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W. E. THACKER ET AL
 RANGE DISPENSER AND APPLICATOR WITH RATCHET
 OPERATED FORCE FEED MECHANISM
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2,541,949

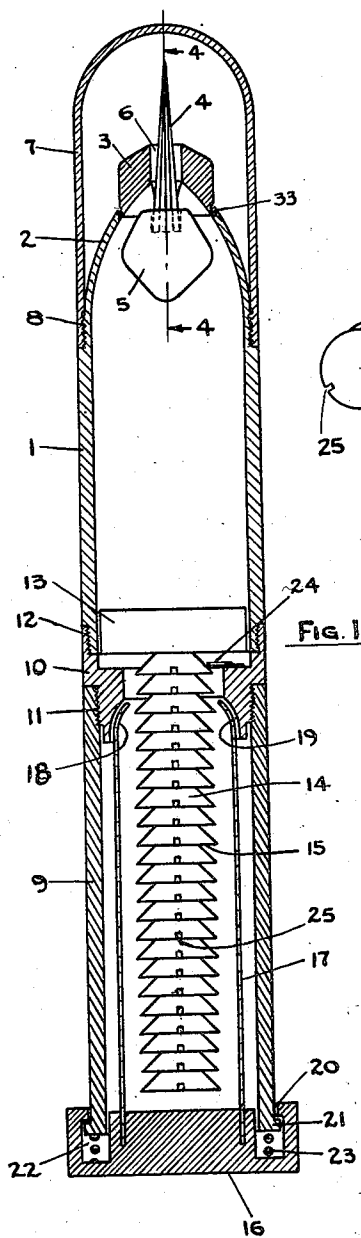


FIG. 1

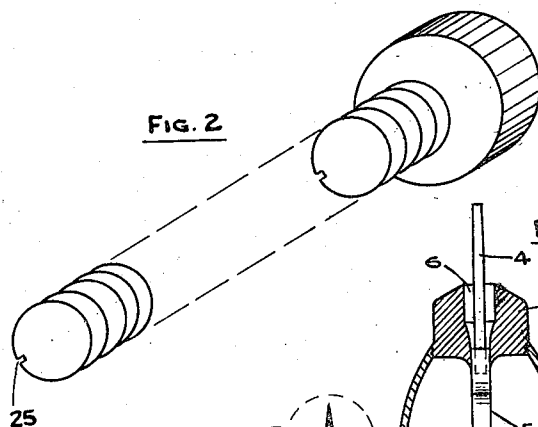


FIG. 2

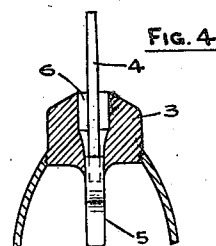


FIG. 4

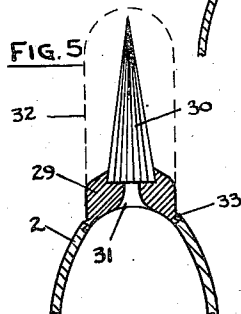


FIG. 5

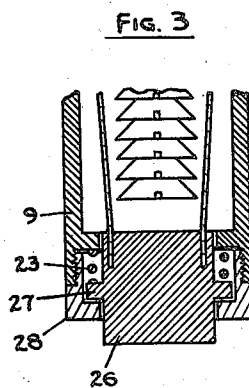


FIG. 3

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ROUGE DISPENSER AND APPLICATOR WITH
RATCHET OPERATED FORCE FEED MECHANISMWarren E. Thacker, Newark, N. J., and
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8 Claims. (Cl. 15—137)

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This invention relates to an applicator unit for applying to any desired surface a suitable type of viscous or semiviscous material which is especially adapted for use in applying material to a person's lips.

One of the objects of our invention is to provide an applicator unit which is readily separable so that different types of materials can be utilized, preferably by an interchange of that part of the unit carrying the desired material whereby various fields of usefulness will be served.

Another object of our invention is to provide an applicator unit in which the material can be extruded in definite or pre-determined quantities.

Another object of our invention is to provide an applicator unit in which the extrusion of the material can be accomplished in a very easy and positive manner.

A further object of our invention is to provide an applicator in which the material can be disbursed in an easy and uniform manner over the surface to be covered.

These and other objects will be apparent from a reading of the following specification taken in connection with the annexed drawing wherein:

Figure 1 is a part sectional and part elevational view on an enlarged scale of our improved applicator unit.

Figure 2 is a perspective view of the ratchet and operating member shown in Figure 1.

Figure 3 is a part elevational and part sectional view of the lower portion of a modified form of construction.

Figure 4 is a view on the line 4—4 of Figure 1.

Figure 5 is a sectional view of a modified form of a brush arrangement.

In the various views herein, like numbers refer to corresponding parts. 1 is a supply chamber having a conically shaped end 2 which carries a member 3 fastened thereto as by screw threads 33 for supporting a brush 4 made up of a plurality of brush elements seated in the base portion 5 of the member 3. The member 3 has an opening 6 around the brush 4 to allow the material to be extruded from the chamber 1. The brush 4 when not in use has a cap 7 for protecting it. As shown, the cap 7 is fastened to the supply chamber 1 in any satisfactory manner as by screw threads 8, but it may be held in place by a push fit.

The supply chamber 1 is carried by a support chamber 9, the union between the two being such that the chamber 1 may be readily removed from the chamber 9. As illustrated in the drawing,

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a collar 10 is utilized for this purpose and is attached to the chamber 9 in a satisfactory manner as by fine pitched screw threads 11. The supply chamber 1 may be attached to the collar 10 by relatively coarse screw threads 12 so that the chamber 1 may be easily removed from the collar 10 without disturbing its position on the chamber 9. This arrangement is such that a piston 13 normally positioned at the lower end of the supply chamber 1 may be assembled therein. Extending downwardly from the piston 13 is an elongated ratchet member 14 having a plurality of pawl engaging surfaces 15 which are preferably circular and equally spaced one from the other for a purpose which will be later pointed out. Located at the extremity of the support chamber 9, opposite the collar 10, is an operating member 16 which carries a plurality of pawl arms 17, the free ends 18 of which are curved inwardly toward the ratchet member 14 and in cooperative relationship with a curved surface 19 on the collar 10, whereby when the operating member 16 is pushed inwardly, the ends 18 of the pawl arms 17 will be forced inwardly into engagement with one of the ratchet surfaces 15, thereby pushing the ratchet member and piston member 13 upwardly to extrude a definite amount of material through the opening 6 onto the brush 4 for application to any desired surface. The member 16 has an inwardly extending flange 20 to engage an outwardly extending flange 21 on the supporting member 9. These flanges 20 and 21 are relatively short so that the member 16 can be easily assembled into position. The member 16 has a recess 22 therein within which is located a spring 23 for returning the operating member 16 to normal position after it has been pushed upwardly for the extrusion of the material as previously described. The collar 10 carries a resilient clip 24 which will snap under an engaging surface 15 as the ratchet 14 is pushed upwardly by the pawl arms 17 and will thereby hold the piston 13 in its operative position. Each ratchet surface 14 is provided with a notch 25 so that by turning the elongated ratchet member 14 through an angle at 90 degrees, the ratchet member 14 may be moved back to normal position as shown in Figure 1 at the time of reloading the supply chamber 1.

If desired the user may have a plurality of supply chambers 1 filled with different materials or different colored materials, caps not shown, being utilized to close the threaded end of the extra supply chambers 1.

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In Figure 3 the operating member 26 has an annular flange 27 that is engaged by the flange cup-shaped member 28 for holding it in position on the support member 9. The same type spring 23 being used as in Figure 1, for returning the member 26 to normal position.

In Figure 5, a different type holder 29 is utilized for holding a modified form of brush 30. In this form of construction a hole 31 is positioned so that the material is extruded outwardly on the axial center of the unit through the center of the brush 30, and directly to the point of the brush. For certain classes of work this type of brush arrangement is advantageous.

While we have shown the major parts of the applicator as being made out of a suitable metal, such as aluminum or an alloy thereof, these parts may be made of a suitable plastic material and other details may be varied. For example, the connection between the collar 10 and the chamber 9 may be by a coarse pitched screw thread and the supply chamber 1 may be attached to the collar 10 by a fine pitched screw thread whereby the chamber 1 and the collar along with piston 13 and attached member 14 may be removed as a single unit from the chamber 9, permitting easy and rapid interchange of different types of materials.

By changing the ratchet member 14 along with the supply chamber 1, as above described, this saves the cleaning-up operation on the ratchet member if the same type or color of material is to be utilized, it being understood that if any of the material of one color gets past the piston 13 onto the ratchet member 14 the same should be cleaned if a different color of material is to be put into the chamber 1. With this arrangement, the cap 7 may be made of sufficient length so that it may be screwed onto the threads 11 of the collar 10 when it is removed from the chamber 9 so as to enclose and protect the ratchet member 14 which is withdrawn as just described with the collar 10. When the cap 7 is utilized as just described, then a small cover 32 is used to protect the brush 30 as illustrated in the dotted lines in Figure. 5.

Having thus described our invention, what we claim is:

1. A rouge dispenser and applicator unit including a supply chamber for carrying the material to be applied therefrom, a brush mounting located at one end of the chamber in axial alignment therewith and protruding therefrom at one end with a removable cap therefor, a feed controlling collar carried at the other end of the chamber, a support chamber to receive and carry said collar and supply chamber, a piston located in the supply chamber adjacent said collar, an elongated member having a plurality of ratchet surfaces disposed along its length and extending from the piston into the support chamber, an operating member longitudinally movably and resiliently carried on the outer end of the support chamber, pawl arms carried by said operating member and extending into operative position with respect to said collar whereby when the operating member is moved toward said elongated member having the ratchet surfaces, said arms are forced by said collar into engagement with one of said ratchet surfaces to force said piston toward the brush and thereby force the material in the supply chamber out into contact with the brush.

2. A rouge dispenser and applicator unit as set forth in claim 1 further characterized in that

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said arms have inwardly curved ends while the collar has a curved inner surface such that when the arms are moved toward the collar its curved surface moves the arm ends into engagement with one of said ratchet surfaces and spring means for returning said operating member and arms to normal position after being released.

3. A rouge dispenser and applicator unit as set forth in claim 1 further characterized in that said arms have inwardly curved ends while the collar has a curved inner surface such that when the arms are moved toward the collar its curved surface moves the arm ends into engagement with one of said ratchet surfaces and a spring surrounding a part of said operating member and engaging a bottom portion of the support chamber for returning said operating member and arms carried thereby to normal position.

4. A rouge dispenser and applicator device comprising two cylindrically shaped members with means for detachably holding them in axial alignment, one member serving as a supply chamber having a dispensing brush at one end in axial alignment with said chamber with a removable cap for normally covering the brush, a piston normally located in the chamber at the end opposite the brush, an elongated ratchet member having a plurality of ratchet formations spaced along its length and located within the other of said two members, this other member acting as a support for the member having the supply chamber an operating member positioned at the free end of the member normally housing the ratchet member, pawl arms carried by said operating member and extending alongside the length of said ratchet member on opposite sides thereof, for forcing said arm ends into engagement with one of said ratchet formation when the operating member is moved toward the ratchet member and resilient means for returning said operating member to starting position after each operation.

5. A rouge dispenser and applicator device as set forth in claim 4 further characterized in that said means, at the junction of said two members, comprises a collar having a concave surface for engaging inwardly curved ends of said arms and further characterized in that the collar carries a resilient finger for engaging each ratchet formation, as the entire ratchet is lifted by said operating member, to hold the ratchet member in operated position and means on the ratchet formations for permitting these formations to pass by said resilient finger to permit return of the ratchet member to reloading position.

6. A rouge dispenser and applicator device as set forth in claim 4 further characterized in that said support member and the operating member are so constructed and united that the operating member can move the ratchet member only one ratchet step at a time and thereby extrude only a definite quantity of material at one operation from the supply chamber.

7. A rouge dispenser and applicator unit as set forth in claim 1 further characterized in that the piston in the supply chamber acts on the material in the supply chamber to force it out of the chamber along the axial center of the brush to a single defined edge within the confines of the members of the brush.

8. A lip rouge dispenser and applicator unit including a supply chamber for carrying the material to be applied therefrom, a brush mounted at one end of the chamber in axial alignment therewith and protruding therefrom

at one end with a removable cap therefor, a collar carried at the other end of the chamber, a support chamber to receive and carry said collar and supply chamber, a piston located in the supply chamber adjacent said collar, an elongated member having a plurality of ratchet surfaces disposed along its length and extending from the piston into the support chamber, an operating member longitudinally movably and resiliently carried on the outer end of the support chamber, pawl arms carried by said operating member and extending toward said supply chamber, means for controlling the direction of the inward movement of said pawl arms whereby when the operating member is moved toward the ratchet surfaces, said arms are forced by said means into engagement with one of said ratchet surfaces to force said piston toward the brush and thereby force the material in the supply chamber out into contact with the brush.

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