No. 896,303.

PATENTED AUG. 18, 1908.

H. KLEPPER.

CUTTER FOR METALLIC CAPSULES ON BOTTLES.

APPLICATION FILED FEB. 26, 1907.

Fig. 1.

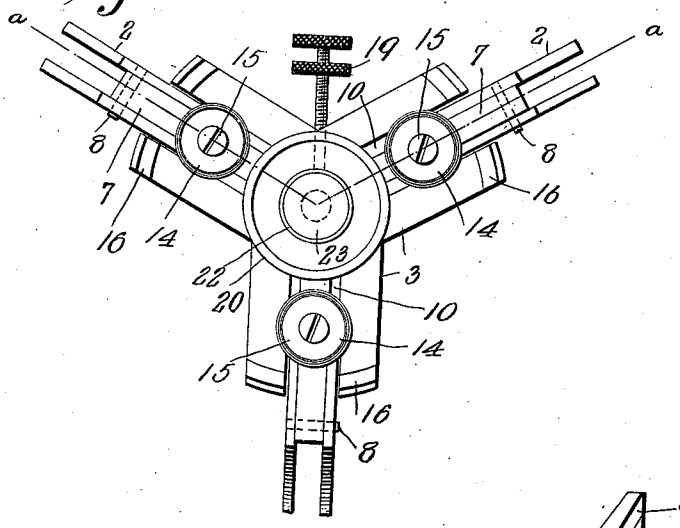
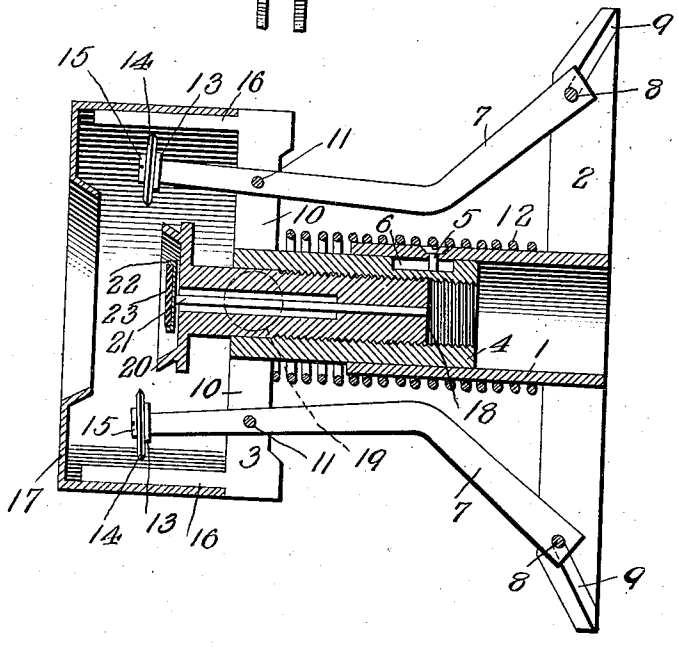


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

HEINRICH KLEPPER, OF HOFHEIM, IN THE TAUNUS, GERMANY.

CUTTER FOR METALLIC CAPSULES ON BOTTLES.

No. 896,303. Specification of Letters Patent. Patented Aug. 18, 1908.

Application filed February 26, 1907. Serial No. 359,486.

To all whom it may concern:

Be it known that I, HEINRICH KLEPPER, a subject of the German Emperor, and resident of Hofheim, in the Taunus, Germany, have invented certain new and useful Improvements in Cutters for Metallic Capsules on Bottles, of which the following is a specification.

The present invention relates to a device for facilitating the removal of metallic capsules from bottles.

Bottles containing liquors and the like are generally provided with metallic capsules which chiefly are put on for ornamental reasons but they also serve to exclude the air and prevent leakage in case the stoppers are defective. Prior to withdrawing the stopper from the bottle, the capsules or the top thereof must be removed and this has hitherto been done by hand by means of a pocket knife or the like, the edge of which soon gets blunt.

The object of my invention is to provide a device which does this work easier, more quickly and more accurately.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a bottom view of my improved device, the parts being in their operative position, and the funnel at the bottom of the device being removed; and Fig. 2 is a section on line *a—a*, Fig. 1, the parts being in their position of rest.

The device comprises an upper frame and a lower frame. The upper frame is composed of a downwardly extending central sleeve 1 and bifurcated arms 2, preferably three in number. The lower frame is composed of lateral arms 3, preferably three in number, and an upwardly extending sleeve 4 telescoping with the sleeve 1. The arms 2 are equidistant from each other, as are also the arms 3, and the arms 2 are in alinement with the arms 3 and held in such position by means of a pin 5 which is secured to the sleeve 1 and operates in a slot 6 in the sleeve 4. The pin and slot connection between the sleeves prevents relative rotation of the frames while it permits of the frames being moved towards and from each other.

7 are bent levers which have their upper end projecting into the space between the branches of the bifurcated arms 2 and provided with lateral pins 8 operating in inclined slots 9 in the sides of the arms 2. The lower ends of the levers 7 project through slots 10 in the arms 3 and are pivoted therein by means of pivot pins 11. A spring 12 coiled around the sleeve 1 tends to hold the frames in the position of rest shown in Fig. 2, the frames being prevented from moving further apart by the pins 8. The levers 7 have enlarged lower ends 13 in which cutting disks 14 are journaled through the medium of bolts 15. The arms 3 have depending flanges 16 on which a funnel 17 is fitted which serves to protect the cutting disks.

A tubular shaft 18 is adjustably arranged in the sleeve 4 and is held in any desired position by means of a set-screw 19. The lower end of the shaft 18 terminates in a funnel-shaped platform 20.

21 is a stem which is secured in the upper part of the shaft 18 and extends downwardly through the hollow of the shaft so as to permit of lateral play between the lower end of the stem and the shaft, the stem being of spring wire. On the lower end of the stem 21 and within the funnel of the platform 20, a disk or base plate 22 is rotatably mounted. The disk 22 is preferably covered with a sheet 23 of rubber or other elastic material.

The operation of the device is as follows: The upper frame is secured to a wall or the like and the neck of the bottle is introduced through the funnel 17, which guides the introduction, and the top of the bottle is pushed against the disk 22, thereby causing the lower frame to move towards the upper frame and against the action of the spring 12. The movement of the lower frame causes the pins 8 of the levers 7 to travel upwardly in the inclined slots of the arms 2 which in turn causes the lower knife carrying ends of the levers to move inwardly to bring the knives in contact with the side of the capsule. As the lower end of the stem 21 carrying the disk 22 is capable of lateral movement, the knives will be pressed equally hard against the capsule. The bottle is thereupon rotated by hand, thereby causing the knives to cut through the capsule to permit of the top being removed. As the disk 22 is rotatably mounted and covered by a rubber sheet which adheres to the capsule, there is no danger of the capsule rotating relatively to the bottle neck. When the bottle is removed, the spring 12 returns the parts to the position shown in Fig. 2. The shaft 18 is adjustably arranged in the sleeve 4 in order to make it possible to cut the capsule at any desired point from the top thereof.

The upper frame may be used as a handle instead of being secured to a wall and the device is in such case inserted over the bottle neck and pressure exerted against the bottle, the operation of the device being the same in this instance.

The platform 20 serves to guide the bottle neck and center it relatively to the cutting disks.

I wish it to be understood that I do not limit myself to the exact construction herein shown and described as many changes may be made therein without departing from the scope of the invention.

Having described my invention, what I claim as new is:

1. In a device of the character described, the combination of an upper frame, a lower frame having sliding connection with said upper frame, bent levers pivoted intermediate of their ends in the lower frame, knives carried by the extreme lower ends of said levers, and a sliding connection between the upper ends of the levers and the upper frame causing the knives to swing towards each other when the frames are forced together.

2. In a device of the character described, the combination of a support, cutters mounted in said support and capable of movement towards each other, and a base plate loosely arranged in said support between the cutters and adapted for engagement with the top of a bottle.

3. In a device of the character described, the combination of a support, cutters mounted in said support, means for moving said cutters towards each other, and a base plate carried by said support and adapted for engagement with the top of a bottle; said base plate being movable laterally between the cutters.

4. In a device for cutting capsules on bottles, the combination of a support, cutters mounted in said support and capable of movement towards each other, and a rotatable base plate loosely arranged in said support between the cutters; said base plate being provided with a rubber cover adapted to engage the top of the capsule for preventing the capsule from rotating on the bottle.

5. In a device of the character described, the combination of an upper frame, a sleeve carried by said frame, a lower frame, a second sleeve carried by the lower frame and telescoping with said first-named frame, a spring tending to separate said frames, knife carrying members pivoted in the lower frame, and connections between said members and the upper frame causing the members to approach each other when the frames are forced together.

6. In a device of the character described, the combination of an upper frame, a lower frame having telescoping connection with said upper frame, a spring tending to separate said frames, knife carrying members pivoted in the lower frame, connections between said members and the upper frame causing the members to approach each other when the frames are forced together, a tubular member carried by said lower frame, a stem arranged with lateral play in said tubular member, and a base plate rotatably arranged on said stem.

7. In a device of the character described, the combination of an upper frame having arms provided with lateral slots, a sleeve on said frame, a lower frame having arms provided with vertical slots, a sleeve on said lower frame telescoping in said first named sleeve, knife carrying levers pivoted in the walls of the slots of the lower frame and having their upper ends provided with pins engaging in the slots of the upper frame, a spring tending to separate said frames, and a base plate arranged between said knife carrying levers and capable of rotation and transverse movement relatively thereto.

The foregoing specification signed at Frankfort on the Main this 25th day of May, 1906.

HEINRICH KLEPPER.

In presence of—
JEAN GRUND,
CARL GRUND.