

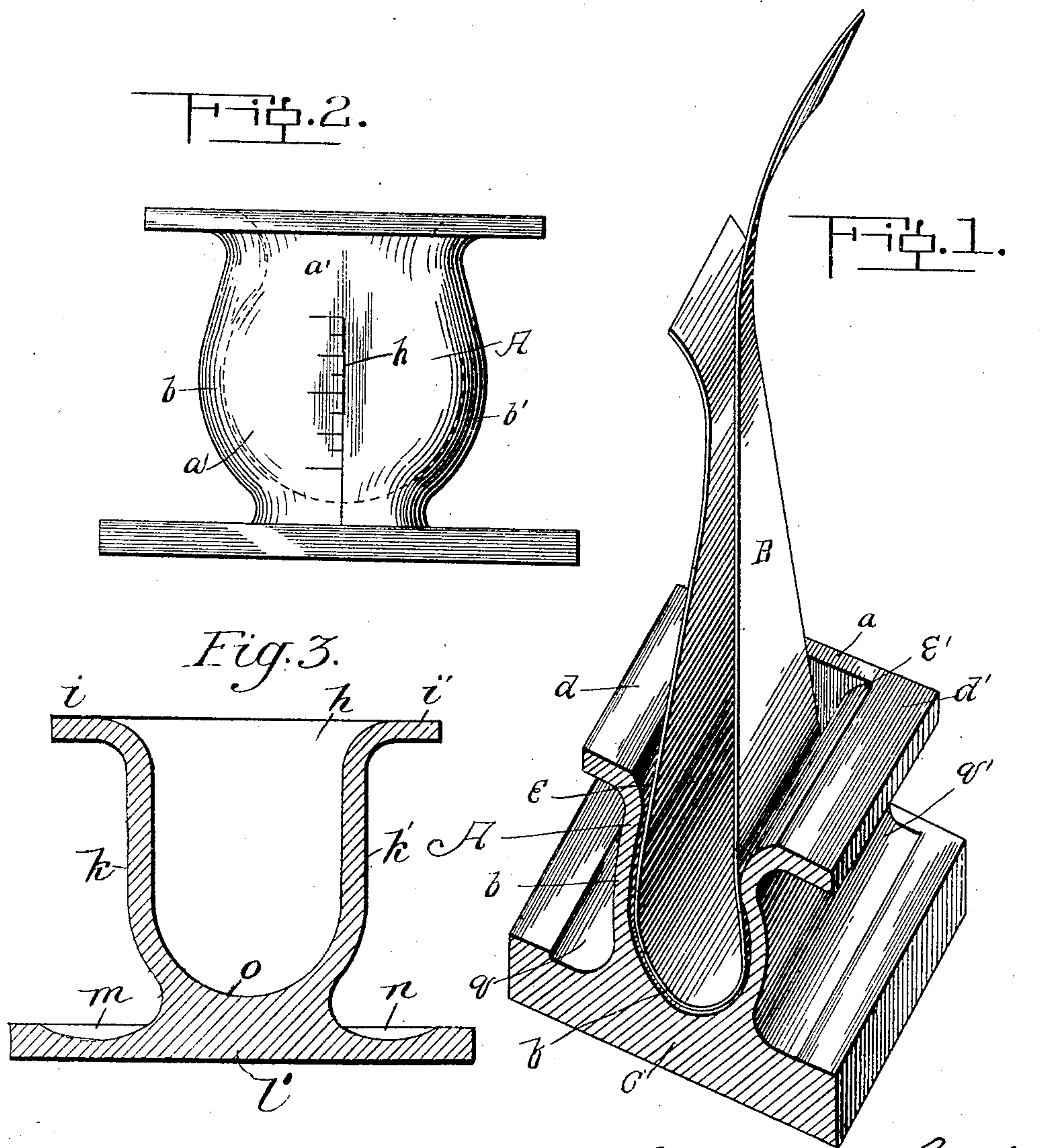
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S. W. SMITH.

DEVELOPING RECEPTACLE FOR PHOTOGRAPHIC FILMS.

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DEVELOPING-RECEPTACLE FOR PHOTOGRAPHIC FILMS.

No. 816,392.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SAMUEL W. SMITH, a citizen of the United States, residing at Ansonia, in the county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Developing-Receptacles for Photographic Films, of which the following is a specification.

My invention relates to developing-receptacles for photographic films, and particularly that class of receptacles which are utilized to develop a long ribbon-like film several parts of which have been exposed at separate times, thus enabling one film to be used for a great number of exposures. In developing these films it has heretofore sometimes been the custom to immerse a portion of the same in a flat tray-like receptacle having a much greater surface area for the developing fluid than the depth of the fluid, thus enabling a short film to be immersed in the bottom of the tray or a long film to be oscillated back and forth, so that a portion thereof will pass through the developing fluid. This class of receptacles, however, has its disadvantages in that when the depth of the fluid becomes low it is impracticable to immerse the film when oscillating the same through the fluid. It is the purpose of my invention to utilize a receptacle in which the least amount of fluid will give a practicable depth and at the same time the receptacle is of such a configuration as to permit the film to be immersed in the fluid contained therein.

My invention consists of a jar-like receptacle having its interior of such a configuration as to permit the oscillation of the film therein and at the same time to give a small amount of fluid a relatively great depth.

My invention further consists in certain details and configuration of parts, which will hereinafter be specifically described, reference being had to the accompanying drawings, in which like reference-letters refer to corresponding parts.

In the drawings, Figure 1 is a perspective view of the receptacle, showing a vertical transverse section thereof and also showing the film in its position in the receptacle. Fig. 2 is an end view of the receptacle. Fig. 3 is a transverse section of a modification of the receptacle.

The receptacle A, which will hereinafter be referred to as a "jar," is shown in Figs. 1 and 2. The film B is shown in Fig. 1 in its

position in the receptacle. The jar, which may be made preferably of glass, is one solid piece, and consists of flat end walls $a a'$, the side walls $b b'$, the bottom or base portion c , and the flat top or sills $d d'$. The contour of the interior surface of the jar is such that both of its sides extend inwardly toward each other from their top portion and then continue downwardly and outwardly and then inwardly until they meet, forming a curved surface at the bottom of the jar, as shown in Figs. 1 and 2. Instead of the walls expanding outwardly, as above described, they may extend vertically and downwardly, as shown in the transverse section in Fig. 3, in which h is the end wall, $k k'$ the vertically and downwardly extending side walls, and o the curved interior surface at the bottom of the jar. The flat sills are represented by $i i'$, while $m n$ are the curved runs, and l' is the base portion. All of these parts may be of the same construction as their corresponding parts in Figs. 1 and 2, with the exception of the vertically and downwardly extending walls $k k'$, as hereinbefore stated. When the film B is grasped by each end, respectively, its intermediate portion is bent upon itself, as shown in Fig. 1, and by virtue of its resiliency the bend has a tendency to follow or be parallel with the inner surface of the side walls of the jar. These side walls are supported by flat end walls $e e$, so that the aperture will always be rectangular in shape when a longitudinal section is taken anywhere through the jar.

When it is desired to lift the film B out of the receptacle A, the former may rest on the flat sills $d d'$ until ready for removal or for a further immersion in the fluid. The outside walls of the jar may be of any peculiar contour to suit the taste, but is preferably similar to the interior configuration of the jar, as shown at $b b'$ in the drawings. The bottom of the exterior wall, however, may terminate in concave runs $q q'$ beyond the outer edges of the sills to catch any drippings or overflow from the top of the jar or outer surfaces of the film.

Having now described the construction of my device, I will now proceed to explain the operation thereof. The jar is first filled up to any level, as desired, indicated by the scale h in Fig. 2, which scale may be graduated to any depth desired, according to the amount of fluid. Each end of the film is then grasped in each hand, respectively, of the operator

and folded into the position shown in Fig. 1, preferably having the sensitive faces on the interior of the fold, thus avoiding any contact of the same with the sides of the receptacle. This bend, as heretofore stated, naturally coincides with the interior surface of the jar, the latter being of such a length as to leave a clearance between the ends of the same and the edges of the film. Each end of the film is then moved up and down by the operator alternately until the sensitive surface has been sufficiently acted upon by the fluid. This operation necessarily consumes the fluid until its depth reaches a minimum, which depth, as heretofore pointed out, requires less fluid than in the flat-like or other receptacles heretofore known in the art for this purpose.

The side walls of the jar may be vertical instead of convex, if desired, according to the nature of the bend in the film or particular dimensions of the jar.

As heretofore stated, the entire jar may be made of glass; but I do not necessarily confine my invention to this material, as the same may be made of any other material suitable to carry out this purpose. Neither do I confine myself to the exact structure or nomenclature of the parts—such as jar, sills, walls, runs, spills, &c.—as used in this specification, but the right to utilize any of the equivalents thereof, provided the same are within the scope of my invention as pointed out in the appended claims.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section, the said chamber being open at its top and having its side walls extending inwardly toward each other from said top, downwardly and then inwardly until the said walls meet forming a curved surface at the bottom of the chamber.

2. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section, the said chamber being open at its top and having flat sills projecting outwardly from the respective sides of the top, the said chamber having its side walls extending inwardly toward each other from their junction with their respective sills and further extending downwardly and then inwardly toward each other until they meet forming a curved surface at the bottom of the chamber.

3. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section, the said chamber being open at its top and having its maximum vertical dimension greater than its maximum transverse dimension, and the said base having its respective sides projecting outwardly forming con-

cave runs which terminate respectively beyond the outer edges of said chamber.

4. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section, the said chamber being open at its top and having flat sills projecting outwardly from the respective sides of said top, the said chamber also having its vertical dimension greater than its transverse dimension, and the said base having its respective sides projecting outwardly forming concave runs which terminate respectively beyond the outer edges of said sills.

5. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section and having its maximum vertical dimension greater than its maximum transverse dimension, the said chamber being open at its top and having its side walls extending toward each other from said top downwardly and then inwardly until the said walls meet forming a curved surface at the bottom of the chamber.

6. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section and having its maximum vertical dimension greater than its maximum transverse dimension, the said chamber being open at its top and having flat sills projecting outwardly from the respective sides of the top, the said chamber also having its side walls extending inwardly toward each other from their junction with their respective sills, and further extending downwardly and then inwardly toward each other until they meet forming a curved surface at the bottom of the chamber.

7. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section, said chamber being open at its top and having its interior surface curved downwardly at the bottom, and the said base having its respective sides projecting outwardly forming concave runs which terminate respectively beyond the outer edges of said chamber.

8. A photographic developing-receptacle consisting of a base surmounted by a developing-chamber rectangular in longitudinal section and open at its top, the said chamber having flat sills projecting outwardly from the respective sides of said top, and having its interior surface curved downwardly at the bottom, and the said base having its respective sides projecting outwardly forming concave runs which terminate respectively beyond the outer edges of said sills.

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