

No. 638,916.

Patented Dec. 12, 1899.

C. E. DOYLE.

PHOTOGRAPHIC FILM SUPPORT.

(Application filed Aug. 6, 1897. Renewed Oct. 31, 1899.)

(No Model.)

Fig. 1.

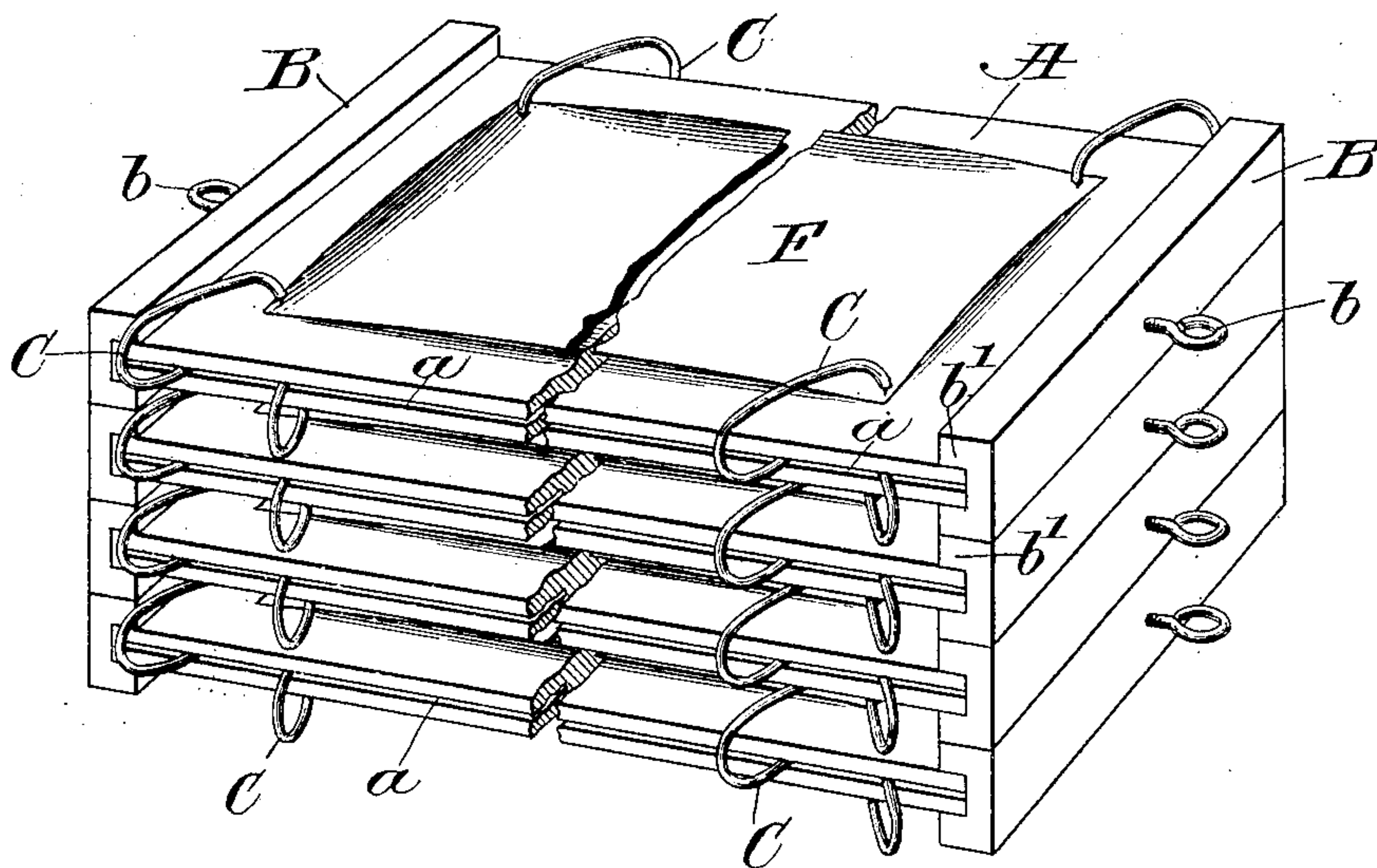


Fig. 4.

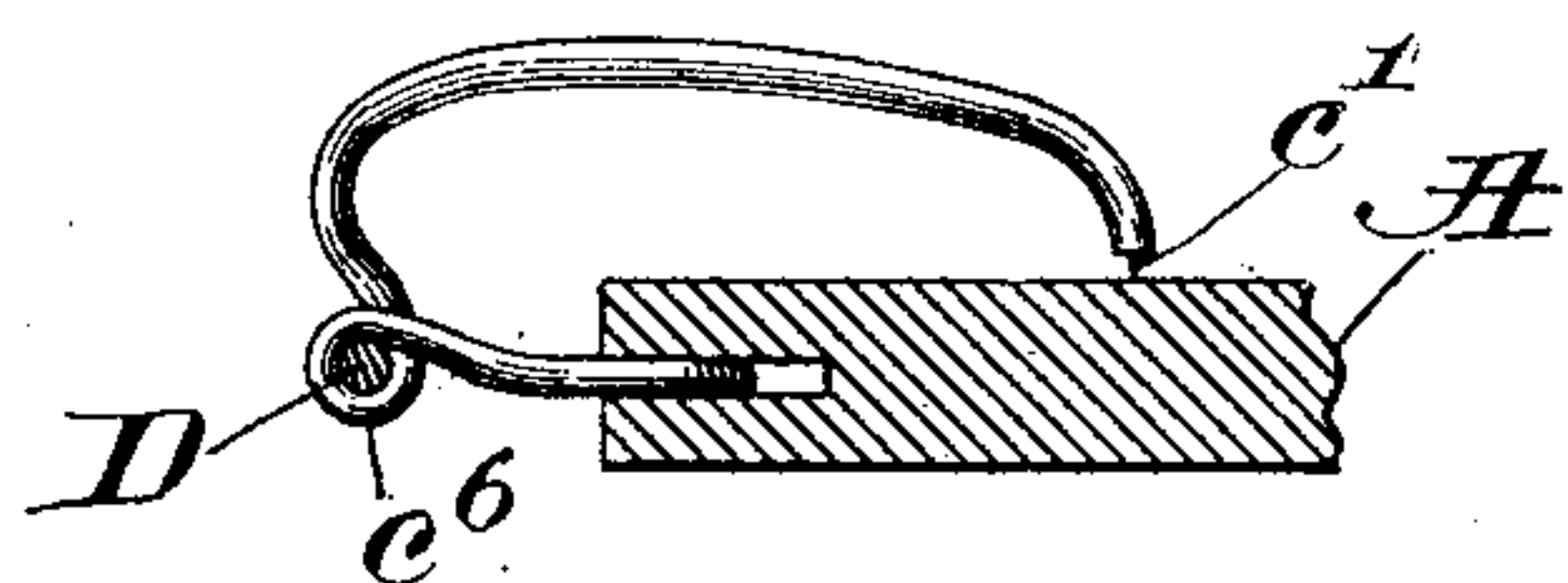


Fig. 2.

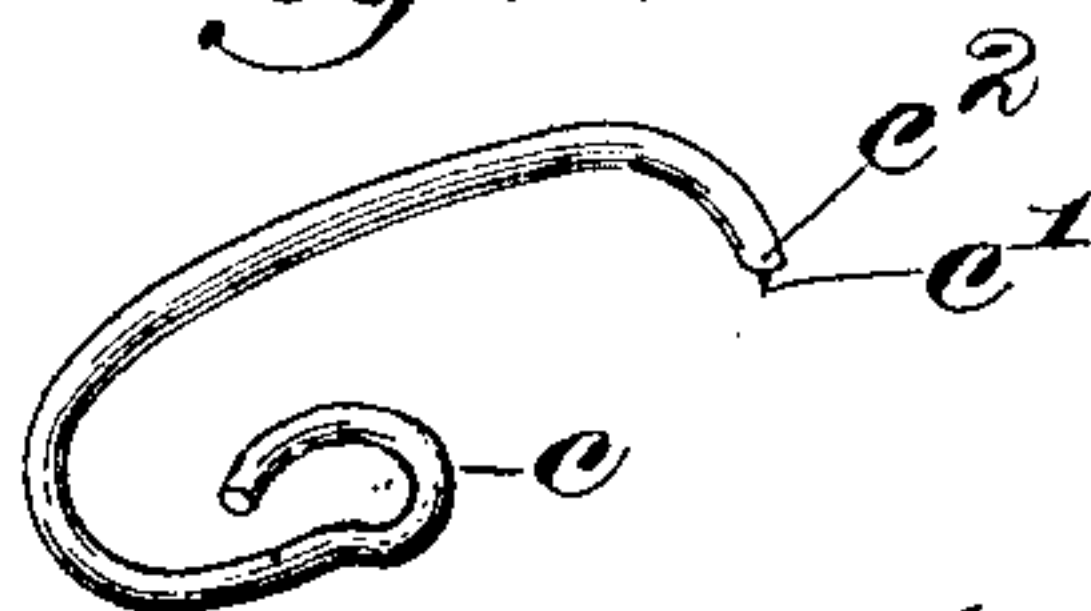
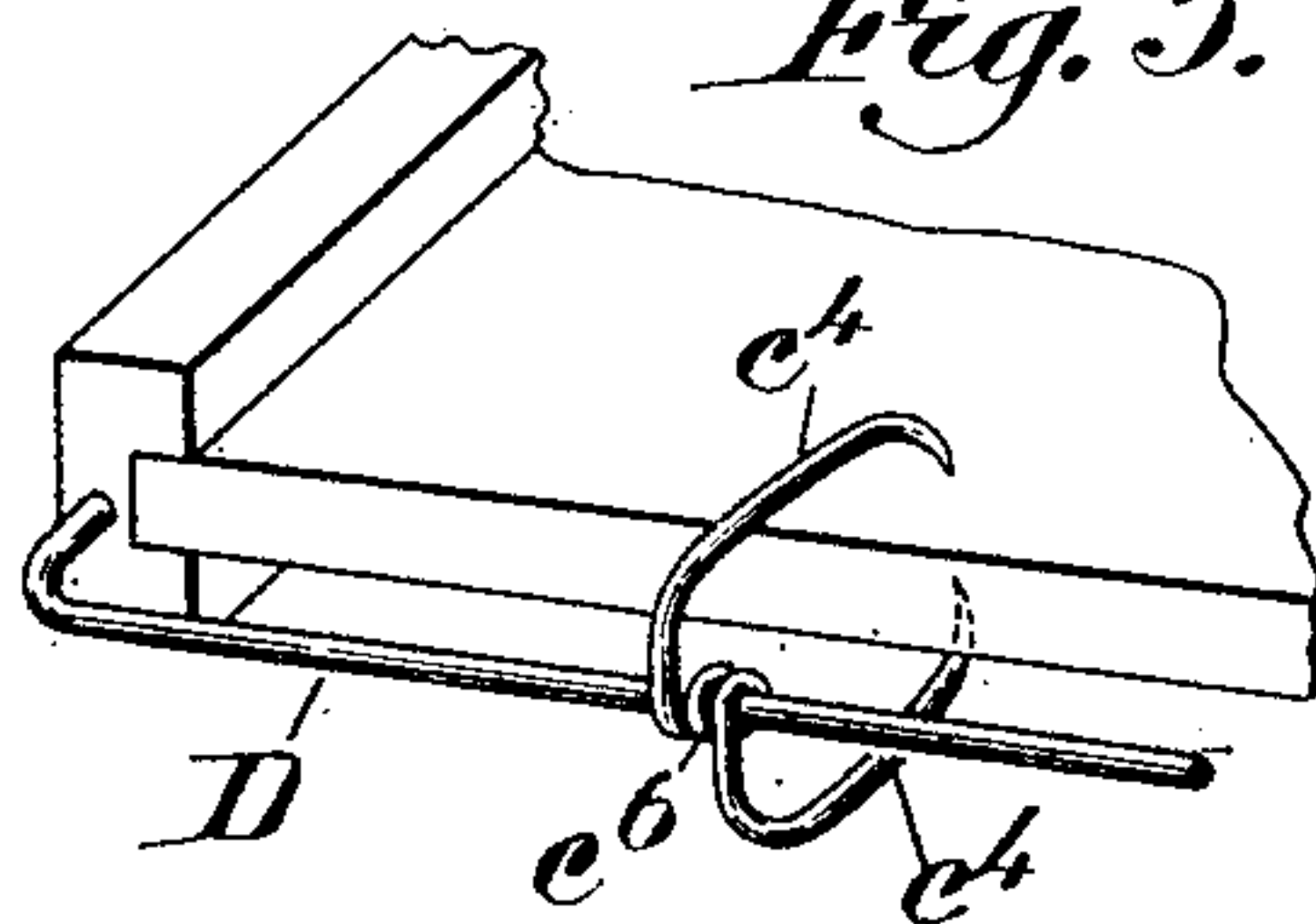


Fig. 3.



Fig. 5.



Witnesses:

A. C. Harmon,
Fred S. Grunlof

Inventor:

Charlie E. Doyle.
by Crosby & Gregory-
attys.

UNITED STATES PATENT OFFICE.

CHARLIE E. DOYLE, OF WARDHILL, MASSACHUSETTS.

PHOTOGRAPHIC-FILM SUPPORT.

SPECIFICATION forming part of Letters Patent No. 638,916, dated December 12, 1899.

Application filed August 6, 1897. Renewed October 31, 1899. Serial No. 735,425. (No model.)

To all whom it may concern:

Be it known that I, CHARLIE E. DOYLE, of Wardhill, county of Essex, State of Massachusetts, have invented an Improvement in Photographic-Film-Drying Supports, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is a frame or holder to support photographic films, either when the latter are in the process of being made or of being developed.

It is the object of my invention to provide a frame of economical construction and neat appearance which will enable the user to economize time and space in drying a large number of films.

In general my invention may be described as comprising a longitudinal supporting surface or board, on which a long strip or film may be placed, or, if preferred, a large number of short films, such as might be cut off from a roll by the amateur, and means at each edge thereof for holding the corners of the film or films, the ends of the board being provided with spacing-ribs, by means of which a number of frames may be stacked upon each other and yet held apart sufficiently to permit the free passage of air between the frames.

The details of my invention will be more particularly pointed out hereinafter, and the invention will be defined in the accompanying claims, forming a part of this specification.

In the drawings, in which I have illustrated a preferred embodiment of my invention, Figure 1 shows five of my improved frames stacked together in operative relation and containing sheets or strips of film, the middle portions of the frames being broken out for convenience. Fig. 2 is a perspective detail of one of the clips. Fig. 3 is a fragmentary view of a modification of a clip. Fig. 4 is a sectional detail showing a modified form of clip mounted on the securing-rod, and Fig. 5 is a perspective view of a further modification.

A designates a board or plane support, preferably having grooves *a* along its edges and provided at each end with a chamfered strip B, which serves not only to prevent the warping of the board A, but more particularly to separate the several supports from each other,

as is clearly shown in the stacked arrangement thereof in Fig. 1.

It will be understood that the frames may be of any length, it being preferable to make them slightly wider than the film with which they are to be used and of considerable length, and preferably each frame or holder will have at its ends an eye *b*, by which the frames may be hung from hooks, if preferred, instead of supported in stack form, as shown, it being preferable for various reasons to hang them, this position facilitating the drying of the films and avoiding the lodgment of dust thereon, the flanges or projecting ribs *b'* of the end pieces serving to keep the holders separated in whatever position they may be placed.

In the grooves *a* are placed spring-clips C, which may be slid along therein and are preferably snugly retained therein, so that they will not readily drop out, these clips having a coil or enlarged portion *c* at their inner end to prevent their tipping over in operation and at their opposite end being preferably reduced in size, as shown at *c'*, in order to provide a shoulder *c''* to prevent puncturing the film F any more than is necessary. Instead of providing the shoulder, as shown in Fig. 2, at *c''*, it may be formed by a button *c'''*, as shown in Fig. 3. There will be as many of these spring-clips in the groove as may be necessary. For instance, in a holder four feet long there might be six to ten on each side.

In Fig. 1 I have shown the clips as secured firmly by means of the grooves; but in Figs. 4 and 5 I have shown a rod D, to which the clips are secured and along which they may slide for preventing them from getting lost, the clip in Fig. 4 being substantially the same as that shown in Figs. 1 and 2, and the clip in Fig. 5 being slightly different, in that it does not require any groove in the edge of the support and in that it is double instead of single, having two arms *c⁴* *c⁵*. When used with the rod D, the clips will have a loop or ring *c⁶*, formed therein or secured thereto, embracing the rod.

In operation the photographer or user of the frame when he has developed the strip or strips of film F places it or them on the board A, as shown in Fig. 1, and gently presses the point *c'* of a clip close to the edge at one corner of the film and repeats this act for

each corner thereof, interposing other clips along the edges between the corners, if necessary. Having covered one side of the frame with films, he turns it over and covers the other side thereof, if desired. Having filled all the frames desired, he either stacks them, as shown in Fig. 1, so that the air can circulate between the superimposed films, quickly drying them, or he hangs the frames from hooks in the eyes *b*.

In securing the films they are laid flat and are simply held in place by the clips without any tendency or possibility of stretching or other distortion.

I prefer to employ opposite ribs *b'*, as shown, although one of these may be omitted, if desired.

Various other changes in form, arrangement, and proportion of parts may be resorted to within the scope of my invention.

By the term "ribs" I do not mean to restrict myself to chamfered pieces, but mean to include any kind of projection which may serve to separate the supports when arranged in stack form, so as to insure that there shall be sufficient spaces for the circulation of the air.

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

1. A frame for holding photographic films, comprising a board having a rib projecting above its surface at each end, combined with movable spring-clips along each edge of the board, said clips having arms projecting over the surface of the board to engage the edges of the film placed thereon, and means to sustain said clips, said means including a groove in the edge of the board to receive one end of the clip, substantially as described.

2. A frame for holding photographic films, comprising a board having a rib projecting above its surface at each end, combined with movable spring-clips along each edge of the board, said clips having arms projecting over the surface of the board to engage the edges of the film placed thereon, means to sustain said clips, said means including a groove in the edge of the board to receive one end of the clip, and a rod adjacent and parallel to

said groove and along which said clip may slide, substantially as described.

3. A frame for holding photographic films, comprising a board having a rib projecting above its surface at each end, combined with movable spring-clips along each edge of the board, said clips having arms projecting over the surface of the board to engage the edges of the film placed thereon, and a rod secured to said frame adjacent and parallel to the edge of said board, said clips being movably secured to said rod, substantially as described.

4. A frame for holding photographic films, comprising a board having opposite plane surfaces, and opposite ribs projecting from said opposite surfaces or side of the board, combined with spring-clips arranged along the edges of said board and adapted to engage the edges of films placed on said opposite plane surfaces thereof, substantially as described.

5. A frame for holding photographic films, comprising a board having a rib projecting above its surface at each end, combined with movable spring-clips along each edge of the board, said clips having arms projecting over the surface of the board to engage the edges of the film placed thereon, said arms being provided with small points and shoulders adjacent thereto for the purpose set forth, substantially as described.

6. A frame for holding photographic films, comprising a board having a rib projecting above its surface at each end, combined with movable spring-clips mounted to slide along each edge of the board, said clips having arms projecting over the surface of the board to engage the edges of the film placed thereon, and means to sustain said clips in said sliding engagement and prevent their removal from the frame, substantially as described.

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

CHARLIE E. DOYLE.

Witnesses:

GEO. H. MAXWELL,
FREDERICK L. EMERY.