E. A. HEATH.

Cuspadore.

No. 206,325. Patented July 23, 1878.

Fig 1

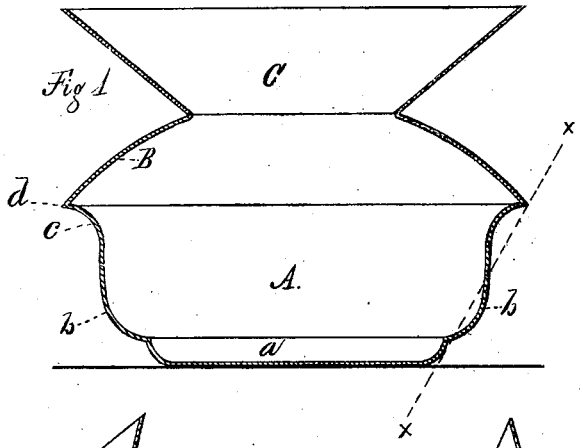


Fig 2.

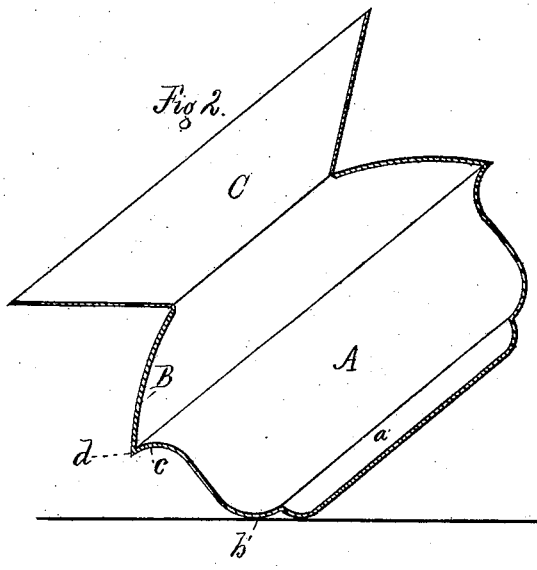


Fig 3.

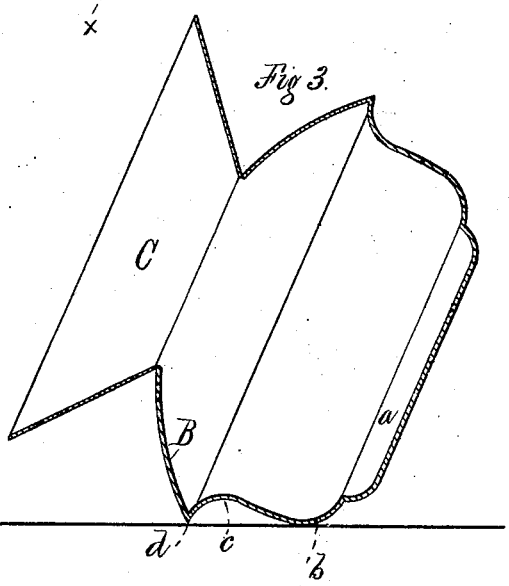
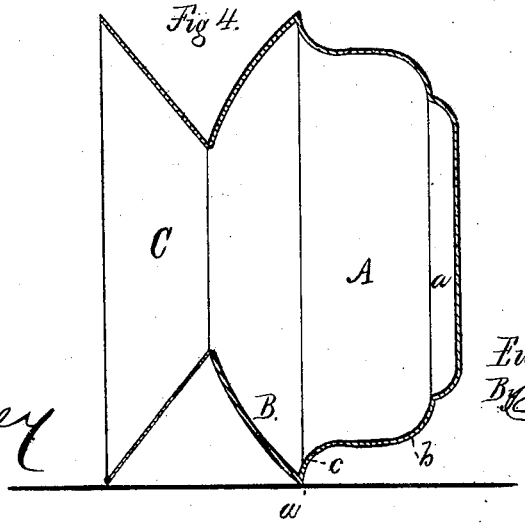


Fig 4.



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UNITED STATES PATENT OFFICE.

EUGENE A. HEATH, OF NEW YORK, N. Y.

IMPROVEMENT IN CUSPADORES.

Specification forming part of Letters Patent No. **206,325**, dated July 23, 1878; application filed May 9, 1878.

To all whom it may concern:

Be it known that I, EUGENE A. HEATH, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Cuspadores, of which the following is a specification:

This invention relates to that class of vessels used as spittoons, and commercially known as "cuspadores." It refers particularly to that class thereof known and designated as "self-righting cuspadores."

The present invention is in the nature of an improvement upon the cuspadore for which Letters Patent No. 199,541 were granted to me on January 22, 1878; and it consists in constructing the vessel of a light material of the same gage in all its various parts, and in such novel and peculiar shaping of the vessel that it becomes self-righting, or by the intervention of extra weight in any manner whatsoever, all of which will be hereinafter fully pointed out and described.

In the drawings which form an essential part of this specification, Figure 1 represents a cuspadore in which my invention is fully embodied, the vessel being shown in the upright and normal position; and Figs. 2, 3, and 4 are views of the same vessel, showing the various positions it takes in the action of regaining its first position when disturbed therefrom.

The usual course heretofore pursued in the production of self-righting cuspadores has been by weighting the bottom or the sides, or both bottom and sides, of the bowl of the vessel. In some cases the weight of the base of the vessel has been increased by casting the sheet thick. In others a light metal bowl has been used, a false bottom being inserted in the interior, covering and securing in place some heavy material previously inserted therein. In other cases a heavy metal band or ring has been applied to both the exterior and interior of the vessel-body, all forms, however, being dependent on the application of an extra or surplus of weight arranged below the line of the center of gravity of the vessel.

Another form of self-righting cuspadores has been constructed, in which the various parts were of light sheet metal of a uniform thickness throughout, the breast of the vessel (in actual manufacture) being flattened so as to conform to the same plane as the line of center of gravity of the vessel, which is the line of the top of the bowl, such breast carrying a flaring receiving-mouth whose diameter is greater than that of the body of the vessel at the cusp thereof. This form of construction resulted in throwing the excess of weight of metal below the line of the center of gravity, thereby causing the vessel to self-right. If the diameter of the mouth of this vessel be reduced to the same diameter as that of the bowl of the vessel at the cusp-point, it at once loses its self-righting quality.

In the present invention I have secured all of the advantages found in retaining the attractive form of the cuspadore now in favor with the trade and community; have produced a vessel of light material throughout in all its parts that invariably returns to its first or normal position whenever its equilibrium is disturbed; and, in addition thereto, have secured a cuspadore that will not completely overturn or tip far enough to cause the mouth to strike the floor, unless by the application of an unusual amount of power.

In carrying out my invention I adopt the usual method of construction in three pieces—the bowl A, the breast B, and the receiving-mouth C—all of which are of light sheet metal, suitably united by seaming and soldering in the mode as applied in such cases.

I form the bowl with a projecting bottom, *a*, which acts in the nature of a foot, holding the vessel up from the floor. This bowl, at the sides, is formed on two curved lines, *b* and *c*, which are turned in opposite directions.

The breast B is convex in form, the lines of which form part of a true circle, the curve of the breast and curve *c* of the bowl having their convexities turned in the same direction with respect to the common tangent at the cusp-point *d*.

The curved breast B is truncated at its top, forming an opening, into which the receiving-mouth is inserted and secured.

The bowl A, at its curved portion *b*, projects beyond a line drawn from the point of the projecting cusp *d* to the foot *a* of the base of the bowl, as shown by the dotted lines *x x* in Fig. 1, this for the purpose of providing a rocking point, on which the vessel turns in departing from or in returning to its normal position.

By referring to Fig. 2 it will be seen that, if the vessel is disturbed or overturned from the position as in Fig. 1, the projecting rocking point of the curve *b* first comes in contact with the floor; and if the momentum given to the vessel is but slight, it is arrested and goes no farther, but rocks back to its starting-point.

If the moving force is more marked when the vessel is disturbed, it will rock over on the curve *b* until the projecting cusp *d* comes in contact with the floor, (see Fig. 3,) which instantly arrests the movement, and the vessel at once rocks back to its upright position.

If the force exerted on the vessel is excessive, the momentum imparted may sometimes cause it to attain the position as shown in Fig. 4, when it is arrested by the contact with the floor of the mouth C and the cusp *d* of the bowl. It will be seen that the bowl becomes a dead lift when thrown into this position, and it is evident that no ordinary impulse will carry it so far; but, even if it reaches it, the vessel at once regains its first position.

In all these various positions the vessel, in returning, rocks on the curve *b* of the bowl, and this curve becomes the important factor in controlling the vessel's movements. If this curve *b* of the bowl was retired from the line *x x*, then the vessel, when thrown over, would sit or rest upon the point *d* of the cusp and the rim of the base *a*, and would there remain—that is, in the case of a vessel of light material, constructed as herein described; but in the case of a vessel having a loaded bottom, it would return. This point is fully illustrated in my patent, as hereinbefore referred to.

The peculiar shaping of this vessel, in the provision of the convex breast, projecting cusp, and rocking curve on the bowl, combined with the proper distribution of the superficial area of the various parts, produce a new principle in the construction of self-righting cuspadores not heretofore known.

I therefore claim as my invention—

1. A cuspadore having a flaring receiving-mouth, a curved breast, to which the receiving-mouth is attached, and a body or bowl, the walls of which are formed on two opposing curves, the upper curve thereof uniting with the base of the breast, forming an outwardly-projecting cusp-point, the lower curve terminating in a flattened bottom, and projecting beyond a line drawn from the extreme of the projecting cusp-point to the base of the vessel, forming a rocking-point, on which the vessel turns when righting itself, said vessel in all its parts being formed from light material of the same gage, all substantially as and for the purposes as herein shown and set forth.

2. In a cuspadore, the combination of the receiving-mouth C, convex breast B, and bowl A, the body of which has a projecting curved portion, *b*, and a flattened base, *a*, the apex of such bowl and the base of breast B uniting and forming projecting cusp-point *d*, the curved part *b* of the bowl A projecting beyond a line drawn from the point of the projecting cusp *d* to the base of the flattened bottom *a*, the entire vessel being constructed from material of the same thickness throughout, all substantially as and for the purposes as herein shown and set forth.

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