

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in or relating to Photographic Enlarging Apparatus

We, JOHAN STEENBERGEN, a Dutch subject, OTTO DIEBEL, a German citizen, HUGO FRAUENSTEIN, a German citizen, EMIL ENGLISCH, a German citizen, HERMANN SCHUBERT, a German citizen, and CONRAD KOCH, a German citizen, trading as Ihagee Kamerawerk Steenberg & Company, of 24, Schandauer Strasse, Dresden, A.19, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:

This invention relates to improvements in or relating to pressure frames used in conjunction with photographic enlarging apparatus when enlargements from film strips are to be made, and more particularly to pressure frames comprising a pair of glass plates hingedly connected together along one longitudinal edge thereof by means of leather strips or the like, the film strip to be enlarged being placed between the two plates which thus form in the closed position a holder or frame for the film strip and prevent any movement thereof. All that is necessary for the insertion or removal of a particular film strip is for one of the plates to be swung around the hinge.

It has already been proposed in photographic printing and enlarging apparatus to provide a printing frame which encloses a single glass plate on which the light sensitive paper and a black-cardboard disc forming a mask are supported, the two being held in position on the plate by the closing of a hinged lid with which the frame is provided.

It has also been proposed to provide, for use with a photographic printing or enlarging frame which includes a single glass plate on which a negative to be printed or enlarged is supported, a mask which is formed on both longitudinal edges thereof with outwardly bent fillets or tongues by the resilient tension of which the mask is held fast against the sides of the frame upon being inserted into the latter.

The principal object of this invention is to provide a pressure frame of the above kind in which simple and effective means are provided for enabling the pressure frame to be used for the enlargement of

film strips having thereon images of different dimensions.

According to this invention, therefore, we provide a pressure frame of the kind referred to wherein one of the glass plates is furnished adjacent each lateral edge thereof with a guideway or channel in which a mask is adapted to slide whereby masks having openings therein of different sizes can easily and rapidly be placed in position for use on, and removed from, the said pressure frame.

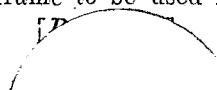
In carrying out the invention the guideways or channels are preferably each formed of a strip of wood of angle shape, one portion of which extends inwardly over and in contact with the upper face of the glass except at the inner end thereof, which is somewhat reduced in thickness or recessed so as to form the channel or guideway. The other limb of the strip is preferably of a depth equal to the thickness of the glass plate and is bevelled at its inner edge so as to provide a smooth contact surface for the film strip. The wooden strips may be secured to the glass in any suitable manner, such as by glueing and they may also be hinged by means of a piece of leather to the two glass plates at the hinge end thereof.

In order that the invention may be fully understood we shall now describe one embodiment thereof by way of example by reference to the accompanying diagrammatic drawings, in which:

Fig. 1 is an elevation of the improved pressure frame showing a film strip in position and a mask partly inserted, and

Fig. 2 is a plan view thereof.

The pressure frame consists of two plates of glass 1 and 2 which, as can be seen from Fig. 1, are hinged together at their lower edge by a strip of leather 3 extending along the underside. At each lateral side of the plate 2 is arranged a strip of wood 4 of angle shape extending inwardly over the surface of the glass 2 for some distance in contact with the glass, as clearly shown at 4a in Fig. 2, and being formed at the inner longitudinal edge thereof with a recess 4b, which forms a guide channel for a mask 5. The side edges of the wooden strips are preferably of a height equal to the thickness of the glass plate 2, and the faces thereof pre-



ferably bevelled, as shown at 4c, to provide a smooth edge for contact with the film strip 6, which is located between the two glass plates 1 and 2, as clearly shown in Fig. 2. These wooden channel-forming strips 4 are secured to the glass plate 2 by glueing along the contacting surfaces thereof and also hinged by means of strips of leather 7, which are glued around the two strips of glass at the bottom or hinged end thereof.

As clearly shown in Fig. 1, a mask 5 having any desired size of opening 5a can easily and rapidly be inserted in position for use on the pressure frame and is easily removed therefrom for replacement by another mask having a different sized opening.

Whilst we have hereinbefore described one embodiment of our invention, it will be understood that modifications may be made therein without departing from the scope of the invention. For example, the channel-forming strips can be made of metal instead of wood and can be secured to the glass plate in any other suitable manner than by glueing. Moreover the glass plates may be hinged together by means of any suitable material other than leather.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A pressure frame of the kind hereinbefore referred to for enlarging from film

strips, wherein one of the glass plates is furnished adjacent each lateral edge thereof with a guideway or channel in which a mask is adapted slidably to engage, whereby masks having openings therein of different sizes can easily and rapidly be placed in position for use on and removed from the said pressure frame.

2. A pressure frame as claimed in claim 1, wherein the guideways or channels are formed by means of strips of wood secured to the outer face of the said plate along its lateral sides and having recessed portions therein forming the channels.

3. A pressure frame as claimed in claim 2, wherein the said strips are secured to the glass plate by means of any suitable adhesive, a strip of leather being also preferably secured to the said strips and to the other glass plate, which strips thereby form an additional hinge for connecting the two glass plates together.

4. The improved pressure frame of the kind hereinbefore referred to for enlarging from film strips, constructed and arranged substantially as hereinbefore described and illustrated in the accompanying drawings.

Dated this 20th day of December, 1938.

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Fig. 1.

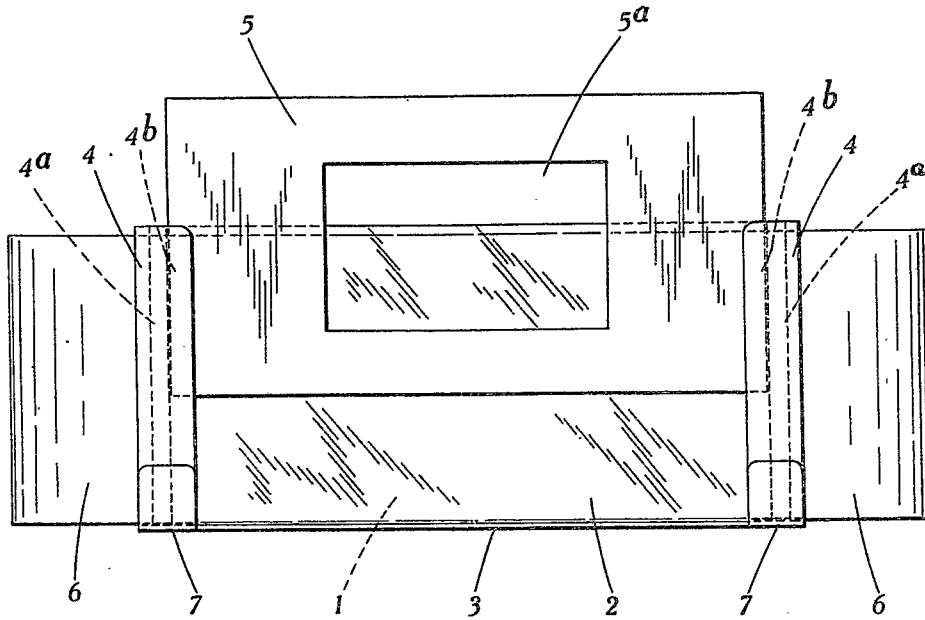
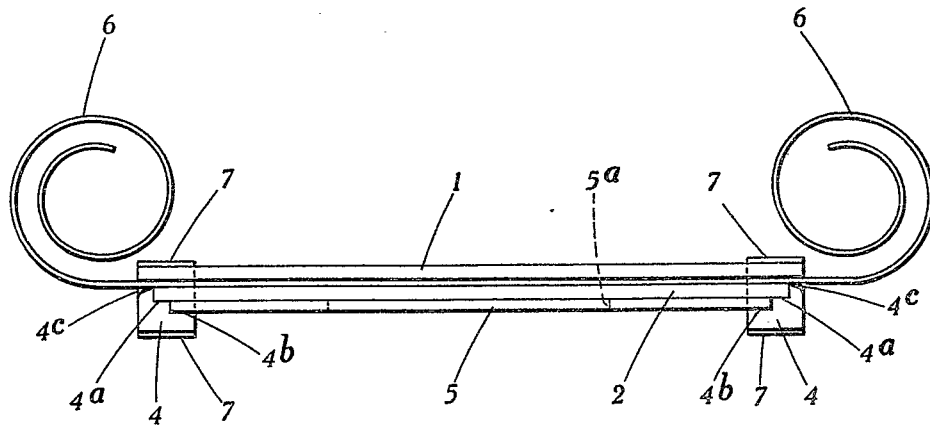


Fig. 2.



[This Drawing is a reproduction of the Original on a reduced scale.]