C. E. McMANUS.

BOTTLE CLOSURE.

APPLICATION FILED MAY 15, 1906.

1,043,857.

Patented Nov. 12, 1912.

Fig. 1a

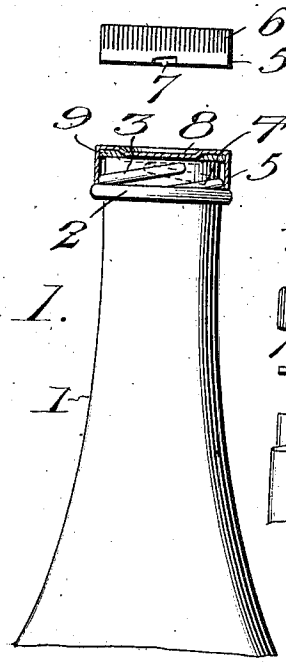


Fig. 1.

Fig. 5.

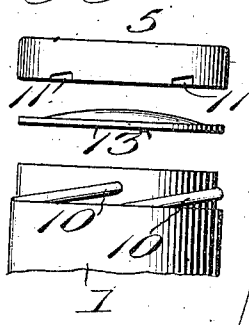


Fig. 2a

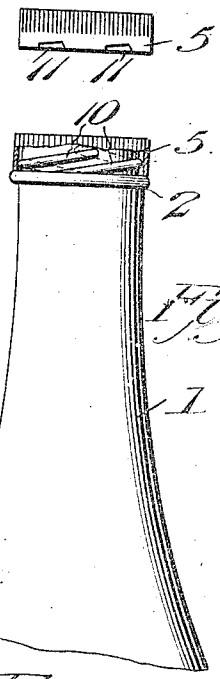


Fig. 2.

Fig. 3

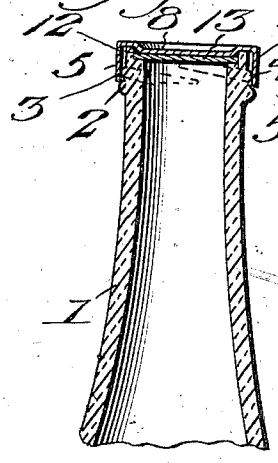


Fig. 6.

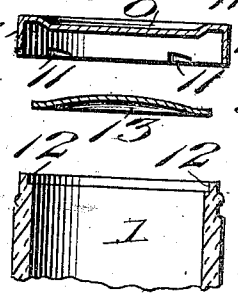
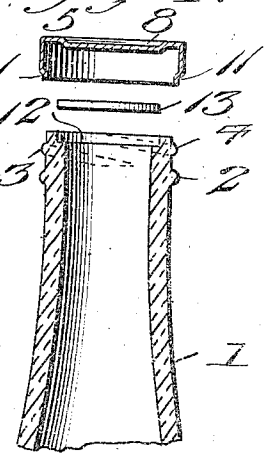


Fig. 7.



Witnesses

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BOTTLE-CLOSURE.

1,043,857. Specification of Letters Patent. Patented Nov. 12, 1912.

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To all whom it may concern:

Be it known that I, CHARLES E. McMANUS, a citizen of the United States, residing at New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Bottle-Closures, of which the following is a specification.

This invention relates to bottle closures. The objects of the invention are to improve the construction of such devices; furthermore, to increase their efficiency in operation, and to decrease the expense attending their manufacture and application to a bottle.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts, and in the details of construction hereinafter described and claimed as a practical embodiment thereof.

In the accompanying drawing, forming part of this specification: Figure 1 is a side elevation, partly in section of a bottle provided with a cap constructed in accordance with the present invention, one of the caps being shown disposed above the improved bottle. Fig. 1ª is a side view of the cap which is shown in section in Fig. 1. Fig. 2 is a similar view showing a slightly modified construction. Fig. 2ª is a side view of the cap shown in section on the bottle in Fig. 2. Fig. 3 is a vertical section of another modified construction. Fig. 4 is a view similar to Fig. 3, with the parts separated. Fig. 5 is a side elevation, showing the invention in connection with a jar. Fig. 6 is a vertical section of the construction shown in Fig. 5.

Like reference numerals indicate corresponding parts in the different figures of the drawing.

The reference numeral 1 indicates a bottle or jar which may be of any suitable form, size, shape and construction. Bottle 1 is formed adjacent to the upper end thereof with an annular rib or shoulder 2. Extending upward from the rib or shoulder 2 is a plurality of separated spiral threads such as 3, 4. Each of the threads 3—4 is adapted to be engaged by an inward projection upon a cap such as 5 which may be crimped or roughened around its periphery as indicated at 6 in order to facilitate its application to and removal from the bottle. The inward projections on the cap 5 preferably are produced by notching or stamping inward a portion of the lower edge thereof as indicated at 7. Each of the notches 7 preferably is formed with an inclined upper end, as indicated clearly in Figs. 1, 2 and 6, the incline of the upper end of the notch being the same as the incline of the shoulder or thread 3—4 which said notch is intended to engage in applying the cap to a bottle. The cap 5 is formed in its top with a depression such as 8, and is provided interiorly with a disk such as 9 of any suitable material, the disk 9 being adapted to be forced closely against the upper end of the bottle by means of the depression 8, in order to close said bottle in an air-tight manner.

The construction illustrated by Fig. 2 is exactly the same as that illustrated by Fig. 1, except that the bottle is provided with two more closely related separated spiral threads 10 and the cap 5 is formed with an additional number of notches 11 having inclined upper ends to engage said threads. It will be apparent therefore that the invention can be carried out by using two or in some cases even more separated threads.

It will be observed from Figs. 1 and 2 that the separated threads extend upward from the annular rib or shoulder 2. For this reason it is only necessary to give the cap a partial revolution in order to lock it in position upon the bottle. Furthermore, it will be observed that when the cap is reversely rotated, the notches will ride up the threads so as to release the cap quickly from its engagement with the bottle.

The constructions illustrated in Figs. 3 to 6 inclusive are practically the same as those shown in Figs. 1 and 2, except that the bottle or jar is rabbeted as indicated at 12 to receive an inner seal or disk such as 13. The disk 13 may be either flat as indicated in Figs. 3 and 4, or dished, as indicated in Figs. 5 and 6. When a dished disk is employed, the depression 8 strikes against the dished portion of the disk so as to flatten the same and cause it to expand in diameter, so as to form an air-tight seal in the upper end of the bottle or jar.

It is well known that in using a jar or bottle having the ordinary form of single spiral thread, it is necessary that the cap be also threaded. Furthermore in applying the old form of threaded cap it is

necessary to give the same a plurality of revolutions in order to apply it to the bottle. According to the present invention the expense and time consumed in forming a cap with screw threads is avoided, and a great saving of time is effected in applying the cap after the contents of the jar or bottle have been inserted.

The improved bottle closure of this invention is strong, simple, durable and inexpensive in construction as well as thoroughly efficient in operation.

Changes in the precise embodiment of invention illustrated and described may be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

Having thus described the invention what is claimed as new is:

1. A bottle or jar having a rabbeted portion, a dished disk adapted to fit said rabbeted portion, and a cap adapted to flatten said dished disk to increase its diameter.

2. A bottle or jar having a rabbeted portion, a dished disk adapted to fit into said rabbeted portion, and a cap having a depression in its end adapted to flatten the dished disk to increase its diameter.

3. A bottle or jar having a rabbeted portion, an annular rib, and a plurality of separated spiral threads extending upward from the rib, a dished disk fitted into the rabbeted portion, and a cap having a depression to flatten the dished disk and a plurality of inclined notches in the lower edge thereof to form inward projections to engage the separated threads.

4. A bottle or jar provided with an annular shoulder and a plurality of superposed separated threads connecting at their lower ends with said shoulder, in combination with a cap having one or more inpunched projections at its lower edge to engage said threads, said projections being provided with inclined upper walls having an angular arrangement with relation to the lower edge of the cap conforming to the angular arrangement of the threads with relation to the shoulder, whereby stops are provided at the junction of the threads with the shoulder to limit the turning movement of the cap, the relative angular arrangement of the parts being such as to adapt the cap to be screwed down into close contact with the shoulder so that the inclined upper walls of the projections and basal edges of the inner walls thereof will respectively bear against the threads and shoulder and exert resisting pressures to prevent injury to the projections when the cap is screwed on.

5. A bottle or jar provided with an elongated neck having an annular rib or shoulder and a plurality of superposed separated threads connecting at their lower ends with said shoulder, in combination with a cap having one or more inpunched projections at its lower edge to engage said threads, said projections being provided with inclined upper walls having an angular arrangement with relation to the lower edge of the cap conforming to the angular arrangement of the threads with relation to the shoulder, whereby stops are provided at the junction of the threads with the shoulder to limit the turning movement of the cap, the relative angular movement of the parts being such as to adapt the cap to be screwed down into close contact with the shoulder so that the inclined upper walls of the projections and basal edges of the inner walls thereof will respectively bear against the threads and shoulder and exert resisting pressures to prevent injury to the projections when the cap is screwed on.

6. A bottle or jar having a rabbeted portion, and a plurality of separated threads, a dished disk adapted to fit said rabbeted portion, and a cap having a depression to flatten said disk, and means to engage the separated threads.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. McMANUS.

Witnesses:
JOHN L. FLETCHER,
H. M. STERLING.