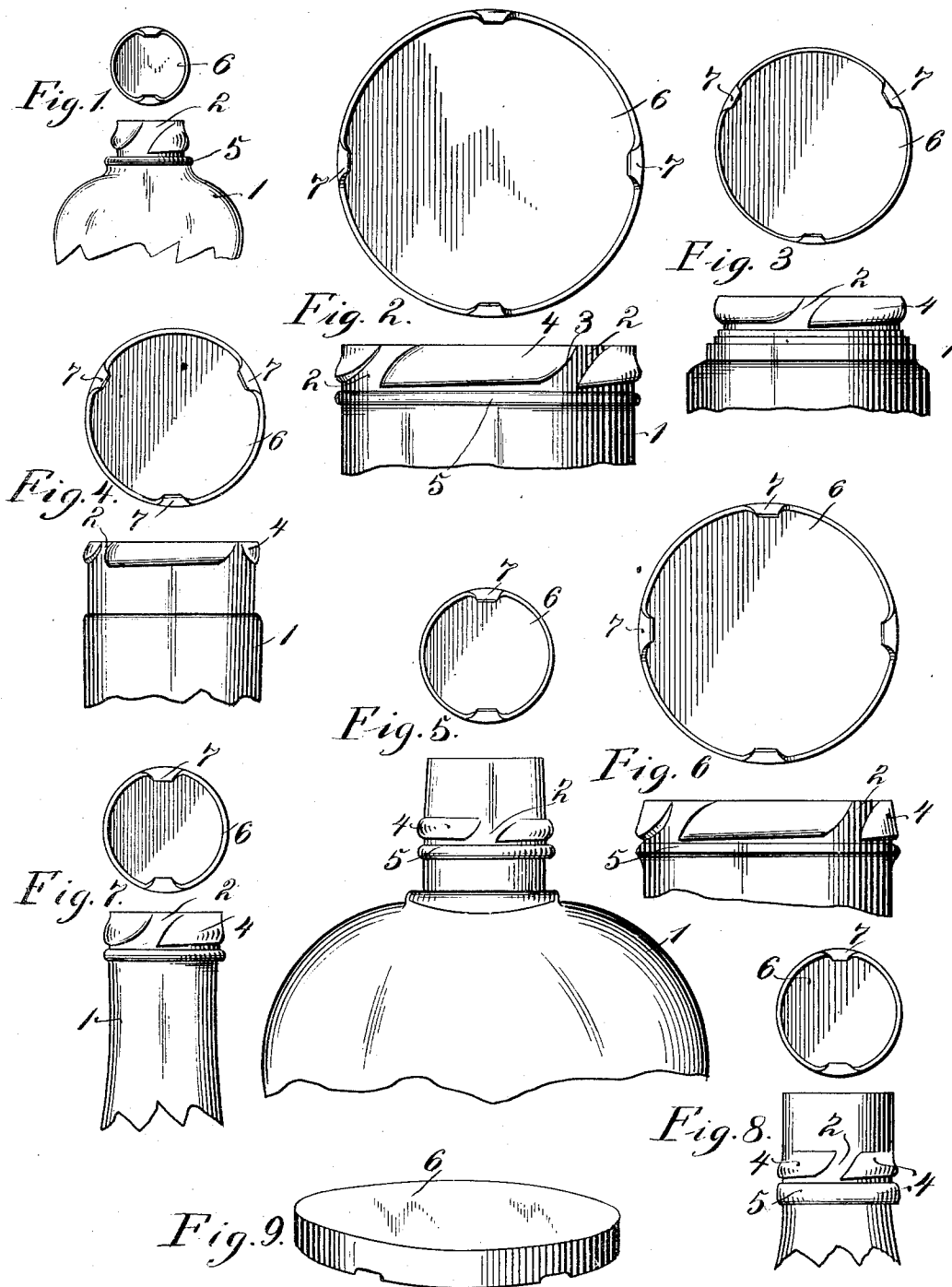


No. 826,796.

PATENTED JULY 24, 1906.

C. E. McMANUS.
BOTTLE CLOSURE.

APPLICATION FILED JUNE 3, 1905.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES E. McMANUS, OF NEW YORK, N. Y.

BOTTLE-CLOSURE.

No. 826,796.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed June 3, 1905. Serial No. 263,607.

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 county of New York and State of New York, have invented new and useful Improvements in Bottle-Closures, of which the following is a specification.

This invention relates to bottle-closures or the like.

The object of the invention is to improve the construction of the bottle-closures forming the subject-matter of United States Patents Nos. 762,745 and 772,250, granted to me June 14, 1904, and October 11, 1904, respectively.

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 drawings, forming part of this specification, Figure 1 is a side elevation of the upper portion of a bottle or jar with the cap elevated thereabove. Figs. 2, 3, 4, 5, 6, 7, and 8 are similar views showing the different forms of bottles or jars to which the invention can be applied. Fig. 9 is a perspective view of the cap.

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

In the bottle-closures forming the subject-matter of my prior patents the internal projections or lugs of the cap in applying the same are passed through a number of inclined grooves until they engage the under edge of a straight or horizontal shoulder. The objection to these forms of closure is that after the lugs have been moved into engagement with the under edge of the straight shoulder it is impossible to tighten the cap any further upon the bottle in the event that such further tightening should be necessary. By means of my present invention I overcome this objection by dispensing with the use of the horizontal shoulder and employing a shoulder having a gentle downward incline, so that after the lugs or projections of the cap have been passed through the sharply-inclined grooves of the neck and have engaged the gently-inclined shoulder the cap may be tightened to any desired extent by merely rotating the same.

In order that my invention may be more

clearly understood, I will describe the same with particular reference to the accompanying drawings.

The numeral 1 indicates the upper portion of a bottle, jar, or other suitable receptacle, which may be of any desired form, as indicated in the drawings. The neck or extreme upper end of the receptacle 1 is formed exteriorly with a plurality of downwardly-extending grooves 2, which are widened at their upper ends, as shown in the drawings. The grooves 2 serve to produce a plurality of shoulders 3, which extend downward on a sharp incline and merge into gently-inclined shoulders 4. If desired, an annular shoulder or collar 5 may be formed on the receptacle below the shoulders 3 and 4, the lower end of each of the shoulders 4 terminating a slight distance above the shoulder 5, as shown clearly in Fig. 2.

The cap 6 may be of any suitable form and construction having inward projections or lugs 7, which are adapted to engage the shoulders 3 and 4 and constitute means to lock the cap in position.

In applying the cap to the bottle or jar the flared or widened upper end of the grooves 2 facilitates the entry of the projections 7. The first turn of the cap 6 serves to move the projection 7 along the sharply-inclined shoulders 3 until they engage the gently-inclined shoulders 4. The cap may then be locked with sufficient tightness upon the bottle. The lower end of each of the shoulders 4 preferably is disposed sufficiently near to the annular shoulder 5 to prevent the cap from being turned so far that the projections 7 will pass the lower end of the shoulders 4.

From the foregoing description it will be apparent that I have provided a bottle-closure which may be quickly applied and locked with any desired degree of tightness without danger of the same working loose, as would be the case if a spiral groove of uniform pitch throughout its length were employed.

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 receptacle having an exterior shoulder extending downward on a sharp incline and merging into a shoulder having a

gentle downward incline, a cooperating shoulder disposed below the gently-inclined shoulder, and a cap having a locking projection to engage the shoulders, the projection being of sufficient thickness to prevent it from passing beyond the extreme lower end of the gently-inclined shoulder and the underlying cooperating shoulder.

2. A bottle or receptacle having an external shoulder extending downward on a sharp incline and merging into a gentle incline; a horizontal shoulder disposed below the gently-inclined shoulder, and a cap having an inward projection of sufficient thickness to prevent it from passing beyond the extreme ends of said shoulders.

3. A bottle or receptacle having external shoulders, each extending downward on a sharp incline and meshing into a gentle incline, an annular shoulder disposed below the gently-inclined shoulder, and a cap having inward projections of sufficient thickness to prevent them from passing between the extreme lower ends of the gently-inclined shoulders and the annular shoulder.

4. A bottle or receptacle provided with external grooves having flared upper ends, said grooves producing a plurality of shoulders extending downward on a sharp incline and merging into a plurality of shoulders extending downward on a gentle incline, and a cap having inward projections to engage the shoulders,

said projections being of sufficient thickness to prevent them from passing between the extreme lower ends of the gently-inclined shoulders and the annular shoulder.

5. A bottle or receptacle having a neck formed with exterior shoulders, each extending downward on a sharp incline and merging into a shoulder having a gentle incline, an annular shoulder disposed below the lower end of the gently-inclined shoulders; and a cap having inward projections of sufficient thickness to prevent them from passing between the extreme lower ends of the gently-inclined shoulders and the annular shoulder.

6. A bottle or receptacle provided with spaced enlargements producing intervening grooves; said enlargements being formed with gently-inclined basal shoulders and sharply-inclined end shoulders merging at their lower ends into said gently-inclined shoulders; said sharply-inclined end shoulders being approximately coextensive in depth and shaped to flare or widen the upper entrance ends of the grooves, and a cap provided at its lower edge with projections to cooperate with said shoulders.

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

CHARLES E. McMANUS.

Witnesses:

CHARLES HAMMER,
FREDK. WURTZ.