W. R. COMINGS.

DISTRIBUTING RECEPTACLE.

APPLICATION FILED FEB. 6, 1907.

915,742. Patented Mar. 23, 1909.

Fig. 1.

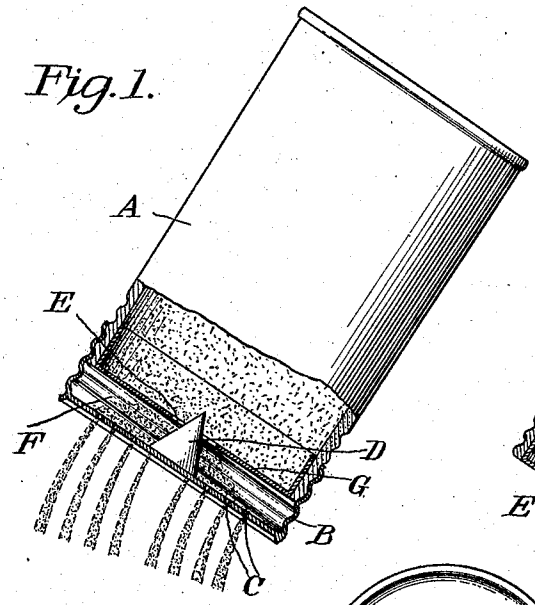


Fig. 3.

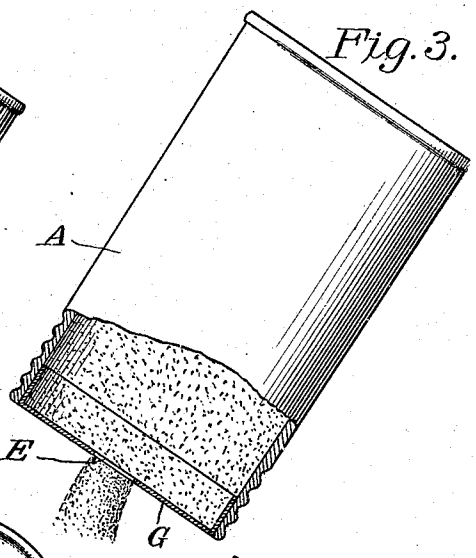


Fig. 2.

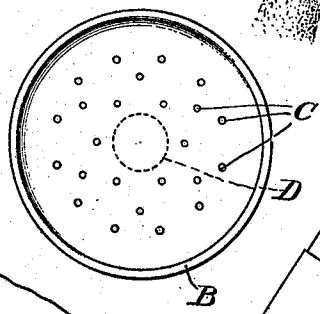


Fig. 5.

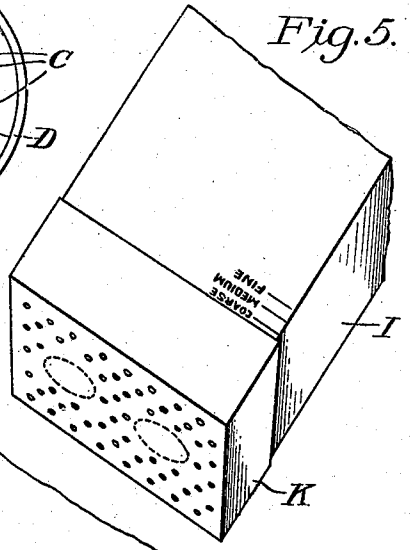


Fig. 4.

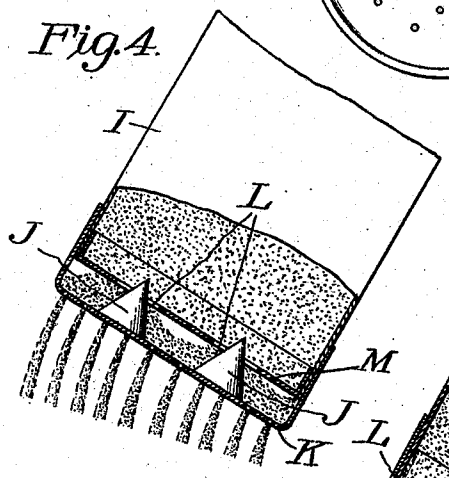
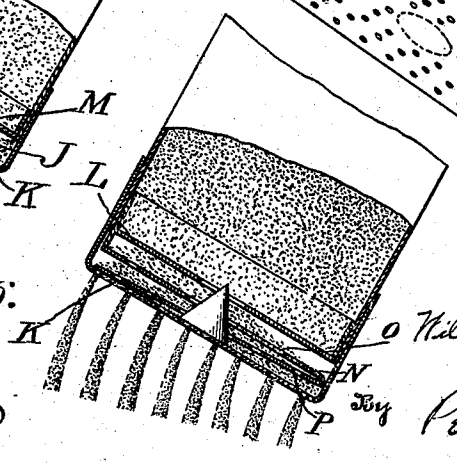


Fig. 6.



Witnesses

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DISTRIBUTING-RECEPTACLE.

No. 915,742. Specification of Letters Patent. Patented March 23, 1909.

Application filed February 6, 1907. Serial No. 356,084.

To all whom it may concern:

Be it known that I, WILLIAM RIGHTER COMINGS, mechanical engineer, citizen of the United States, residing at Wimbledon Park, in the county of Surrey, England, have invented certain new and useful Improvements in Distributing-Receptacles, of which the following is a specification.

The object of my invention is to produce receptacles for distributing powders and the like, commonly known as dredgers, which shall be free from the tendency to clog. To effect this object I introduce one or more false lids, or diaphragms, under the dredger or sifting top, and I provide for these diaphragms to be adjustable with respect to their distance from the sifting top. I attach great importance to this distance being kept as small as is consistent with a steady flow of the powdered material, in order to render it impossible for lumps to form in this space, as well as to prevent the fine holes getting choked, and I make the dredger top adjustable with regard to the diaphragms by screw or other action, by which I am able to obtain complete control over the flow of the material, and can when required stop the flow altogether.

The diaphragm or diaphragms I pierce with one or more fairly large holes as compared with the sifting holes, to allow a free unclogging flow of material to the sifting top. The function of the diaphragm is to support the weight of the powdered material and thus prevent its clogging the fine holes of the dredger end of the receptacle, as there is always a tendency to when the full weight of the contents of the receptacle comes directly upon the dredger end. In some cases I make the diaphragm in the form of a lid, fitting the interior of the receptacle by locking, or with sufficient friction to retain it in any position that it may be adjusted to, so that when desired it can readily be removed for filling the receptacle. In some cases I may prefer to fix the diaphragm rigidly or permanently at the top of the receptacle, and I then depend on the dredger top for adjustment. The dredger top being adjustable can when required be brought into close contact with the diaphragm, thus closing its opening, or openings, and protecting the contents from moisture and the hardening or caking caused thereby.

In order that my invention may be more clearly understood I will describe the same by reference to the accompanying drawings, in which:—

Figure 1 is a part elevation and part section of an inverted dredger top cylindrical box. Fig. 2 is a plan of the top. Fig. 3 is a part elevation and part section of the same but with dredger top removed for pouring. Fig. 4 is a part section of a rectangular box. Fig. 5 is a view of the same showing the exterior. Fig. 6 is a part section of a rectangular box with the addition of a spring or hinged division plate or baffler.

In Fig. 1 A is a cylindrical box of paper, tin, or other material, and B a perforated top made to screw onto the box A, and provided with a sharp tapering spike D. G is an inner diaphragm or false top with a hole E in the center through which the spike D protrudes. The hole E is made to allow a certain maximum quantity of material to pass into the distributing space F and over and through the perforations C in the top B in a spray, as shown. The top B being screwed onto the box, it will be evident that by screwing the top on or off the area of the hole E in the diaphragm G can be varied, thus affording a means of regulating the flow of the material to and over the perforated surface of the top B, and when required stopping the flow altogether. The spike D attached to and moving with the top acts as a valve in controlling the flow of the material, but it is also designed for breaking up lumps, or caked material, by its sharp point, or, failing this the first time, it will serve a useful purpose in turning them aside, clear of the passage. For some purposes the material contained in the box may be required to be poured out, in preference to sprinkling, in which case the perforated top B may be removed, when the material will flow through the orifice E in the diaphragm in a single stream, as shown in Fig. 3.

In Figs. 4 and 5 I show a square or rectangular form of box I with two spikes J on the perforated top K, and two corresponding holes L in diaphragm M. I may however employ a larger number of spikes in cases

where the material is specially liable through dampness or other causes to cake or form into lumps. The flow of the material in such boxes is regulated by pushing the top up or down, a scale H marked on the exterior of the box indicating the depth of the distributing space, or distance between the top and diaphragm, which will indicate in some measure the quantity of material allowed to pass through. I may also according to circumstances use a flat spring or hinged division or baffle plate N, between the diaphragm and top, as in Fig. 6, in which case holes O and P would be made in it so that the material on its way out is made to pass through a series of holes decreasing in size until it arrives distributed in a thin stream over the perforated under surface of the top; the flow being controlled as before by pushing the perforated top up or down.

Receptacles made as described not only give a greatly improved form of distribution, but the flow of the material can be varied within greater limits than with boxes as hitherto made. Also the weight of the material being removed from the perforated top prevents the top, when not screwed on, from being accidentally thrown off in the act of shaking, and by using more than one diaphragm I am able more effectively to deal with materials which easily cake or clog. In some cases I may prefer to dish the diaphragm nearest the perforated top giving it a downward direction so as to allow any material left in the distributing space to readily flow back into the receptacle.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. A dredger, embodying an apertured top, an inner apertured diaphragm, said top being adjustable to and from said diaphragm, and means operated by said adjustment for varying the apertures in one of said members.

2. A dredger, embodying an apertured top, an inner apertured diaphragm, and means for varying the area of the apertures in one of said apertured members.

3. A dredger, embodying an apertured top, an inner apertured diaphragm, and means on one of said members for varying the area of the apertures in the other apertured member.

4. A dredger, embodying an apertured top, an inner apertured diaphragm, said top and diaphragm being relatively adjustable, and means on one of said apertured members for varying the area of the apertures in the other apertured member.

5. A dredger, embodying an apertured top, an inner apertured diaphragm, and means on one of said apertured members for varying the area of the apertures in the other apertured member, the aperture or apertures in said diaphragm being larger than those in said top, said top and diaphragm being relatively adjustable.

6. A dredger, embodying an apertured top, an inner apertured diaphragm, and means on one of said apertured members for varying the area of the apertures in the other apertured member, said top being adjustable to and from said diaphragm.

7. A dredger, embodying an apertured top, an inner apertured diaphragm, and means on said apertured top for varying the area of the apertures in said diaphragm.

8. A dredger, embodying an apertured top, an inner apertured diaphragm, said top and diaphragm being relatively adjustable, and means on said top for varying the area of the apertures in said diaphragm under their relative adjustment.

9. A dredger, embodying an apertured top, one or more tapering spikes projecting inwardly therefrom, and an inner apertured diaphragm into the aperture or apertures in which said tapering spikes are adapted to project.

10. A dredger, embodying an apertured top, one or more tapering spikes projecting inwardly therefrom, and an inner apertured diaphragm into the aperture or apertures in which said tapering spikes are adapted to project, said top and diaphragm being relatively adjustable.

11. A dredger, embodying an apertured top, one or more tapering spikes projecting inwardly therefrom, and an inner apertured diaphragm into the aperture or apertures in which said tapering spikes are adapted to project, said top being adjustable with respect to said diaphragm.

12. A dredger, embodying an apertured top, an inner apertured diaphragm, and an intermediate apertured baffle.

13. A dredger, embodying an apertured top, an inner apertured diaphragm, and an intermediate apertured baffle, the apertures in said diaphragm, baffle and top being successively smaller.

14. A dredger, embodying an apertured top, an inner apertured diaphragm, and an intermediate baffle composed of a plurality of apertured plates, the apertures in said diaphragm, baffle plates and top being successively smaller.

15. A dredger, embodying an apertured top, one or more tapering spikes projecting inwardly therefrom, an inner apertured diaphragm, and an intermediate apertured baffle, said tapering spikes projecting through apertures in said baffle and into the apertures in said diaphragm.

16. A dredger, embodying an apertured top, one or more tapering spikes projecting

inwardly therefrom, an inner apertured diaphragm, and an intermediate apertured baffle, said tapering spikes projecting through apertures in said baffle and into the apertures in said diaphragm, and said top and baffle being adjustable to and from said diaphragm.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM RIGHTER COMINGS.

Witnesses:
H. D. JAMESON,
F. L. RANDS.