

P. N. E. REMY.
 MEANS FOR INTRODUCING MICROBE CULTURES INTO BOTTLES OR OTHER VESSELS.
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Patented Mar. 28, 1911.

Fig. 1.

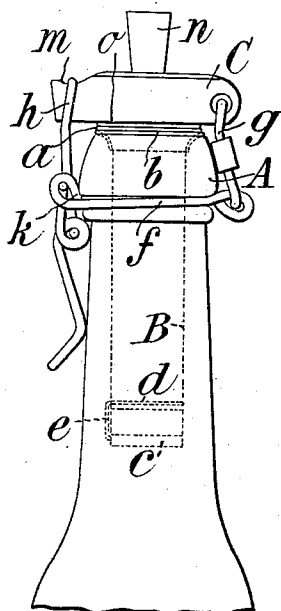
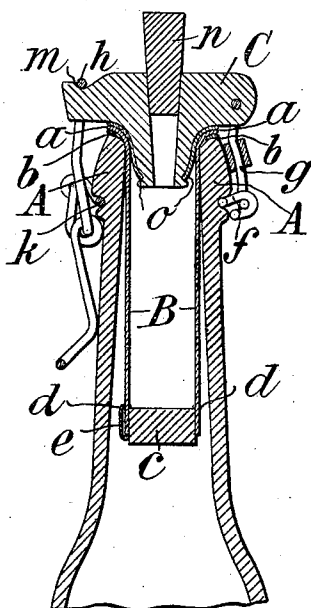


Fig. 2.



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MEANS FOR INTRODUCING MICROBE CULTURES INTO BOTTLES OR OTHER VESSELS.

988,031.

Specification of Letters Patent. Patented Mar. 28, 1911.

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To all whom it may concern.

Be it known that I, PIERRE NICOLAS EMILE REMY, a citizen of the Republic of France, residing at Paris, France, have invented certain new and useful Improvements in Means for Introducing Microbe Cultures into Bottles or other Vessels, of which the following is a specification.

This invention relates to means whereby at any moment a vessel containing a sterilized broth or liquid can be inoculated with a microbe culture and it consists in introducing into the neck of the bottle or other vessel a tube containing the microbe culture the flange of which tube rests upon the mouth of the vessel; a cover forms a hermetic closing for the inoculating tube, and by introducing a metal rod through a hole made through the center of the cover a plug in the bottom of the said tube can be forced out and the culture caused to fall into the sterilized broth or liquid.

To enable the invention to be fully understood I will describe it with reference to the accompanying drawing in which:

Figure 1 is an elevation and Fig. 2 a vertical section of the neck of a bottle provided with an inoculating tube according to the invention.

In the neck of the bottle is introduced a tube B of metal, preferably aluminium, which contains the liquid or dry microbe culture. This tube is made with a flaring edge *a* which rests on the upper part of the neck and a washer *b* of india-rubber or other elastic material is interposed between the flaring edge of the tube B and the mouth of the bottle. The tube B is provided at its lower part with a plug or stopper *c* which closes it hermetically; this plug *c* is advantageously connected to the lower part of the tube B by a circular ligature *d* of metallic wire and a metal wire *e* which extends to the said plug and forms a hinge.

The bottle is provided with a cover C of glass, porcelain or other material which closes it hermetically and is similar to the stoppers which are sometimes used for closing beer bottles, the said cover being provided with an india-rubber washer *o*. It is hinged to a metal collar *f* by means of a link *g* and the fastening of the cover upon the bottle, or rather upon the flaring edge of the metal tube B is effected by means of a stirrup *h* which is acted on by an eccentric

portion *k*. Just as the link *g* is hinged at one end of the cover C the securing stirrup *h* acts at the other end in a suitable notch *m* in the cover. The cover is provided in its center with a hole which receives an india-rubber plug *n* which closes it hermetically.

The bottle being filled with sterilized liquid and the tube B which contains the microbe culture being placed in the neck, as shown in the drawing, the sterilized liquid can remain in this state as long as required. In order to inoculate the sterilized liquid it is only necessary to remove the small plug *n* from the cover and to force the plug *c* out of the tube B by means of a metal or other rod introduced into the extended central hole in the cover C. The microbe culture contained in the tube B will then fall into the sterilized broth or liquid contained in the bottle and multiply therein.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. Means for inoculating sterilized broths or liquids with microbe cultures, including in combination a vessel for containing the broth or liquid, a tube for containing the microbe cultures adapted to be removably introduced into the neck of said vessel and having at its upper part a flaring edge adapted to rest upon the mouth of the vessel, a plug closing the lower part of said tube, a cover adapted to rest upon the flaring edge of the tube, a washer interposed between the mouth of the vessel and the edge of the tube, a second washer introduced between the edge of the tube and the cover, said cover having a hole through it, and a hermetic plug adapted to close the hole in said cover and adapted to be removed to permit the introduction of a device for unstopping the bottom of the tube so as to permit the microbe cultures to fall into the broth.

2. Means for inoculating a sterilized broth or liquid with microbe cultures, including in combination a vessel adapted to contain the broth, a tube B adapted to be removably introduced into the neck of said vessel and to contain the microbe cultures and having at its upper part a flaring edge *a* adapted to rest upon the mouth of the vessel, a plug *c* closing the lower part of said tube, a circular ligature *d* and a wire *e* forming a hinged

fastening of said plug to said tube, a hermetic cover C carrying a washer *o* and adapted to fit upon the flared edge of the tube, a washer *b* interposed between the flared edge of the tube and the mouth of the vessel, the said cover having a hole there-
 5 through, and a plug *n* closing said hole in the cover and removable to permit the introduction of a rod for pushing out the plug *c* and permitting the introduction of the
 10 *c* and permitting the introduction of the microbe cultures into the liquid.

3. Means for inoculating a sterilized broth or liquid with microbe cultures, including in combination a vessel adapted to contain the
 15 broth, a tube B adapted to be removably introduced into the neck of said vessel and to contain the microbe cultures and having at its upper part a flaring edge *a* adapted to rest upon the mouth of the vessel, a plug *c*
 20 closing the lower part of said tube, a circular ligature *d* and a wire *e* forming a hinged fastening of said plug to said tube, a her-

metic cover C carrying a washer *o* and adapted to fit upon the flared edge of the tube, a washer *b* interposed between the
 25 flared edge of the tube and the mouth of the vessel, the said cover having a hole there-through, and a plug *n* closing said hole in the cover and removable to permit the introduction of a rod for pushing out the plug *c* 30
 and permitting the introduction of the microbe cultures into the liquid, a metal collar *f* and a link *g* by which the cover is hinged and connected to said collar, a stirrup *h*
 35 adapted to engage the cover at a point opposite the hinged side and an eccentric device for pulling down said stirrup or releasing it.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PIERRE NICOLAS EMILE REMY.

Witnesses:

JULES ARMENGAUD, Jeune,
 DEAN B. MASON.

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