(No Model.)

T. C. WEEKS.

MEDICINE DROPPER.

No. 446,574. Patented Feb. 17, 1891.

FIG. 1.

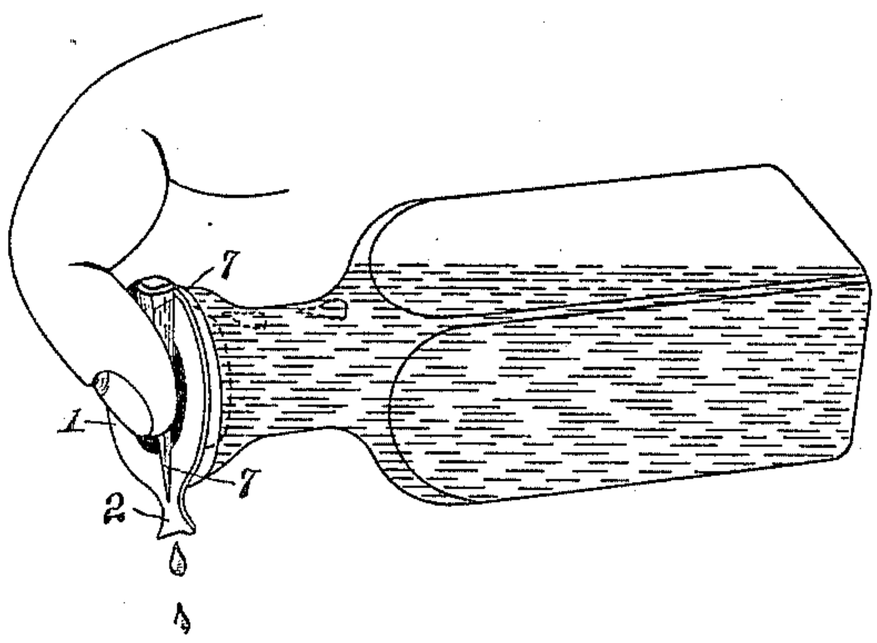


FIG. 4.

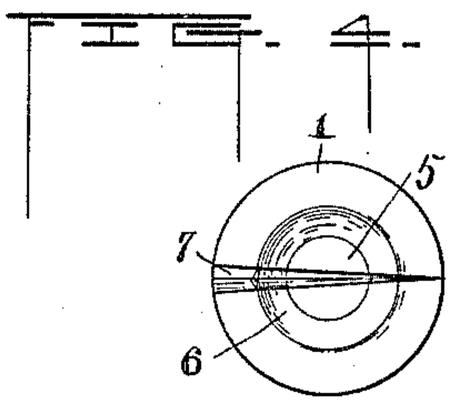


FIG. 3.

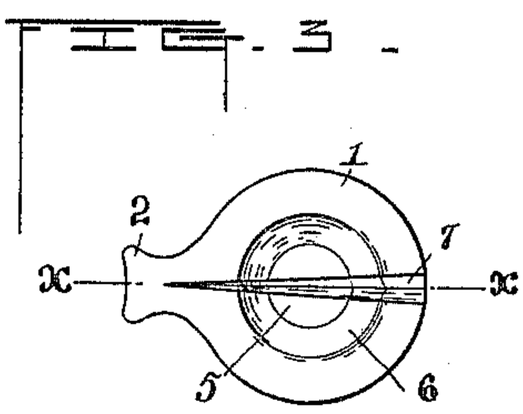
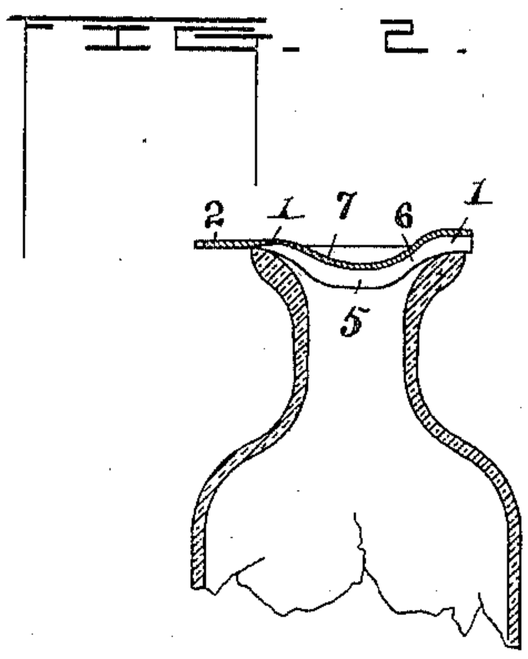


FIG. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS C. WEEKS, OF BALTIMORE, MARYLAND.

MEDICINE-DROPPER.

SPECIFICATION forming part of Letters Patent No. 446,574, dated February 17, 1891.

Application filed December 18, 1890. Serial No. 375,107. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. WEEKS, a resident of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Medicine-Droppers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of my invention is to provide a medicine-dropper that shall be simple and economical in form, easy of application to a bottle, neat in use, and one that can be readily cleansed and that shall produce drops of a standard size; and it consists in the construction hereinafter described and pointed out.

Figure 1 is an elevation of the device applied to a bottle and in operation. Fig. 2 is a partial section of the device on a bottle, taken on the line $x\,x$ of Fig. 3. Fig. 3 is a plan, and Fig. 4 is a similar view of a modification.

The main part of the dropper is a circular disk, (denoted by numeral 1,) which disk has preferably a lip 2, extending beyond the circumference of the circle. The disk is provided with an elevation 5, adapted to fit the mouth of a bottle. This approximately convex portion has its sides inclined and slightly curved, by preference as shown at 6, to conform to said mouth as customarily formed. The outer annular part of the disk rests on the top or lip of the bottle, as shown.

7 denotes a tapering groove formed in the under side of the disk and extending beyond its circular part, with its point in the lip 2. This groove divides the elevation or stopper 5 into two parts. The thin disk is favorable for stamping out of sheet material, and the depression 3, conveniently formed therein, holds the finger-tip when using the device.

To use the dropper, it is placed on a bottle or other like vessel, so that it closes its mouth except where the groove 7 extends through or across the same. The bottle being then inclined, while the dropper is held upon its mouth by the index-finger of the hand which embraces the bottle or otherwise, and the point of the groove being directed downwardly, air enters the large end of the groove, permitting the fluid contents of the bottle to pass down through the small end of the groove to the lip 2, where it is held by attraction until sufficient liquid accumulates to form a drop, whereupon it falls into a suitable receptacle placed underneath.

The precise form of the lip illustrated is not essential to the operation, and were it omitted entirely the device would drop, though in a less perfect and satisfactory manner. The dropper may be varied somewhat in dimensions and form. It can be made of hard rubber, which is preferred, or of metal, wood, celluloid, paper, or other material. Its form is such that it can be cleansed with ease and certainty. It can be instantaneously applied to a bottle and brought into action, and, having been made with a groove of proper size, it will invariably produce standard drops.

I do not broadly claim devices for dropping medicines having an air-inlet on one side and a liquid-exit on the other, nor flat droppers having a tip; nor do I broadly claim a tapered groove such as shown in the devices described in United States Patent No. 417,958 and in British Patent No. 791, A. D. 1876. It is characteristic of my improvement that the tapered groove vanishes in a point located on the under side of a level surface and suitable for the formation, under the ordinary law, of a drop of standard size. This cannot be effected by a mere spout or any groove which does not terminate in a fine point and adjacent to a level surface, nor by a groove which is enlarged toward its outer end and is therefore calculated to modify the size of the drop. It is important that the groove should taper to a fine point and that in connection with such vanishing point of the groove an adjoining level surface should be provided upon which the successive drops may be formed undisturbed by any current or by any shaping influence of the groove itself. It is further characteristic of my dropper that it has a small central depression, which on one side is adapted to receive the end of a finger and on the other to guide the device to a seat on the bottle, said seat being an annular part surrounding the depression and adapted to rest on the bottle-mouth. The enlargement of the aforesaid groove extended to the edge of the disk provides for the ready access of air.

Having thus described my invention, what I desire to secure by Letters Patent is—

The medicine-dropper consisting of a thin

disk having an annular flat portion and a central depression and adapted to rest upon the upper surface of the mouth of the bottle and having a groove passing transversely across the under side thereof, said groove being tapered to and terminating in the exterior flat portion, the depression being adapted to receive a finger and also to centrally locate the dropper in the mouth of the bottle, and the tapered groove being adapted to convey fluid to the flat portion and permit the formation thereon of standard drops, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS C. WEEKS.

Witnesses:
JOSEPH P. MERRYMAN,
GEO. C. BISHOP.