

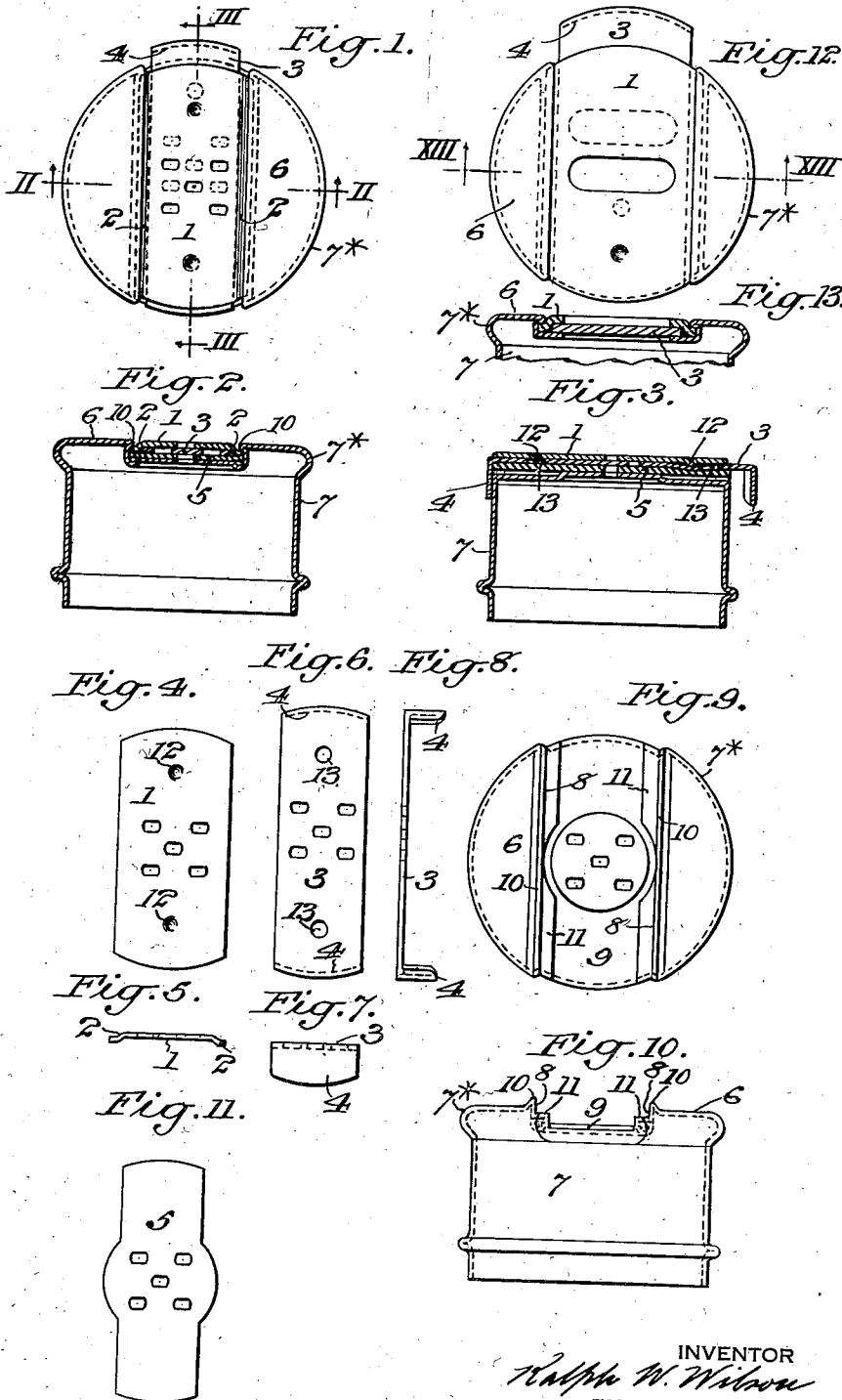
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R. W. WILSON

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SHAKER CAP

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INVENTOR
Ralph W. Wilson
BY
Brown & Seward
ATTORNEYS

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SHAKER CAP

Ralph W. Wilson, New York, N. Y., assignor to
Ralph W. Wilson Company, Inc., New York,
N. Y., a corporation of New York

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My invention relates to that type of shaker caps in which a manually reciprocable perforated shutter member is located between inner and outer perforated members for opening and closing communication through said members.

The object of my invention is to provide a shaker cap of the above character which will be very simple in construction, inexpensive to manufacture, attractive in appearance, easy to manipulate, and powder tight.

My invention comprises an inner neck member having a shallow perforated groove extending across the top thereof, an outer perforated plate member clamped within and spaced from the bottom of said groove, and an interposed perforated shutter member slidable between said inner and outer members to open and close communication through said members, the side walls of the groove being crimped over the side edges of the outer member to permanently assemble members in their relative positions with the plate member flush with the top of the neck member.

My invention may also include a perforated gasket member located between the neck and shutter members for insuring a powder tight closure for the cap.

Practical embodiments of my invention are represented in the accompanying drawing, in which

Fig. 1 represents one form of shaker cap in top plan;

Fig. 2 represents a vertical cross section taken in the plane of the line II—II of Fig. 1, looking in the direction of the arrows;

Fig. 3 represents a vertical cross section taken at right angles to Fig. 2 in the plane of the line III—III of Fig. 1, looking in the direction of the arrows;

Fig. 4 represents a top plan view of the outer plate member;

Fig. 5 represents an end view of the same;

Fig. 6 represents a top plan view of the intermediate shutter member;

Fig. 7 represents an end view of the same;

Fig. 8 represents a side view of the intermediate shutter member;

Fig. 9 represents a top plan view of the inner neck member before assembly;

Fig. 10 represents a side view of the same;

Fig. 11 represents a plan view of the gasket, which may be located between the inner and shutter members, if so desired;

Fig. 12 represents another form of shaker cap, in top plan; and

Fig. 13 represents a detail vertical cross section

taken in the plane of the line XIII—XIII of Fig. 12, looking in the direction of the arrows.

The outer or plate member of the cap is denoted by 1, which plate member has depressed parallel side edges 2. The intermediate or shutter member is denoted by 3 and it is provided at its ends with depressed lips 4, for facilitating the operation of the shutter member. The gasket is denoted by 5.

The inner or neck member of the cap comprises a top 6 having a depending boundary flange 7 and also an interrupted bead 7* around the circumferential edge of the said top 6. The top 6 is depressed to form a shallow groove with parallel sides 8 extending across the top from edge to edge thereof, the bottom 9 of which groove is slightly raised to form a seat for the shutter member 3 or interposed gasket 5 when used. The upper edges of the parallel side walls 8 of the shallow groove are raised above the top 6 of the inner member as shown, to form lips 10 adapted to be crimped down over the depressed side edges 2 of the outer plate member 1, in assembling the parts, to hold the plate member flush with the top of the neck member. This neck member is also provided with shoulders 11 along the parallel side walls 8 of the shallow groove, to form seats between which and the crimped over lips 10, the depressed side edges 2 of the plate member 1 are permanently secured in a fixed position.

It will be understood that the inner, outer and shutter members are of suitable sheet material, as sheet metal, and are so perforated, (and also the gasket, when used) that the movement of the shutter member from one position to the other will open or close communication through the members.

In the form shown in Figs. 1 to 11 inclusive, the gasket 5 is illustrated while in Figs. 12 and 13 the gasket is eliminated. Also, in the form shown in Figs. 1 to 11 inclusive, the members are shown as each having a plurality of smaller perforations while in the form shown in Figs. 12 and 13 the members are each shown as having a single large perforation. These large perforations are made possible because of the interrupted bead 7* which enables the use of a shutter member which will not protrude too far beyond the boundary of the cap.

The plate and shutter members may be provided with suitable means, as projections 12 and holes 13 which coact to yieldingly hold the shutter member in either its open or closed position.

It is evident that various changes may be re-

sorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the particular embodiments herein shown and described, but

What I claim is:

1. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the tops of the side walls of said groove being crimped over the side edges of the plate member to hold the parts assembled.
2. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the tops of the side walls of said groove being crimped over the side edges of the plate member to hold the parts assembled, and a perforated gasket located between the neck and shutter members.
3. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the inner member having a shallow groove extending entirely across the top thereof for receiving the outer and intermediate members, the side walls of said groove having shoulders and lips between which the side edges of the plate member are clamped to hold the parts assembled.
4. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the inner member having a shallow groove extending entirely across the top thereof for receiving the outer and intermediate members, the side walls of said groove having shoulders and lips between which the side edges of the plate member are clamped to hold the parts assembled, and a perforated gasket located between the neck and shutter members.
5. A shaker cap comprising a perforated outer

plate member, a perforated inner neck member and a perforated intermediate shutter member, the plate member having depressed side edges and the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the sides of the said groove having shoulders and lips between which the depressed side edges of the plate member are clamped to hold the parts assembled.

6. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the plate member having depressed side edges and the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the sides of the said groove having shoulders and lips between which the depressed side edges of the plate member are clamped to hold the parts assembled, and a perforated gasket located between the neck and shutter members.

7. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the bottom of the groove being raised to form a seat for the shutter member and the parallel side walls of the groove having lips and shoulders between which the side edges of the plate member are clamped to hold the parts assembled.

8. A shaker cap comprising a perforated outer plate member, a perforated inner neck member and a perforated intermediate shutter member, the neck member having a shallow groove extending entirely across the top thereof for receiving the plate and shutter members, the bottom of the groove being raised to form a seat for the shutter member and the parallel side walls of the groove having lips and shoulders between which the side edges of the plate member are clamped to hold the parts assembled, and a perforated gasket located between the neck and shutter members.

RALPH W. WILSON.