Aug. 8, 1961 D. C. WRIGHT 2,995,083

FOUNTAIN STENCIL ROLLER

Filed July 14, 1960

Fig. 1.

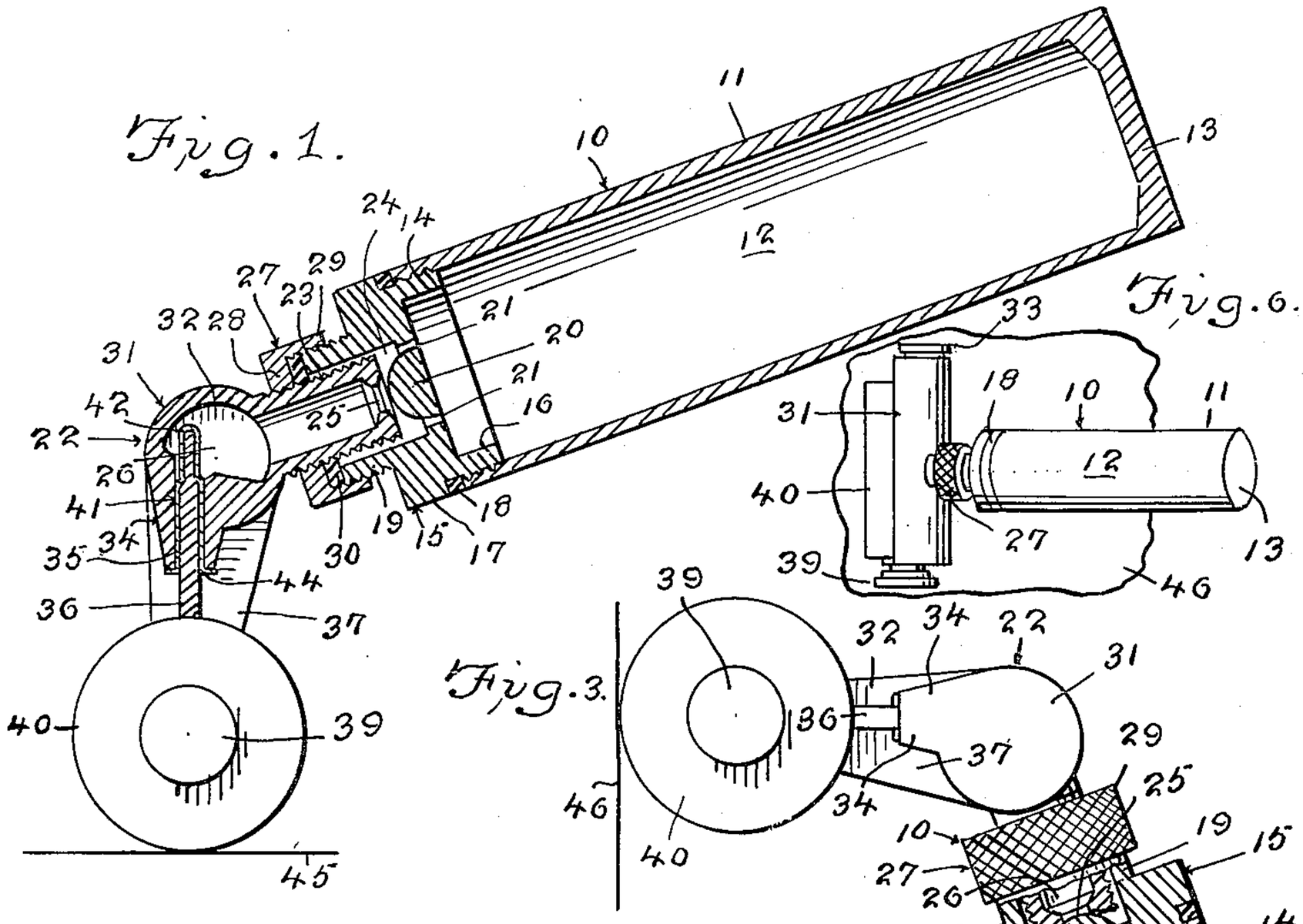

Fig. 6.

Fig. 3.

Fig. 2.

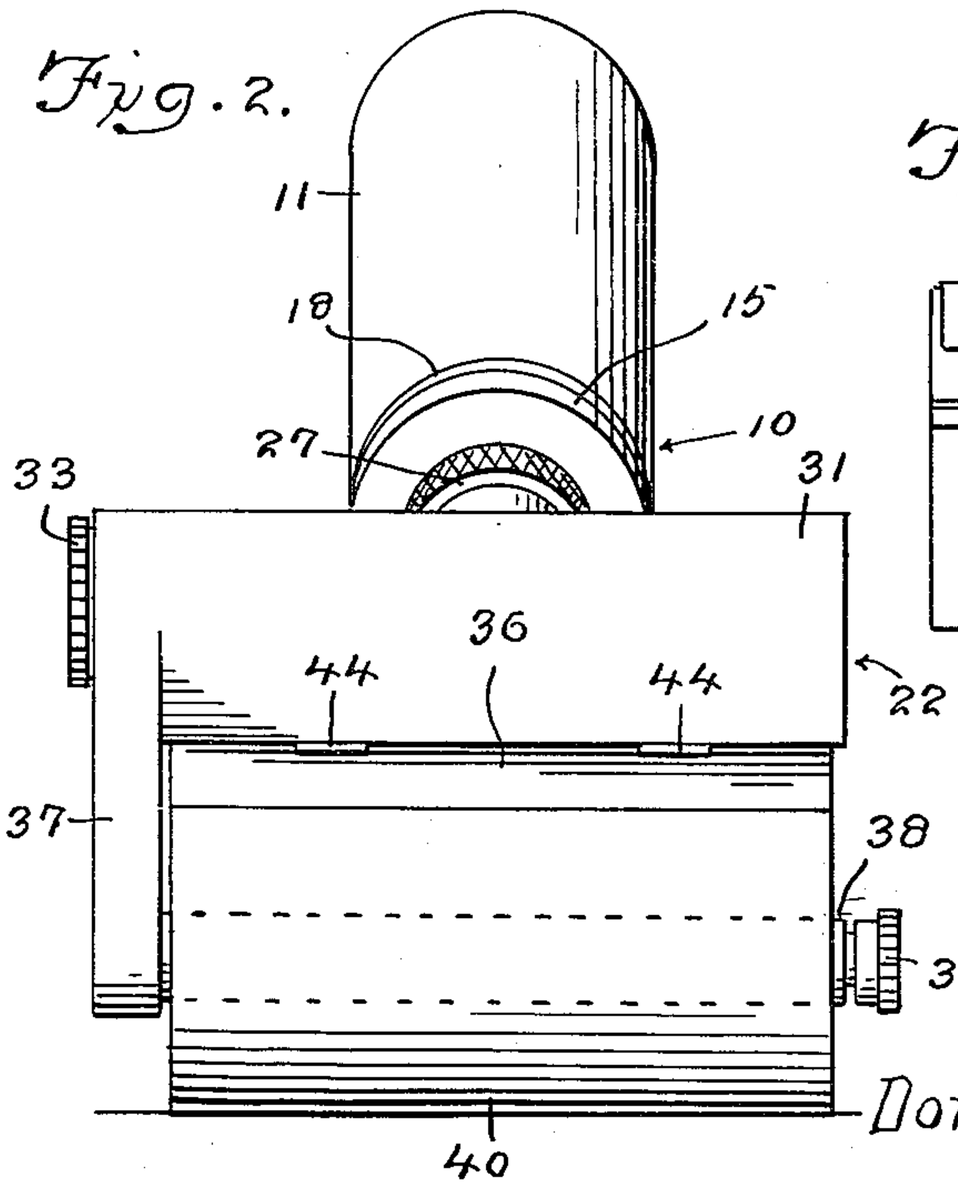

Fig. 4.

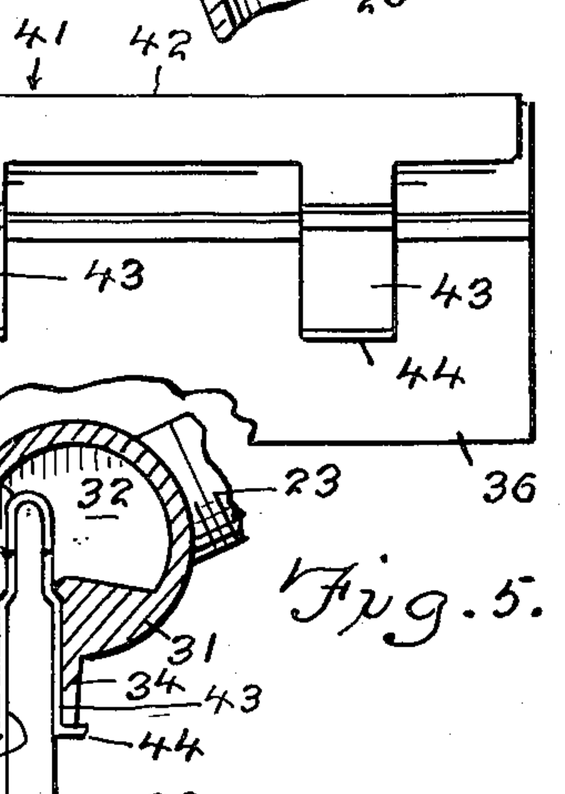

Fig. 5.

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FOUNTAIN STENCIL ROLLER

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This invention relates to an applicator, and more particularly to a fluid applicator or fountain stencil roller.

The object of the invention is to provide a fountain stencil roller which is adapted to be rolled over various surfaces so that stencil ink can be conveniently applied through openings in the stencil to a desired surface such as a shipping container or the like.

Another object of the invention is to provide a fountain stencil roller wherein there is provided an ink reservoir in the handle, and wherein there is also provided an adjustable control valve for controlling the amount of ink feed, and there is also provided a distributor or fountain head which serves to insure that the ink is distributed evenly on the stenciling roller.

Another object is to provide a fountain stencil roller for accomplishing the above which is simple in construction, and inexpensive to manufacture and use.

Other and subordinant objects, within the purview of my invention, together with the precise nature of my improvements, will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming a part of the specification.

In said drawings:

FIGURE 1 is a longitudinal sectional view taken through the fountain stencil roller of the present invention, and showing the position of the device as for example when a horizontal surface is being worked on.

FIGURE 2 is an end elevational view of the fountain steincil roller of the present invention.

FIGURE 3 is a fragmentary sectional view (looking down from the top) illustrating the position of the parts when a vertical surface is being worked on.

FIGURE 4 is an elevational view, with parts broken away, showing the strip of felt and the holder or clip thereon.

FIGURE 5 is a fragmentary sectional view illustrating certain constructional details of the present invention.

FIGURE 6 is a view similar to FIGURE 3, and showing the present invention in use on a horizontal surface.

Referring in detail to the drawings, the numeral **10** indicates the fountain stencil roller of the present invention which comprises a handle **11** that has a hollow interior as indicated by the numberal **12**, and one end of the handle **11** is closed as indicated by the numeral **13**. The other end of the handle **11** is threaded internally as indicated by the numeral **14**, FIGURE 1.

The numeral **15** indicates a body member which has a reduced diameter portion **16** that threadedly engages the threaded portion **14** of the handle **11**. The body member **15** also includes an annular shoulder **17**, and a washer or sealing member **18** is interposed between the shoulder **17** and the adjacent end of the handle **11**.

As shown in the drawings, the body member **15** is provided with an externally threaded neck **19** of reduced size. The numeral **20** indicates a boss or valve member which is secured to or formed integral with the body member **15**, and the boss **20** has a rounded or convex shape, and a plurality of apertures or openings **21** are arranged adjacent the outer portion of the boss **20** for a purpose to be later described.

The numeral **22** indicates the fountain head which includes an externally threaded stem **23** that projects into the hollow interior **24** of the body member **15**. The end of the stem **23** is provided with an opening **25** which defines a valve seat for coaction with the boss **20**. The interior of the stem **23** is hollow as indicated by the numeral **26**. The numeral **27** indicates a retainer or cap, and the cap **27** includes a portion **28** which threadedly engages the threaded stem **23**, and the cap **27** also includes a portion **29** which threadedly engages the section **19**. The numeral **30** indicates a washer which is arranged as shown in FIGURE 1 for example.

The head **22** further includes a main body portion **31** which is provided with an inner longitudinally extending channel or chamber **32**, and the numeral **33** indicates a removable plug which can be removed as for example when access is to be gained to the channel **32** for cleaning purposes or the like. The head **22** further includes a depending portion **34** which is provided with a slot **35**, and the numeral **36** indicates a strip of material such as felt which has a portion thereof projecting into and through the slot **35**. An arm **37** is secured to or formed integral with the head **22**, and an axle or shaft **38** is supported by the arm **37**, and a retainer **39** is arranged in engagement with the outer end of the axle **38**, as for example as shown in FIGURE 2. The numeral **40** indicates a roller which is mounted on the axle **38**.

As shown in the drawings, there is also provided a clip or holder which is indicated generally by the numeral **41**, and the holder **41** includes a base portion **42** as well as spaced apart legs **43** which terminate in outwardly extending prongs or lugs **44** for a purpose to be later described.

From the foregoing, it is apparent that there has been provided an improved fountain stencil roller which is an improvement over prior devices such as those shown in my prior Patents No. 2,537,872 and No. 2,780,166. As shown in FIGURE 1 the device is shown being used on a horizontal surface **45**, while in FIGURE 3 the roller is shown engaging a vertical surface **46**. With the parts arranged as shown in FIGURE 1, it will be seen that the ink from the reservoir **12** can flow or pass through the apertures **21** and then through the port or opening **25** and then through the space **26** and into the channel **32** and this ink can then pass downwardly through the felt strip **36** and on to the roller **40** so that the ink can be applied to stencils as for example when boxes, cartons or the like are being addressed with such stencils.

When a vertical surface such as the surface **46** is being worked on or stenciled, the handle **11** is rotated so that the boss **20** moves into closing or bridging relation with respect to the valve seat or opening **25**, it being understood that prior to this movement the spaces such as the spaces **26** and **32** are initially filled with ink. With the boss **20** in closing relation with respect to the opening **25**, it will be seen that the ink which is in the spaces **26** and **32** cannot flow back through the opening **25** and thus, this ink will be able to pass through the felt strip **36** and on to the roller **40** whereby the stenciling can be readily accomplished.

In addition the parts can be arranged so that the boss **20** is at intermediate position so that the amount of ink flow from the chamber or reservoir **12** through the opening **25** can be regulated or controlled as desired.

The holder or clip **41** snugly engages the end portion of the strip **36** so that for example with the parts arranged as shown in FIGURES 1 and 5 the strip is held securely and properly in place. The plug **33** can be removed as for example when access is to be gained to the interior of the body portion **31** or to the channel **32** as for example when the channel **32** is to be cleaned. The roller **40** is journaled on the axle **38**, and the retainer **39** is of a type which prevents accidental disengagement of the roller from the axle. However, by removing the retainer **39** the roller **40** can be removed and replaced when desired. The end of the axle **38** is suitably connected to

the arm 37 which is affixed to the main body portion 31.

The parts can be made of any suitable material and in different shapes or sizes.

Thus, it will be seen that there has been provided a fountain stencil roller which is adapted to roll over various types of surfaces or materials such as oilboard, metal, or plastic stencils which have stencil letters or numbers punched out or arranged therein so that the stencil ink can be applied through these openings in the stencil directly to shipping containers in order to imprint addresses or other marks. Some of the novel aspects or features of the present invention are the ink reservoir 12 so that the handle 11 can be manually gripped and the interior of the handle functions as the reservoir, and also there is provided the adjustable control valve including the boss 20 and the opening 25 which is adjustable to control the amount of ink feed, and there is also provided the distributor or fountain head which is arranged or constructed so that ink is distributed evenly to the foam rubber roller 40 which does the stenciling in the desired manner.

The ink reservoir handle 11 may be made of a suitable material such as a metal extrusion closed at one end as indicated by the numeral 13, and the other end is open and threaded as indicated by the numeral 14. The threaded open end of the handle screws onto the machined metal member 15 at the point 16 and seats tightly against the washer 18. The machined metal member 15 contains a convex boss 20 in the center which is surrounded by a plurality of small holes or apertures such as six small holes 21. The convex boss 20 provides one-half of the control valve, and the other half is formed by the threaded stem 23. The end of the threaded stem 23 is counter-sunk to receive the convex boss 20 when the control valve is in the closed position, as for example as shown in FIGURE 3. Concentrically located in the center of the threaded stem 23 is a small hole 25 through which the ink flows when the control valve is opened so as to admit ink to the larger diameter hole or space 26 in the threaded stem. In a converse fashion, it will be seen that when the convex boss 20 seats against the small counter-sunk hole in the end of the threaded stem 23, the control valve is closed and no ink can flow into the larger hole or space 26.

In connection with the manner in which the control valve is opened to any desired degree of ink flow or closed, it is to be noted that the machined member 15 is externally threaded as at 19 to engage the internal threads of a packing nut or cap 27. This packing nut 27 contains the washer 30 and is tightly screwed onto the machined member 15 to provide an ink seal to prevent leakage around the threads of the stem and it will therefore be seen that the ink reservoir 12, the machined member 15 and the packing nut 27 rotate as a unit around the threaded stem 23. Rotating the unit in one direction opens the valve seat while rotating the unit in the opposite direction will serve to close the valve seat.

The present invention also includes a fountain roller head which is indicated generally by the numeral 22 which functions cooperatively with the control valve previously described so as to transmit and distribute ink in a uniform manner to the foam rubber roller 40. Thus, it will be seen that the threaded stem 23 projects into the member 15 at the center and is arranged so that ink will flow from the space 26, into the channel 32 and this ink which enters the channel 32 flows laterally in both directions to each end of the channel before the ink level rises sufficiently to reach the slot 35. The flat strip of soft felt or other suitable absorbent material 36 or a soft flat bristled brush is arranged in the slot 35 and extends the full width of the fountain head 22 so that when the ink comes in contact with the felt strip, it is carried downward by gravity and wherein capillary action will carry it into the surface of the foam rubber roller so as to insure that there will be uniform even distribution of ink on the roller.

While most stenciling is done on a horizontal surface

such as the surface 45 with the stencil roller in the position of FIGURE 1 so that the control valve can be set to provide a constant supply of ink during the stenciling operation, it is to be noted that with the present invention the device can also be used to stencil on the vertical sides such as the vertical side or surface 46 of shipping containers as well, by closing the valve to prevent any ink from entering the fountain head while the stencil roller is in the vertical position. Thus, the felt strip and the foam rubber roller will hold a considerable amount of residual ink so that many stenciled impressions can be made before the valve need be opened to feed more ink thereto.

In addition, stencil rollers are also called upon to use fast drying inks for metal and other non-porous surfaces, but great care must be used to protect the rollers as in the conventional stencil rollers, the rollers themselves carry the ink in the thousands of porous openings and since the solvent evaporates rapidly from fast drying inks, a sticky resin soon forms on the stencil and without adding solvent to the roller frequently, the sticky residue has a tendency to tear the surface of the roller. The present invention overcomes this problem since the roller can be kept constantly inked from the reservoir. In addition a protective cover is adapted to be used to enclose the roller and fountain head when the device is not in use so as to prevent the roller and felt strip from drying out.

As shown in the drawings the foam rubber roller is mounted on the axle 38 which is mounted in the axle supporting arm 37, and the arm 37 is integrally die-cast with the fountain head. The retainer nut 39 holds the roller in place and permits rapid replacement of the foam rubber roller when it is worn out. The knurled plug 33 is adapted to be threaded into the end of the fountain head so that the channel 32 can be exposed for cleaning.

Thus, it will be seen that in the present invention there has been provided a fountain stencil roller which has a metal ink reservoir in combination with an adjustable ink control valve and a fountain head which is constructed so that ink is fed to a foam rubber roller in an even distribution around the circumference and the full width of the roller by the previously described means. The packing nut 27 is knurled as for example as shown in FIGURE 3. The felt strip 36 is clamped in the metal clip or holder 41 as shown in the drawings and the purpose of this clip is to provide an easier means of installing the felt in the slot 35 of the fountain head. The two prongs 44 of the clip provide a positive positioning stop so that the felt is always installed in the proper position in the slot. The bent tips or prongs 44 also serve as a means for pushing the clip in or pulling it out without touching the felt with the fingers. This is advantageous since the felt clip is a replaceable unit and this improvement makes a foolproof method for properly installing the felt strip which is very soft and pliable and which could easily be improperly installed without the clip.

In FIGURE 3 there is shown a fragmentary sectional view (looking down from the top) illustrating the position of the parts. Thus, when stenciling the vertical side of a container, the address or markings are applied horizontally rather than up and down, although the stencil roller will perform either way.

It is to be understood that other methods of controlling the ink flow to the distributor head such as a press button which will provide intermittent on and off flow or a petcock type arrangement that would vary the ink channel opening can be used if desired or required. Thus, it is to be understood that the present invention is directed to the distributor head and the means of carrying the ink uniformly to the roller with the flat felt strip or wick, regardless of the method used to control the ink flow to the head.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

1. In a fountain stencil roller, a hollow handle having one end closed and its other end threaded internally, a body member having a reduced diameter portion threadedly engaging the threaded interior of said handle, said body member including a shoulder, a sealing member interposed between said shoulder and the adjacent end of the handle, said body member further including an externally threaded neck of reduced size, said body member also including a convex boss, there being a plurality of spaced apart apertures adjacent said boss, a head having an externally threaded hollow stem projecting into said body member, there being an opening in an end of said stem defining a valve seat for coacting with said boss, a packing nut having a portion thereof threadedly engaging said stem and said packing nut also including a portion threadedly engaging the neck of said body member, said head further including a main body portion provided with an inner longitudinally extending channel, there being a slot in said main body portion, a strip of absorbent material having a portion thereof seated in said slot, said head further including an arm, an axle supported by said arm, and a roller mounted on said axle.

2. In a fountain stencil roller, a hollow handle having one end closed and its other end threaded internally, a body member having a reduced diameter portion threadedly engaging the threaded interior of said handle, said body member including a shoulder, a sealing member interposed between said shoulder and the adjacent end of the handle, said body member further including an externally threaded neck of reduced size, said body member also including a convex boss, there being a plurality of spaced apart apertures adjacent said boss, a head having an externally threaded hollow stem projecting into said body member, there being an opening in an end of said stem defining a valve seat for coacting with said boss, a packing nut having a portion thereof threadedly engaging said stem and said packing nut also including a portion threadedly engaging the neck of said body member, said head further including a main body portion provided with an inner longitudinally extending channel, there being a slot in said main body portion, a strip of absorbent material having a portion thereof seated in said slot, said head further including an arm, an axle supported by said arm, and a roller mounted on said axle, and a holder for said strip, said holder comprising a base portion having spaced apart legs which terminate in outwardly projecting prongs.

3. In a fountain stencil roller, a hollow handle, a body member threadedly engaging said handle, a sealing member interposed between said body member and the adjacent end of the handle, said body member including an externally threaded neck and a convex boss, there being a plurality of spaced apart apertures adjacent said boss, a head having a hollow stem projecting into said body member, there being an opening in an end of said stem defining a valve seat for coacting with said boss, a packing nut threadedly engaging said stem and the neck of said body member, said head including a body portion provided with an inner longitudinally extending channel, there being a slot in said body portion, a strip of absorbent material seated in said slot, said head further including an arm, an axle supported by said arm, and a roller mounted on said axle.

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