April 9, 1935. A. R. N. HEATH 1,997,520

LID FOR BOTTLES AND OTHER RECEPTACLES

Filed Aug. 17, 1934 2 Sheets-Sheet 1

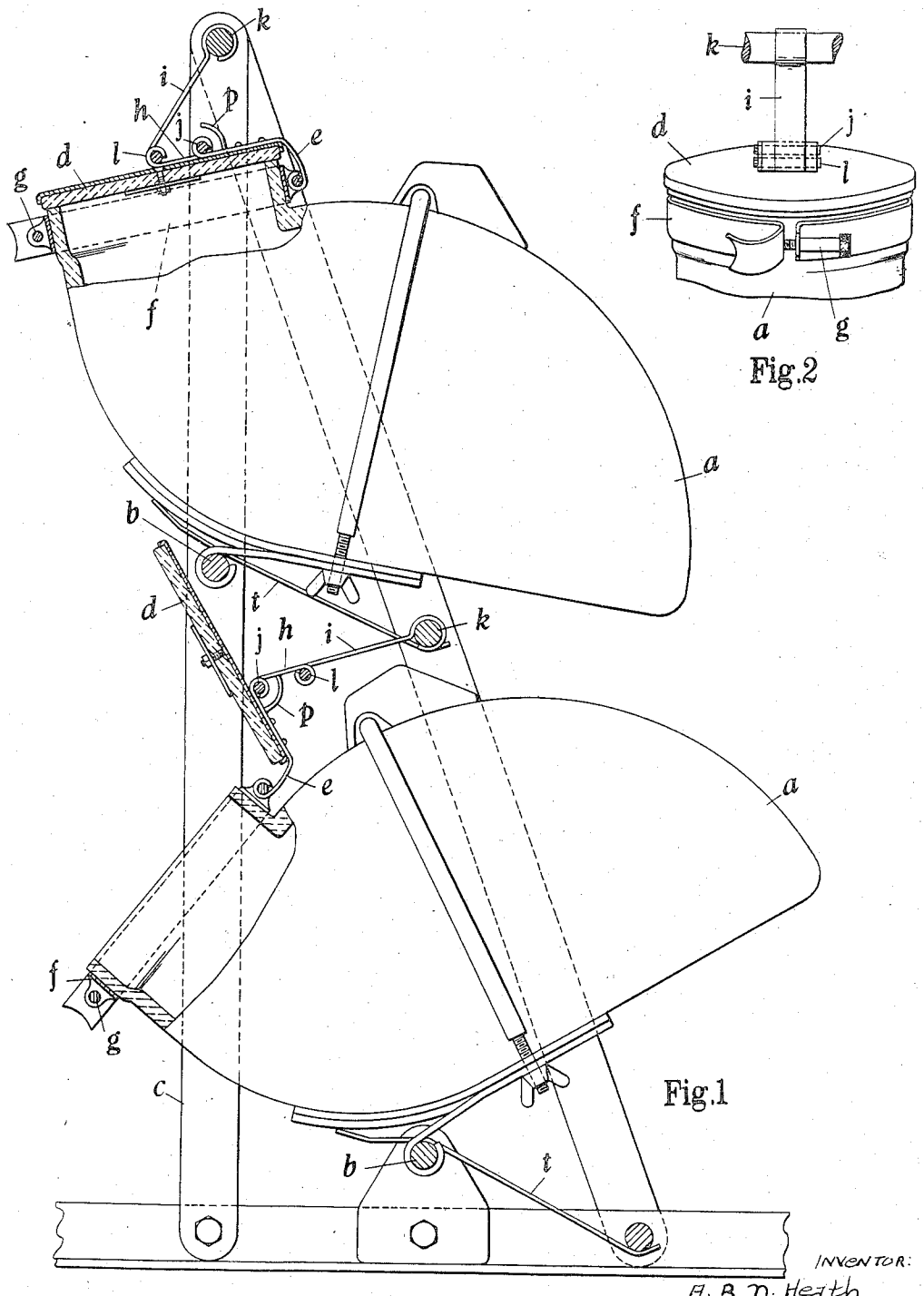


Fig.1

Fig.2

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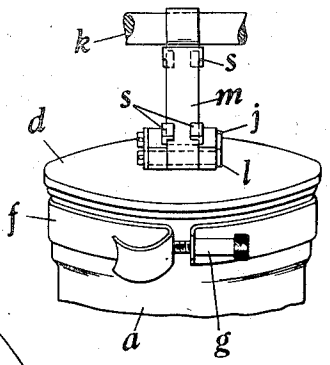


Fig.4

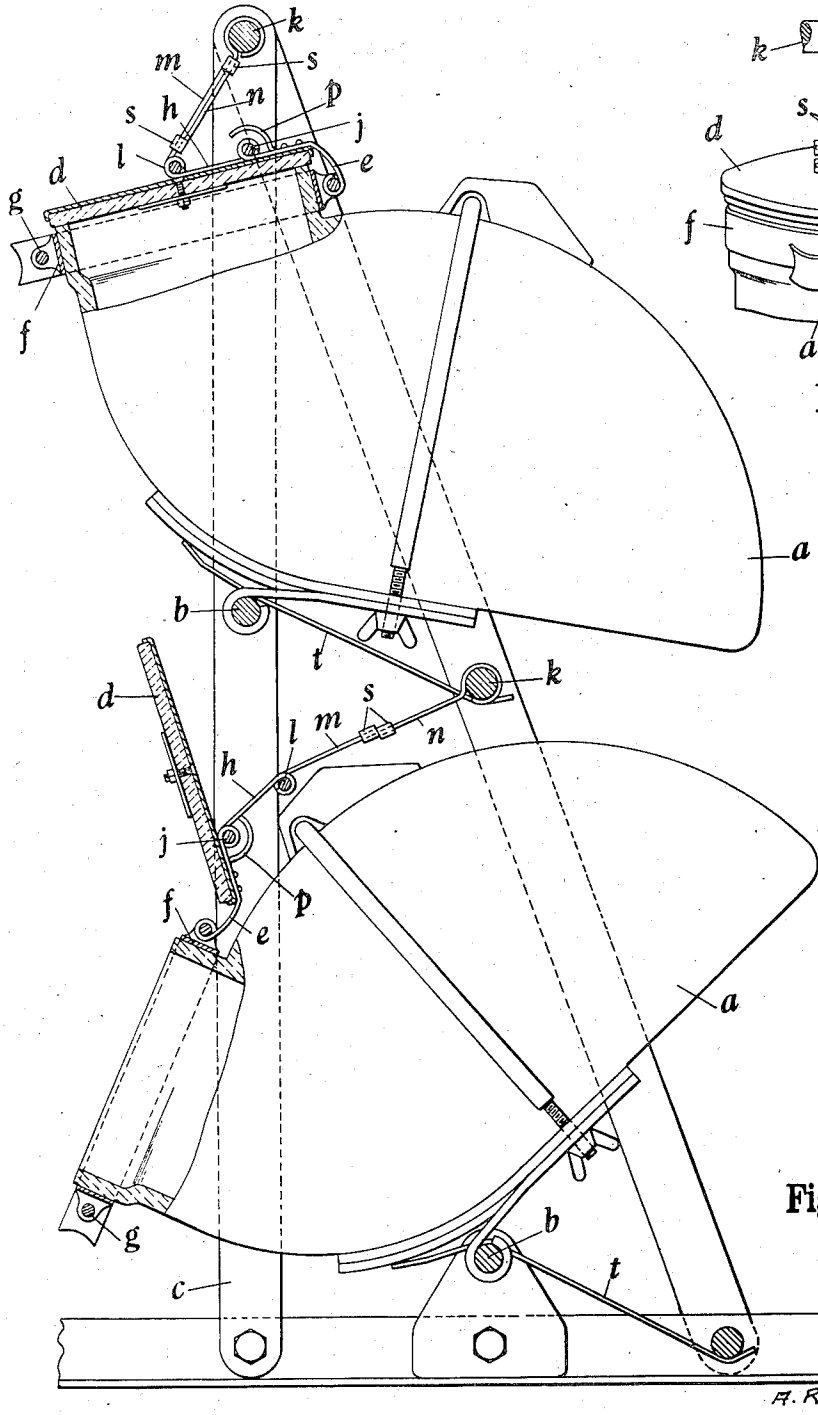


Fig.3

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UNITED STATES PATENT OFFICE

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LID FOR BOTTLES AND OTHER RECEPTACLES

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Application August 17, 1934, Serial No. 740,308
In Great Britain September 26, 1933

4 Claims. (Cl. 211—82)

This invention relates to bottles or other receptacles which are pivotally mounted on stands and are provided with lids which move away from or on to the necks of the receptacles when the latter are rocked about their pivots. The object of the present invention is to provide improved means for actuating the lids.

The invention comprises the combination with a lid, of means for pivotally connecting it to the neck of the receptacle, and a link connection between the lid and a fixed part on the stand, the arrangement being such that when the receptacle is tilted and returned to its normal position the lid is automatically opened and closed.

In the accompanying sheets of explanatory drawings:—

Figure 1 is a side elevation of a stand carrying two bottles or rows of bottles provided with means for actuating the lids, said means representing one manner of carrying the invention into effect. In this figure the upper bottle is shown in the closed position and the lower one in the open position.

Figure 2 is a view showing the upper portion of the neck of a bottle and the lid actuating means when the lid is in the closed position.

Figure 3 is an elevation similar to Figure 1 showing a modified form of the means for actuating the lids, and Figure 4 is a view similar to Figure 2 of this modified form.

In applying the invention to a bottle or the like for containing sweets or other objects for sale in a shop, the bottle *a* is pivotally mounted at *b* on a stud *c* in any convenient manner. The lid *d* is pivotally attached to the bottle neck by a hinge connection *e* between the rear part of the lid and a band *f* embracing the neck, the free ends of the band being connected together by suitable means such as an adjustable screw *g*. Also to the top of the lid is hingedly connected one end of a link, the other end of which is hingedly connected to an adjacent fixed member on the stand. As shown in the drawings, a two part link is used, this consisting in the form shown in Figures 1 and 2 of a short portion *h* pivotally attached by a hinge *j* to the lid and a longer portion *i* pivotally attached to a fixed member *k* on the frame, the two parts being connected by a hinge *l*.

It is desirable so to arrange the parts *h*, *i*, that when the lid is closed as large a thrust as possible is exerted by the part *i* on the centre of the lid in order to ensure tight closing of the lid. In the example illustrated this condition is satisfied by so arranging the parts that when the lid is closed the short member *h* lies with one side in contact with the upper side of the lid, and its hinge connection *l* with the longer member *i* is situated at about the centre of the lid. Also the pivotal connection with the fixed member *k* is situated above the lid at a position about midway between the hinge of the lid and the hinge *l* joining the two link parts *h*, *i*.

When the bottle is rocked towards the user for for giving access to the entrance to the bottle, the link device *h*, *i*, opens the lid automatically by moving it about its hinge. Likewise when the bottle is returned the lid is closed on to the neck, and the unbalanced weight of the bottle is utilized to hold the neck in tight contact with the lid. If desired a controlling spring *t* may be provided to assist gravity in holding the bottle in the normal position and to take part of the load when the bottle is tilted.

In the construction shown in Figures 3 and 4 the simple link *i* is replaced by a telescopic link consisting of two flat metal parts *m*, *n*, slidable relatively to each other. The telescopic link permits a larger tilting of the bottle. The part *m* is connected by means of the hinge *l* to the lid of the bottle and the part *n* is pivotally connected to the fixed point *k*, each part being provided at its free end with small lateral ears *s* which are bent over the other plate as shown. When the bottle is tilted the lid is opened and the parts *m*, *n*, move relatively to each other enabling the bottle to be tilted into the limiting position shown in Figure 3, this position being reached when the two sets of ears on the links engage each other and when the bottle is returned to its initial position the link parts slide back over each other.

The telescopic arrangement could if desired comprise more than two relatively movable members depending on the maximum length of link desired between the hinge *l* and the point *k*, the purpose of the extensibility of the link *m*, *n*, being to permit a larger tilting of the bottle than is obtainable with the link *i* shown in Figure 1.

If desired a stop piece *p* may be combined with the lid for interacting with the link device in the manner shown in Figures 2 and 4 for limiting the extent to which the bottle can be rocked about its pivot.

As shown, the stop piece is formed by a metal strip having a flat portion secured to the upper surface of the lid and a curved portion bent upwardly to form an abutment which, by contact with the link portion *h* when the bottle has been

rocked from its normal position through a predetermined angular distance, prevents further movement of the bottle in the same direction.

The invention is not limited to the particular examples shown as subordinate details may be modified to suit different requirements.

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

1. In stands for pivotally mounted bottles or like receptacles, a closure device comprising a lid, means for pivotally connecting the lid to the receptacle, a two-part link, a hinge interconnecting the two parts of the link, and means for pivotally connecting one end of the link to the lid and the other end of the link to a fixed part of the stand above the receptacle so that a closing thrust and an opening pull are automatically exerted on the lid by the link when the receptacle is tilted and returned to its normal position, substantially as described.

2. A stand as claimed in claim 1, in which the two parts of the link are arranged so that when the lid occupies a closed position one of the said parts is situated with one side in contact with the upper side of the lid, the said hinge is situated at about the centre of the lid, and the pivotal connection between the link and the fixed part of the stand is situated above the lid at a position about midway between the said hinge and the pivotal connection of the lid with the receptacle, substantially as and for the purpose described.

3. A stand as claimed in claim 1 in which one part of the link is extensible and comprises two or more parts slidable with respect to each other, substantially as described.

4. A stand as claimed in claim 1, in which a stop piece is provided on the lid for interacting with the link for limiting the extent to which the bottle can be tilted, substantially as described.

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