March 12, 1963 N. GRUBELIC 3,080,848

MOISTENING DEVICE FOR ENVELOPES, STAMPS AND THE LIKE

Filed Nov. 16, 1960 2 Sheets-Sheet 1

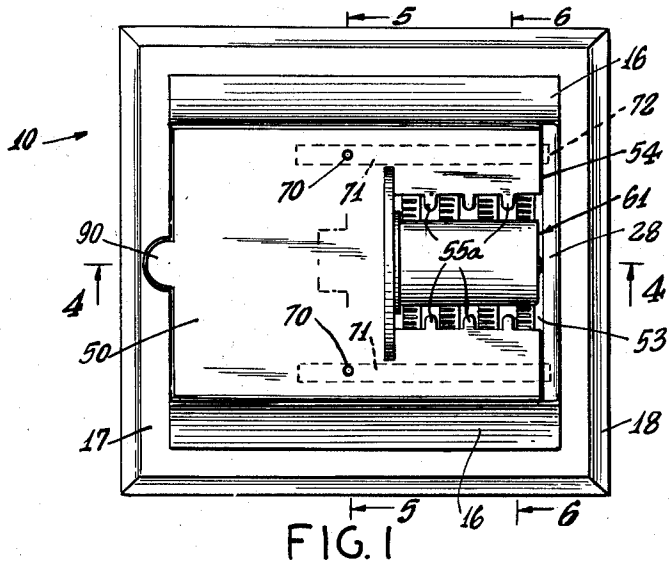


FIG. 1

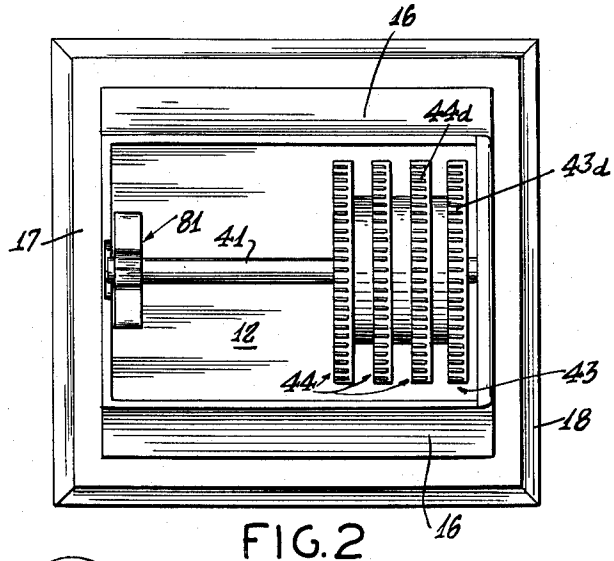


FIG. 2

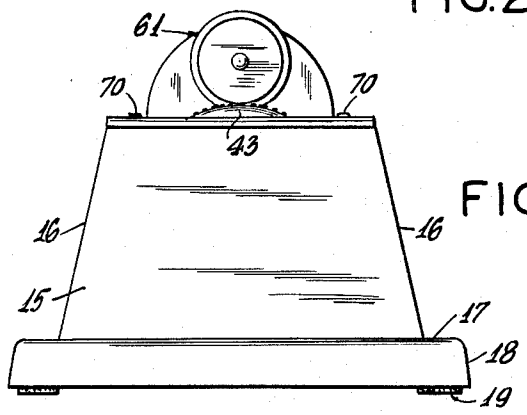


FIG. 3

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MOISTENING DEVICE FOR ENVELOPES, STAMPS AND THE LIKE

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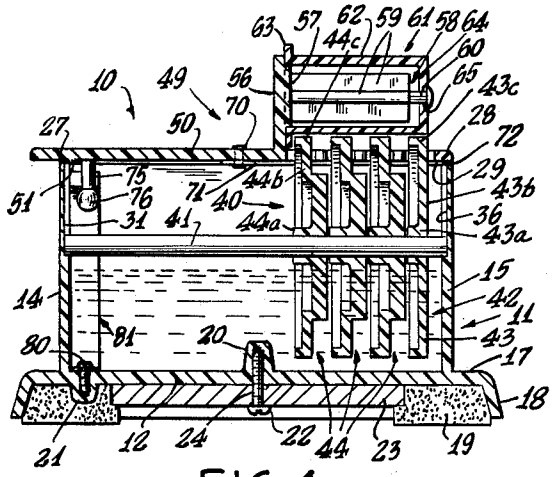


FIG. 4

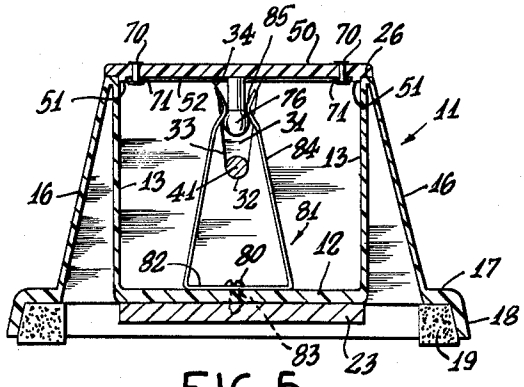


FIG. 5

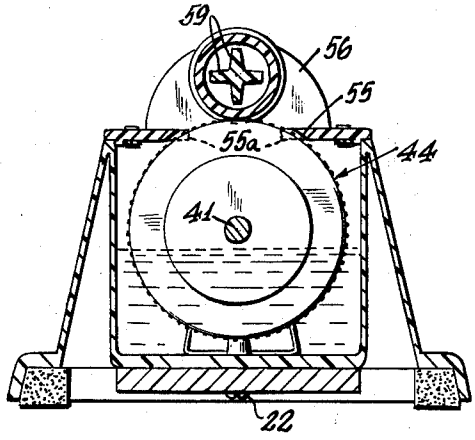


FIG. 6

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MOISTENING DEVICE FOR ENVELOPES, STAMPS AND THE LIKE

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16 Claims. (Cl. 118—249)

This invention relates to moistening devices. It is particularly directed to devices for moistening the gum surfaces of flaps of envelopes, strips of stamps and the like sheet material.

An object of this invention is to provide a device of the character described comprising a tank container which shall be easy to fill with water and easy to clean, and a wheel rolling partially immersed in water in said container, so that said wheel cleans itself as it rolls in the water.

Another object of this invention is to provide, in a device of the character described, a roller on a shaft removably and rotatably mounted on half bearings, wholly within the container, so that no part of the shaft projects through bearing openings in walls of the container, whereby said container is leakproof, and gum cannot collect in such through bearing openings, which could dry and prevent the roller from turning.

Another object of this invention is to provide in a device of the character described, a roller so arranged that even if it is all above the level of water in the container, a certain amount of water remains in the container, so that glue or gum collected in the container does not dry, whereby to render it easy to rinse out the container and remove such collected glue and gum.

Still another object of this invention is to provide in a device of the character described, a tank container having outer front and rear walls spaced from inner front and rear walls, whereby, even if the outer walls are cracked or broken the inner walls may remain intact, and the container will remain leakproof.

Yet another object of this invention is to provide a device of the character described, comprising a tank container, a roller removably mounted in said container, a cover removably mounted on said container, and spring means pressing the cover downwardly, and said cover having a cutaway or opening through which the upper part of the roller projects above the cover, and a second roller mounted for rotation on the cover and resiliently pressed by said spring means against the first roller whereby when a flap of an envelope is moved between the rollers, the roller in the container will rotate and carry water from the container up against the flap with such arrangement, a strip of stamps or a single stamp may be inserted between the rollers and the second roller turned to feed the stamps and moisten them.

A further object of this invention is to provide a device of the character described in which the roller in the tank comprises a plurality of annular spaced discs rotating together, and in which the cover has lugs projecting between the discs to prevent the sheet being moistened from following the roller into the container.

Yet a further object of this invention is to provide a device of the character described in which the roller in the container comprises discs having peripheral transverse grooves to carry water up from the tank, as the roller rotates.

Still a further object of this invention is to provide a moistening device of the character described, in which the tank container is open at the top and has a lip at one end to receive projecting free ends of strip springs fixed to the underside of the cover, and said cover having latch means adjacent its opposite end to releasably engage a spring clip fixed in the container, to hold the cover down on the container and to resiliently press the roller on the cover, against the roller in the container.

A still further object of this invention is to provide a strong and durable device of the character described which shall be relatively inexpensive to manufacture, easy to manipulate, assemble and disassemble, and which shall yet be practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown an illustrative embodiment of this invention,

FIG. 1 is a top plan view of a moistening device embodying the invention;

FIG. 2 is a top plan view of said device with the cover removed;

FIG. 3 is an end view of said device;

FIG. 4 is a cross-sectional view taken on line 4—4 of FIG. 1;

FIG. 5 is a cross-sectional view taken on line 5—5 of FIG. 1; and

FIG. 6 is a cross-sectional view taken on line 6—6 of FIG. 1.

Referring now in detail to the drawing, **10** designates a device embodying the invention for moistening gummed surfaces of flaps of envelopes, strips of stamps or single stamps, or other sheet material. Said device **10** comprises a tank container **11** which may be made of plastic, such as polystyrene, or polyethylene or the like material. Said container comprises a bottom wall **12** from which extends upwardly, front and rear vertical walls **13** and vertical end walls **14** and **15**. Extending down from the upper ends of front and rear walls **13** are downwardly and outwardly inclined walls **16**. Extending from the ends of said bottom wall **12** and from the lower ends of walls **16** is a perimeter horizontal wall **17** at the level of said bottom wall. Extending down from the sides and ends of wall **17** is a skirt **18**. Adhered to the four corners of the underside of wall **17** and skirt **18** as by adhesive, are rubber-like pads or legs **19** on which the device rests.

The bottom wall **12** has a central, upwardly extending integral lug **20**, and an integral downwardly extending lug **21**, the latter being located just inwardly and centrally of end wall **14**.

Attached to the underside of the bottom wall **12**, as by a self-stopping screw **22**, is a metal, weighted plate **23**. Screw **22** passes through a center hole **24** in plate **23** and screws up into lug **20**.

Walls **13** have upper shoulders **26**. Wall **14** has an upper edge **27** at level of said shoulders **26**. Fixed to the upper end of wall **15** is a ledge or lip **28** projecting toward wall **14** and it has an under surface **29** at level of edge **27** and shoulders **26**.

Wall **14** is formed at its inner side with a shallow central groove **31** having a semicircular lower half bearing end **32** located above the mid-height of said wall. Said groove **31** has upwardly divergent side edges **33** curved outwardly at the upper end of said wall **14**, as at **34** to provide a wide entrance to said groove. Wall **15** is formed at its inner side with a shallow groove **36** similar to and aligned with groove **31** and extending up to the undersurface **29** of lip **28**.

Rotatably mounted in the tank container **11** is a roller assembly **40**. Said assembly **40** comprises a horizontal shaft **41**, the ends of which are rotatably received in the lower semicircular half bearing ends of grooves **31**,

36. Fixed on said shaft 41 is a roller 42 comprising a plurality of annular discs 43, 44. There are a plurality of discs 44 and one end disc 43. The disc 43 has a central hub 43*a* forcefitted or otherwise adhered to shaft 41, and located near wall 15. Extending from hub 43*a* is a thin web 43*b* from which extends an annular flange 43*c* formed at its outer peripheral surface with equally spaced shallow transverse grooves and ridges 43*d*.

Each of discs 44 comprises a central hub 44*a* from which extends web 44*b* provided at its outer end with a peripheral flange 44*c* likewise formed with alternating transverse, shallow grooves and ridges 44*d*. Webs 44*b* may be provided with longitudinally offset inner and outer radial portions as shown in FIG. 4. Hubs 44*a*, 43*a* inter-contact and flanges 44*c*, 43*c* are of equal diameter and are spaced apart. Said discs 43, 44 project up above the open end of the container. They may all be force fitted on shaft 41, or glued or otherwise adhered thereto for rotation therewith. The shaft 41 has very little endwise movement, just enough for easy insertion into and removal from the container by lifting. To insert the roller assembly 40, one end of shaft 41 is first inserted endwise into groove 36 beneath lip 28, and the other end is moved into groove 31. The bottom wall 12, it will be noted, is spaced below the peripheral flanges of discs 43, 44 so that some water may remain in the container out of contact with said discs.

Removably mounted on the container, is a cover 49 which may be made of plastic similarly to the container. Cover 49 comprises a generally rectangular cover plate 50 which rests on the shoulders 26 and on upper edge 27. Said cover plate 50 has, at its undersurface, parallel side ridges 51 contacting the inner sides front and rear walls 13, connected by a ridge 52 contacting the inner side of the upper end of end wall 14.

Said cover plate 50 is formed, adjacent wall 15, with a central notch or cut out 53 extending to its end edge 54, through which the discs 43, 44 project upwardly above the container. The end edges 54 on opposite sides of notch 53 contact lip 28. At opposite sides of the notch 53, are formed inner, downwardly forwardly and rearwardly inclined edges 55 from which extend toward each other, lugs 55*a* projecting between the discs 43, 44.

Extending upwardly from cover plate 50 is an integral transverse wall 56 defining the inner end of notch 53. Integrally formed with wall 56, on the side thereof toward notch 53, is an annular hub 57 from which extends a lug 58 of cross-shaped cross-section forming radial, horizontal and vertical flanges 59. Extending from said lug 58 is a central pintle 60. Rotatably mounted on lug 58 is a top roller 61, also made of plastic, similar to container 11 and cover 49. Roller 61 has a cylindrical wall 62 open at one end and having at its open end, an annular outwardly extending flange 63 receiving the hub 57 and contacting wall 56. At the opposite end of cylindrical wall 62 is an end wall 64 formed with a central opening 65 through which pintle 60 projects. The tip of pintle 60 may be riveted or flattened by heat to keep the roller 61 from coming off lug 58.

Riveted to the underside of cover plate 50 on opposite sides of notch 53, as by rivets 70, are strip springs 71 lying at said underside. The outer free ends 72 of springs 71 extend beyond end edges 54 and engage beneath the lip 28 and resiliently keep roller 61 in contact with the roller 42.

Extending down from the underside of cover plate 50, adjacent to groove 31 of wall 14 is a central lug 75 having an enlarged knob 76 at its lower end. The knob 76 is well above the level of shaft 41.

Fixed to the bottom wall 12, as by a self topping screw 80 extending down into lug 21, is a spring clip 81. Said clip 81 comprises a central flat portion 82 contacting the upper surface of bottom wall 12 and formed with a central opening 83 through which screw 80 passes. Extending up from opposite ends of flat portion 82 are upwardly converging spring arms 84 having inwardly bent curved upper end portions 85 located to contact knob 76 and releasably hold down the cover 49.

Water is poured into the container 11 to contact the roller discs 43, 44. A flap of an envelope, gummed surface down, may be moved between the rollers. The friction causes rotation of roller assembly 40 and water is carried up by the peripheries of the discs to moisten the gum. Also, a strip of stamps or a single stamp may be moved to bring an edge between the rollers. The top roller may then be turned and pressed with a thumb to feed the stamps between the rollers.

The discs 43, 44 are self-cleaning because they move through liquid. Water in the container below the roller discs 43, 44 will not be carried up, and hence gum and glue therein will not dry. The shaft 41 is wholly in the container. There are no through bearing openings to collect gum which would dry and stick the shaft. If outer walls 16 crack, the container is yet leak-proof. The lugs 55*a* keep the flap or strip or sheet moving between the rollers from moving through notch 53.

The cover and roller assembly are easily assembled with or disassembled from the container. Therefore, the parts may be easily washed and cleaned and the container resupplied with water. The roller assembly may easily be lifted up for removal after withdrawing the cover. A lip 90 at the end of cover plate 50 opposite to the notch 53, facilitates removing the cover 49.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A moistening device comprising a container open at its upper end, a shaft mounted for rotation within said container, a first roller fixed on said shaft and projecting up above the upper open end of the container, a cover on the upper open end of the container having an opening through which the roller passes above the container, spring means to press the cover onto the top of said container, and a second roller rotatably mounted on the cover and resiliently pressed by said spring means, toward the first roller.

2. The combination of claim 1, said shaft being located wholly within said container and substantially below the upper end of the container, and said container having opposed walls formed with half bearings at inner sides thereof, opening upwardly, to rotatably receive the ends of said shaft whereby the container may be filled with water to a level well above said shaft.

3. The combination of claim 2, said cover comprising a flat wall having opposed edges at said opening, said first roller comprising a plurality of spaced discs, and said cover having lugs extending inwardly beyond said opposed edges and projecting between said discs.

4. The combination of claim 3, said spring means being located at one end of the cover, said cover being provided at its upper end, with a downwardly extending lug having an enlarged knob at its lower end, and a spring clip fixed to the container and having means to resiliently engage said knob to hold down said cover.

5. The combination of claim 2, said spring means comprising strip springs fixed to the underside of the cover, on opposite sides of the opening in the cover and having free ends extending beyond an edge of said cover, and means on the container to engage said projecting ends.

6. The combination of claim 1, said container having a pair of inner walls, and outer walls extending down

from and integrally formed with the upper ends of said inner walls.

7. The combination of claim 1, said cover comprising a flat wall having opposed edges at said opening, said first roller comprising a plurality of spaced discs, and said cover having lugs extending inwardly beyond said opposed edges and projecting between said discs.

8. The combination of claim 1, said spring means being located at one end of the cover, said cover at its opposite end, being provided with a downwardly extending lug having an enlarged knob at its underside, and a spring clip fixed to the container and having means to resiliently engage the upper side of said knob to hold down said cover.

9. The combination of claim 1, in combination with a weighted plate attached to the underside of said container.

10. The combination of claim 1, said spring means comprising strip springs fixed to the underside of the cover, on opposite sides of the notch and having free ends extending beyond an edge of said cover, and means on the container to engage said projecting ends.

11. A moistening device comprising a container open at its top and having a bottom wall and a pair of opposed unstanding walls formed at their inner sides with aligned upwardly opening grooves having semi-circular lower ends located substantially below the upper end of the container, a shaft in the container having its ends resting in the lower ends of the grooves, a first roller fixed on the shaft and projecting above the upper open end of the container, a cover on the upper open end of the container said cover having an opening through which the first roller projects, a second roller rotatably mounted on the cover, and spring means to press the second roller down against the first roller, said cover having an upstanding wall provided with a lug, said second roller being rotatably mounted on said lug, said spring means comprising a spring attached to said cover and having a free end engaging beneath part of said container.

12. The combination of claim 11, in combination with a spring clip fixed to the bottom wall and means on the cover engaged by said spring clip to aid in holding the cover down on said container.

13. The combination of claim 12, said first roller comprising a plurality of discs fixed on said shaft and having spaced annular peripheral portions of similar diameter.

14. The combination of claim 13, said discs having transverse grooves at their peripheries.

15. The combination of claim 13, said cover comprising a flat wall having lugs projecting between said peripheral portions of said discs.

16. A moistening device comprising a tank container open at the top, a first roller mounted for rotation wholly within the container, on bearings provided at the inside of the container, a cover removably mounted in the upper open end of said container, said cover having an opening through which the first roller projects, said bearings opening upwardly to permit the roller to be lifted up out of the container upon first removing the cover, said first roller partially projecting upwardly above said container, and a second roller mounted for rotation on the cover above the projecting portion of said first roller, and spring means interconnecting the cover with the container to press said rollers toward each other, said spring means comprising strip spring means on the cover having a free end engaging the container to resiliently urge the cover down toward said container.

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