

E. HOFFMAN.
SHEET METAL CAP CLOSURE.

(Application filed July 31, 1900.)

(No Model.)

FIG. 1.

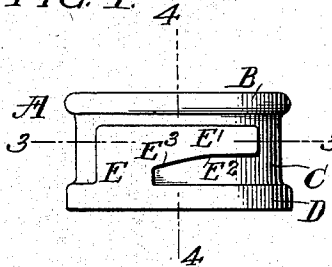


FIG. 2.

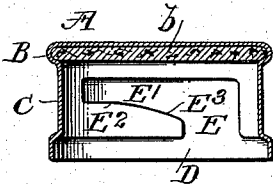


FIG. 3.

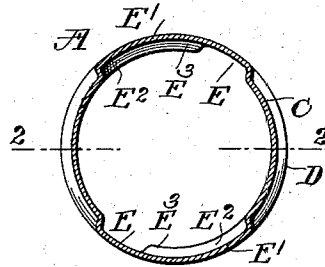


FIG. 4.

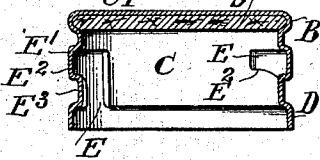


FIG. 5.

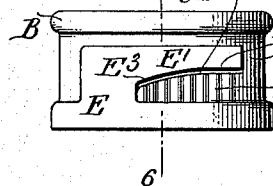


FIG. 6.

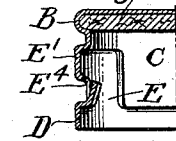


FIG. 7.

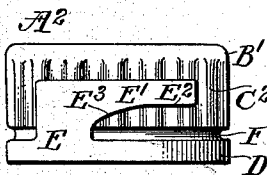


FIG. 8.

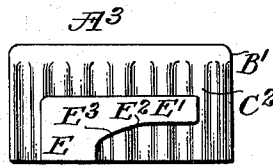


FIG. 9.

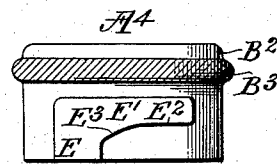


FIG. 10.

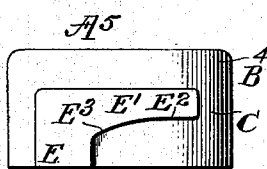


FIG. 11.

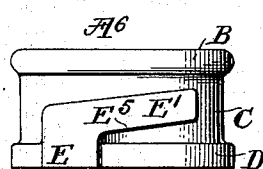


FIG. 12.

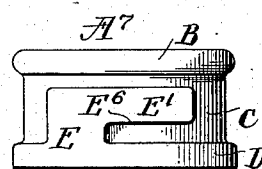


FIG. 13.

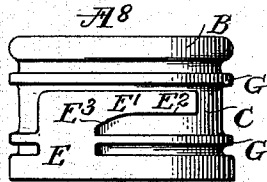


FIG. 15.

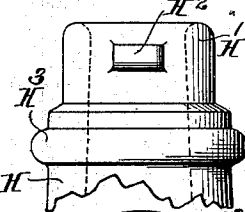
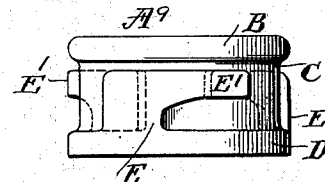


FIG. 14.



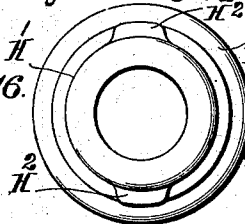
WITNESSES.

Henry Dancy
W. Stewart

INVENTOR.

E. Hoffman
by his att.
James J. Chambers

FIG. 16.



UNITED STATES PATENT OFFICE.

EDMUND HOFFMAN, OF BRIDGETON, NEW JERSEY, ASSIGNOR TO HIMSELF AND CHARLES E. E. WHITELEY, OF BRIDGETON, NEW JERSEY, HENRY WHITELEY, OF PHILADELPHIA, PENNSYLVANIA, AND WILLIAM G. WHITELEY AND ROBERT P. FRIST, OF WILMINGTON, DELAWARE.

SHEET-METAL CAP-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 714,303, dated November 25, 1902.

Application filed July 31, 1900. Serial No. 25,371. (No model.)

To all whom it may concern:

Be it known that I, EDMUND HOFFMAN, a citizen of the United States of America, residing in Bridgeton, in the county of Cumberland, in the State of New Jersey, have invented certain new and useful Improvements in Sheet-Metal Cap-Closures, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of sheet-metal cap-closures, and has for its object to provide a closure of this kind the walls of which will be of great strength and rigidity and which is adapted for use on bottles or similar receptacles having outwardly-projecting locking-lugs; and my invention, broadly speaking, consists in forming a sheet-metal cap-closure with outwardly-pressed channels extending upward from or near the edge of the closure and with laterally-extending outwardly-pressed channels communicating with the upwardly-extending channels, both channels being adapted to give passage to and engage with locking-lugs on a bottle-neck. By preference I form the bottom edge of the closure with an outwardly-pressed beading, connecting the outwardly-pressed and upwardly-extending channels, such a beading materially increasing the stiffness of the cap.

Reference being now had to the drawings which illustrate my invention, Figure 1 is a side elevation of a cap embodying my new construction. Fig. 2 is a sectional elevation taken as on the line 2 2 of Fig. 3. Fig. 3 is a cross-sectional plan view taken on the line 3 3 of Fig. 1. Fig. 4 is a sectional elevation taken on the line 4 4 of Fig. 1. Fig. 5 is a side elevation of a modified cap embodying my invention, Fig. 6 being a cross-sectional elevation on the line 6 6 of Fig. 5. Figs. 7 to 14, inclusive, are side elevations of other modified forms of caps, all embodying my invention. Fig. 15 is a side elevation of a bottle-neck such as my caps are adapted to be used with, and Fig. 16 is a plan view of the bottle-neck.

A, Figs. 1 to 4, inclusive, indicates one form of my cap, A', Figs. 5 and 6, a modification, and A², A³, A⁴, A⁵, A⁶, A⁷, A⁸, and A⁹ the other modifications already mentioned.

B indicates a circumferential beading at the top of the cap in the modifications indicated at A', A⁶, A⁷, A⁸, and A⁹, b, Figs. 2, 4, and 6, indicating a layer of cork which is in this style of cap-closure secured in the upper part of the cap, similar layers being in the other modifications secured in cases A² and A³ in the spaces indicated at B', in modification indicated at A⁴ in the spaces indicated at B² immediately above the corrugation B³, and in the modification indicated at A⁵ in the space indicated at B⁴.

C, in modifications A', A⁴, A⁵, A⁶, A⁷, A⁸, and A⁹, indicates a plane circumferential band, in which the outwardly-pressed channels are formed. In the modification indicated at A' the portion of this band situated below the horizontally-extending channel is corrugated, as indicated at C', and in the modifications illustrated at A² and A³ the corresponding portion of the cap is shown as vertically corrugated or crimped.

D is a circumferential outwardly-extending beading formed at the bottom of the cap-closure, being in all cases where it is shown, except the modification A⁶, flush with the outwardly-pressed channel E.

E is the upwardly-extending channel leading from the bottom of the cap or from the beading D and communicating with a laterally-extending outwardly-pressed channel E', the lower shoulder E² of which is engaged by the locking-lugs on the bottle. By preference, though not necessarily, the substantially horizontal ledge E² is connected with the upwardly-extending channel E by an inclined shoulder E³, though without departure from my invention the entire lower shoulder of the channel E' may be inclined, as shown at E⁵ in Fig. 11, or all incline may be omitted, as indicated at E⁶ in Fig. 12. In forming the lower shoulders E² or E² E³ it is sometimes preferable to slit them, as indicated at E⁴ in Figs. 5 and 6. In the modifica-

tion A², Fig. 7, I have shown a plane band F as interposed between the corrugated portion C² and the beading D, and in the modification A³, Fig. 13, I have shown circumferential strengthening-beads G G as extending out from the plane portion C. The modification A⁴, Fig. 14, does not differ from the modification A except in being adapted for use with three locking-lugs instead of two.

Referring to Figs. 15 and 16, H indicates the neck of the bottle formed, as shown, with a plane lip portion H', from which extend locking-lugs H² H³, indicating a beading below the plane portion.

It will readily be seen that any of the caps shown are adapted for use with the bottle H, and it will also be seen that my closure is one adapted for use with a simple and easily-made bottle and one which, by reason of the distribution of metal in compressing the channels E and E', or said channels, together with the beading D, forms an exceedingly stiff and strong cap and one of sightly appearance.

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

1. A sheet-metal cap-closure adapted to fit closely over a substantially cylindrical bottle-neck having short outwardly-extending locking-lugs formed upon it, said closure having its walls braced and adapted to form a bayo-

net-joint with the lugs of the bottle-neck by outwardly-pressed upwardly-extending channels E of a breadth slightly greater than the length of the locking-lugs on the bottle, and circumferentially-extending segmental channels E' communicating with the tops of the channels E and also outwardly pressed, said channels E and E' being adapted to give passage to and to engage the lugs on the bottle-neck.

2. A sheet-metal cap-closure adapted to fit closely over a substantially cylindrical bottle-neck having short outwardly-extending locking-lugs formed upon it, said closure having its walls braced and adapted to form a bayonet-joint with the lugs of the bottle-neck by outwardly-pressed upwardly-extending channels E of a breadth slightly greater than the length of the locking-lugs on the bottle, and circumferentially-extending segmental channels E' communicating with the tops of the channels E and also outwardly pressed, said channels E and E' being adapted to give passage to and to engage the lugs on the bottle-neck, said channels E being connected with and merging into a circumferential beading D at the bottom of the cap.

EDMUND HOFFMAN.

Witnesses:
 CHAS. A. WOODRUFF,
 JAS. BOYD POTTER.