No. 886,509. PATENTED MAY 5, 1908.

J. M. HOTHERSALL.

SHEET METAL SIFTER TOP CAN OR BOX.

APPLICATION FILED AUG. 24, 1906.

Fig. 1.

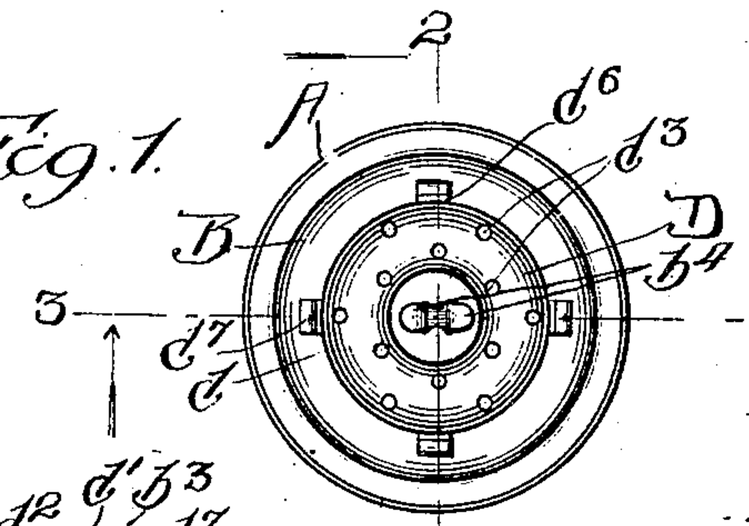


Fig. 2.

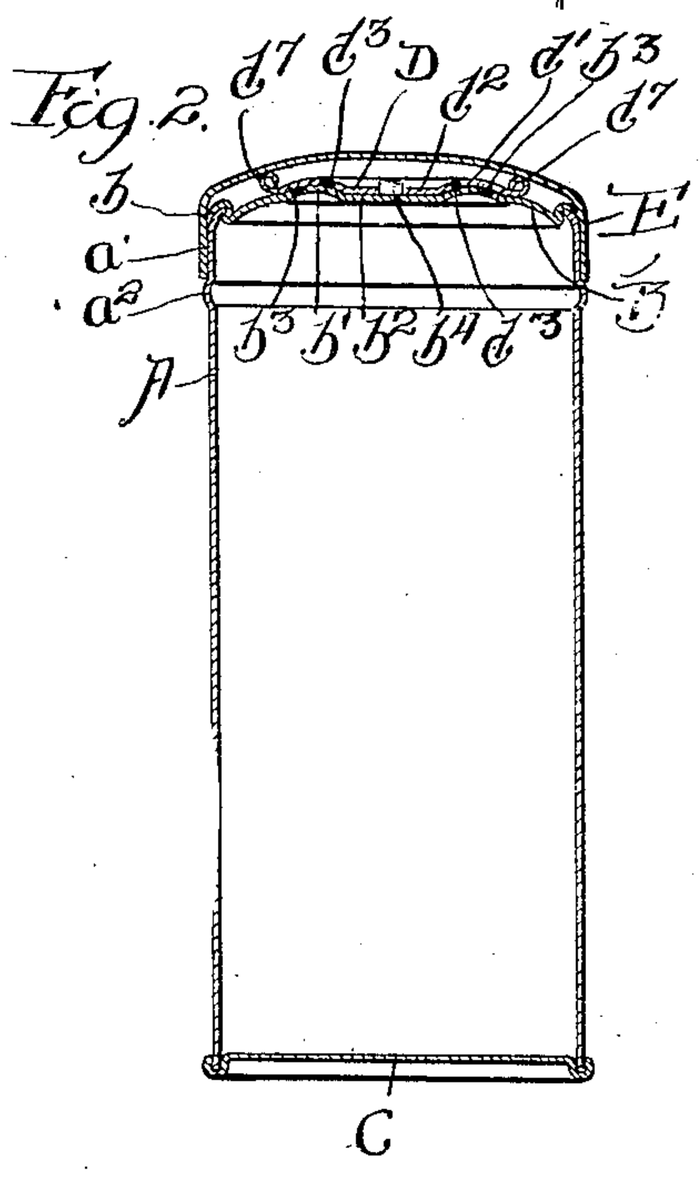


Fig. 3.

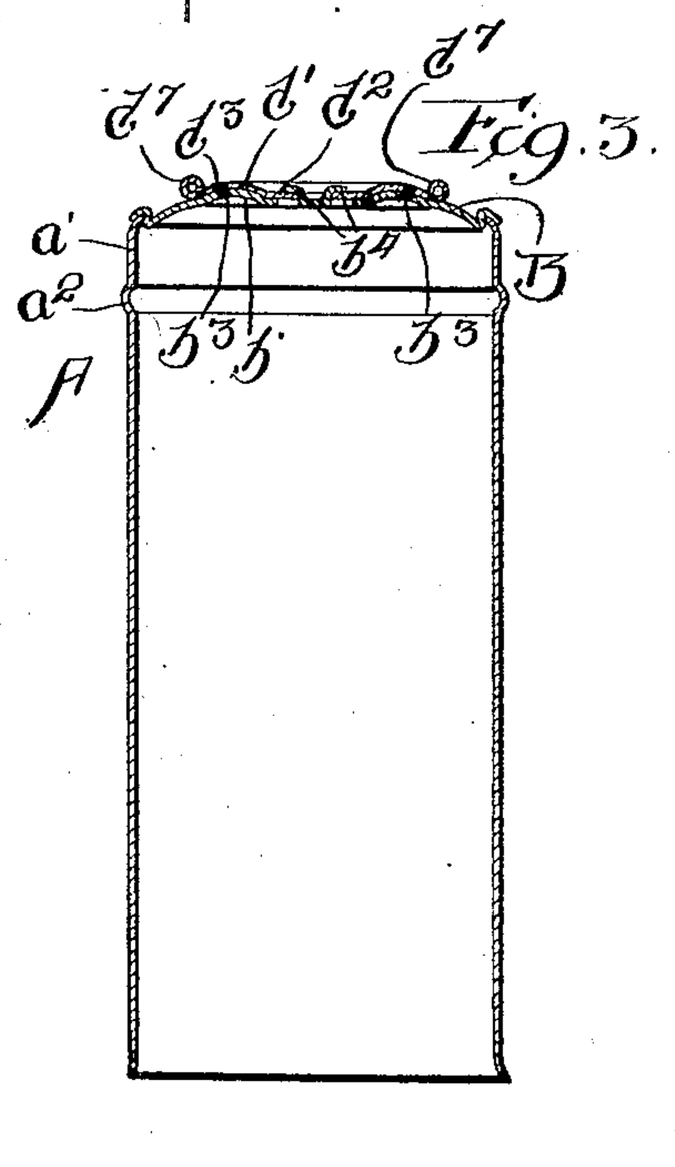


Fig. 4.

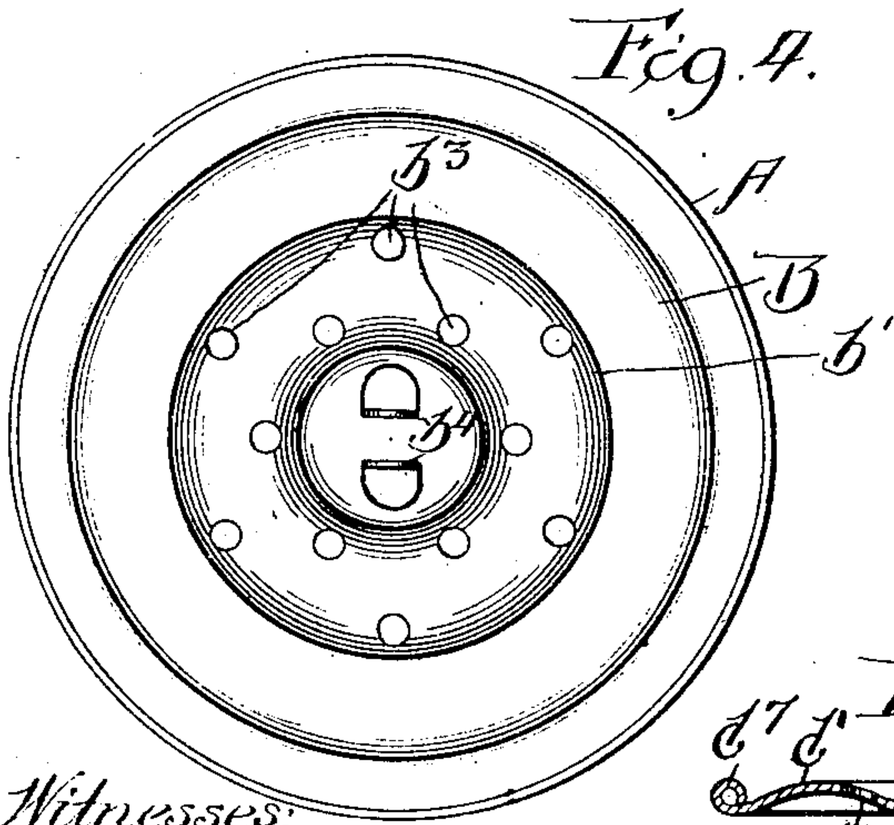


Fig. 5.

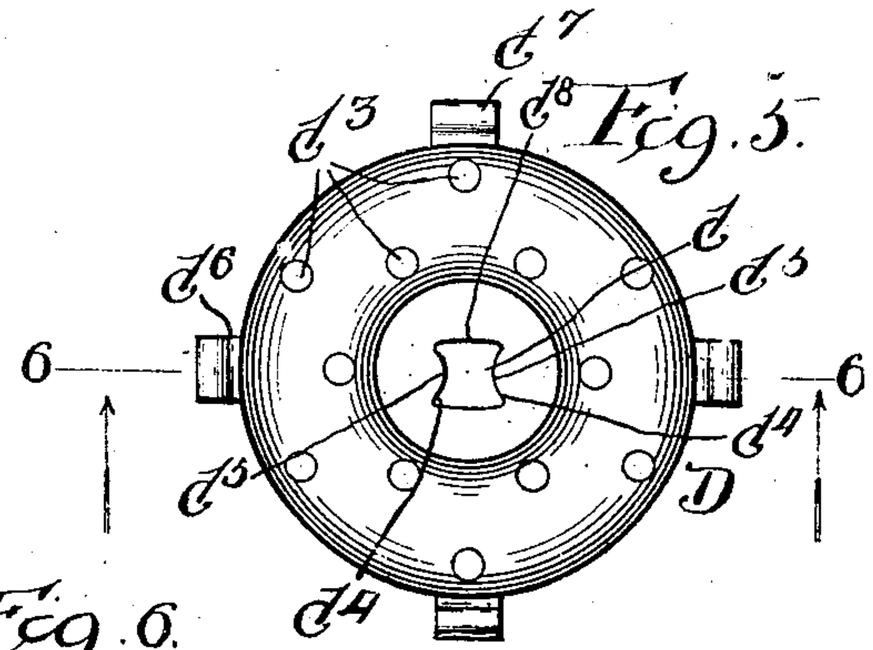
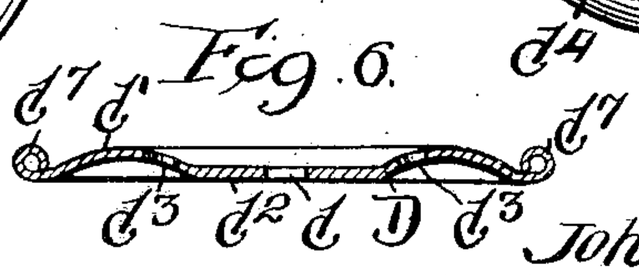


Fig. 6.



Witnesses:
Wm. P. Bond
A. W. Munday.

Inventor,
John M. Hothersall,
by Munday, Evarts, Adcock & Clarke
Attys.

UNITED STATES PATENT OFFICE.

JOHN M. HOTHERSALL, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

SHEET-METAL SIFTER-TOP CAN OR BOX.

No. 886,509. Specification of Letters Patent. Patented May 5, 1908.

Application filed August 24, 1906. Serial No. 331,893.

To all whom it may concern:

Be it known that I, JOHN M. HOTHERSALL, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Sheet-Metal Sifter-Top Cans or Boxes, of which the following is a specification.

My invention relates to improvements in sheet metal cans having sifter tops.

The object of my invention is to provide a sifter top can or box suitable for holding and dispensing powder and other articles, which will be of a simple, efficient and durable construction, capable of being cheaply manufactured, and in which the perforated top plate and the perforated rotary closing plate have suitable stops for registering them in their open and closed positions.

My invention consists in the means I employ and herein shown and described to practically accomplish this object or result.

In the accompanying drawing forming a part of this specification, Figure 1 is a top or plan view of a sheet metal sifter top can or box embodying my invention. Fig. 2 is a central vertical section on line 2—2 of Fig. 1. Fig. 3 is a central vertical sectional view on the line 3—3 of Fig. 1, this view showing the can before it has been filled, and before the lower or bottom head has been seamed to the can body. Fig. 4 is an enlarged detail plan view with the rotary closing plate removed and with the pivot lips on the top plate upturned ready for receiving the closing plate; Fig. 5 is a detail plan view of the rotary closing plate, and Fig. 6 is a detail section on line 6—6 of Fig. 5.

In the drawing, A represents the body of a can or box and B is the perforated top plate permanently and irremovably seamed to the body A by a folded or other seam *b*.

C is the bottom head of the can, which is permanently and irremovably secured to the lower end of the body A by a folded or other seam *a* after the can or box has been filled with powder. As both the bottom head C and the perforated top B are permanently and irremovably seamed with the body A of the can, my sifter top can is thus made non-refillable, because after the contents have been used once, the can cannot be practically refilled with spurious goods through the small discharge openings or perforations in the sifter top B.

The top plate B is provided with an annular raised portion b^1 and a depressed center b^2 and with a series of discharge openings or perforations b^3, these holes or perforations being preferably twelve in number and arranged in two circular rows with six holes in each, and with holes or perforations in the inner circular row staggered in respect to those in the outer circular row. The top plate B is also provided with two integral pivot tongues b^4 struck up from the depressed center b^2 of the top plate and adapted to project through a central pivot slot or opening *d* in the rotary closing plate D. The integral pivot tongues b^4 are coöperatively arranged in respect to the discharge holes or perforations b^3 in the top B so that these pivot tongues may serve not only as the means for rotatably connecting the rotary closing plate with the top plate, but also as stops coöperating with suitable stops on the rotary closing plate to register the plates in their open and closed positions in respect to each other. To enable these pivot tongues to thus coöperate and perform this additional function of stops or registering devices, I preferably strike them up diametrically in line with two diametrically opposite perforations b^3 in the top plate B, as will be readily understood from Figs. 1 and 4 of the drawing.

The rotary closing plate D has a raised annular portion d^1 fitting snugly against and embracing the raised annular portion b^1 of the top plate B, and it is also provided with a depressed center d^2 fitting flatly against and corresponding to the depressed center b^2 of the top plate B. The rotary closing plate D is provided preferably with twelve discharge openings or perforations d^3 arranged in two circular rows of six holes in each row and with the holes or perforations in the inner row staggered in respect to those in the outer row. The central pivot slot or opening *d* in the rotary closing plate D is provided with stop edges or margins d^4 adapted to engage the pivot tongues b^4 on the top plate B and limit the rotary or turning movement of the closing plate D in both directions, these stop edges or margins being coöperatively arranged in respect to the perforations d^3 in the closing plate, so that when the closing plate is turned to its limit in one direction, the perforations d^3 in the closing plate D will register with corresponding holes or perforations b^3 in the top plate B; and so that when the

rotary closing plate is turned to its limit in the other direction, the discharge holes or perforations in the two plates will be out of register with each other or in their closed position. The central pivot slot or opening d in the closing plate D may be made of any form suitable for coöperation with the clenching pivot tongues b^4 in rotatably securing the two plates together and serving as a stop to limit the turning movement of the closing plate to cause the two plates to register in their open and closed positions, but I prefer to make this pivot slot of a substantially square or rectangular form as shown in the drawing, with two curved sides d^6.

As in my invention, the interengaging stops do not in operation slip past each other, the stops produce no tendency to spring the plates apart, and I am thus enabled to secure a snug or close fit between the rotary closing plate and the top plate and produce a sifter top powder box which is substantially tight against leakage of powder. The depressed centers of the two plates B D and the annular raised portions of the two plates coöperate with the pivot tongues and pivot slot in rotatably securing the two plates together and in causing one to freely and properly turn in respect to the other, and in securing a snug and powder tight fit of the two plates together; the depressed centers and raised annular portions also serving to stiffen and strengthen the plates and thus diminish the liability of their being separated or sprung apart at any portion of their circumference so as to occasion leakage of powder. In order to provide the rotary closing plate with finger pieces for turning it, which will not interfere with the snug close powder tight fit of the two plates together and the proper coöperation of the other parts, I furnish it with integral marginal lips d^6 which are upwardly coiled into cylindrical finger pieces d^7 so that the finger pieces have no tendency to separate the closing plate from the top plate B at the circular margin or edge of the closing plate, and by which the integral lip finger pieces are adapted to be readily engaged by the finger or thumb in turning the rotary closing plate and also given a smooth finish and a strong rigid form.

In practice I prefer to make the pivot slot or opening in the rotary closing plate substantially square, and the space between the two pivot tongues b^4 on the top plate B substantially equal to the width of the pivot tongues so that the two pivot tongues will present a substantially square pivot for engagement with the substantially square hole in the rotary closing plate, and with the play between the pivot tongues and the stop edges or margins of the pivot hole such as to permit the requisite rotation of the closing plate and the proper stopping thereof in its open and closed positions in whatever position the two plates may be turned in respect to each other in assembling them. This is a great convenience in assembling or putting the plates together and also prevents the rotary closing plate being applied to the top plate in such way as to be incapable of cooperation therewith. In assembling the plates, I have preferred to turn the rotary closing plate with the straight side d^8 of its pivot opening d parallel to the base of the pivot tongues b^4. By arranging the discharge openings in two circular rows with six holes in each row, the holes in one row staggered in respect to the holes in the other, the rotary closing plate may be turned in any possible position in respect to the top plate in assembling the two plates and still the stop devices on the two plates will properly engage each other and cause the plates to properly register in open and closed position.

The pivot lips or tongues b^4 are somewhat less in width than the straight sides d^8 in the pivot opening d of the rotary closing plate D, so that the closing plate can turn in one direction sufficiently to bring the perforations b^3 d^3 into registry with each other, and in the opposite direction sufficiently to bring such perforations out of registry with each other.

E is a slip cover, snugly fitting the slip cover seat a^1 of the body A above the annular shoulder a^2 with which the body A is provided.

I claim: —

1. In a sifter top can or box, having a bottom head irremovably seamed or secured to the head or body thereof, the combination with a top plate irremovably seamed or secured to the body of the can or box and provided with a depressed center having integral pivot tongues, and a raised annular portion having holes or perforations therein arranged in two circular rows of six holes in each row, with the holes in the one row staggered in respect to those in the other, of a rotary closing plate provided with a depressed center furnished with a central pivot slot or opening having stop edges or margins engaging the pivot tongues on the top plate to limit the rotary movement of the closing plate, said closing plate being provided with an annular raised portion having a series of holes or perforations therein arranged in two circular rows of six holes in each row, the holes in the inner row staggered in respect to those in the outer row, said closing plate being provided with integral marginal lips upwardly coiled into cylindrical rolls to form finger pieces for turning the rotary closing plate, substantially as specified.

2. In a sifter top can or box, the combination with the sheet metal body, of a perforated top plate irremovably seamed to said body and provided with a depressed center having integral pivot lips, and a raised an-

nular portion furnished with holes or perforations, and a rotary closing plate provided with a depressed center having a central four sided pivot slot, and furnished with a raised center having discharge holes or perforations therein, the edges of the pivot slot engaging said pivot tongues and serving as stops to limit the turning movement of the rotary closing plate and register it with the top plate in its open and closed positions, substantially as specified.

3. In a sifter top can or box, the combination with a sheet metal body, of a perforated top plate irremovably seamed to said body, and provided with a depressed center having integral pivot lips, and a raised annular portion furnished with holes or perforations, and a rotary closing plate provided with a depressed center having a central four sided pivot slot, and furnished with a raised center having discharge holes or perforations therein, the edges of the pivot slot engaging said pivot tongues and serving as stops to limit the turning movement of the rotary closing plate and register it with the top plate in its open and closed positions, said rotary closing plate having integral marginal coiled lips forming finger pieces, substantially as specified.

4. In a sifter top can, the combination with a top plate having a series of discharge holes therein, and integral pivot tongues arranged in respect to said discharge holes, and a rotary closing plate having a non circular pivot slot through which said pivot tongues are inserted, said pivot hole having stop edges engaging said pivot tongues to limit the turning of the closing plate and said closing plate having a series of discharge holes coöperatively arranged in respect to the stop edges of said pivot slot in said closing plate, substantially as specified.

JOHN M. HOTHERSALL.

Witnesses:
GEORGE W. WEBER,
GEO. E. GADDIS.