

W. HAMER, SR.
MEDICINE DROPPER.

APPLICATION FILED JAN. 31, 1914. RENEWED APR. 16, 1915.

1,160,883.

Patented Nov. 16, 1915.

Fig. 1.

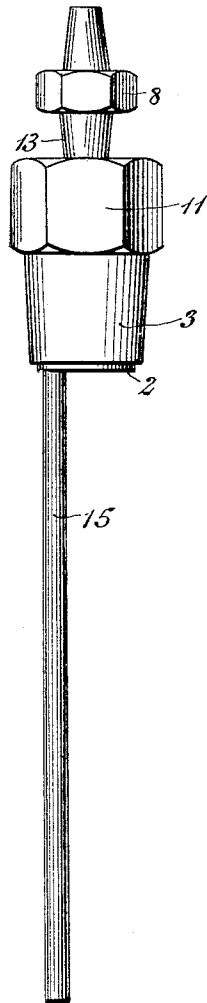
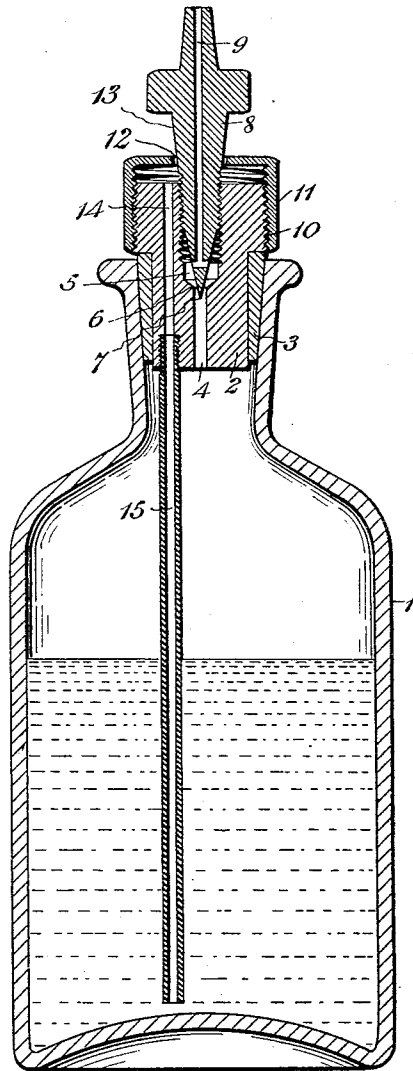


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER HAMER, SR., OF SALT LAKE CITY, UTAH.

MEDICINE-DROPPER.

1,160,883.

Specification of Letters Patent.

Patented Nov. 16, 1915.

Application filed January 31, 1914, Serial No. 815,708. Renewed April 16, 1915. Serial No. 21,850.

To all whom it may concern:

Be it known that I, WALTER HAMER, Sr., a citizen of the United States, and a resident of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Medicine-Dropper, of which the following is a full, clear, and exact description.

This invention relates to improvements in medicine droppers, and has for an object to provide an improved structure whereby liquids of any kind may be properly dropped.

Another object of the invention is to provide a dropper arranged with an air inlet controlling device whereby extremely volatile liquids may be dropped.

In carrying out the object of the invention a dropper structure is provided having an adjustable cap formed with an aperture through which extends a drop guiding member. This drop guiding member is provided with a point or valve portion for controlling the amount of fluid passing from the bottle, while the adjustable cap is arranged to control the amount of air passing into the bottle whereby there is a liquid control and an air control.

In the accompanying drawings—Figure 1 is a side view of an embodiment of the invention; Fig. 2 is a sectional view through the structure shown in Fig. 1, a bottle being shown in connection therewith.

Referring to the accompanying drawings by numerals 1 indicates a bottle of any desired kind provided with a stopper 2 around which a packing ring 3 is arranged formed of cork or other suitable material. The stopper 2 is provided with a passageway 4 formed with an enlargement 5 whereby the seat 6 is formed which co-acts with the needle valve or point 7 of the drop guide 8. The drop guide 8 is formed with a longitudinal bore 9 and a transverse bore 10 near the needle valve 7 whereby liquid from bottle 1 may pass through passage 4 into bore 5 and from thence into bore 9 through passageway or bore 10. Member 8 is threaded into bore 5 so that needle valve 7 may be adjusted upon the rotation of member 8 and thereby control the opening through which the liquid may flow from bottle 1. In order to provide a controlling means for the air which is let into bottle 1 after displacing the liquid an adjustable cap 11 is provided which is threaded to the outer end of stopper 2. Cap 11 is provided with an aper-

ture 12 which is adapted to fit tightly against the tapering walls 13 of member 8 when the cap is unscrewed. Ordinarily, however, an air gap is allowed between cap 11 and member 8 whereby air may pass into bore 4 in stopper 2 and from thence through tube 15 to the bottom of bottle 1.

In operation cap 11 is preferably screwed down until the same touches bottle 1 and then member 8 is adjusted for providing a proper opening at needle valve 7. Cap 11 is then unscrewed until aperture 12 is almost closed. The device is then in condition for use as soon as the bottle is inverted. When the bottle is inverted the fluid will begin to drop from member 8, which drops may be shut off at any time by tightening member 8 or unscrewing cap 11. The principal function of cap 11 is to control the air inlet whereby the speed or flow of fluid from member 8 may be controlled, and the drops may be caused to move in rapid succession or slowly so that the same may be more easily counted. In case very poisonous medicine is being used cap 11 is then screwed until no air is permitted to pass into bottle 1, whereupon only a few drops will pass from the bottle, as for instance 1 or 2, but additional drops may be allowed to pass from the bottle by screwing cap 11 toward bottle 1 a short distance for allowing an additional supply of air, after which the cap can be brought back to its former position so as to close opening 12. By thus providing a control for the air inlet any kind of liquid may be dropped, even to the dropping of ether, which is probably as free running liquid as any which it is necessary to use in small quantities. By adjusting the air cap and the drop guide the liquid removed from the bottle 1 may be regulated from a stream to a complete shutdown.

What I claim is—

1. In a dropper of the class described, a stopper provided with a liquid passageway and an air passageway, a cap for the stopper formed with a central opening, said cap being adjustable toward and from the stopper, a drop guide extending into said liquid passageway, said drop guide being formed with a valve point and a passageway for guiding the liquid, said drop guide having a conical shaped portion on the exterior co-acting with the central opening in said cap whereby as the cap is unscrewed the walls of the aperture in the cap will approach the

drop guide and thereby control the amount of air passing into the bottle or other receptacle, said stopper being formed with a valve seat in said liquid passageway, which
 5 valve seat co-acts with the valve point on the drop guide for regulating the flow of fluid from the bottle or other receptacle.

2. In a dropper of the class described, a stopper provided with a liquid passageway and an air passageway, a cap arranged on
 10 said stopper formed with an aperture, said cap being adjustable toward and from the top of the stopper, a drop guide extending into said liquid passageway, said drop guide
 15 being formed with a passageway for guiding the fluid, said drop guide having a conical shaped portion on the exterior co-acting with the aperture in said cap thereby as the cap is moved away from the stopper the cap
 20 will approach the drop guide and thereby control the amount of air passing into the bottle or other receptacle.

3. In a dropper of the class described, a stopper provided with a surrounding packing for fitting a bottle or other receptacle, said stopper being provided with a liquid

passageway and an air passageway, a tube connected to said stopper arranged in communication with said air passageway for directing air to the bottom of said bottle or
 30 other receptacle, a cap formed with a central opening, said cap being threaded on to said stopper and adapted to have the end thereof moved toward and from the top of the stopper when the cap is rotated, and a
 35 drop guide threaded into said liquid passageway, said drop guide being formed with a passageway for guiding the liquid, said drop guide having a conical shaped portion on the exterior co-acting with the central
 40 opening in said cap, whereby as the cap is unscrewed the walls of the aperture in the cap will approach the drop guide and thereby control the amount of air passing into the bottle or other receptacle.

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

WALTER HAMER, Sr.

Witnesses:

ALONZO F. TAYLOR,
 BESSIE OPENSHAW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."