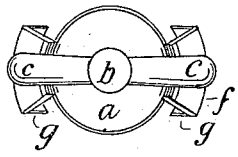
A. J. PARKER.

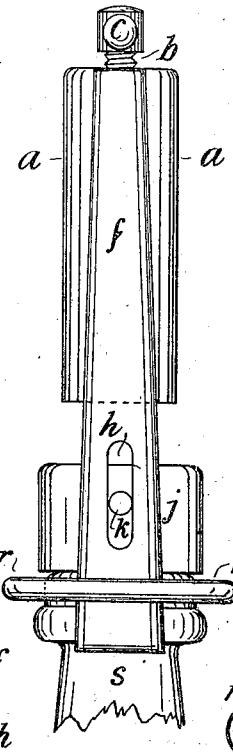
DETACHABLE DEVICE FOR AERATING LIQUIDS.

APPLICATION FILED JUNE 27, 1914.

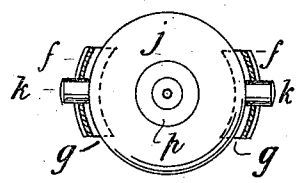
1,263,278. Patented Apr. 16, 1918.



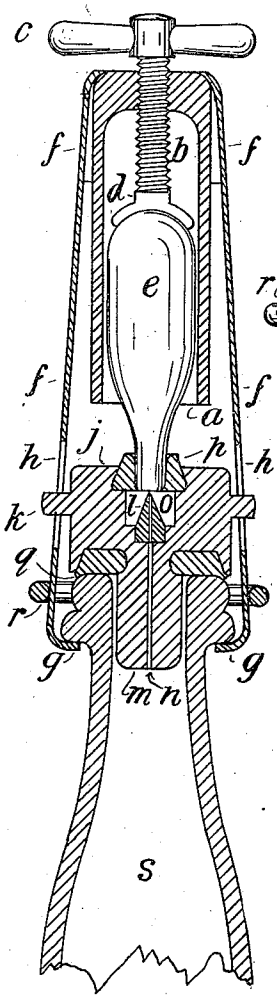
— FIG 4 —



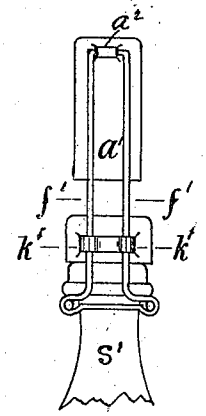
— FIG 3 —



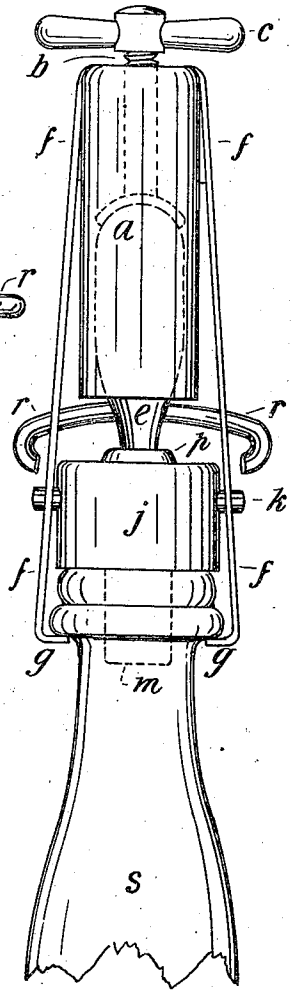
— FIG 5 —



— FIG 1. —



— FIG 6 —



— FIG 2. —

WITNESSES

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DETACHABLE DEVICE FOR AERATING LIQUIDS.

1,263,278. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed June 27, 1914. Serial No. 847,685.

To all whom it may concern:

Be it known that ALFRED JAMES PARKER, a citizen of the Commonwealth of Australia, and resident of Alexander street, Port Pirie, in the State of South Australia, Commonwealth of Australia aforesaid, has invented certain new and useful Improvements in Detachable Devices for Aerating Liquids, of which the following is a specification.

My invention relates to an improved detachable device for aerating liquids, and is more particularly applicable for the aeration of liquids by means of carbon dioxid or other chemicals contained under pressure in small cylinders commercially known as sparklets, the principal object of the invention being to provide a device which can easily be operated and can readily be applied to the neck of almost any class of bottle now in use, nearly all such bottles having a rim or projecting portion near the extremity of the neck.

Hitherto in cases when specially constructed machinery was not used for aerating the liquid it has been customary to provide a receptacle having a screw threaded neck attachment to receive an aerating bulb or cylinder connected with an aerating tube. In my invention, however, the customary receptacle having a screw neck portion is entirely dispensed with, as also is the aerating tube, my device being readily clipped to the neck of ordinary bottles as above indicated.

But in order that my invention may be better understood I will now proceed to describe the same in detail by aid of the accompanying illustrative drawings wherein:

Figure 1 is a sectional elevation of my appliance attached to an ordinary bottle.

Fig. 2 is an external view of Fig. 1.

Fig. 3 side view of Fig. 2.

Fig. 4 is a plan of the upper portion of the device.

Fig. 5 plan of lower portion of device, the neck grip being shown in section, and

Fig. 6 side view of device showing alternative construction of neck grip.

In each of the illustrations similar letters of reference are used to denote similar or corresponding parts wherever they occur.

In the drawings *a* is a cartridge holder, through the upper portion of which the compressing screw *b* passes, a cross handle such as *c* being provided for operating the same, and a presser piece *d* of any suitable design is arranged to impinge upon a cartridge *e* known as a sparklet cylinder, such cartridge being filled with gas.

I do not confine myself to the particular size or shape of the cartridge or holder shown in the drawings.

Upon each side of the holder *a* I provide downwardly projecting legs *f* hereinafter referred to as neck grips, which terminate in an inturned portion *g* which is suitably curved to fit underneath the projecting flange of an ordinary bottle neck. These neck grips when made of sheet metal (preferably steel) as illustrated in Figs, 1, 2 and 3 are formed with a slot or opening *h*.

I also provide a stopper *j* adapted to receive the neck of the cartridge and upon which projecting lugs *k* are formed, which are accommodated within the slots or openings *h* of the neck grips previously referred to, whereby the legs are detachably and adjustably secured to the stopper.

Within the stopper a perforating needle *l* is mounted, and the stopper is also formed with a downwardly projecting extension *m* which protrudes into the neck of the bottle and communicates by means of the gas passage *n* with the needle chamber *o*. A rubber pad or washer is provided at *p* to receive the neck of the cartridge *e*. For the protection of the neck of the bottle and in order to obtain an airtight joint a recess is formed in the stopper for the accommodation of the rubber pad *q*, and a loosely sliding ring *r* is furnished in connection with the device, and has a sufficient diameter to pass the projecting portions *k*, but is capable of locking the inturned portion *g* of the neck grip *f* underneath the projecting portion of the bottle as illustrated, the upper portion of the bottle being indicated by the reference letter *s*.

By providing the legs with slots and the stopper with lugs, the cartridge carrier can be detached from the stopper to permit the cartridge to be inserted in said carrier; the

legs caused to engage diametrically opposite sides the bottle neck; and the legs permitted to slide on the stopper to adapt the device to bottles having flanges located different distances from the mouth of the bottle or flanges of greater or less length.

In my device the details of construction may be modified, for instance, the legs or neck grips f instead of being made of spring steel may be made of stout wire as indicated at f' in Fig. 6 of the drawings. Each wire f' is bent upon itself to form outwardly projecting loops and the portion connecting the loops is bent or curved to fit upon the bottle neck under the flange thereof. The terminals of the wire are bent inwardly and pivotally mounted in a keeper on the cartridge carrier. In place of the lugs k described with reference to Figs. 1, 2, 3, and 5, the projections may take the form of elongated lugs indicated at k' in Fig. 6, and by means of which the legs or neck grips are prevented from spreading so that the legs are held firmly in engagement with the neck of the bottle without the use of a ring for this purpose.

As a further alternative the legs or neck grips may be hinged at a^2 to the holder a' instead of being of spring steel.

In using my invention the method of operation is as follows:—

A cartridge containing gas is inserted in the cartridge holder a, and its neck is pressed down into the pad or washer p of the stopper. The ends of the legs having meanwhile been brought underneath the projecting portion of the neck of the bottle so as to constitute a neck grip are locked in position by means of the ring r or its equivalent, and the bottle is then inverted or agitated. Upon pressure being applied by means of the screw b and the cross handle c the cap of the cartridge is perforated by the needle l, so that the gas is free to escape into the bottle through the passage n. By this means the operation of aerating the liquid contents of the bottle is effectively carried out, and after the cartridge has been exhausted the device is unclipped and the aerated contents of the bottle may be poured out in the ordinary manner.

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. A device for aerating liquids, comprising a bottle stopper having a longitudinal passage, and a needle in the upper end and having a passage registering with the passage of the stopper, a cartridge carrier having means for applying pressure to a cartridge in said carrier to force the cartridge upon the needle, members carried by the cartridge carrier and having a sliding connection with the stopper and adapted to engage the flange of a bottle neck, and means for holding the said members in engagement with the flange of the bottle.

2. A device for aerating liquids, comprising a bottle stopper having a longitudinal passage and a needle in its upper part and having a passage registering with the passage of the stopper, a cartridge carrier having means for applying pressure to a cartridge to force it upon the needle, members carried by the cartridge carrier and having their lower ends adapted to engage under the flange of a bottle neck, said members having a sliding connection with the stopper, and means for holding the said members in engagement with the flange of the bottle.

3. A device for aerating liquids, comprising a stopper having a chamber in its upper end and a longitudinal passage leading to the chamber, an apertured pad in the chamber to receive the end of a cartridge, a needle in the bottom of the chamber and having a passage registering with the passage of the stopper, a cartridge carrier, and means carried by the carrier for engaging the flange of a bottle neck to clamp the carrier onto a bottle.

4. A device for aerating liquids, comprising a stopper having a longitudinal passage, a needle having a passage registering with the passage of the stopper and lugs projecting from opposite sides of the stopper, a cartridge carrier, legs secured to the carrier and having their lower ends bent inwardly to engage the lower face of the flange of a bottle neck, said legs being provided with slots into which the lugs of the stopper project, a ring slidable on the legs, and a screw mounted in the cartridge carrier for forcing the cartridge against the needle.

5. In a device for aerating liquids, a bottle stopper having a longitudinal passage and provided with a cartridge perforator, a cartridge carrier provided with means for applying pressure to a cartridge in the carrier, and means for securing the carrier to a bottle neck, said means having sliding engagment with the stopper.

6. In a device for aerating liquids, a bottle stopper having a longitudinal passage, a cartridge perforator carried by the stopper, a cartridge carrier having means for applying pressure to a cartridge in the carrier, members carried by the carrier and adapted to engage under the flange of a bottle neck, said members having guided movement on the stopper, and means whereby the said members are held in engagement with the flange of the bottle neck.

7. In a device for aerating liquids, a bot-

tle stopper having a longitudinal passage and provided with a cartridge perforator and with lugs on its outer surface, a cartridge carrier having means for applying pressure to a cartridge, members carried by the carrier and having means at their lower ends for engagement under the flange of a bottle neck, said members being provided with slots through which the lugs of the stopper project, and a ring slidable on said members.

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

ALFRED JAMES PARKER.

Witnesses:
PERCY HAGUE,
DORIS VERA EMILY OSBORNE.

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