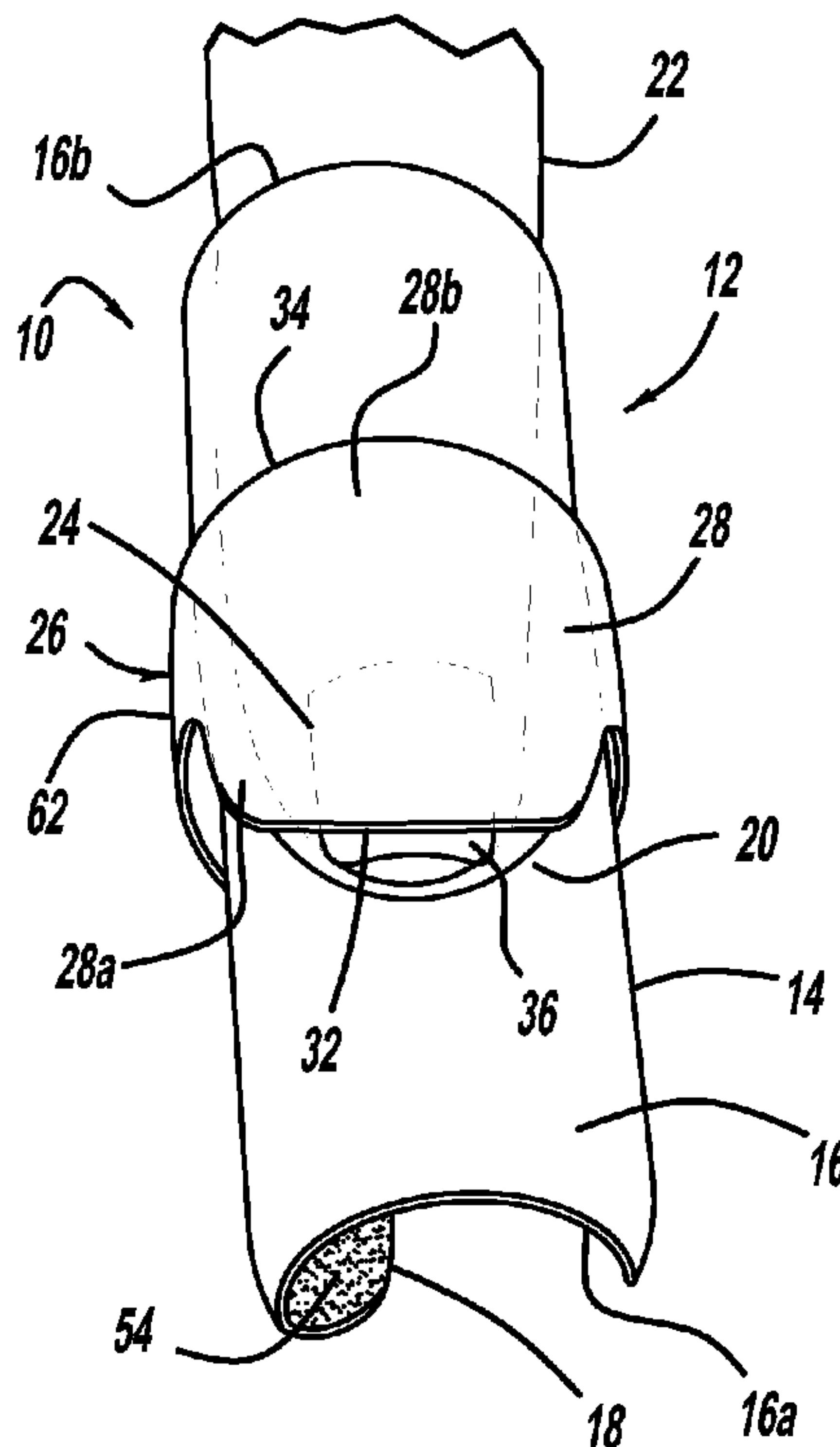




(86) Date de dépôt PCT/PCT Filing Date: 2007/08/13
 (87) Date publication PCT/PCT Publication Date: 2008/04/24
 (85) Entrée phase nationale/National Entry: 2009/04/17
 (86) N° demande PCT/PCT Application No.: US 2007/075777
 (87) N° publication PCT/PCT Publication No.: 2008/048740
 (30) Priorité/Priority: 2006/10/17 (US60/852,229)

(51) Cl.Int./Int.Cl. *A45D 29/00* (2006.01)
 (71) Demandeur/Applicant:
GARINGER, TAMMY, US
 (72) Inventeur/Inventor:
GARINGER, TAMMY, US
 (74) Agent: BLAKE, CASSELS & GRAYDON LLP

(54) Titre : SYSTEME, PROCEDE ET APPAREIL PERMETTANT DE S'APPLIQUER UNE FRENCH MANUCURE
 (54) Title: SYSTEM, METHOD AND APPARATUS FOR SELF-APPLYING A FRENCH MANICURE



(57) Abrégé/Abstract:

A system and method for self-applying a French manicure using an adjustable form includes positioning a base member over a user's finger so that the nail is located within a nail receiving opening. An outer edge of a shield member wall is positioned at a position relative to the nail receiving opening to expose the tip of the nail. A first paint type is applied to the exposed nail tip using an applicator means. The first paint type is a water-based, non-toxic acrylic paint and the applicator means atomizes the paint to apply a plurality of droplets to the exposed nail. The shield member is repositioned relative to the nail receiving opening to expose the entire nail surface. A second enamel nail paint type is applied to the exposed nail surface to seal the first paint type.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
24 April 2008 (24.04.2008)

PCT

(10) International Publication Number
WO 2008/048740 A3

(51) International Patent Classification:

A45D 29/00 (2006.01)

(21) International Application Number:

PCT/US2007/075777

(22) International Filing Date: 13 August 2007 (13.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/852,229 17 October 2006 (17.10.2006) US

(71) Applicant and

(72) Inventor: **GARINGER, Tammy** [US/US]; 21542 St. Gertrude, St. Clair Shores, MI 48081 (US).(74) Agents: **BUNTING, Beverly, M.** et al.; Gifford, Krass, Sprinkle, Anderson & Citkowski, Pc, 2701 Troy Center Drive, Suite 330, Post Office Box 7021, Troy, MI 48007-7021 (US).(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

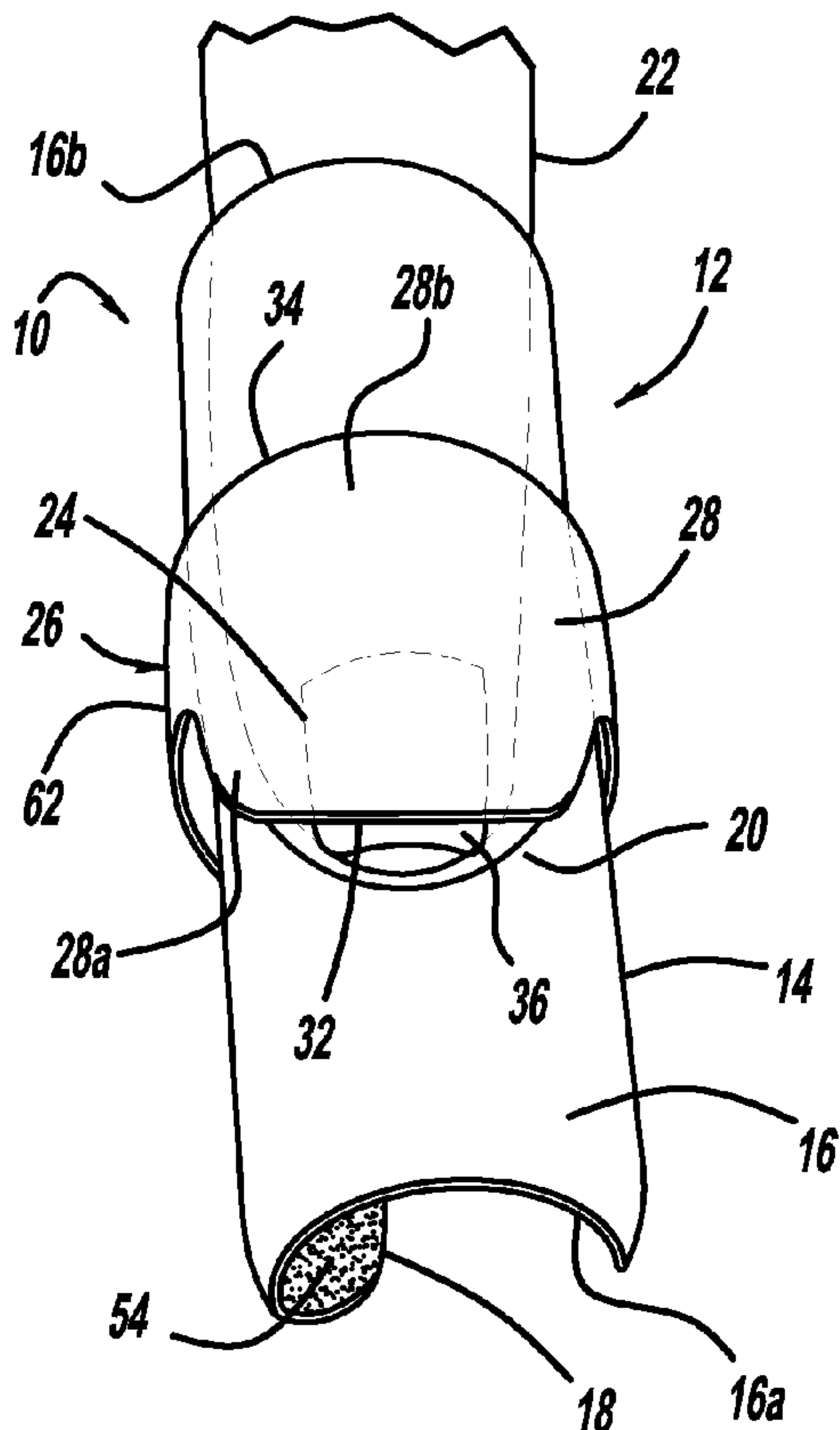
— of inventorship (Rule 4.17(iv))

Published:

— with international search report

[Continued on next page]

(54) Title: SYSTEM, METHOD AND APPARATUS FOR SELF-APPLYING A FRENCH MANICURE



(57) Abstract: A system and method for self-applying a French manicure using an adjustable form includes positioning a base member over a user's finger so that the nail is located within a nail receiving opening. An outer edge of a shield member wall is positioned at a position relative to the nail receiving opening to expose the tip of the nail. A first paint type is applied to the exposed nail tip using an applicator means. The first paint type is a water-based, non-toxic acrylic paint and the applicator means atomizes the paint to apply a plurality of droplets to the exposed nail. The shield member is repositioned relative to the nail receiving opening to expose the entire nail surface. A second enamel nail paint type is applied to the exposed nail surface to seal the first paint type.

WO 2008/048740 A3

WO 2008/048740 A3



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
2 October 2008

SYSTEM, METHOD AND APPARATUS FOR SELF-APPLYING A FRENCH MANICURE

RELATED APPLICATIONS

[0001] This application claims priority of U.S. Provisional Patent Application No. 60/852,229 filed October 17, 2006, which is incorporated herein by reference.

5 BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

[0002] The present invention relates generally to a French manicure and, more specifically, to a system, method and apparatus for self-application of a French manicure.

2. DESCRIPTION OF THE RELATED ART

10 **[0003]** The care and appearance of fingernails is important to an individual from both an aesthetic and a health perspective. A manicure is a process that involves the care and grooming of the hand and nail. This process may be performed by another person, such as a manicurist, or by one's self. A manicure generally includes the filing and shaping of the nails. It may also include the application of a nail polish to enhance the aesthetic appearance of the nail surface.

15 Various styles of manicures are available, such as a hot oil manicure involving the use of hot oil to clean the cuticles and soften the nail using oil. Another style of manicure is a French manicure, whereby the nail polish is applied in such a way that the nail retains its natural appearance, such as a whitish colored nail tip and a natural colored nail.

[0004] The application of a French style manicure is a difficult technique to perform by an individual, especially to one's self. The French manicure includes the application of a base coat, an application of polish, usually white, to represent the tip of the nail, and the application of a top coat to enhance the appearance of the rest of the nail. While the overall look of the nail appears to be simple and natural, this technique requires a great deal of skill to perform accurately, especially on one's own fingernails.

25 **[0005]** To assist an individual in obtaining the look and performance of a French manicure, various French manicure nail kits are available to assist an individual in applying a French manicure to their own nails. These kits typically include a form that is placed on the nail to provide a template for accurately applying the nail polish depicting the nail tip by the user. Various styles of templates are available, such as a masking tape that is applied to a line

30 representing the junction between the nail bed and the tip of the nail, leaving the outer tip of the nail exposed. The nail tip polish is applied to the exposed nail tip, and the tape is removed after

the polish dries. However, upon removal of the tape, some of the existing polish on the nail may also be removed, resulting in an uneven and unsightly appearance. Another style of template is a molded form that is placed over the nail, leaving only the nail exposed. However, some of the polish may seep under the mold, again resulting in an uneven and unsightly appearance. Another
5 problem with the use of forms or molds is that each nail on an individual's hand is unique in terms of size and shape. Plus the nail is a living organ that grows. Therefore, it is difficult to size the mold to an individual's finger tip.

[0006] Thus, there is a need in the art for a system, method and apparatus for self-applying a French manicure by an individual in a consistent and uniform manner.

10

SUMMARY OF THE INVENTION

[0007] Accordingly, the present invention is a system and method and apparatus for self-applying a French manicure to a user's own nails using an adjustable form. The system includes an adjustable form, a first paint type applied using a spray applicator and a second paint type. The method includes the steps of positioning a base member of the adjustable form over a finger
15 of the user, and the base member includes a wall having an upper end, a lower end, and a longitudinally extending channel located there between forming a central passageway for receiving the finger of the user. A nail portion of the user's finger is located within a nail receiving opening formed in a wall of the base member, and the nail receiving opening has a predetermined shape. A shield member is positioned relative to the nail receiving opening in the
20 base member, so that a predetermined length of the tip portion of the nail surface is exposed. The shield member includes a wall with an upper end, a lower end and a longitudinally extending channel located there between forming a central passageway. An outer edge of the wall has a predetermined shape and is positioned to define an exposed nail tip surface area. A first paint type is applied to the exposed nail tip surface using a spray paint applicator means. The first
25 paint type is a water-based, non-toxic acrylic paint and the spray paint applicator means atomizes the paint to apply a plurality of droplets to the exposed nail tip surface. The shield member is repositioned relative to the nail receiving opening in the base member, so that an entire surface of the nail is exposed. A second paint type is applied to the entire surface of the nail to seal the first paint type, and the second paint is enamel nail paint.

30 **[0008]** One advantage of the present invention is that a system, method and apparatus for applying a French manicure is provided that is easier to use by an individual and provides more consistent results. Another advantage of the present invention is that a system, method and

apparatus for self-applying a French manicure is provided that includes a variable fit mold for correctly sizing and applying polish to the tip of the nail. A further advantage of the present invention is that a system, method and apparatus for self-applying a French manicure includes aerosol paint for applying paint to the nail, and any overspray is easily removable. Still a further
5 advantage of the present invention is that the system, method and apparatus for self-applying a French manicure can be packaged in a kit. Yet a further advantage of the present invention is that the system, method and apparatus for applying a French manicure can be self-applied accurately and repeatedly.

[0009] Other features and advantages of the present invention will be readily appreciated, as
10 the same becomes better understood after reading the subsequent description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a perspective view of a system including an adjustable form for self-applying a French manicure, according to the present invention.

15 **[0011]** FIG. 2 is an exploded view of the adjustable form of FIG. 1, according to the present invention.

[0012] FIG. 3 is a side view of the base member of FIG. 1, according to the present invention.

[0013] FIG. 4 is a side view of the system for self-applying a French manicure of FIG. 1,
20 according to the present invention.

[0014] FIG. 5 is a flowchart of a method of self-applying a French manicure using the system of FIG. 1, according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

[0015] Referring to FIGS. 1-4, a system and apparatus for self-applying a French manicure
25 is provided. It should be appreciated that the components of the system may be packaged together in a kit for the convenience of a user.

[0016] The system 10 includes an adjustable form 12 that can be disposed over a user's
finger 22. The adjustable form 12 includes a base member 14 that is cylindrical in shape. The base member 14 includes a wall 16 having an upper end 16a and a lower end 16b and a
30 longitudinally extending passageway 16c extending there between. A rear wall portion of the base member 14 includes a longitudinally extending slit 18 for receiving the finger and nail to be

polished. In this example, the slit 18 extends the length of the wall portion 16, from lower end 16b to upper end 16a. A front portion of the wall 16 includes a window defining a nail receiving opening 20. The nail receiving opening 20 has a predetermined shape. In this example, the predetermined shape of the nail receiving opening 20 is generally oval. It should be appreciated that the width, length and shape of the nail receiving opening 20 generally corresponds to a size and shape of a nail. Further, a radius of curvature of an upper edge of the nail receiving opening may be different than a radius of curvature of a lower edge of the nail receiving opening, for sizing purposes. It should be appreciated that the orientation of the base member on the finger may be selected to fit the nail of the user. Similarly, a length, and diameter of the base member 14 is selected so that it can be placed over each of the user's fingers, and held firmly in place on each finger. The user's finger 22 is disposed within the central passageway 16c formed in the base member 14, such that the user's nail 24 is positioned within the nail receiving opening 20 in the front wall. An example of a base member height is about 2 to 3 inches, and a diameter of about 2.5 – 3.5 inches. An example of a nail receiving opening height is about .75 to 1.25 inches, with a width of about .25 to .75 inches.

[0017] It should be appreciated that an inner surface of the base member wall 16 may include a retention means, such as an adhesive or the like, for positioning and retaining the base member 14 on the finger 22.

[0018] The adjustable form 12 also includes a shield member 26. The shield member 26 is cylindrical in shape. The shield member 26 includes a wall 28 having an upper end 28a, a lower end 28b, and a longitudinally extending passageway 28c extending therebetween the upper end 28a and lower end 28b. A rear of the wall portion of the shield member includes a longitudinally extending slit 30, so that the shield member 26 is slidingly disposed over the base member 14. In this example, the slit 30 extends the length of the shield member rear wall portion. The wall 28 includes an upper edge 32 and a lower edge 34. The upper edge 32 or the lower edge 34 or both the upper edge and lower edge of the shield member wall 28 has a predetermined shape. The shape may be curvilinear, or linear or the like. The radius of curvature is selectively determined. In an example, the uppermost edge is slightly flattened to provide a straight line and accommodate different nail sizes. For example, various sizes of fingers and nails may be accommodated, or for a desired nail tip shape. The height of the shield member wall is less than the corresponding base member wall height. In an example, the shield member wall height is less than one half the base member wall height.

[0019] The shield member 26 is slidably positioned on the base member 14, so that the upper edge 32 of the shield member is selectively positioned relative to the nail receiving opening 20 in the base member 14 to create a window. It should be appreciated that the nail is selectively exposed within the window by the positioning of the shield member 26 with respect to the base member 14. Further, the slit 30 in the rear wall of the shield member 26 is positioned to correspond with the slit 18 in the rear wall of the base member 14. By slidably adjusting the relative height of the window opening, a height of the user's nail tip paint receiving surface 36 is selectively adjusted.

[0020] The adjustable form 12 may be fabricated from a variety of suitable materials. For example, a plastic material may be utilized. Other materials are also contemplated. One feature of the selected material is that it provides for flexibility of the base member wall and shield member wall to accommodate various sized fingers, and for adjusting the shield member 26 with respect to the base member 14. Another feature of the selected material is that it is easily cleanable, to remove any stray paint.

[0021] The system 10 also includes an applicator means 38 for applying a paint means to the nail. In this example, a first type of paint 40 is applied to the nail tip paint receiving surface 36 of a user's nail 24, and a second type of paint 44 is applied over the entire nail surface 42 to achieve a natural looking nail referred to in the art as a French nail.

[0022] Various examples of paints are contemplated for use on a nail. For example, the second paint type 44 may be an enamel nail paint typically used on nails, and referred to in the art as nail polish. The first paint type 40 may be an acrylic paint, such as that used in the application of nail art. The second paint type 44 may be a basecoat, or primer, or top coat or the like. Also, either the first paint type or the second paint type may have a predetermined colorant added.

[0023] Various types of paint applicator means 38 are contemplated. For example, the paint applicator means 38 may be a brush 46, such as the brush usually available with a bottle of nail polish. Another example of a paint applicator means 46 is a spray applicator 48 that includes a container 50 and a spray nozzle 52. In this example, the first paint type 40 is stored in a sealed container 50, and is ejected through the spray nozzle as a spray of droplets. The spray applicator 48 atomizes the liquid paint into droplets, and the droplets are then deposited on the nail surface. An example of a propellant for the spray applicator 48 is an aerosol, such as that formed using Dimethyl Ether, or the like. Another example of a propellant is a pressurized gas such as that used with a pump spray nozzle. In another example, the paint spray applicator 48 is an air brush and a compressor. Another example of a paint applicator is a paint pen or a paint marker, similar

to an ink pen or ink marker. An advantage of an acrylic type of paint is that any overspray can be washed away from the skin. It should be appreciated that air brush paint may be a non-toxic, water-based, permanent acrylic paint. The viscosity of the paint is selectively determined to provide for suitable flow and distribution to the nail surface for the corresponding paint applicator means 38.

5 [0024] Referring to FIG. 5, a method of applying a French manicure to the nails of a user is provided. It should be appreciated that the method may be self applied, or applied by another, within the spirit of the invention.

10 [0025] The method begins in block 100 with the step of positioning the base member 14 of the adjustable form 12 on the user's finger 22 by inserting the finger 22 through the central passageway 16c formed in the base member 14. The slit 18 in the base member rear wall assists in the positioning of the base member on the finger 22, and accommodating various finger sizes. The base member 14 is positioned on the finger 22 such that the user's nail 24 is visible in the window formed by the nail receiving opening 20 in the wall 16 of the base member 14. The shield member 26 may be positioned on the base member 14 at this time, so that the nail receiving opening 20 in the base member wall 16 is not obstructed.

15 [0026] The methodology advances to block 105 and an initial coat of the paint means is applied to the entire nail surface 42. In this example, the initial coat of paint means is a second paint type, such as a base nail polish, or clear base nail enamel or the like. The initial paint means may be applied over the entire nail surface 42 using a brush applicator 46, as is known in the art. The shield 26 is in a first position with respect to the base member 14, as shown at 60. In the first position 60, the entire nail 24 is exposed.

20 [0027] The methodology advances to block 110 and after the initial coat of the paint means is dry, the outer edge shield member 26 is adjustably positioned with respect to the base member 14 in a second position as shown at 62, so that a predetermined nail tip paint receiving surface 36 area is exposed. An example of the shield position is the line separating the nail bed from the free end of the nail tip. The remaining portion of the user's nail is covered by the shield. It should be appreciated that the free edge of the user's nail 24 may overlap an inner edge of the nail receiving opening in the base member, as shown at 64.

25 [0028] The methodology advances to block 115 and a coat of the first paint type 40, such as an acrylic paint, is applied to the exposed nail tip receiving surface 36. In this example, the first paint type 40 is applied using the previously described paint applicator means 38. For example, the first paint type 40 is applied to the exposed nail tip receiving surface 36 using the spray

applicator 48, as previously described. The first paint type 40 is allowed to dry. It should be appreciated that a thin coat of the first paint type is applied to obtain a more natural appearance.

5 [0029] The methodology advances to block 120 and the shield member 26 is adjustably repositioned with respect to the base member 14, so that the user's entire nail surface 42 is exposed, as shown at 62. For example, the shield member 26 may return to a previous position with respect to the base member 14 so that the entire nail is exposed. It should be appreciated that the first paint type should be allowed to dry before repositioning the shield member 26.

10 [0030] The methodology advances to block 125 and a second paint type 44, such as a nail enamel, is applied to the nail 24. In this example, the second paint type is applied over the entire nail surface 42. The second paint type may contain a colorant, such as pink. Another layer of second paint type, such as a top coat, may be applied over the previous layer. An example of a top coat is a clear enamel top coat, as is known in the art. The top coat seals the previous layer. It may also extend the longevity of the French manicure.

15 [0031] The methodology advances to block 130 and the adjustable form 12 is removed from the finger 22 and any overspray from the first paint type 40 is removed from the finger 22. Advantageously, the overspray can be removed using water.

[0032] The paint spray applicator 48 containing the first paint 40, adjustable nail form 12 and second paint 44, such as base coat nail enamel and top coat nail enamel, may be supplied together in a kit.

20 [0033] The present invention has been described in an illustrative manner. It is to be understood that the terminology which has been used is intended to be in the nature of words of description rather than of limitation.

25 [0034] Many modifications and variations of the present invention are possible in light of the above teachings. Therefore, within the scope of the appended claims, the present invention may be practiced other than as specifically described.

CLAIMS

1. A system for a user self-applying a French manicure using an adjustable form comprising:

5 a base member of the adjustable form that is disposed over a finger of the user, wherein the base member includes a wall having an upper end, a lower end, and a longitudinally extending channel located there between forming a central passageway;

a nail receiving opening formed in a wall of the base member for receiving a nail portion of a user's finger, wherein the nail receiving opening has a predetermined shape;

10 a shield member of the adjustable form having a wall with an upper end, a lower end and a longitudinally extending channel located there between forming a central passageway, and an outer edge of the wall has a predetermined shape, wherein the outer edge of the shield member is slidingly positioned on the base member relative to the base member nail receiving opening, so that a predetermined area of a nail tip paint receiving surface of the user's nail is exposed;

15 a spray applicator means for applying a first paint type to the exposed nail tip paint receiving surface of the user's nail, wherein the first paint type is a water-based, non-toxic acrylic paint and the spray applicator means atomizes the first paint type to apply a plurality of droplets of the first paint type to the exposed nail tip paint receiving surface of the user's nail; and

a second paint type that is applied to an entire nail surface of the user's nail to seal the first paint type, wherein the second paint type is an enamel nail paint.

20

2. The system of claim 1 wherein the nail receiving opening in the base member is oval in shape.

25 3. The system of claim 1 wherein the spray applicator means is a container having a spray nozzle.

4. The system of claim 1 wherein the upper edge of the shield member and the lower edge of the shield member are curvilinear, and a radius of the upper edge is different than a radius of the lower edge to accommodate a plurality of user nail sizes.

30

5. A method for a user self-applying a French manicure to one's own nails using an adjustable form, said method comprising the steps of:

positioning a base member of the adjustable form over a finger of the user, wherein the base member includes a wall having an upper end, a lower end, and a longitudinally extending channel located there between forming a central passageway for receiving the finger of the user;

5 locating a nail portion of a user's finger within a nail receiving opening formed in a wall of the base member, wherein the nail receiving opening has a predetermined shape;

10 positioning a shield member of the adjustable form relative to the nail receiving opening in the base member, so that a predetermined area of a nail tip paint receiving surface of the user's nail is exposed, wherein the shield member includes a wall with an upper end, a lower end and a longitudinally extending channel located there between forming a central passageway, and an outer edge of the wall has a predetermined shape and is slidingly positioned to define the exposed nail tip paint receiving surface of the user's nail;

15 applying a first paint type to the exposed nail tip paint receiving surface using a spray applicator means, wherein the first paint type is a water-based, non-toxic acrylic paint and the spray applicator means atomizes the first paint type to apply a plurality of droplets to the exposed nail tip paint receiving surface of the user's nail;

repositioning the curvilinear outer edge of the shield member relative to the base member nail receiving opening, so that an entire surface of the nail is exposed; and

20 applying a second paint type to the exposed nail surface to seal the first paint type, wherein the second paint type is an enamel nail paint.

6. The method of claim 5 wherein the nail receiving opening in the base member is oval in shape.

25 7. The method of claim 5 wherein the spray applicator means is a container having a spray nozzle.

30 8. The method of claim 5 wherein the upper edge of the shield member and the lower edge of the shield member are curvilinear, and a radius of the upper edge is different than a radius of the lower edge to accommodate a plurality of user nail sizes.

9. The method of claim 5 further including the step of applying an initial layer of a base paint type to the entire nail surface prior to applying the first paint type.

10. The method of claim 6 further including the step of removing overspray of the first paint type from the finger using water.

11. A method for a user self-applying a French manicure to one's own nails using an adjustable form, said method comprising the steps of:

applying an initial layer of a base paint type to an entire nail surface;

positioning a base member of the adjustable form over a finger of the user, wherein the base member includes a wall having an upper end, a lower end, and a longitudinally extending channel located there between forming a central passageway for receiving the finger of the user;

10 locating a nail portion of the user's finger within a nail receiving opening formed in a wall of the base member, wherein the nail receiving opening has a predetermined shape;

positioning a shield member of the adjustable form relative to the nail receiving opening in the base member, so that a predetermined area of a nail tip paint receiving surface of the user's nail is exposed, wherein the shield member includes a wall with an upper end, a lower end and a
15 longitudinally extending channel located there between forming a central passageway, and an outer edge of the wall is curvilinear and is slidingly positioned to define the exposed nail tip paint receiving surface of the user's nail;

applying a first paint type to the exposed nail tip paint receiving surface using a spray applicator means, wherein the first paint type is a water-based, non-toxic acrylic paint and the
20 spray applicator means is a container having a spray nozzle that atomizes the first paint type to apply a plurality of droplets to the exposed nail tip paint receiving surface of the user's nail;

repositioning the curvilinear outer edge of the shield member relative to the base member nail receiving opening so that an entire surface of the nail is exposed;

25 applying a second paint type to the exposed nail surface to seal the first paint type, wherein the second paint is an enamel nail paint; and

removing overspray of the first paint type from the finger using water.

12. The method of claim 11 wherein the nail receiving opening in the base member is oval in shape.

30 13. The method of claim 11 wherein the upper edge of the shield member and the lower edge of the shield member are curvilinear, and a radius of the upper edge is different than a radius of the lower edge to accommodate a plurality of user nail sizes.

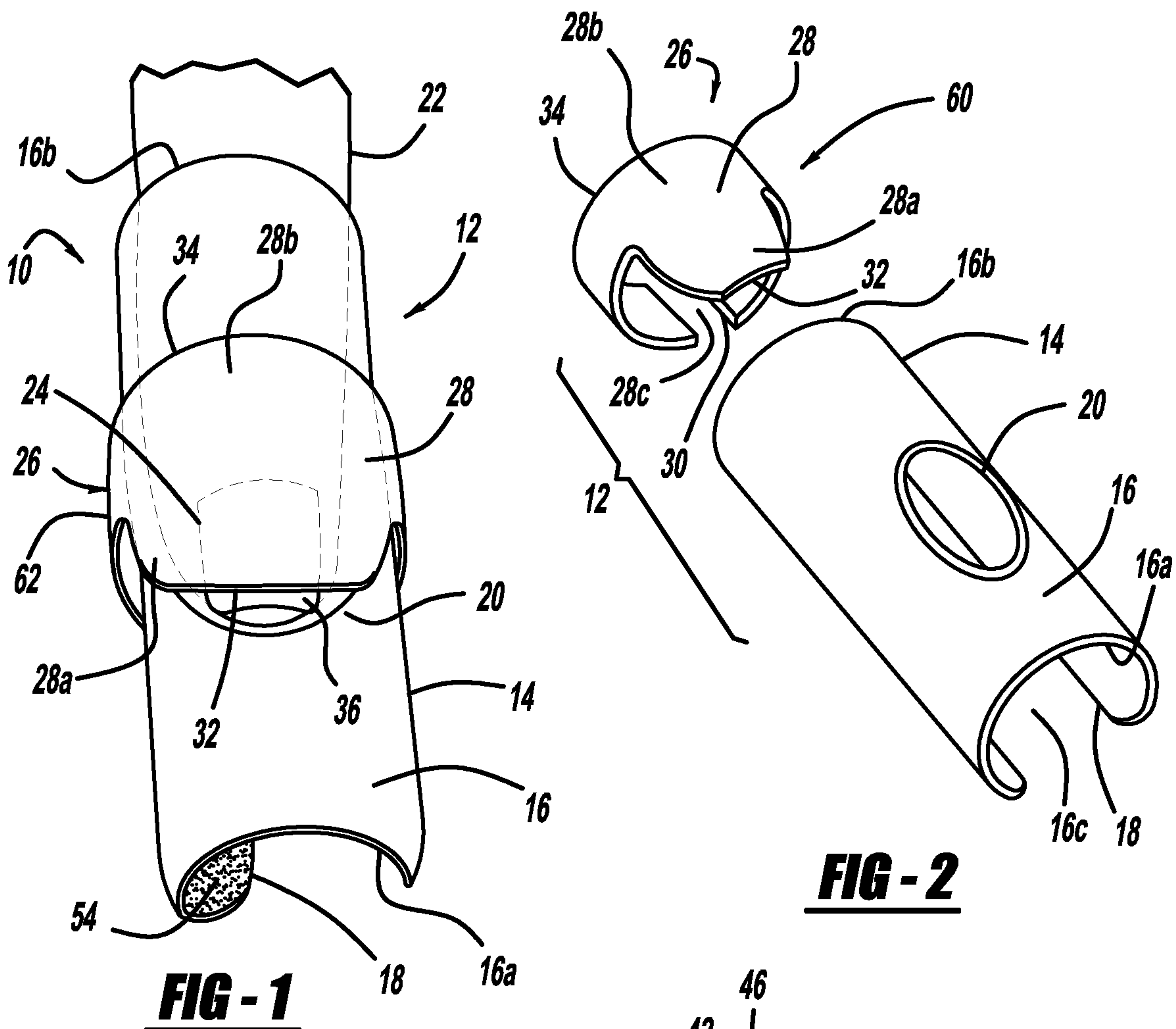


FIG - 1

FIG - 2

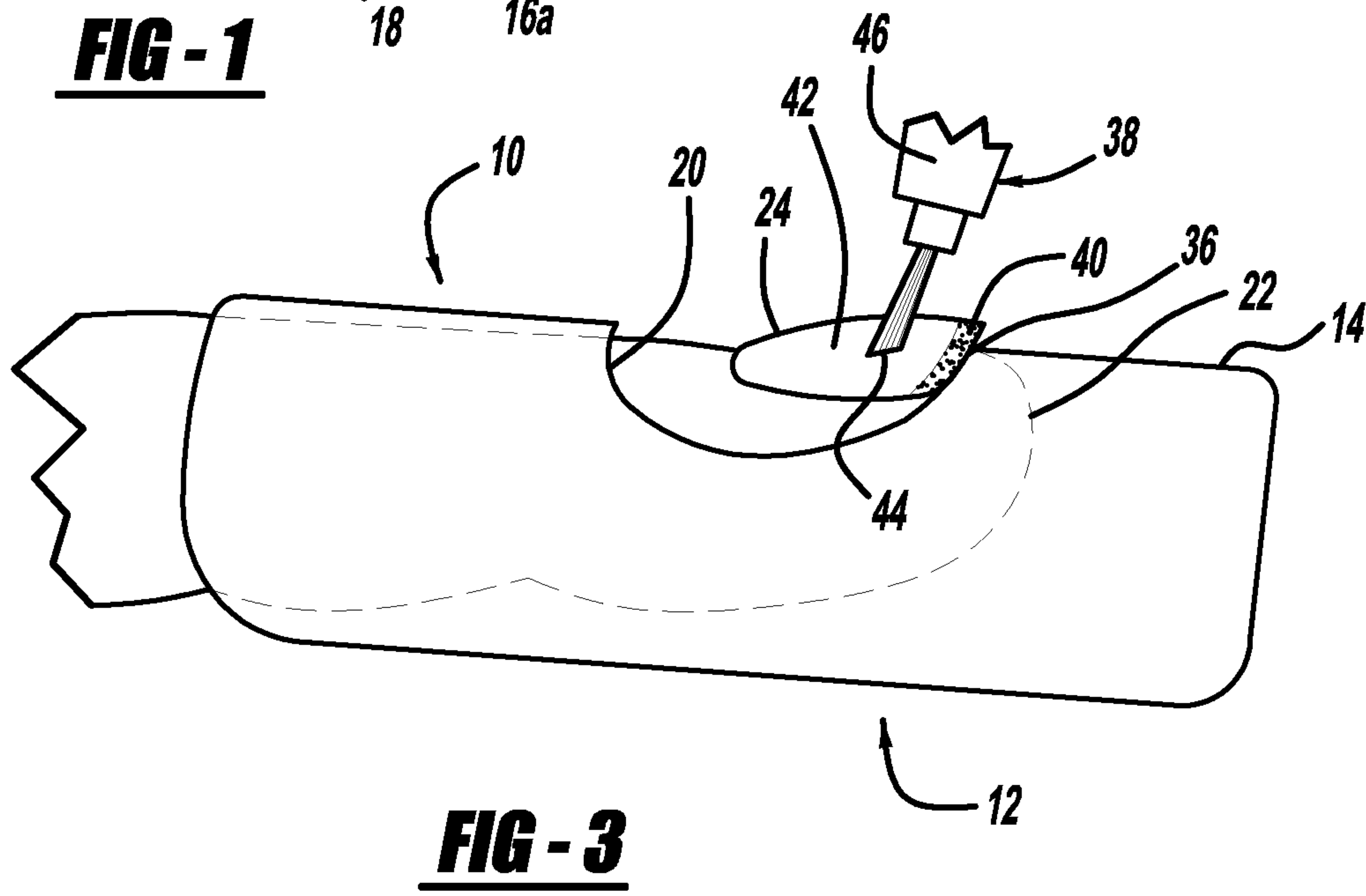


FIG - 3

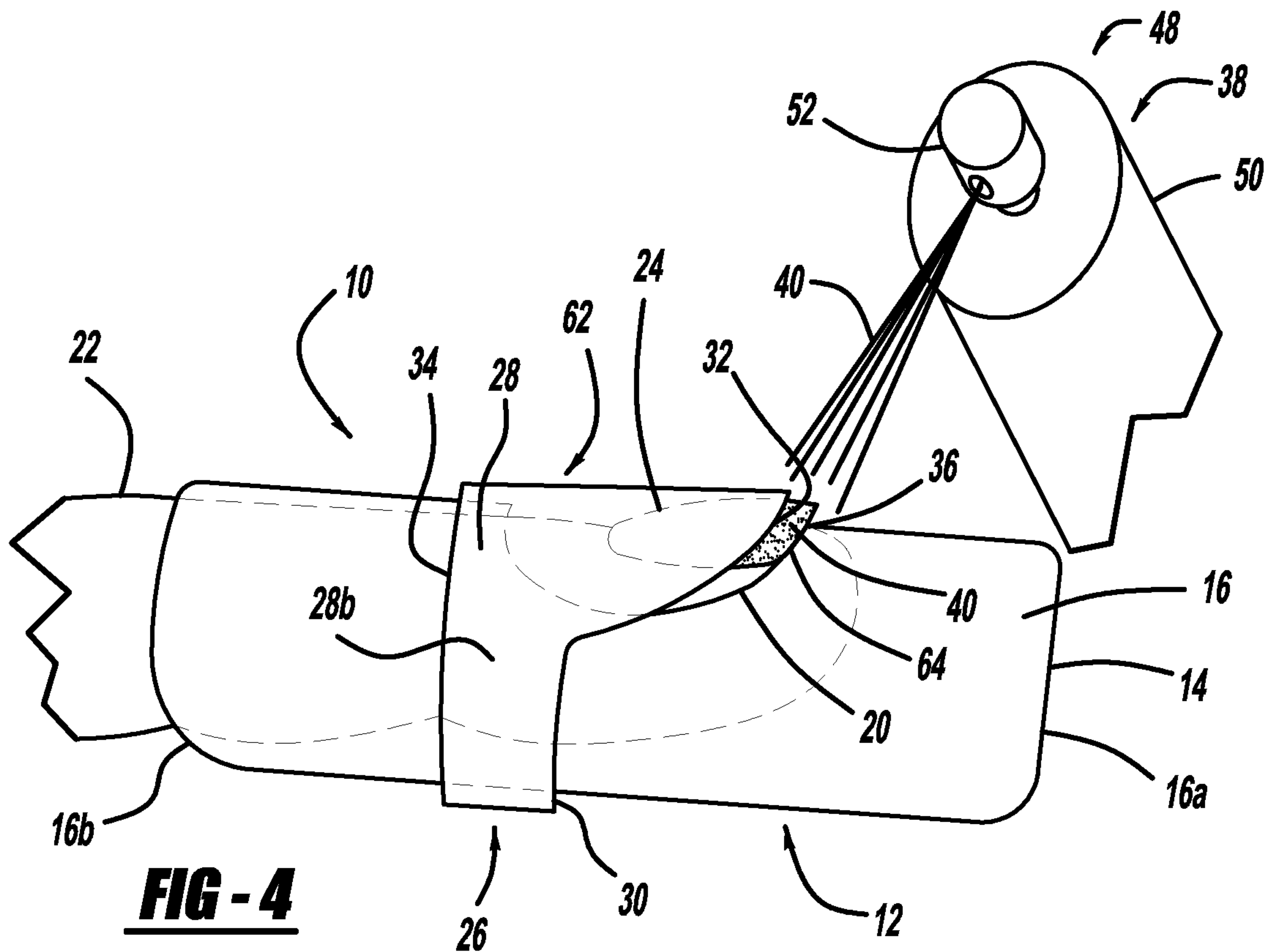


FIG - 5

