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J. M. ANGELETTI
CONTAINER PERFORATING AND THREADING DEVICE
FOR STOPPERS, FAUCETS, AND THE LIKE
Filed June 9, 1931

1,883,451

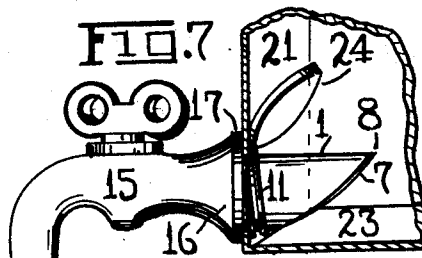
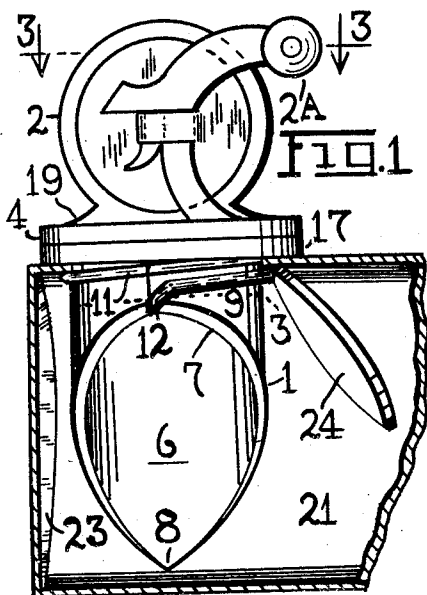


FIG. 4

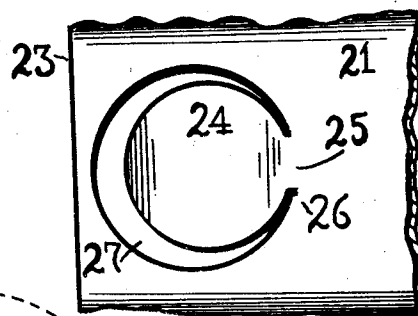


FIG. 8

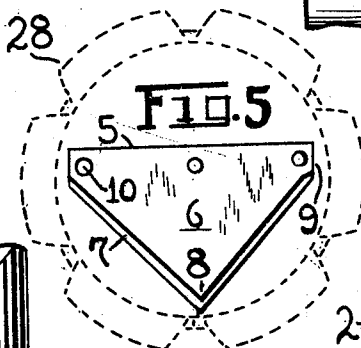
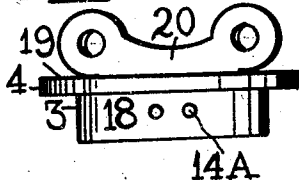
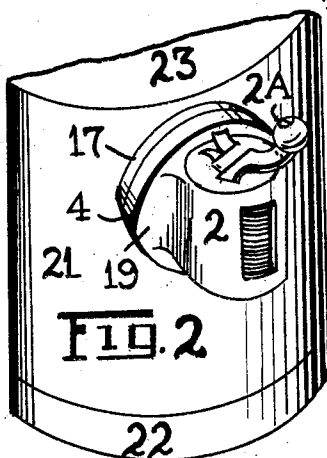
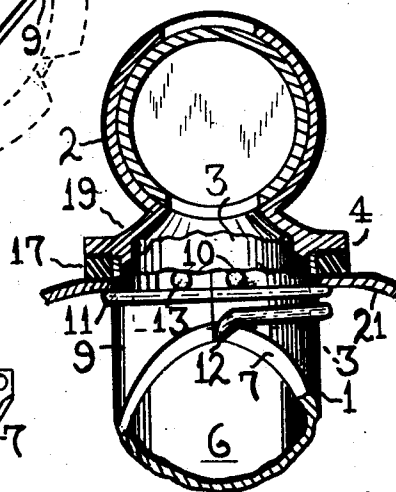


FIG. 3



INVENTOR.
Joseph M. Angeletti

UNITED STATES PATENT OFFICE

JOSEPH M. ANGELETTI, OF NEW YORK, N. Y.

CONTAINER-PERFORATING AND THREADING DEVICE FOR STOPPERS, FAUCETS, AND THE LIKE

Application filed June 9, 1931. Serial No. 543,123.

This invention relates more particularly, to a class of perforating and threading devices for stoppers, faucets, and the like implements, mountable at any convenient part of the body, of sheet-material, or metal containers, by completely, or partially shearing out a circular portion thereof, when the device is driven through the sheet body of a container, and to screw through the perforated body portion, when the device is rotated.

The main object of the invention is the provision of a device as above, for perforating and screwing through the sheet-material, or metal body of a container, in a positized manner, so that the outlet and operative parts of a dispensing device associated therewith, may be caused to assume a predetermined fastened position relative the body, end-walls, or cap of a container.

Other objects will be apparent as the description proceeds.

In the drawing, Fig. 1 is a front elevation of the device embodying my invention, combined with a measuring and dispensing stopper, as it is being mounted on a container.

Fig. 2 is a fractional perpendicular view of a container, upon which the device has been attached, showing the outlet and operative handle of the associated stopper, in a convenient operative and dispensing position.

Fig. 3 is a cross sectional view of the stopper, taken on line 3—3 of Fig. 1, also showing a longitudinal portion of the perforating and threading device associated therewith.

Fig. 4 is a fractional portion of a container, showing the type of perforation produced by said device.

Fig. 5 is a top view of one form of metal blank from which the perforating and threading device may be made.

Fig. 6 shows a slightly modified form of the blank.

Fig. 7 shows the device associated with an ordinary faucet. And—

Fig. 8 is a front elevation of a handle-equipped plug element, with which this perforating and threading device may also be associated, for its manipulation.

Device 1, as shown in Figs. 1, 2 and 3, is

combined with a measuring and dispensing stopper 2, which is embodied in my Patent No. 1,560,013, issued to me, Nov. 3, 1925. Said stopper, therefore, is in part described only for illustrating a combination for the present invention, in which, the threaded annular flange of the stopper, has been modified to a reduced tubular portion 3, extending perpendicularly, from the circular top plate of the stopper, which is being referred to as annular shoulder 4. Device 1 may be made integral with portion 3 of the stopper, though as shown, it is made from a suitable sheet metal blank 5, Fig. 5, having a substantially V-shaped portion 6, with a cutting edge 7, and a pointed end 8. On the blank is also a rectangular portion 9, with rivet-bores 10. Said blank is rolled or stamped to a tubular form, as shown in Fig. 1. Encircling the tubular surface of portion 9 is an exteriorly projecting screw-thread 11, with its end turn closed by shoulder 4. The inlet end of said thread has an oblique or downwardly bent portion with a pointed end 12 parallel to the axis of the cylinder of the body and intersecting the upper portion of edge 7, as more clearly seen in Fig. 3. Said perforating and threading device may be variously fastened on said stopper, though as shown, I secure it with its portion 9 encircling said portion 3, by means of rivets 13, inserted from bores 14, formed at the cylindrical wall of portion 3 in similar fashion, as bores 14A, Fig. 8, thence thru bores 10 of the device and headed thereabove, as at Fig. 3.

B1 and 5A, Fig. 6, may be worked-up similarly as blank 5 just described, though as obviously, in this form of blank, the perforating and threading device will contain two diametrically opposed perforating portions 6.

The type of faucet 15, shown in Fig. 7, is of an ordinary construction having a reduced portion, or shank, and an annular shoulder 16, against which, similar to the stopper shown in Figs. 1, 2 and 3, may abut a suitable washer, or gasket 17. And at the reduced end of the faucet, may be integrally formed, or fastened, a similar perforating device as described hereabove. The same applies with the plug element 18, Fig. 8, which

has a top wall 19, bearing a handle 20, from which it is manipulated. Whereas, in the case of both the stopper and faucet, their upper body portions act as handles from which this perforating and threading device may be conveniently manipulated.

Although the operation of the device is already obvious in the above description, I will now outline one mode of its operation in conjunction with the stopper.

In attaching, or mounting said stopper on the cylindrical wall of a can, or container 21, having a cover 22 which in this instance, is not necessary to be removed, the container is placed in an horizontal position as at Fig. 1, and piercing point 8 is inserted thru the cylindrical wall in close proximity to bottom 23, so that handle 2A of the stopper fronts cover 22. Portion 6 of the perforating device is completely driven perpendicularly thru said wall without rotating the same, until point 12 has penetrated also. And assuming thread 11 to be one turn, half of which residing within washer, or gasket 17, by rotating the device until handle 2A is perpendicular with bottom 23, the device will have assumed its convenient operative dispensing position and be fastened on the can, as at Figs. 2 and 3. During said operation, a circular portion 24 will be partly severed and bent inwardly of the can and out of the path of the interior of the tubular cutter, leaving an unsevered portion 25, as at Fig. 4, which is simultaneously engaged by the inlet portion and pointed end 12 of the thread in which a tear, or notch 26 is produced which expands diametrically that portion of perforation 27, in which the thread begins to act, guided by point 12, in threading with a larger diametrical portion than the marginal diameter of said circular perforation, resulting in a consistent mounting for said stopper, or the like implements which may be associated with said perforating and threading device.

While in the above I have limited the description of the device as being made from flat metal stock, it is obvious, that I may employ tubing-stock instead. And in either metal stocks, I may form said device with a fastening flange, or serrated flange, as in dotted illustration 28 Fig. 5, from which it may be fastened directly at the annular shoulder of any said implements in any suitable manner. For example, I may form the said stopper, in a light metal stamped construction retaining its original flanged cap, insert device 1, formed with flange 28 interiorly of said cap and then turn in the flange of the cap against the serrated flange of the device unrotatably joining the same.

In the foregoing description, I have embodied the preferred form of my invention, but I do not wish to be understood as limiting myself thereto, as I am aware that modi-

fications may be made therein without departing from the principle or sacrificing any of the advantages of this invention, therefore, I reserve to myself the right to make such changes as fairly fall within the scope of the claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In combination with a device of the class described, having a tubular body with a bevel or diagonal cutting edge with a pointed end to pierce sheet material or metal and having an exteriorly projecting screw-threaded portion, of a downwardly bent thread portion at the inlet turn of the thread perpendicular with the surface of the body to guide said thread thru perforated sheet material or metal.

2. In combination with a device of the class described, having a tubular body formed with a piercing portion having bevel or diagonal cutting edge and a pointed end to pierce and bend a circular portion thru sheet material or metal and having an exteriorly projecting screw-threaded portion at its second end with its end turn closed by an abutment or shoulder, of an oblique thread inlet formed with an end portion perpendicular with the surface of the body and intersecting the uppermost portion of said cutting edge.

3. In combination with a cylindrical body having an exteriorly projecting screw-threaded portion with its end turn closed by an abutment or flange, of an elbow like bent thread portion at the starting turn of the thread extending perpendicularly therefrom to guide said thread thru perforated sheet material or metal.

4. In combination with a tubular body having an exteriorly projecting screw-threaded portion with its end turn closed by an abutment or flange, of an oblique thread-inlet formed with a pointed end perpendicular with the surface of the body to guide the screwing start by said thread thru perforated sheet material or metal.

5. In combination with a dispensing device having a cylindrical tubular body with a perforating portion having bevel or diagonal cutting edges and a pointed end, and having an exteriorly projecting screw-threaded portion above said perforating portion with an abutment or flange closing its end turn, of an oblique thread-inlet formed with an end portion perpendicular with the surface of the body and intersecting the upper portion of said cutting edge to positivize the screwing by the thread thru perforated unthreaded sheet material or metal container at a predetermined position before the screwing rotation thereof.

6. In a device of the class described, the combination with a tubular body having two inverted approximately V-shape cut-out por-

tions forming two diametrically opposed sheet material or metal perforating members with bevel or diagonal cutting edges converging in two pointed ends perpendicular with the cylinder of the tubular body and having an exteriorly projecting screw-threaded portion at the second end of the tubular body with an abutment or flange in proximity to the end turn of said thread, of an oblique inlet at the second end of the thread formed with an end portion perpendicular with the surface of the body and exteriorly projecting same plane as the spiral pitch of said thread to positivize the the screwing start thereof when driven perpendicularly through perforable sheet material or metal.

7. In combination with a dispensing device having an abutment or flange with a tubular portion extending therebelow and with its interior communicating with the inlet and outlet of the dispensing device, said tubular body having an exteriorly projecting screw-threaded portion below said abutment or flange and two inverted approximately V-shape cut-out portions extending downwardly from said thread forming two diametrically opposed sheet material or metal piercing members each having bevel or diagonal cutting edges, of an oblique inlet for said thread formed with a pointed end perpendicular with the surface of the tubular portion and intersecting the uppermost portion of one of said cutting edges to form a positive starting point for the thread when the piercing members are driven perpendicularly through the sheet material or metal body or wall of a container so that its outlet may ultimately assume a predetermined dispensing position when the device with said piercing members is then rotated as a unit removably fastening with said container.

8. In combination with a dispensing device having a flanged cap encircling its inlet, of a perforating and threading element comprising a circular tubular body having its interior communicating with the inlet of said device, and means comprising a serrated flange encircling the upper periphery of the tubular body unrotatably locked interiorly of the flanged cap by turning in the flange of said cap against the serrations on the flange of said tubular body.

9. As an article of manufacture, a perforating and threading device formed from an approximately V-shape flat steel blank with a rectangular portion longitudinally thereof having marginal serrations, said blank stamped or rolled tubularly and the serrated portion bent outwardly of the body forming a peripheral serrated flange.

10. As an article of manufacture, a perforating and threading device formed from a flat steel blank with two approximately V-shape portions having cutting edges with a rectangular portion longitudinally above the

V-shape portions, said blank stamped or rolled tubularly with the V-shape portions in a diametrical opposed relation and the rectangular portion forming an annular circular portion, and means on the annular circular portion for being rigidly supported by a manipulating implement.

11. As an article of manufacture, a perforating and threading device formed from a flat steel blank with two approximately V-shape portions having cutting edges, a rectangular portion longitudinally above the V-shape portions, said blank stamped or rolled in a tubular form with the V-shape portions in a diametrical opposed relation and the rectangular portion forming an annular circular portion bearing fastening means, and a thread stamped or rolled exteriorly at the annular portion formed with a downwardly bent thread guide portion.

12. As an article of manufacture, a tubular circular body having an end wall, integral sheet material or metal piercing element at the open end thereof, integral annular shoulder encircling the end wall, an exteriorly projecting screw-threaded portion on the body starting from proximity at the shoulder toward the piercing element, and an integral handle crosswise on the top of said wall.

JOSEPH M. ANGELETTI.