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Paint applicator, kit and method

Abstract

A paint applicator, kit and methodology for using the same is disclosed. For example, paint applicator that allows a user to load a desired amount of paint, such as a water based other low VOC paint, into the paint applicator and an advancement mechanism that dispenses paint at a rate controllable by the user is disclosed. The advancement mechanism can include system that translates a rotational force applied to an end cap of the applicator into a linear that advances a piston which in turn applies paint to an applicator portion. The paint may be reusable or may include a ratchet system that allows for only one time use. methodology and kit can incorporate a syringe for loading paint into the paint applicator, reducing the loss of paint through spilling.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS AND CLAIM TO PRIORITY (1) This application is a continuation of U.S. application Ser. No. 17/881,928, filed Aug. 5, 2022, now U.S. Pat. No. 12,064,784, which is a continuation of U.S. application Ser. No. 17/177,023, filed Feb. 16, 2021, now U.S. Pat. No. 11,413,644, which is a continuation of U.S. application Ser. No. 16/413,154, filed May 15, 2019, now U.S. Pat. No. 10,919,069, which is a continuation of U.S.

application Ser. No. 15/695,353, filed Sep. 5, 2017, now U.S. Pat. No. 10,293,360, which is a continuation of U.S. application Ser. No. 13/733,823 filed Jan. 3, 2013, which claims priority to Provisional Application No. 61/582,746 filed Jan. 3, 2012, the disclosures of which are incorporated herein by reference and to which priority is claimed.

BACKGROUND

Technical Field

(1) The presently disclosed subject matter relates to a fillable instrument that paint through a tip onto a surface in order to repair blemishes, and more particularly, to instrument for dispensing paint that includes an advancement mechanism for supplying paint at rate that can be controlled by the user, and a related method and kit for using

Related Art

(2) Conventional approaches to applying paint typically involve the use of an such as a paint brush or paint roller, and a container where the paint is stored. This approach be efficient for larger painting projects where there is an expectation that all of the paint will used. However, touch-up and finishing projects typically require a smaller amount of paint and are often done sometime after the original paint job was completed. In these cases, a user typically need to find the original paint container and use a painting instrument to make desired touch-ups. This approach often results in spilled paint as the user moves the container to each location requiring a touch-up. In many cases, more paint is spilled or lost is actually needed for the touch-up

(3) In view of the foregoing drawbacks, it would be desirable to have a system methodology that provides a user with a portable and easily maneuverable paint applicator minimizes the risk of spills and lost paint.

SUMMARY OF THE DISCLOSED EMBODIMENTS

(4) The disclosed embodiments provide a fillable and adjustable paint applicator capable interchangeably receiving a variety of different paints and a variety of paint According to one embodiment, the paint applicator includes a cylindrical, pen-shaped capable of holding a paint, an applicator structure for dispensing the paint onto a surface and advancement mechanism for forcing the paint into the applicator. The applicator structure be one of a variety of applicators, such as paint brushes having a variety of shapes or a sponge other mechanisms for applying paint. The applicator structure can be coupled to the pen-body of the paint applicator through a variety of mechanisms. Thus, the disclosed provide for a removable and replaceable applicator allowing the user to apply paint through variety of techniques.

(5) The disclosed embodiments also provide for a cylindrical shaped pen-shaped which is capable of receiving and storing paints. Paint can be loaded in an interior volume of the pen-shaped body by removing a cap which allows the paint to be poured or otherwise injected placed into the pen-shaped body. In an alternate embodiment, the pen-shaped body is capable receiving a pre-loaded paint cartridge which can be inserted and fitted into the pen-shaped obviating the need to pour the paint directly into the pen-shaped body. The disclosed applicator also includes an end cap. The end cap covers the non-applicator end of the device can be removed in order to add paint to the pen-shaped body. In one embodiment, the end also engages an advancement mechanism which pushes the paint toward the applicator. advancement mechanism may include a piston mechanism which moves in a linear direction response to the rotation of the end cap. Thus, the paint can be forced through the toward a tip through the twisting motion of the end cap. The disclosed embodiments include a cover which can be snapped on to the applicator in order to prevent drying of applicator tip.

(6) The disclosed embodiments also provide a paint applicator, including a cylindrical body having a first end and a second end, the cylindrical main body defining an interior configured to receive a paint, an applicator structure disposed at the first end of the main body, the applicator structure in fluid communication with the interior volume of cylindrical main body, the applicator structure

including a tip for applying the paint to a an advancement mechanism for advancing the paint from the interior volume to the structure, the advancement mechanism including an advancement arm and a piston with piston rod, the advancement arm including threads for engaging the threaded piston rod and end cap disposed adjacent the second end of the cylindrical main body, the end cap engaged an end of the advancement arm.

(7) The disclosed embodiments also provide a paint applicator kit, including an including a cylindrical main body having a first end and a second end, the cylindrical main defining an interior volume configured to receive a paint, an applicator structure disposed at first end of the cylindrical main body, the applicator structure in fluid communication with the interior volume of the cylindrical main body, the applicator structure including a tip for the paint to a surface, an advancement mechanism for advancing the paint from the volume to the applicator structure, the advancement mechanism including a base and a with piston rod, the base including threads engaging the piston rod, an end cap disposed the second end of the cylindrical main body, the end cap engaged to an end of the advancement mechanism and a paint transfer structure configured to transfer paint from a paint reservoir to interior volume of the main body of the applicator structure.

(8) The disclosed embodiments further provide a method for use of a paint including providing an applicator including a cylindrical main body having a first end and second end, the cylindrical main body defining an interior volume configured to receive a an applicator structure configured to be disposed at the first end of the cylindrical main body, applicator structure including a tip for applying the paint to a surface, an mechanism configured to advance the paint from the interior volume to the applicator the advancement mechanism including a piston with piston rod, providing a paint structure configured to transfer paint from a paint reservoir to the interior volume of the body of the applicator, transferring paint from the paint reservoir to the paint transfer transferring paint from the paint transfer structure to the interior volume of the main body of applicator via the first end of the main body, placing the applicator structure in the first end of the main body such that the paint is in fluid communication with both the applicator and the interior volume of the main body and actuating the advancement mechanism such that the piston and piston rod move within the interior volume of the main body and cause paint the interior volume to move to the applicator

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Description

BRIEF DESCRIPTION OF THE DRAWINGS

(1) These and other characteristics of the presently disclosed subject matter will clear from the following description with reference to the accompanying drawings,

(2) FIG. **1** is an exploded view of an embodiment of a paint applicator made in with principles of the disclosed subject matter;

(3) FIG. **2** is a perspective cut-away view of an advancement mechanism in accordance an embodiment of the disclosed subject matter;

(4) FIG. **3** is a perspective view of the advancement mechanism according to embodiment of the disclosed subject matter;

(5) FIG. **4** is an exploded view of another embodiment of the paint applicator in with principles of the disclosed subject matter;

(6) FIG. **5** is a plan view of the advancement mechanism of the embodiment of FIG.

(7) FIG. **6** is a perspective view of the paint applicator of FIG.

(8) FIG. **7** is a perspective view of the paint applicator of FIG. **4**;

(9) FIG. **8** is an illustration of a paint applicator kit in accordance with principles of disclosed subject matter.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

(10) The presently disclosed subject matter will be described in detail hereinafter reference to exemplary embodiments shown in the accompanying

(11) FIG. **1** is an exploded view of an embodiment of a paint applicator **100** made accordance with principles of the disclosed subject matter. FIG. **1** shows that the paint applicator **100** includes a main body **110** which is cylindrical and/or pen-shaped. An applicator portion for applying paint is disposed at a first or forward end of the main body **110**. A cover **150** be provided to cover the applicator **120** before and after the use of the paint applicator **100**. end cap **130** is fitted onto a second or aft end of the main body **130**. As will be described in greater detail below, the end cap **130** may be communicatively coupled to an mechanism **105**.

(12) According to the embodiment of FIG. **1**, the main body **110** is cylindrical and shaped and includes an interior volume **115** capable of receiving and holding paint. The applicator portion **120** is in fluid communication with the interior volume **115** of the main body **110** so that the applicator portion **120** can receive paint stored in the interior volume **115** to dispensed onto a surface or substrate. In another embodiment, the main body **110** is capable receiving a pre-filled paint cartridge which can be fitted into the interior volume **115** of the body **110**. For example, the paint can be advanced through the interior volume **115** by advancement mechanism **105** which is described in greater detail

(13) The main body **110** can be formed from a clear plastic so that the user can see the and level of the paint. In one embodiment, small ball bearings **160** can be optionally added the interior volume **115** to assist with mixing of the paint. An interior surface of the main body **110** can also be equipped with ridges **155** which are formed in a circular pattern on the surface. As will be discussed in greater detail below, the ridges **155** assist with maintaining position of the advancement mechanism **105** within the interior volume **115** of the main body **110**.

(14) As described above, FIG. **1** also shows the applicator portion **120** which is fitted onto first end of the main body **110**. In some embodiments, the interior volume **115** of the main **110** can be filled with paint when the applicator portion **120** is disconnected from the main **110**. Then, the applicator portion **120** can be fitted onto the main body **110** through a variety mechanisms. For example, it can be snap fitted onto the main body **110** or it can be onto the main body **110** when the applicator portion **120** and the main body **110** are each with one of threads or notches for receiving the threads. The applicator portion **120** is capable receiving paint delivered from the interior volume **115** of the main body **110**. The portion **120** can then be used to apply paint onto a surface or substrate. The applicator **120** can also include a tip **125** which absorbs paint delivered through the interior volume **115** the main body **110** and which is used to apply paint to a surface. An opening **195** can be at an end of the main body **110** for receiving paint and can be closed by attachment of the tip **125**. The tip **125** can include a variety of different mechanisms for applying paint. For in FIG. **1**, the tip **125** is shown as a paint brush. However, the disclosed subject contemplates that the tip can be any type of mechanism suitable for applying paint, such as sponge, wick, paper product, etc.

(15) FIG. **1** also shows the end cap **130** which is disposed at the far end of the main **110**. In some embodiments, the end cap **130** is fixed to the main body **110** so that it cannot removed. In other embodiments, the end cap **130** can be removed in order to expose the volume **115** of the main body **110**. In these embodiments, when the end cap **130** is removed, interior volume **115** can be filled with a paint selected by the user. Alternately, when the end **130** is removed, a pre-filled paint cartridge holding paint can be inserted into the interior **115** of the main body **110**. In this embodiment, once the interior volume **115** of the main **110** is filled with paint, the end cap **130** can be placed back onto the end of the main body **110** that the interior volume **115** is sealed.

(16) As will be described in greater detail below, the end cap **130** can also be used to the advancement mechanism **105** which forces the paint toward the applicator portion **120** ensure that the applicator is wetted with enough paint so that it can be smoothly applied to surface. Thus, rotation of the end cap **130** engages the advancement mechanism **105** in such manner that the

rotational force applied to the end cap **130** is translated to a linear force to a piston which pushes the paint toward the applicator portion

(17) FIG. **1** also shows the advancement mechanism **105** which includes an head **165**, and an advancement arm **170**. The advancement mechanism also includes a base a stem **180** and a piston head or plunger **185**. The advancement head **165** of the mechanism **105** can be fitted into a tip end of the end cap **130**, so that rotation of the end cap causes rotation of the advancement head **165** and the advancement arm **170**. The piston **185** faces and contacts the paint. An outer edge or rim of the piston **185** makes contact with inner surface of the interior volume **115** of the main body **110** when the advancement **105** is placed into the interior volume **115**. The piston **185** is advanced or retracted by interaction between the advancement arm **170** and the stem **180** which each have mating The base **175** also includes notches **190** which are formed along an outer edge of the base The notches **190** can mate with the ridges **155** formed on the interior surface of the main **110** so that the advancement mechanism is fixed into the interior volume **115**. As shown in FIG. **1**, the advancement arm **170** extends from a bottom surface of the advancement head **165**. advancement arm **170** has interior threads (not shown in FIG. **1**) that can engage the formed on the stem **180**. Thus, the advancement head **165** can be fitted into the end cap **130** that a rotational force applied to the end cap **130** also causes rotation of the advancement **165**. This rotational force also causes the advancement arm **170** to rotate so that the threads of the advancement arm **170** engage the threads of the stem **180** so that the piston **185** moves in a linear direction away from the end cap **130**. In this manner, the piston **185** advanced through the interior volume **115** toward the tip **125** so that paint that occupies interior volume **115** is forced onto the tip **125**. Thus, in use, a user can rotate the end cap **130** apply more paint to the tip **125** as it dries or needs replenishment. In this manner, a user apply paint without the risk of spilling or wasting paint.

(18) The advancement mechanism **105** is configured so that the piston **185** can be and the interior volume **115** can be cleaned and refilled allowing for multiple uses. In alternate embodiment discussed below with reference to FIG. **4**, the piston can only be moved a direction towards the tip and cannot be retracted. In this embodiment, the paint applicator is single use/disposable device which cannot be reused. Thus, once the user has used all of paint contained in the interior volume, the paint applicator can then be disposed

(19) FIG. **2** shows a perspective view of the applicator **100** of FIG. **1**. FIG. **2** shows advancement head **165** and the advancement arm **170** in communication with the base **175**. As discussed above, both the advancement head **165** and the advancement arm **170** rotate when end cap **130** (shown on FIG. **1**) is rotated. FIG. **2** also shows that a base **175** is provided the stem **180** and the plunger **185**. The base **175** has notches **190** formed in a circular around its outer periphery. The notches **190** mate with the ridges **155** formed on the surface of the interior volume **115** so that the base does not rotate when the advancement head **165** and advancement arm **170** are rotated. The base also includes a keyhole structure shown) through which the stem **180** is positioned so that it mates with interior threads formed in the inner surface of the advancement arm **170** (see FIG. **3**). In this manner, rotation the advancement head **165** causes rotation of the advancement arm **170** which causes the **140** to engage threads **310** of the stem to produce linear movement of the stem **180**. In embodiment of FIGS. **1**-**3**, the stem **180** and plunger **185** can be extended or retracted upon the rotational direction of the advancement head **165** and the advancement arm **170**. FIG. also shows an outer edge **210** of the piston head **185** that contacts the inner surface of the body **110** to ensure that all or most of the paint loaded into the inner volume **115** is advanced.

(20) FIG. **3** shows a perspective view of an applicator **100** with some minor In FIG. **3**, the stem **180** has a substantially rectangular cross-sectional shape with rounded so that threads **310** are only formed along the rounded edges and there are two opposed surfaces between the screw threads. These two flat surfaces are configured to act in with a mating rectangular keyway located on the interior surface on the central axis of the **175**. It is noted that the advancement arm **170** is rotatable with respect to the base **175** (and therefore with respect to stem **180** and main body **110**). The

mating keyway surface of the **175** prevents the stem **180** from rotating with respect to the base **175** and therefore also rotation with respect main cylinder body **115**. Thus, rotary movement of the end cap **130** reliably transferred to linear movement of the piston **185** and stem

(21) The paint applicator **100** according to the disclosed embodiments provides a device allowing users to fix paint blemishes without requiring the purchase of a large volume paint. Instead, paint vendors can sell the paint applicators prefilled with a color requested by consumer. The consumer can then purchase paint applicators **100** prefilled with the type paints desired by the consumer and use them when needed. The paint applicator **100** can be weight and maneuverable so that a user does not require any specialized skill in order to paint for touch-up applications. In particular, the paint applicator **100** can be made from transparent or clear polymers (except possibly for the tip **125** itself). The configuration the applicator **100** also allows the user to accurately and precisely apply touch up paint to an without over painting or without damaging the surface being painted. The paint applicator will typically be filled with a water based, acrylic, latex and/or otherwise low VOC paint has good flow properties and which will not easily dry and clog the

(22) A user seeking to use the paint applicator **100** will first seek to load the interior **115** with paint. The paint applicator **100** may be configured with the applicator portion already attached to the main body **110**, or, alternately, with the applicator portion disconnected from the main body **110**. For packaging purposes, the applicator portion **120** be nested to the interior volume **115** to reduce the size of the applicator **100**. In this case, user can remove the applicator portion **120** and attach it to the main body **110**. In embodiments, the applicator portion **120** can be snap fitted onto the end of the main body In other embodiments, the applicator portion **120** and the end of the main body **110** can equipped with threads that allow the applicator portion **120** to be screwed into the main **110**. It is also contemplated that multiple applicator portions **120** can be provided with device so that a user can quickly change out a dry applicator and/or can quickly change color paint being used by the device. In one embodiment, the user can fill the interior volume with paint when the applicator portion **120** is removed from the main body **110**. In order minimize spills, the user can remove paint from a paint container using a syringe or other transfer structure and then deposit the paint from the syringe into the interior volume of applicator **100**. In another embodiment, the paint can be deposited from the other end of applicator **100** by removing the end cap

(23) In another embodiment, a paint cartridge can be loaded into the interior volume **115** the paint applicator. Pre-loaded paint cartridges have the added advantage that the user does have to handle paint. The paint cartridge can be in many various forms, including a plastic bag that is punctured after insertion into the interior volume **115**. Alternatively, plastic cylinders pre-filled with paint could be sold that fit within the interior volume **115** and only disperse paint when a force is applied to one or both ends of the plastic

(24) Once the interior volume **115** is loaded with paint, the user can rotate the end cap into order to wet the tip **125**. Rotating the end cap **130** cause the end cap **130** to engage rotate the advancement head **165**. Rotation of the advancement head **165** also causes rotation of the advancement arm **170** which in turn causes the linear advancement of the stem **180** in direction toward the tip **125**. As the stem **180** advances, the piston **185** also advances the paint in the direction of the tip **125**. The user can continue to turn the end cap **130** until tip **125** has enough paint for the desired use. When the user determines that the tip requires paint, he or she can advance the paint by turning the end cap **130**. As described above, the **175** generally holds the advancement mechanism **105** in place through the engagement of notches **190** with the ridges **155**.

(25) Once the user has completed the project, the user can either dispose of the **100** or can retract the piston **185** by turning the end cap **130** in a direction opposite to direction turned for advancing the piston. The user can then clean out the inner volume **115** reuse the applicator as needed.

(26) FIG. **4** is an exploded view of another embodiment of a paint applicator **400** in which advancement mechanism cannot be retracted once the piston is advanced. Thus, the of FIG. **4** can be considered a single use device. FIG. **4** shows a paint applicator **400** that a main body **410** which

is cylindrical and/or pen-shaped. An applicator portion **420** for paint is disposed at a first or forward end of the main body **410**. A cover **450** may be provided cover the applicator portion **420** before and after use of the paint applicator **400**. An end cap is fitted onto a second or aft end of the main body **410**. The end cap **430** includes a plurality engagement teeth **435** which engage an advancement mechanism **405** as described in detail below.

(27) According to the embodiment of FIG. **4**, the main body **410** is cylindrical and shaped and includes an interior volume **415** capable of receiving and holding paint. The applicator portion **420** is in fluid communication with the interior volume **415** of the main body **410** so that the applicator portion **420** receives paint to be dispensed onto a surface. In embodiment, the main body **410** is capable of receiving a pre-filled paint cartridge which can be fitted into the interior volume **415** of the main body **410**. In either of these embodiments, paint can be advanced through the interior volume **415** by an advancement mechanism which is described in greater detail below.

(28) As with the embodiment of FIG. **1**, the main body **410** can be formed from a plastic so that the user can see the color and level of the paint. In one embodiment, small bearings (not shown in FIG. **4**) can be optionally added into the interior volume **415** to assist mixing of the paint. An interior surface of the main body **410** can also be equipped with ridges **455** which are formed in a circular pattern on the interior surface. As will be discussed in detail below, the ridges assist with maintaining the position of the advancement mechanism within the interior volume of the main body

(29) In one embodiment, the applicator portion **420** can be removably fitted onto a first of the main body **410**. In these embodiments, the interior volume **415** of the main body **410** be filled with paint when the applicator portion **420** is disconnected from the main body Then, the applicator portion **420** can be fitted onto the main body **410** through a variety mechanisms. For example, it can be snap fitted onto the main body **410** or it can be onto the main body **410** if the applicator portion **420** and the main body are each fitted with of threads or notches for receiving the threads. The applicator portion **420** is capable receiving paint delivered from the interior volume **415** of the main body **410**. The portion **420** can then be used to apply paint onto a surface or substrate. The applicator **420** can also include a tip **425** which absorbs paint delivered through the interior volume **415** the main body **410** and is used to apply paint to a surface. An opening **495** can be formed at end of the main body **410** for receiving paint and can be closed by attachment of the tip **425**. The tip **425** can include a variety of different mechanisms for applying paint. For example, FIG. **4**, the tip **425** is shown as a paint brush. However, the disclosed embodiments that the tip can be any type of mechanism suitable for applying paint, such as a sponge, paper product, etc.

(30) FIG. **4** also shows the end cap **430** which is disposed at the far end of the main **410**. In some embodiments, the end cap **430** is fixed to the main body **410** so that it cannot removed. In other embodiments, the end cap **430** can be removed in order to expose the volume **415** of the main body **410**. In these embodiments, when the end cap **430** is removed, interior volume **415** can be filled with a paint selected by the user. Alternately, when the end **430** is removed, a pre-filled paint cartridge holding paint can be inserted into the interior **415** of the main body **410**. For example, once the interior volume **415** of the main body **410** is filled with paint, the end cap **430** can be placed back onto the end of the main body **410** so the interior volume **415** is sealed.

(31) The end cap **430** can also be used to drive the advancement mechanism **405** forces the paint toward the applicator portion **420** to ensure that the tip **425** is wetted enough paint so that it can be applied to a surface. The end cap **430** can be rotated so as to engage the advancement mechanism **405** in such a manner that the rotational force applied to end cap **430** is translated to a linear force applied to a piston which pushes the paint toward applicator portion **420**. The end cap can be securely fitted onto the end of the main body **410** as to engage a portion of the advancement mechanism

(32) FIG. **4** also shows the advancement mechanism **405** which includes a ratchet head and a ratchet arm **465**. The advancement mechanism **405** also includes a base **470**, a stem and a piston

head or plunger **485**. The ratchet head **460** of the advancement mechanism **405** be fitted into the end cap **430**, so that rotation of the end cap **430** cause rotation of the head **460** and the ratchet arm **465**. The piston head **485** faces and contacts the paint. An edge or rim of the piston **485** makes contact with the inner surface of the interior volume **415** the main body **410** when the advancement mechanism **405** is placed into the interior volume The piston **485** is advanced or retracted by action of the ratchet arm **465** which contacts the **480** and which each have mating threads. The base **470** includes notches **490** which are along an outer edge of the base **470**. The notches **190** can mate with the ridges **455** formed the interior surface of the main body **410** so that the advancement mechanism **405** is fixed into the interior volume **415**. As shown in FIG. **4**, the ratchet arm **465** extends from a bottom of the ratchet head **460**. The ratchet arm **465** has interior threads (not shown in FIG. **4** but to threads **140** of FIG. **2**) that can engage the threads formed on the stem **480**. Thus, the head **460** can be fitted into the end cap **430** so that a rotational force applied to the end cap also causes rotation of the ratchet head **460**. This rotational force also causes the ratchet arm to rotate so that the interior threads of the ratchet arm **465** engage the threads of the stem **480** that both the stem **480** and the piston head **485** move in a linear direction away from the end **430**. In this manner, the piston **485** is advanced through the interior volume **415** toward the **425** so that paint that occupies the interior volume **415** is forced onto the tip **425**. Thus, in use, user can rotate the end cap **430** to apply more paint to the tip **425** as it dries or replenishment. In this manner, a user can apply paint without the risk of spilling or paint.

(33) The advancement mechanism **405** is configured so that the piston **485** cannot retracted and can only move in a direction of the tip **425**. Thus, in this embodiment, the applicator **400** is a single use/disposable device which cannot be reused. Thus, once the user used all of the paint contained in the interior volume **415**, the paint applicator **400** can then disposed of. As shown in FIG. **4**, the end cap **430** includes ratchet teeth **435** formed along circumference of the lower end of the end cap **430**. The base **470** also includes at least ratchet arm **475** formed along a top surface of the base **470**. The combination of the ratchet **435** and ratchet arms **475** forms a system in which the end cap **430** and the ratchet arm **465** allowed to rotate in a first direction (e.g., clockwise as shown in FIG. **4**) and are prevented rotating in an opposite direction. Thus, this structure provides for incremental advancement the piston in only one direction, e.g., the direction of the tip **425**. The ratchet teeth **435** can be constant communication with the ratchet arms **475** by spring bias of the ratchet arms **475**. the end cap **430** is rotated, the ratchet teeth **435** pass by the ratchet arms **475** which then, in step-wise fashion, limit advancement of the piston **485**. The ratchet teeth **435** and ratchet arms **475** are also configured so that the end cap can only be turned in one direction, for of the piston **485**. The engagement teeth **435** and ratchet arms **475** are oriented in such a that they will not allow reverse motion of the end cap

(34) FIG. **5** shows a plan view of the advancement mechanism **405** and end cap **430** of FIG. FIG. **5** shows that the end cap **430** includes engagement teeth **435** formed along its lower FIG. **5** also shows that the ratchet head **460** and ratchet arm **465** are fitted into the end cap FIG. **5** further shows the base **470** that includes ratchet arms **475** and notches **490**. A stem includes a piston head **485** while the opposing end of the stem **480** extends through a key (not shown) formed in the base **470** and into an opening formed in the ratchet arm **465**. opening of the ratchet arm **465** includes threads (like those shown in FIG. **2**) that engage with threads of the stem **480**. Thus, rotation of the end cap **430** causes the stem **480** to extend move in a linear direction. The ratchet teeth **435** and ratchet arms **475** form a system that to piston **485** to advance in an incremental or step-wise fashion. This prevents a user discharging the paint too quickly and also prevents retraction of the piston **485** toward direction of the end cap **430**. As shown in FIG. **5**, when the user rotates the end cap **430** in clockwise manner, the ratchet teeth **435** ride along a top surface of the ratchet arms **475** rotation in an incremental manner. The sloped orientation of the ratchet teeth **435** rotation in a counterclockwise direction because the ratchet arms **475** block rotation of ratchet teeth in a counterclockwise

(35) FIG. **6** shows the applicator **400** of FIG. **4** with the cover or cap **450** removed so that applicator can be used.
(36) FIG. **7** shows the applicator **400** of FIG. **4** with the cover or cap **450** fitted over applicator portion **420** to prevent drying of the tip.
(37) FIG. **8** shows a kit that includes an applicator **400** and a syringe **820** that can be used load the applicator **400** with paint. A user seeking to use the paint applicator **400** will first to load the body of the applicator **400** with paint. As described in connection with FIGS. **1**-**3**, paint applicator **400** may be configured with the applicator portion **420** already attached to main body, or, alternately, with the applicator portion **420** disconnected from the main body. packaging purposes, the applicator portion **420** can be nested to the interior volume of applicator to reduce its size for packaging purposes. In this case, the user can remove applicator portion **120** and fill the applicator body through an opening **495**. Thus, the user use a paint transfer structure, such as the syringe **820**, to withdraw paint from a paint **830**. The user can then dispense the paint from the syringe **820** into the body of the **400** via the opening **495**. Once the paint has been dispensed into the body of the applicator, applicator portion **420** can be snap fitted onto the end of the main body of the applicator. paint transfer structure can also be in the form of a cartridge as described above, or a paint tube, or other paint containing structures. In other embodiments, the applicator portion and the end of the main body of the applicator can be equipped with threads that allow the applicator portion **420** to be screwed into the main body of the applicator **400**. It is also contemplated that multiple applicator portions **420** can be provided with the device so that a can quickly change out a dry applicator and/or can quickly change color of paint being used the device. Thus, use of the syringe can minimize
(38) In another embodiment, a paint cartridge can be loaded into the interior volume of applicator **400**. Pre-loaded paint cartridges have the added advantage that the user does not to handle paint. The paint cartridge can be in many various forms, including a sealed plastic that is punctured after insertion into the interior volume **415**. Alternatively, plastic cylinders filled with paint could be sold that fit within the interior volume of the applicator and only disperse paint when a force is applied to one or both ends of the plastic
(39) Once the interior volume of the applicator is loaded with paint, the user can rotate end cap **430** in order to wet the tip **425**. Rotating the end cap **430** causes the end cap **430** engage and rotate the ratchet head **460**. Rotation of the ratchet head **460** also causes rotation of the ratchet arm **465** which in turn causes the advancement of the stem **480** in a direction the tip **425**. As the stem **480** advances, the piston **485** also advances pushing the paint in direction of the tip **425**. The user can continue to turn the end cap **430** until the tip **425** enough paint for the desired use. When the user determines that the tip requires more paint, or she can advance the paint by turning the end cap **430**. As described above, the base generally holds the advancement mechanism **405** in place through the engagement of the **490** with the ridges **455**. Also, as described above, the ratchet system formed by the ratchet **435** and the ratchet arms **475** limit movement of the piston **485** in one direction and in a incremental fashion. This can prevent a user from discharging the paint too quickly. Once user has completed the project, the user can dispose of the applicator
(40) It should be understood that various modifications may be made to the embodiments and modifications described above without departing from the spirit and scope of the disclosed subject matter. In particular, each of the structures shown in the modifications and embodiments can be combined and/or exchanged with each other accordance with various aspects and desired applications. In addition, the main cylindrical is shown as having a shape that is circle in cross-section (when viewed along a longitudinal direction). However, different cross-sectional shapes for the main cylindrical body are contemplated as part of the disclosed subject matter, including polygonal, non-symmetrical, other shapes that may be beneficial for a particular application or marketing Furthermore, if the entire length of the cylinder main body **115** has a complimentary or non-symmetrical cross-sectional shape with respect to a shape of the piston, the keyway in base

175 may not be necessary because the piston **185** and stem **180** would be prevented rotation by the complimentary shape of the main cylindrical body
(41) It should be understood that the applicator could be made of a variety of materials, limited to plastics and polymers, depending on the nature and reactivity of the paint or Thus, the applicator could be formed from other materials, including but not limited to ceramics, metals, etc.
(42) The apparatus, kit and method can include a plurality of different or identical tips. example, the apparatus or kit can include different sized brushes that can be selectively depending on the surface area, surface type, and size of the application. In addition, types of tips can be included with the apparatus, kit and method to allow for different applications. For example, a brush tip, a ball point tip, a sponge tip, and/or other tip can all included with the applicator so that the user has many different options and styles of use of the applicator.
(43) The method of using the apparatus or kit as disclosed above can include using device in conjunction with stains, furniture stains or polishes in order to touch up statues, paintings or other artwork. The use of the disclosed apparatus and kit in such a allows quick, easy, and clean touch ups that can easily be conducted by the homeowner, agents, interior decorators and others without requiring drop cloths, tapings, and other items typically required when painting or touching up items located within a furnished or finished room.
(44) While there has been described what are at present considered to be embodiments of the present invention, it will be understood that various modifications may be made thereto, and it is intended that the appended claims cover all such modifications as within the true spirit and scope of the invention.

Claims

1. An applicator kit for applying fluids, including paint, stain, and other colorants, to a surface, the applicator kit comprising: a syringe and an applicator, the applicator comprising a cylindrical main body having a first end and a second end, the cylindrical main body defining an interior volume configured to receive fluid, the main body made from a material that allows the color of the fluid to be seen, an applicator structure, the applicator structure removably attachable to the first end for fluid communication with the interior volume of the cylindrical main body, the applicator structure including a tip for applying fluid from the interior volume to a surface, an advancement mechanism disposed in the second end of the main body for advancing fluid from the interior volume to the applicator structure, the advancement mechanism including an advancement arm and a piston with a threaded piston rod, the advancement arm including threads for engaging the threaded piston rod, and a movable end cap disposed adjacent the second end of the cylindrical main body, the movable end cap operably engaged with the advancement arm, the movable end cap rotatable for advancing linearly the piston into the interior volume for causing fluid to be communicated to the applicator structure; the syringe sized and adapted for suppling fluid from the syringe to the interior volume when the applicator structure is detached from the main body.
2. The applicator kit of claim 1, wherein the applicator structure is a plastic cylinder, and the tip includes a brush located at the distal end of the cylinder.
3. The applicator kit of claim 1, wherein the end cap includes an interior keyway surface that mates with an exterior surface of the advancement arm of the advancement mechanism so that when the end cap is rotated the advancement arm also rotates.
4. The applicator kit of claim 1, wherein rotation of the end cap causes the piston rod and piston to move within and respect to the cylindrical main body so that the interior volume of the cylindrical main body is reduced causing fluid to exit the interior volume via the applicator structure.
5. The applicator kit of claim 1, further comprising a plurality of applicator structures such that a user can easily change applicator structures.
6. The applicator kit of claim 1, wherein the applicator structure is adapted to be snap fit into the

main body.
7. The applicator kit of claim 1, wherein the syringe has a piston, piston rod, and piston cylinder body, the syringe configured to withdraw fluid from a fluid reservoir via movement of the piston and piston rod with respect to the piston cylinder, and to distribute fluid to the interior volume by reverse movement of the piston and piston rod with respect to the piston cylinder.
8. An applicator kit for applying fluids, including paint, stain, and other colorants, to a surface, the applicator kit comprising: a syringe and an applicator, the applicator comprising a plastic main body made from a material that allows the color of fluid therein to be seen and having a first end and a second end, the main body defining an interior volume configured to receive the fluid, an applicator structure removably attachable to the first end for fluid communication with the interior volume, the applicator structure including a tip for applying fluid from the interior volume to a surface, an advancement mechanism including a plunger disposed in the second end of the main body for advancing fluid from the interior volume to the applicator structure, and a movable end cap disposed adjacent the second end of the cylindrical main body, the movable end cap operably engaged with the plunger, the movable end cap rotatable for advancing linearly the plunger into the interior volume for causing fluid to be communicated to the applicator structure; the syringe sized and adapted for supplying fluid from the syringe to the interior volume when the applicator structure is detached from the main body.
9. The applicator kit of claim 8, wherein the tip includes a brush located at the distal end of the main body.
10. The applicator kit of claim 8, wherein the end cap includes an interior keyway surface that mates with an exterior surface of the advancement mechanism so that when the end cap is rotated an advancement arm also rotates in order to advance the plunger.
11. The applicator kit of claim 10, wherein rotation of the end cap causes a piston rod and piston to move within and respect to the main body so that the interior volume of the main body is reduced for causing fluid to exit the interior volume via the applicator structure.
12. The applicator kit of claim 8, further comprising a plurality of applicator structures such that a user can easily change applicator structures.
13. The applicator kit of claim 8, wherein the applicator structure is adapted to be snap fit into the main body.
14. The applicator kit of claim 8, wherein the syringe has a piston, piston rod, and piston cylinder body, the syringe configured to withdraw fluid from a fluid reservoir via movement of the piston and piston rod with respect to the piston cylinder, and to distribute fluid to the interior volume by reverse movement of the piston and piston rod with respect to the piston cylinder.
15. An applicator kit for applying fluids, including paint, stain, and other colorants, to a surface, the applicator kit comprising: a syringe and an applicator, the applicator comprising a main body made from a material that allows the color of fluid therein to be seen and having a first end and a second end, the main body defining an interior volume configured to receive fluid, an applicator structure removably attached to the first end for fluid communication with the interior volume, the applicator structure including a tip for applying fluid from the interior volume to a surface, an advancement mechanism including a plunger disposed in the second end of the main body for advancing fluid from the interior volume to the applicator structure, and a movable end cap disposed adjacent the second end of the cylindrical main body, the movable end cap operably engaged with the plunger, the movable end cap rotatable for advancing linearly the plunger into the interior volume for causing fluid to be communicated to the applicator structure; the syringe sized and adapted for supplying fluid from the syringe to the interior volume when the applicator structure is detached from the main body.
16. The applicator kit of claim 15, wherein the tip includes a brush located at the distal end of the main body.
17. The applicator kit of claim 15, wherein the end cap includes an interior keyway surface that

mates with an exterior surface of the advancement mechanism so that when the end cap is rotated an advancement arm also rotates in order to advance the plunger.

18. The applicator kit of claim 15, wherein rotation of the end cap causes a piston rod and piston to move within and respect to the main body so that the interior volume of the main body is reduced for causing fluid to exit the interior volume via the applicator structure.

19. The applicator kit of claim 15, further comprising a plurality of applicator structures such that a user can easily change applicator structures and the applicator structure is adapted to be snap fit into the main body.

20. The applicator kit of claim 15, wherein the syringe has a piston, piston rod, and piston cylinder body, the syringe configured to withdraw fluid from a fluid reservoir via movement of the piston and piston rod with respect to the piston cylinder, and to distribute fluid to the interior volume by reverse movement of the piston and piston rod with respect to the piston cylinder.