Sept. 16, 1924. 1,508,804

G. D. PAPPAJION

DEVELOPING FILM HANGER

Filed Aug. 23, 1922

Fig. 1.

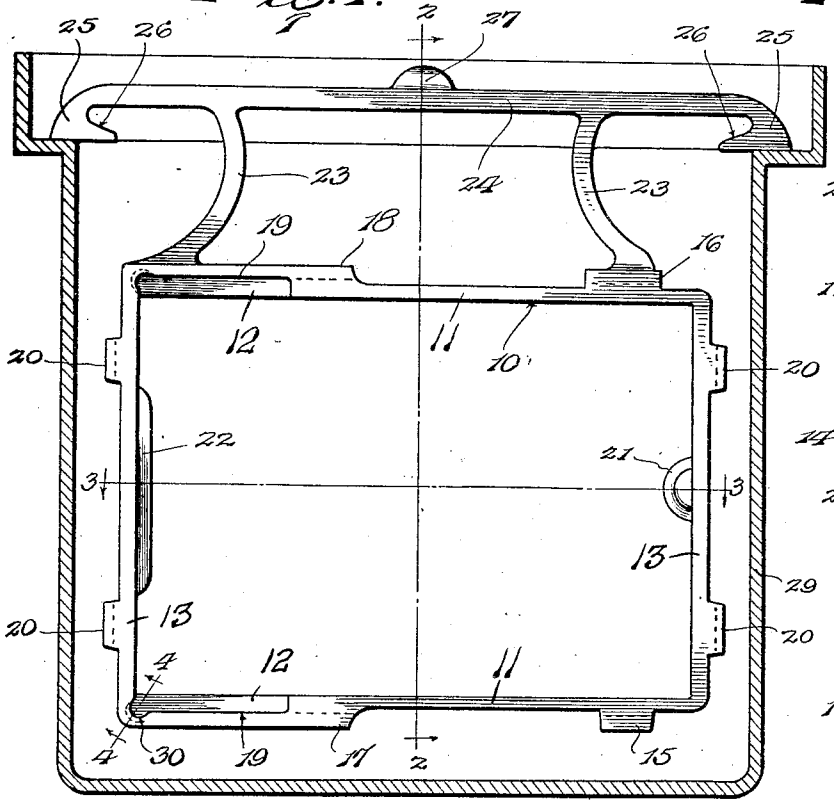


Fig. 2.

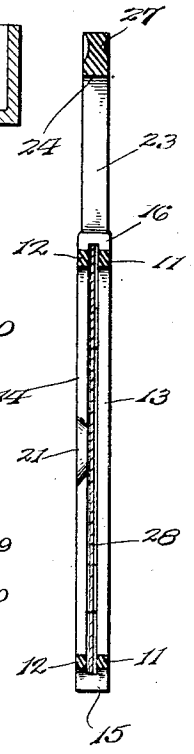


Fig. 3.

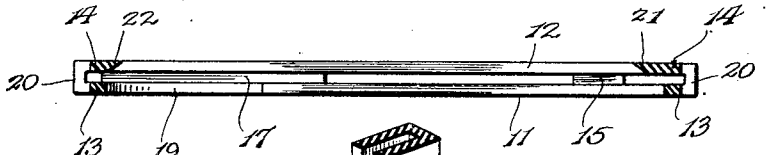


Fig. 4.

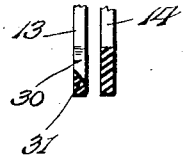
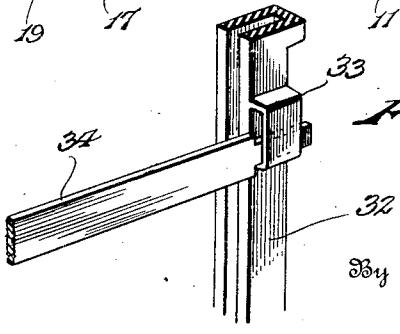


Fig. 5.



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Patented Sept. 16, 1924. 1,508,804

UNITED STATES PATENT OFFICE.

GEORGE D. PAPPAJION, OF DANIELSON, CONNECTICUT.

DEVELOPING-FILM HANGER.

Application filed August 23, 1922. Serial No. 583,802.

To all whom it may concern:

Be it known that I, GEORGE D. PAPPAJION, subject of the King of Greece, residing at Danielson, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Developing-Film Hangers, of which the following is a specification.

This invention relates to a developing film hanger and seeks, as one of its principal objects, to provide a simple and efficient device of this character which may be conveniently employed to suspend a film within a jar for developing.

A further object of the invention is to provide a device which will be formed as a one-piece integral structure, eliminating the use of hinges or other delicate parts such as might corrode or easily break.

And the invention has as a still further object to provide a device wherein a film may be readily attached to or detached from the hanger and wherein the hanger will be so constructed that the developing fluid will have free access to the entire area of the film while, when it is desired to dry the film, all moisture will be permitted to freely drain from the film.

Other and incidental objects will appear hereinafter.

In the drawings:

Figure 1 is a side elevation of my improved hanger, showing the device in position within a conventional developing jar, the jar being illustrated in section,

Figure 2 is a detail sectional view through the device on the line 2—2 of Figure 1, looking in the direction of the arrows,

Figure 3 is a horizontal sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows,

Figure 4 is a detail sectional view on the line 4—4 of Figure 1, looking in the direction of the arrows, and

Figure 5 is a fragmentary perspective view showing a slight modification of the invention.

The hanger of the present invention is preferably formed of hard rubber, vulcanite, or the like, and includes an oblong frame 10 which, in practice, will be varied in size to suit the requirements of different films. As brought out in Figures 2 and 3, the frame is formed of spaced complemental frame members comprising parallel front and rear side rails 11 and 12 and similar spaced parallel front and rear end rails 13 and 14 connecting the side rails. Extending between the outer edges of the side rails near one end of the frame are stop webs or bosses 15 and 16 and extending between said rails at the opposite end of the frame are similar elongated stop webs 17 and 18. These stop webs integrally connect each pair of side rails with each other and, at the stop webs 17 and 18, the front side rails of the frame are cut away throughout the major portion of the length of said webs to define film entrance gates or notches 19. Integrally connecting each pair of end rails, near the ends thereof, are stop webs 20 extending at the outer edges of said rails and projecting from the inner edge of the rear end rail at one end of the frame is a medial semi-circular guide lip 21 while from the inner edge of the rear end rail at the opposite end of the frame projects an elongated medially disposed guide lip 22. As shown in Figure 3, these guide lips are provided with beveled faces sloping to the plane of the inner faces of the rear end rails. Rising from the webs 16 and 18 are upstanding arms 23 bowed toward each other and supported by said arms at their upper ends is a suspension bar 24. As will be observed, this suspension bar overhangs the ends of the frame and is provided at its terminals with depending rests 25 having flat lower faces and elongated to extend inwardly toward each other beneath the bar and thus define hooks 26 at the ends of the bar. Rising from the upper edge of the bar is a medially disposed thumb lug 27 having concave faces so that said lug may be readily gripped. The hanger as thus described, is, as may be inferred from the foregoing, preferably formed as a one-piece structure, the use of hinges, clamping members, or other movable parts such as might become detached or might be subject to premature corrosion, being eliminated.

In use, the film to be developed, a film being conventionally shown in Figure 2 at 28, is first directed at one end through the gates 19 to enter between the front and rear side bars of the frame when the film is shifted endwise to dispose the forward margin thereof between the end bars at what may be conveniently termed the forward end of the frame, the lip 21 serving to direct the film between said end bars. The rear end portion of the film is then bowed when the rear margin of the film is inserted between the

end bars at the rear end of the frame, the lip 22 serving to direct the rear end of the film between said end bars. The film will then be held flat between the spaced bars of the frame limited and sustained by the stop webs 15, 16, 17, 18 and 20. However, as will be observed, the developing fluid will have free access to the entire area of the film while, when it is desired to dry the film, all moisture may be readily drained therefrom.

After the film has been arranged within the frame, as just described, the frame may then be employed for suspending the film within a developing jar and, in Figure 1 of the drawings, I have conventionally illustrated such a jar at 29. The suspension bar 24 is, of course, grasped for lowering the hanger into the jar until the rests 25 thereof abut the end walls of the jar when the suspension bar will function to suspend the frame within the jar, the film being immersed. As will be perceived, several of the devices may be arranged side by side upon a single jar and the hanger frames will serve to maintain the several films carried by the hangers out of contact with each other while when the device is not in use, the hooks 26 of the rests 25 will provide a convenient means for supporting the hanger upon a drying line, a nail or the like. At the angles between the front, side and end rails at the rear end of the frame are notches 30 beneath which said bars are, as shown in Figure 4, provided with beveled faces 31. Thus, the rear corners of a film may be inserted through said notches when the beveled faces 31 will serve to direct the rear margin of the film between the rear end bars of the frame.

In Figure 4 of the drawings, I have illustrated a slight modification of the invention wherein the front end bars of the hanger frame, one of said end bars being indicated at 32, are provided with alined loops 33 and detachably engageable at its ends through said loops is a cross slat 34 for limiting a film within the frame against bowing. The slat 34 is flexible so that said slat may be sprung sufficiently to direct the ends thereof through the loops as well as to disengage the ends of the slat from within the loops. Otherwise, this modified construction is identical with the preferred form of the invention.

Having thus described the invention, what is claimed as new is:

1. A developing film hanger including a hanger frame comprising spaced complemental frame members to receive a film therebetween and having spaced webs thereon rigidly connecting the members and disposed to sustain the film limiting the film against displacement from between the members.

2. A developing film hanger including a hanger frame comprising spaced complemental frame members to receive a film therebetween and having means thereon rigidly connecting the members and disposed to sustain the film limiting the film against displacement from between the members, one of the members being cut away at certain of said means to provide entrance gates for the insertion of the film between the members.

3. A developing film hanger including a hanger frame comprising pairs of spaced side and end rails to receive a film therebetween, and spaced means rigidly connecting said rails and disposed to sustain the film limiting said film against displacement from between the rails.

4. A developing film hanger including a hanger frame comprising pairs of spaced side and end rails to receive a film therebetween, and spaced webs rigidly connecting said rails and disposed to sustain the film limiting said film against displacement from between the rails.

5. A developing film hanger including a hanger frame comprising pairs of spaced side and end rails to receive a film therebetween, and spaced webs rigidly connecting said rails and disposed to sustain the film limiting said film against displacement from between the rails, corresponding rails being cut away at certain of said webs to define entrance gates for the insertion of the film between the rails.

6. A developing film hanger including a hanger frame to receive a film, loops carried by the frame, and a cross slat removably engageable at its ends in said loops to confront the film limiting the film against bowing.

In testimony whereof I affix my signature.

GEORGE D. PAPPAJION. [L. S.]