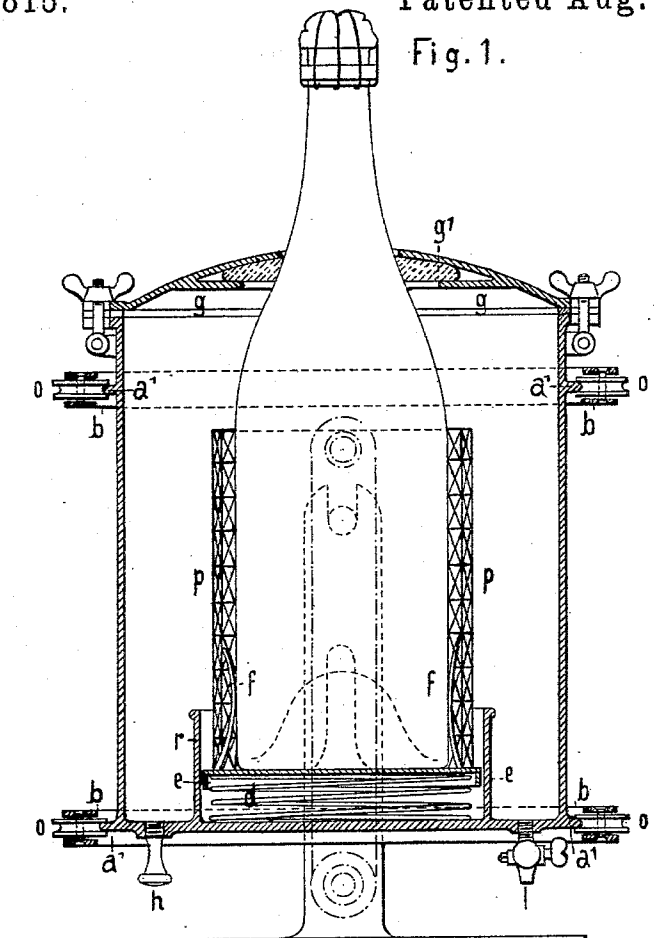
(No Model.) 3 Sheets—Sheet 1.

J. CRAMER.

APPARATUS FOR COOLING LIQUIDS IN BOTTLES.

No. 303,815. Patented Aug. 19, 1884.

Fig. 1.



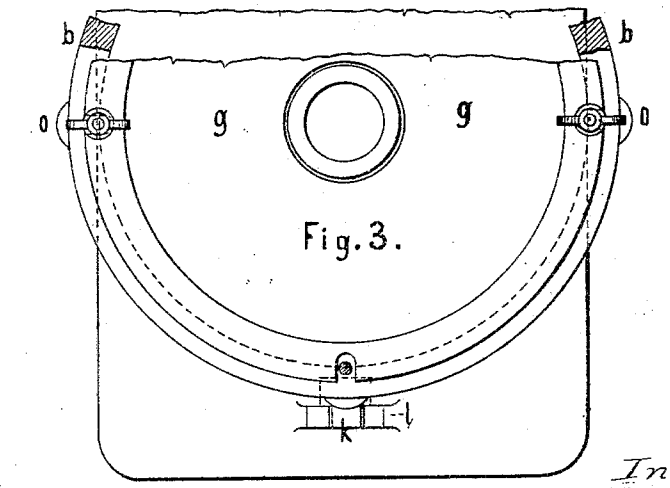


Fig. 3.

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Fig. 6.

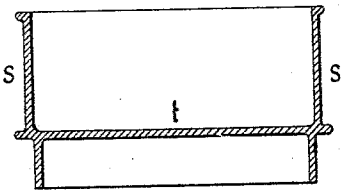


Fig. 2.

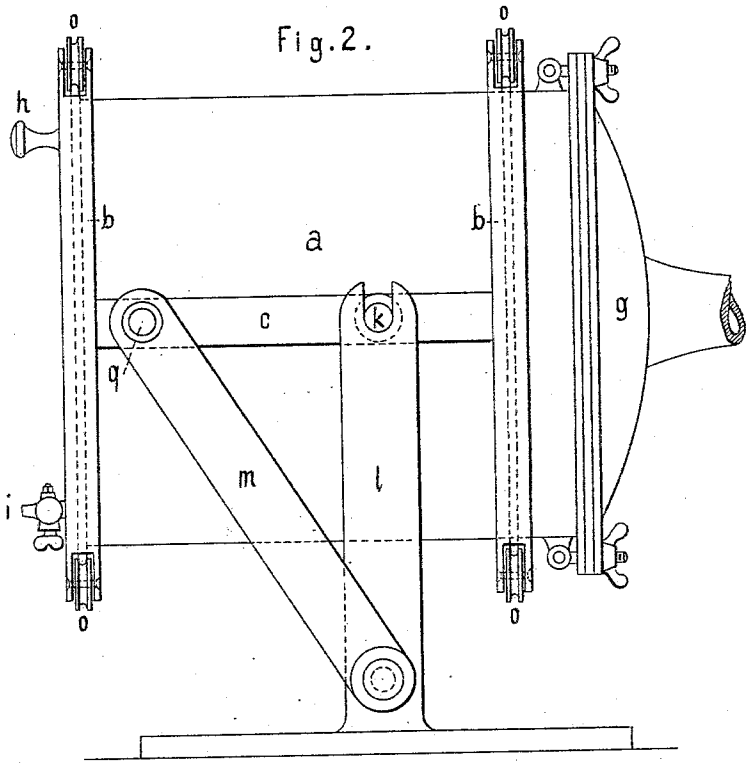
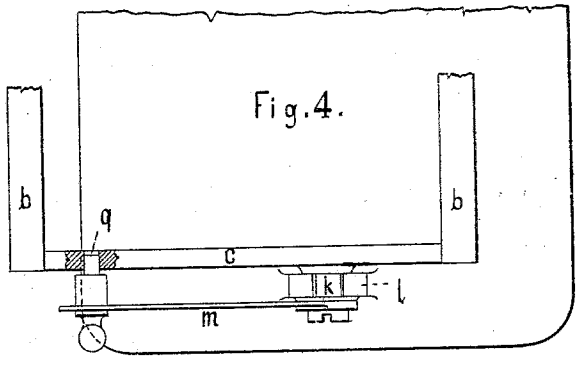


Fig. 4.



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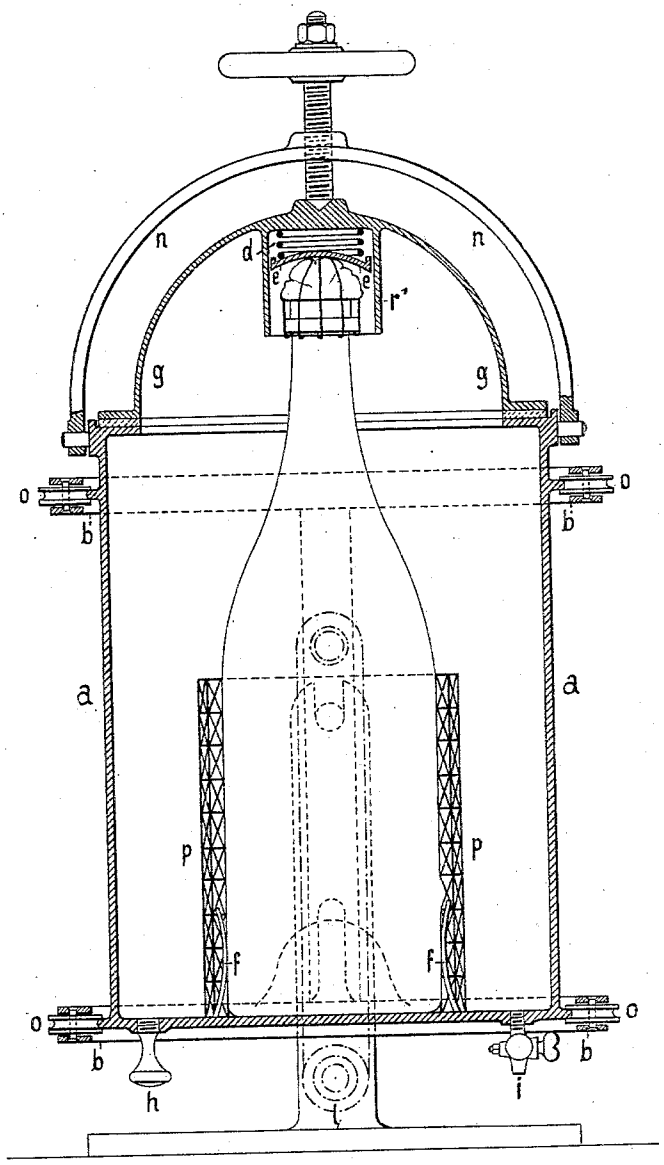
APPARATUS FOR COOLING LIQUIDS IN BOTTLES.

No. 303,815. Patented Aug. 19, 1884.

Fig. 5.



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UNITED STATES PATENT OFFICE.

JULIUS CRAMER, OF BARMEN, PRUSSIA, GERMANY.

APPARATUS FOR COOLING LIQUIDS IN BOTTLES.

SPECIFICATION forming part of Letters Patent No. 303,815, dated August 19, 1884.

Application filed May 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, JULIUS CRAMER, of Barmen, Kingdom of Prussia, German Empire, have invented an Apparatus for Cooling Liquids in Bottles, of which the following is a specification.

My invention consists in an apparatus for cooling bottled liquids, comprising a rotative drum adapted to receive the bottle and the cooling medium and to be tightly closed, and means for turning it into horizontal or vertical position, for clamping the bottle in the drum, and for maintaining a free space within the drum for the insertion of bottles when ice is used as cooling medium.

Figure 1 of the annexed three sheets of drawings shows the apparatus in vertical section, the drum *a* being in vertical position and containing a bottle. Fig. 2 is an outside view with the drum in horizontal position. Fig. 3 is a portion of the plan corresponding to Fig. 1. Fig. 4 is a portion of the plan corresponding to Fig. 2, but without drum. Fig. 5 is a vertical section of a modified arrangement of the apparatus, and Fig. 6 a part to be used when small bottles are cooled.

The drum *a* is mounted between rollers *o*, pivoted in a frame consisting of the two rings *b* and cross-bars *c*, having journals *k*, by which the frame is carried in standards *l*, fixed to a suitable foot. Preferably the drum is provided with two peripherical ribs, *a'*, running in grooves turned into the rollers. Inside of the drum there is, according to Fig. 1, at the bottom of the same, a socket, *r*, containing a spiral spring, *d*, and a plate or washer, *e*, to which are attached springs *f*, adapted to clamp the bottle from the side, and a basket, *p*, of wire-work or perforated sheet metal, the purpose of which it is to keep the central portion of the drum free for the insertion of the bottles when ice is used as cooling medium. The drum is provided with a cover, *g*, having a hole in the middle for the neck of the bottle to pass through, and arranged to be easily removed and replaced. It may, for instance, be secured by thumb-nuts on screws hinged to the drum and engaging with slits in the flange of the drum and the cover. The edge of the hole in the cover is fitted with a packing-ring, *g'*, adapted to bear against the shoulder of the bottle, and a packing is also inserted between the flanges of the drum and the cover. For the purpose of keeping the drum in horizontal position when it is to be rotated, the frame *b c* is provided with a locking device consisting, by preference, in a springing arm, *m*, Figs. 2 and 4, pivoted to one of the standards *l*, and having at its outer end a stud arranged to catch at *q* into a hole in the bar *c* when being horizontal.

When a bottled liquid—as, for instance, champagne—is to be cooled by means of ice, the frame *b c* is unlocked, whereupon the drum, whose journals *k* are above its center of gravity, assumes a vertical position. The bottle is then pushed between the springs *f* until it stands on the plate *e*, the space around the basket *p* is filled with ice or ice and salt, and the cover put on and screwed down, the spring *d* serving to prevent the bottle from being strained by this operation, and also to press it tightly against the packing *g'*. The frame *b c* having thereupon been turned into horizontal position and secured therein, as described, the drum may be rotated by means of the knob *h*, as may be considered requisite, without considerable disturbance of its contents.

In the modified arrangement shown by Fig. 5 the clamping-springs *f* and the basket *p* are fixed to the bottom of the drum, while the spring *d* and the washer *e* are contained in a socket, *r'*, on the inside of the cover *g*, which forms a cap to be put over and to inclose the top of the bottle. According to the drawings, this cover is secured by a clamping-screw working in a bow, *n*, pivoted to the drum, so that it may be turned down; but the cover may be fastened by screws such as shown in Fig. 1, or by any other suitable means, and, if it should be preferred, the cover in the first arrangement may be held in its place by two bows with clamping-screws, one on either side of the projecting bottle-neck, and alike to the bow *n*.

In case the apparatus, Figs. 1 to 3, is to be used for small bottles, the height between the plate *e* and the packing *g'* is reduced according to the size of the bottles by means of a socket, *s*, Fig. 6, having the bottom *t* and fitting into the socket *r*, the spring *d* and the plate *e*, with basket *p*, being transferred to the socket *s*, or other like

parts particularly adapted to the small bottles being used instead thereof. In similar manner the interior height of the apparatus, Fig. 5, may be reduced by a special socket fitting into the socket *r'*.

I claim as my invention—

1. An apparatus for cooling liquids in bottles, in which are combined a drum, *a*, mounted rotatively between rollers *o*, pivoted in a frame, *b c*, that can be turned on journals *k*, a device for locking the said frame when the drum is in horizontal position, and a cover, *g*, provided with means for securing it to the drum, substantially as and for the purpose described.

2. The combination, with the drum *a*, journaled frame *b c*, provided with means for locking it, rollers *o*, and cover *g*, of a spring, *d*, adapted to act endwise against the bottle inserted into the drum, as and for the purpose specified.

3. The combination, with the drum *a*, journaled frame *b c*, means for locking it, rollers *o*, cover *g*, and spring *d*, of the clamping-springs *f*, as hereinbefore described.

4. The combination, with the drum *a*, journaled frame *b c*, locking device for the same, rollers *o*, and cover *g*, of the basket *p*, substantially as described, and for the purpose set forth.

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

JULIUS CRAMER.

Witnesses:

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GEORGE KOCH.