C. HAMMER.

METAL CAP.

APPLICATION FILED MAR. 13, 1911.

997,807.

Patented July 11, 1911.

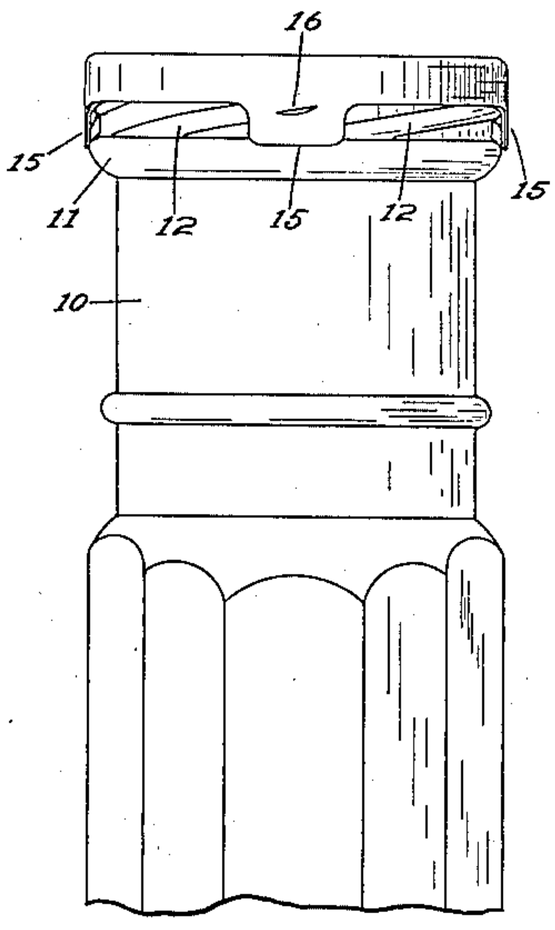

Fig. 1

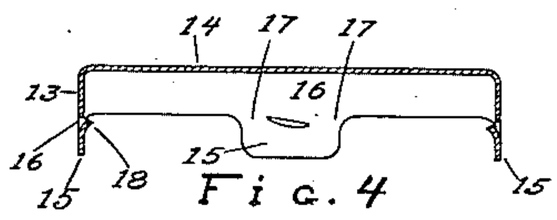

Fig. 4

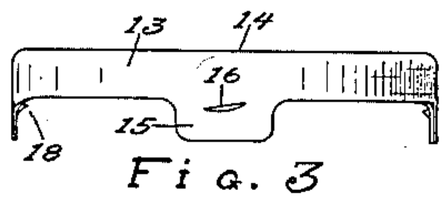

Fig. 3

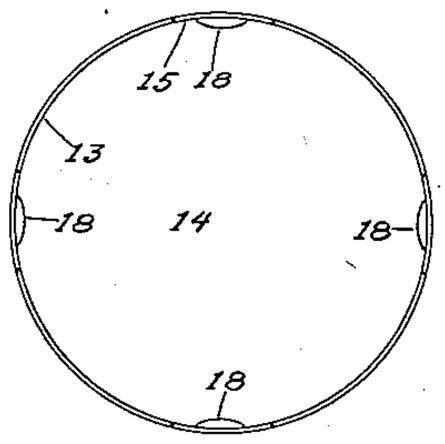

Fig. 5

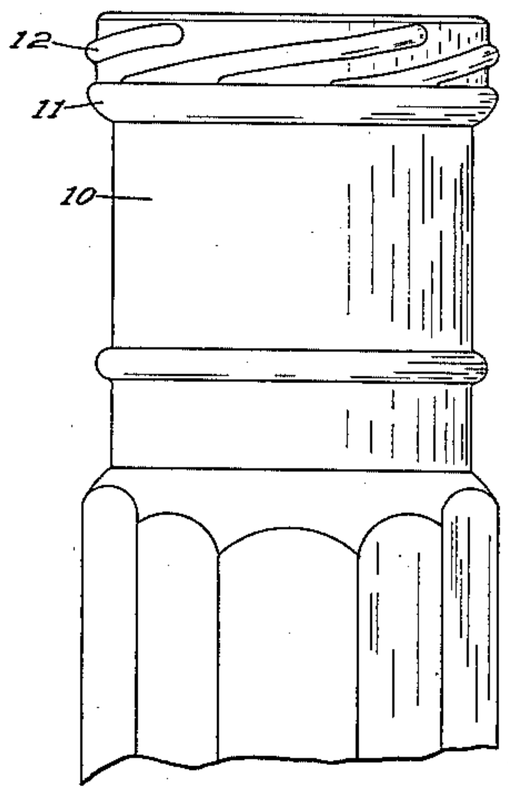

Fig. 2

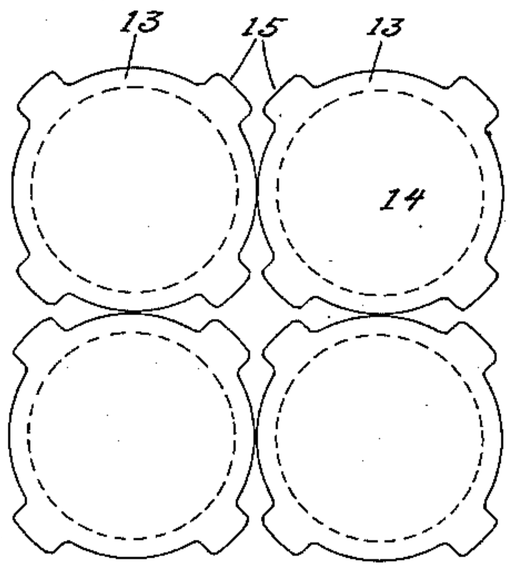

Fig. 6

WITNESSES:

H. E. Keable

W C Campbell

INVENTOR

Charles Hammer

BY

Owens & Fairbank

ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES HAMMER, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN METAL CAP COMPANY, OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

METAL CAP.

997,807. Specification of Letters Patent. Patented July 11, 1911.

Application filed March 13, 1911. Serial No. 614,108.

To all whom it may concern:

Be it known that I, CHARLES HAMMER, a citizen of the United States, and a resident of the borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Metal Caps, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in metal caps for use in connection with bottles, jars or other similar vessels, which have a neck upon which the cap may be secured by a rotating or turning movement.

More particularly my invention relates to that type in which the cap has a peripheral flange and inwardly-directed projections for engagement with threads on the bottle neck.

The glass bottles or jars of the type to which my cap is particularly applicable are formed with an annular bead, upon the outer surface of the neck, and spaced a short distance from the mouth of the bottle and between this bead and the mouth are a plurality of short ridges forming screw threads. In practice, there is invariably a slight variation in the size of the bottle neck, the distance from the mouth to the bead and the diameter of the bead.

The main object of my invention is to so form the cap that the projections will properly engage with the threads, irrespective of slight variations in the size of the neck, and the bead will not prevent the cap from being properly screwed into place, even though said bead be somewhat larger than the average.

A further object of my invention is to prevent the cap from accidentally loosening, and to do this I provide portions which frictionally and resiliently engage with the bead and bind against the same at the same time that the projections engage with the threads.

A still further object of my invention is to facilitate the opening of the bottle or jar in case the contents of the bottle or jar act to glue the cap to the mouth of the bottle.

Other objects and advantages will be set forth more fully hereinafter and the scope of the invention will be defined in the claims.

Reference is to be had to the accompanying drawings, which form a part of this specification, and in which similar reference characters indicate corresponding parts of the different drawings.

Figure 1 is a side elevation of a bottle provided with my improved cap; Fig. 2 is a side elevation of the upper portion of the bottle, the cap being removed; Fig. 3 is a side elevation of the cap, itself, removed from the bottle; Fig. 4 is a central longitudinal section through the cap; Fig. 5 is an inverted plan view; and Fig. 6 is a diagrammatic view showing the economical manner in which my improved cap may be cut from a sheet.

As previously stated, my improved cap is adapted for use in connection with bottles, jars or other vessels having a neck portion 10 encircled by an annular bead 11 spaced a short distance from the mouth and having a plurality of inclined ridges 12 intermediate between the bead and the mouth and forming screw threads. The cap itself has a peripheral band portion 13 and a top portion 14, which may or may not be connected together. As shown, they are integral. The flange or peripheral band 13 is substantially cylindrical, and has a plurality of depending tabs or extensions 15, the number corresponding to the number of screw threads 12. Within each tab, lug or extension, there is a transverse slit 16 below the basal edge of the flange or band, and preferably inclinded at an angle corresponding with the angle or pitch of the threads 12. The slit is somewhat shorter than the width of the tab, so as to leave connecting portions 17 at each end of the tab, and the portion of the tab directly below the slit is struck inwardly so as to form a shoulder or projection 18. The band of the cap is of such size that it may fit down over the threaded portion of the neck, and the projections are so disposed that they may engage with the screw threads of the bottle neck and draw the cap firmly into place as the latter is rotated. The lower end of the tabs or extensions frictionally and resiliently engage with the outer surface of the bead of the neck, and thus act to retard the final turning movement of the cap in screwing the latter in place, and likewise to resist and prevent the accidental turning loose of the cap. In case the bead is somewhat larger than the average size, the tabs may readily bend outwardly, due to the resiliency of the metal, and thus accommodate

themselves to beads of any size. As the projections are carried by the tabs, it is evident that an outward bending of the tab will slightly lower the projection carried thereby. Thus in case one of the screw threads of the neck be slightly lower than the remainder, the particular tab in engagement therewith may bend inwardly and permit its projection to accommodate itself to the thread. The metal portions 17 at the ends of the slit are comparatively narrow, and the cap is preferably made of thin metal, so that in case the contents of the bottle or jar should act to glue or adhesively secure the inner surface of the cap to the bottle mouth and prevent the cap from being unscrewed, a person may with his fingers pull outwardly the lower ends of the tabs to bring them at right angles to the band, and thus bring the projections entirely out of engagement with the threads of the neck. Now, it is unnecessary to rotate the cap to remove it, and any simple tool may be inserted beneath the edge of the cap to pry the latter off. After the cap has been pried off, the tabs may bend back to their former position and the cap screwed on to the bottle again, in case it is desired to reclose the latter. By forming the projections upon depending tabs, the peripheral flange or band portion 13 may be made very narrow and thus a material saving of metal effected. In laying out the blanks on a sheet, each cap will require an amount of space dependent upon the diameter of the cap and the width of the flange. The tabs need not be taken into consideration, as they may be arranged to come out of the metal which would otherwise be wasted. This is shown particularly in Fig. 6. It will be seen that the narrower the band can be made, the greater will be the saving of the metal and, consequently, the less will be the cost to manufacture.

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

1. The combination with a bottle or jar, having a threaded neck and an annular encircling bead, a sheet metal cap having a top or body portion and a peripheral band and tabs integral with said band and depending from the lower edge thereof, and each having an inwardly extending projection below the lower edge of the band and above the lower end of the tab, for engagement with said threaded neck, the tabs below their projections serving to resiliently engage said bead, and the tabs being bendable outwardly to permit disengagement of their respective projections from said threaded neck.

2. A cap for bottles and jars having a peripheral sheet metal band presenting at its lower edge depending lugs integral therewith, each lug having a transverse slit below the basal edge of the band and above the lower end of the lug, a portion of the lug at the lower side of the slit being bent inwardly to form a projecting shoulder and the portions of the metal at the ends of the slit being comparatively narrow, and permitting the portion of the lug below the slit and its projecting shoulder to be bent outwardly.

3. A cap for bottles and jars having a peripheral band presenting depending lugs, each lug having an inwardly projecting shoulder intermediate its upper and lower edges.

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

CHARLES HAMMER.

Witnesses:
CLAIR W. FAIRBANK,
MARTIN BOURKE.