member aligned in a substantially parallel position relative to a longitudinal axis of said shaft; and

position stop means for selectively maintaining said paddle member in either of said first or second position.

2. The painting implement as in claim 1, wherein

said paddle member comprises a series of perforated holes formed therein.

3. The painting implement as in claim 2, wherein said paddle member has a spiral, wave-like geometric shape; and wherein the proximal end of said shaft is formed with a twist resulting in a diagonal offset from normal with respect to said paddle member.

4. The painting implement as in claim 3, wherein

said position stop means comprises a set of protrusions located on the interior side of said paddle member, said protrusions located and configured to frictionally secure said paddle member in said positions alternatively.

5. The painting implement according to claim 4, wherein said paddle member is dimensioned and configured to engage paint rollers of different dimensions.

6. A painting implement, said implement comprising:

a paddle member, said paddle member having an interior and an exterior side, wherein said paddle member is formed of a wave-like geometric configuration having angled portions;

shaft means for operativley connecting said paddle member to a drive means for providing external forces;

a first shaft member having a proximal end and a distal end, said distal end having a primary mating portion and

a second shaft member having a proximal end and a distal end, said proximal end and having a secondary mating portion; and

wherein said primary mating portion of said first shaft member is adapted to matingly couple with said secondary mating portion of said second shaft member;

means for rotably attaching said paddle member to said shaft means,

wherein said means for attaching is configured to selectively allow said paddle member placement between a first and second position:

said first position comprising the paddle member perpendicularly aligned relative to a longitudinal axis of said shaft and said second position comprising the paddle member aligned in a substantially parallel position relative to a longitudinal axis of said shaft; and

position stop means for selectively maintaining said paddle member in either of said first or second position relative to said shaft means.

7. The painting implement as in claim 6, wherein

said paddle member comprises a series of perforated holes formed therein.

8. The painting implement as in claim 7, wherein said paddle member has a spiral, wave-like geometric shape; and wherein the proximal end of said shaft means is formed with a twist resulting in a diagonal offset from normal with respect to said paddle member.

9. The painting implement as in claim 8, wherein

said position stop means comprises a set of protrusions located on the interior side of said paddle member, said protrusions located and configured to frictionally secure said paddle member in said positions alternatively.

* * * * *