W. L. WRIGHT.

CLOSING DISK.

APPLICATION FILED JULY 1, 1909.

959,095. Patented May 24, 1910.

Fig. 1.

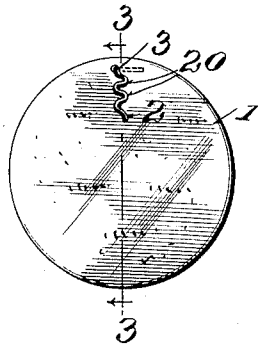


Fig. 5.

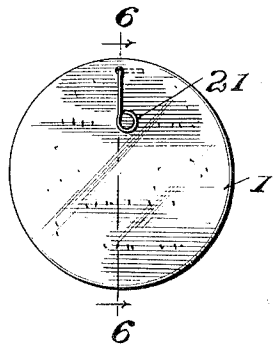


Fig. 6.

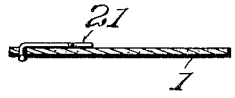


Fig. 2.

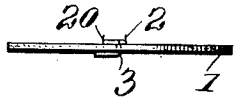


Fig. 7.

Fig. 3.

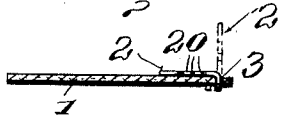
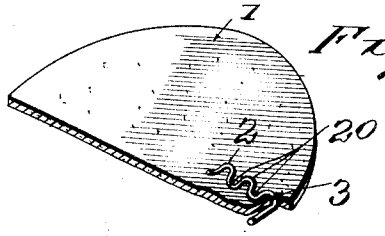


Fig. 4.



Witnesses

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CLOSING-DISK.

959,095. Specification of Letters Patent. Patented May 24, 1910.

Application filed July 1, 1909. Serial No. 505,451.

To all whom it may concern:

Be it known that I, WILBUR L. WRIGHT, a citizen of the United States, residing at Washington city, District of Columbia, have invented certain new and useful Improvements in Closing-Disks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in closure caps or disks for bottles, jars, or other receptacles; and the objects and nature of the invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawings showing what I now consider my preferred embodiment from among other formations within the spirit and scope of my invention.

The invention consists in a certain combination and formation as hereinafter more fully and particularly set forth and described.

Referring to the accompanying drawings. Figure 1, is a plan view of a closure disk embodying my invention. Fig. 2, is an edge view thereof. Fig. 3, is a section on line 3—3, Fig. 1, the single-ply wire pull being shown bent up by dotted lines. Fig. 4, is a sectional perspective. Fig. 5 is a plan view of a closure disk having a modified formation of single-ply wire pull. Fig. 6, is a section on line 6—6, Fig. 5. Fig. 7, is a detached perspective view of the wire pull of Fig. 5.

In the drawings, I show a flat disk or cap 1, adapted to be forced into the mouth of a bottle, jar or other receptacle and seat on an internal annular ledge beneath a shoulder or annular contraction. The disk can be cut from sheet material of comparative stiffness, such as card board, wood pulp board, or equivalent material. These disks are usually pressed or snapped into the bottle mouths onto the internal seats thereof and by reason of their stiffness and the tension under which they are usually held seated, are difficult to remove without a handle.

The disks are usually imprinted with advertising matter, or directions or other legible characterizations which should be exposed to the greatest possible extent on the top surfaces thereof.

The disks must usually be paraffined after completion thereof, by being passed through paraffining rolls.

It is desirable to provide each disk with an attached pull tab or handle exposed at the top face thereof and whereby the disk can be readily removed from its seat in a receptacle mouth, but it is desirable that such handles interfere to the least possible extent with the exposure of the advertising matter on the disks; also that the handles be of such character as to permit proper paraffining of the disks by passage between paraffining rolls or otherwise; and also that the handles be of such character and formation as not to interfere with the free use of such disks in receptacle capping machines.

In view of the very low price at which such disks can be sold, it is desirable that the cost of the attached handles be kept down to the minimum in the matter of extra material required therefor and in the matter of extra cost for applying such handles. It is also desirable to reduce to the minimum all danger of so puncturing the disks in applying such handles as to permit leakage of milk or other liquid through the disks. Hence, I provide each disk with a single small comparatively flexible wire pull or handle composed of a single length 2, of wire resting radially and flat on the top face of the disk and extending transversely therethrough at the edge portion thereof and at its lower end 3, bent laterally or horizontally at the bottom face of the disk and about at right angles to the handle or top length 2. The handle length 2, usually terminates short of the center of the disk and does not extend quite to the edge or periphery of the disk, and can be formed horizontally zig zag or with a multiplicity of oppositely extending angular deflections or offsets or can be horizontally corrugated throughout its length as indicated by 20, to form a finger hold so that the single wire length can be held with the required grip, notwithstanding the paraffin thereon, in exerting the pull on the edge portion of the disk necessary to release the same from the receptacle mouth.

If so desired, the single short top wire length can be straight except for horizontal coil, loop or eye 21, at its inner end to form the finger hold and to prevent the wire pulling through the fingers in extracting the cap or disk.

The common comparatively stiff round or angular comparatively small book binder's wire now found on the open market or reels or spools can be employed for the single wire pulls and it is particularly adapted for this purpose because it is so treated as to be practically non-rusting or non-corrosive and because of certain other qualities.

Automatic machinery for economically and rapidly manufacturing these disks with handles attached can quickly and accurately feed the wire from the spool and force the necessary short length thereof through the cap material and bend the end 3, thereof tightly down on the under face of the cap and cut off the proper length to form the single-strand or ply top length 2 at one end only puncturing the disk and secured.

The jaws that grip the wire and force the end thereof through the disk material can have their faces oppositely corrugated to bend and corrugate the wire to form the corrugations 20, as said jaws press or draw the wire forward. Suitable means can be provided for cutting off the required length of wire and for bending the handle end 2, and the bottom end 3, tightly down on and parallel with the top and bottom faces of the disk so as not to interfere with the paraffining process and so that the disks can be readily applied to receptacles by capping machines.

The application of the small single wire length handle forms but a single small puncture through the disk, and by bending the lower end of the wire substantially at right angles to the top end of the wire and extended bearing is attained at the under side of the disk to prevent the wire tearing through the disk when extracting pull is exerted thereon and furthermore said lower lateral end forms what might be termed, a bearing on which the wire can rock when its upper end is bent up preparatory to exerting the extracting pull thereon.

The short upper or finger hold end of the single wire length can be easily sprung up by the fingers or by a finger nail so that the same can be grasped by the fingers to exert the extracting pull. Each wire pull requires such a short length of wire, and as the wire can be drawn by the cap machine direct from the spools of wire now found on the market, and wire handling devices embodied in the cap machines can with great rapidity form and properly apply the short wire lengths to the disk material either before or after the disks have been cut out, the cost of producing disks provided with the handles of this invention, is reduced to the minimum.

What I claim is:—

A closure disk having a short wire length resting on the top surface thereof and at one end only passed transversely through the disk and bent laterally at the under surface thereof, the top single-ply free-end portion of said wire length bent laterally to rest flat on the disk and to form a finger hold, substantially as described.

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

WILBUR L. WRIGHT.

Witnesses:

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HUBERT E. PECK.