March 7, 1939. C. E. SLAUGHTER 2,149,636

COMPOSITE PHOTOGRAPHIC PLATE AND FRAME

Filed Sept. 15, 1937



Fig. I

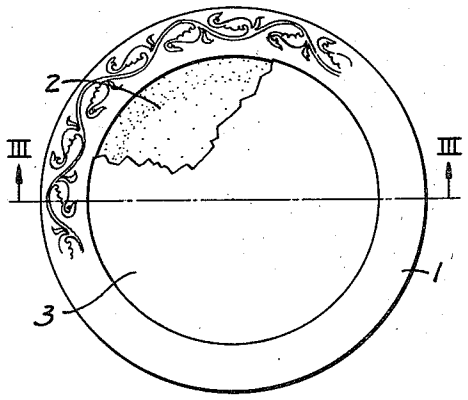


Fig. II

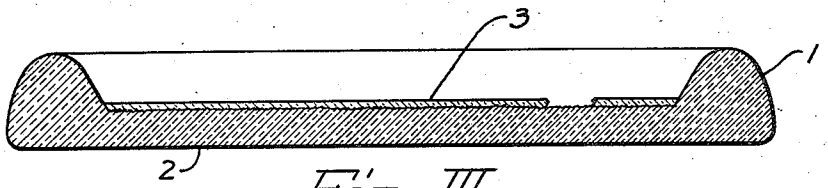


Fig. III

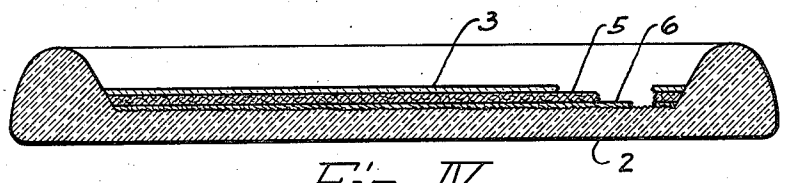


Fig. IV

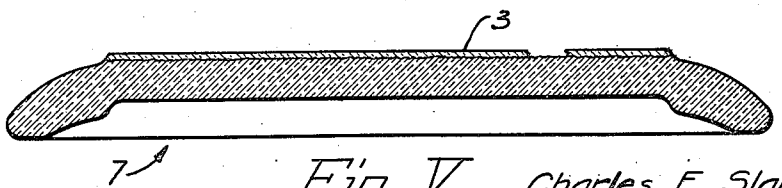


Fig. V

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COMPOSITE PHOTOGRAPHIC PLATE AND FRAME

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Application September 15, 1937, Serial No. 164,015

2 Claims. (Cl. 95—8)

This invention relates to photographic plates and frames, and particularly to plates and frames such as are used in automatic photographic machines, though the invention may also be employed in photographic plates and frames which are not processed in automatic machines.

Such plates and frames usually have been assembled from a plate with a light-sensitive coating, and a stamped sheet metal frame. When processed in automatic photographic machines, they are stacked in magazines, from whence they are fed one by one to a position behind the lens of the photographic machine, where they are exposed. They are then subjected to the action of developing and rinsing fluids, and within very short intervals after exposure they are ejected from the machine. The automatic machines thus produce photographs which are surrounded and supported by sheet metal frames. Such frames often contain hollows and interstices which are liable to trap portions of the developing fluid and permit it subsequently to leak out and dampen or stain the photograph.

One of the objects of my invention is the provision of a composite photographic plate and frame which is free from hollows and interstices liable to trap treating fluids.

Another object of my invention is to provide a composite photographic plate and frame which is impervious to, and inert to, the action of treating fluids.

Another object is to provide a composite photographic plate and frame of highly attractive appearance.

And still another object is to provide a composite plate and frame of such conformation as to stack properly in magazines of automatic photographic machines, and having proper conformation for passage through the automatic magazines of such machines without liability of breakage or injury.

Other objects and advantages will be apparent from the following description, in which reference is had to the accompanying drawing illustrating preferred embodiments of my invention and wherein similar reference numerals designate similar parts throughout the several views.

In the drawing:

Figure I is an elevational view of a composite plate and frame embodying my invention, bearing a developed photograph;

Figure II is a similar view showing a composite plate and frame embodying my invention with its sensitized emulsion in undeveloped condition, a part of the sensitized emulsion being removed to show the backing therefor;

Figure III is an enlarged sectional view taken substantially along the line III—III of Figure II;

Figure IV is a similar sectional view showing a modified form of a composite plate and frame embodying my invention; and

Figure V is a sectional view illustrating another embodiment of the composite photographic plate and frame of my invention.

The composite plate and frame may be of rectangular, octagonal or other shape, but it is shown in the drawing as round since some types of automatic photographic machines are adapted for handling round shapes.

The frame 1 and backing 2 of the composite article are integrally molded of synthetic plastic molding material which may be either a thermosetting plastic, such as urea-formaldehyde condensation product, or may be permanently thermoplastic, such as pyroxylin or cellulose acetate material. I prefer to use materials of light or pastel shades, either plain or mottled, and attractive effects can be attained by the use of materials which are translucent or cloudy.

Spread upon the inner surface of the backing 2 is a layer of light-sensitive material 3, such as photographic emulsion. The light-sensitive material 3 may be applied directly to the inner surface of the backing 2, which may be roughened to insure better adherence between the surface of the plate and the light-sensitive material, or an adhesive may be interposed between the light-sensitive material 3 and the backing 2.

For economical production of the film of light-sensitive material, it is usually spread upon a flat surface of sheet material, e. g., paper, cellulose nitrate or cellulose acetate. Light-sensitive material so spread upon paper, cellulose nitrate or cellulose acetate may be incorporated in the composite plate and frame of my invention, in the manner illustrated in Figure IV, by fastening the paper or other supporting sheet 5 to the inner surface of the backing 2 by means of an adhesive 6.

In the form of my invention illustrated in Figure V, the sensitized emulsion 3 is spread upon the flat surface of a plaque, the back of which is hollowed, as indicated by the numeral 7, to prevent injury to the sensitized surfaces when the plaques are stacked. This form of the device facilitates the spreading of the emulsion, but it does not constitute a tray-like receptacle for the developing fluid.

Various expedients may be employed for rough-

ening the inner surface of the backing 2. For examples, the surface itself may be sandblasted, or it may be molded against a surface which has been sandblasted or etched with acid.

The frame portion 1 of the composite structure may be plain or embossed, and the outer or rear surface of the backing 2 may be impressed with ornamental figures or with informational indicia.

The frame may be of any desired cross-sectional shape. Where the composite plate and frame is so used that it acts as a tray to retain development fluid which is afterward expelled by centrifugal action, the walls of the frame portion 1 may be sloped to facilitate the discharge of the fluid.

From the foregoing description it will be seen that I have provided a composite frame and photographic plate of attractive appearance which is economical to manufacture and well adapted for processing by automatic photographic machines and which provides adequate support and protection for its contained photograph.

The embodiment of my invention herein shown and described is to be regarded as illustrative only, and it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

Having described my invention, I claim:

1. A combination photograph backing frame and devolopment tray comprising a molded flat backing portion surrounded by a heavy encircling frame, said flat backing portion and heavy frame being integrally formed of thermosetting synthetic molded material inert to the action of photographic development and fixing fluids and constituting a rigid development tray free of grooves and exterior corners and capable of being stacked with like structures in magazines, there being a layer of light-sensitive material overlying said backing portion, and means for causing said light-sensitive material to adhere to said backing portion.

2. A combination photograph backing frame and development tray comprising a molded flat backing portion surrounded by a heavy encircling frame, said encircling frame constituting an ornamental border about said backing portion, said flat backing portion and heavy frame being integrally formed of thermosetting synthetic molded material inert to the action of photographic development and fixing fluids and constituting a rigid development tray free of grooves and exterior corners and capable of being stacked with like structures in magazines, there being a layer of light-sensitive material overlying said backing portion, and means for causing said light-sensitive material to adhere to said backing portion.

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