

FILM HOLDER.

998,182.

Patented July 18, 1911.

Fig. 1 is a plan view of a circular device. It features a central circular region with a radial line labeled 7. Surrounding this center are several concentric rings. The outermost ring is labeled 9. Inside it, there are rings labeled 1, 2, 3, 4, and 5. The device is divided into radial segments by lines extending from the center. Some segments are labeled 4 and 4'. The outer edge of the device is marked with a dashed line and labeled x¹. A small detail of a segment is shown in the bottom right corner, labeled 3 and 4.

Lute Alter.

Inventor:
Chauncey D. Judd.

Witness my hand & seal
this 1st day of June 1907

UNITED STATES PATENT OFFICE.

CHAUNCEY W. JUDD, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO HITE WICKIZER, OF LOS ANGELES, CALIFORNIA.

FILM-HOLDER.

998,182.

Specification of Letters Patent.

Patented July 18, 1911.

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To all whom it may concern:

Be it known that I, CHAUNCEY W. JUDD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Film-Holder, of which the following is a specification.

This invention relates to means for holding films while they are in preparation of development, fixing, washing and drying, and the main object of the invention is to provide means whereby the film may be handled conveniently in a comparatively compact form and at the same time be maintained in condition such that the fluids have effective access to all parts of the film.

Another object of the invention is to provide a film holder to which the film can be readily and quickly applied or removed.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention, and referring thereto: Figure 1 is a vertical section of the film holder on line x^1-x^1 in Fig. 2, the film therein and a container for fluid for operation upon the film. Fig. 2 is a plan of the said parts partly broken away, the cover for the container being omitted. Fig. 3 is a perspective of a portion of the film holder and the film thereon.

The film holder consists of a flexible member adapted to be rolled into a spiral or coil with the film and to separate the several turns of the film. Said flexible member may consist of two flexible strips or bands 1 extending parallel to each other and connected by cross bars 2 at intervals. Said cross bars or strips 2 may be inserted in slots 3 in blocks 4, said blocks being attached to the longitudinal strips 1 in any suitable manner.

The above described parts may be of any suitable material adapted to withstand the action of the several fluids used in the operation. The blocks 4 are separated or spaced apart so as to form intervening spaces 5 for passage of the fluid therebetween, and said blocks are of sufficient height to properly space the several turns of the film. In order to provide a better bearing between the several turns, the said blocks are preferably flared outwardly from the strips, and blocks 4' may be interposed between the blocks 4, to which the cross strips are attached.

In using the holder, the film indicated at

7, is placed on the holder as indicated in Fig. 3 and the holder with the film is then rolled into a spiral. The film then extends in a spiral between the several turns of the holder, being confined between the end blocks 4 and the cross strips 2, the blocks 4 extending to a greater height than said cross strips so that the film is seated on each cross strip between the projecting portions of the end blocks thereon. The material of the flexible strips is such that they will retain their shape when thus rolled and the roll constituted by the holder with the film therein may be inserted in and removed from the various solutions used in photographic developing, fixing and washing operations without the necessity of touching the film while it is wet, or of exposing the fingers to the action of the fluids to any material extent. Thus the film holder may be inserted together with the film thereon, in a developing fluid indicated at 8 in a container 9, in Figs. 1 and 2.

Spacing blocks 4 and 4' are of greater height than the cross bars 2, so that the several turns of the film holder are spaced apart sufficiently to enable the film to extend freely between the bars of successive turns. The space between the bars of the holder being unobstructed the film is freely exposed to the action of the fluid, the spacing blocks and bars being of sufficient height to hold the several turns of the film apart.

What I claim is:

1. A film holder comprising two flexible strips, a plurality of spacing blocks attached to each of the strips and bars connected at their ends to the said spacing blocks to connect the strips together, forming a flexible member adapted to receive the film between said spacing blocks and to be rolled up with the film to hold the film in rolled position with its turns separated and exposed for free access of the fluid, the said spacing blocks being separated to permit of passage of fluid therebetween at the ends of the rolled up film holder.

2. A film holder comprising two flexible strips, a plurality of spacing blocks attached to each of the strips and bars connected at their ends to the said spacing blocks to connect the strips together, forming a flexible member adapted to receive the film between said spacing blocks and to be rolled up with the film to hold the film in rolled position

with its turns separated and exposed for
free access of the fluid, the said spacing
blocks being separated to permit of passage
of fluid therebetween at the ends of the
5 rolled up film holder, and additional spac-
ing blocks secured to each of said strips
intermediate the aforesaid spacing blocks
to which the connecting bars are attached.

In testimony whereof, I have hereunto
set my hand at Los Angeles, California, this 10
14th day of September 1910.

CHAUNCEY W. JUDD.

In presence of—

ARTHUR P. KNIGHT,
FRANK L. A. GRAHAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
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