June 20, 1944. W. RABKIN ET AL 2,351,877

FRAMED PHOTOGRAPHIC PLATE

Filed Aug. 7, 1942

FIG. 1

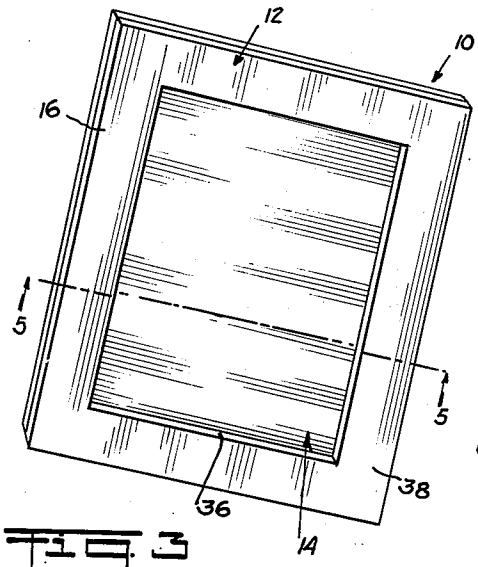


FIG. 2

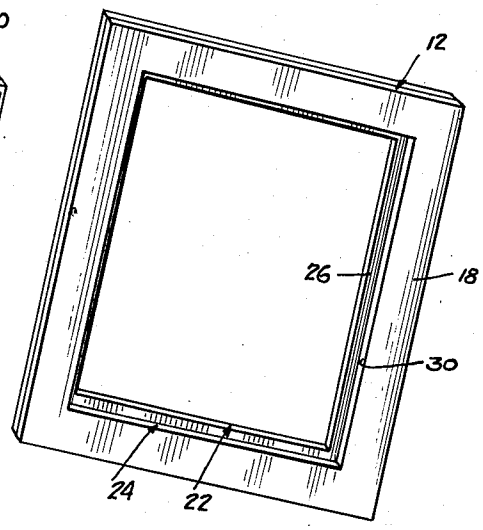


FIG. 3

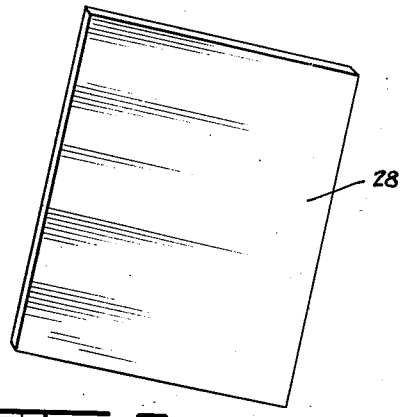


FIG. 4

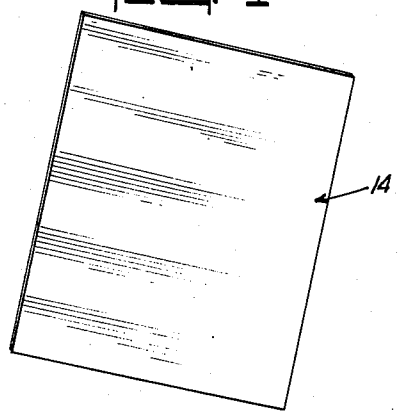


FIG. 6

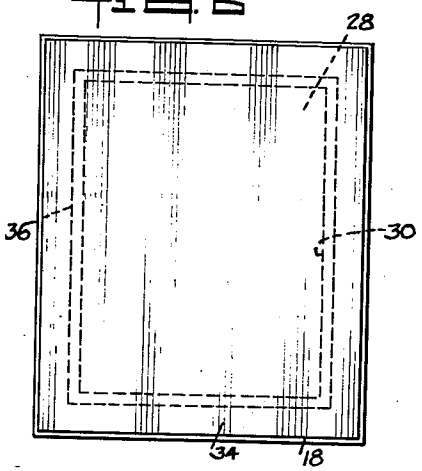
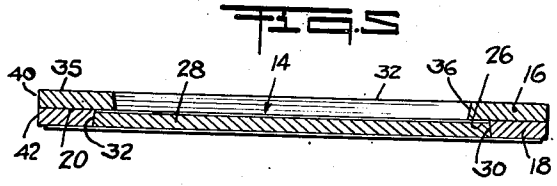


FIG. 5



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FRAMED PHOTOGRAPHIC PLATE

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Application August 7, 1942, Serial No. 454,046

6 Claims. (Cl. 95—8)

This invention relates to framed photographic plates.

One object of the invention is the provision of a combined framed photographic plate and tray formed at least mainly of cardboard and paper and characterized in that the frame is impervious to deleterious action by the chemicals or liquids utilized in treating the photographic plate following the exposure thereof in preparing the photograph. In this connection, the invention is concerned primarily with the provision of a combined framed photographic plate and tray for use in photographic machines of the type disclosed in United States Letters Patent No. 2,192,755 in which machine the framed photographic plate is exposed, developed and fixed and thereafter dispensed by automatic operations performed by the machine pursuant to the insertion of a coin therein.

Another object of the invention is to provide a framed photographic plate which can be made from cardboard or paper stock in parts which can be easily produced and easily assembled and which satisfies the practical requirements in respect to the utility of these framed plates in a machine of the above indicated type and which also satisfies the requirements as to the durability and the attractive appearance of the framed photographic plates.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description, reference being had to the accompanying illustrative drawing.

In the drawing:

Fig. 1 is a perspective view of combined photographic plate and tray embodying the present invention;

Fig. 2 is a perspective view of part of the frame, taken from the back thereof;

Fig. 3 is a perspective view of a backing member forming a part of the frame;

Fig. 4 is a perspective view of the photographic plate;

Fig. 5 is a sectional view on the line 5—5 of Fig. 1;

Fig. 6 is a view of the back of the complete frame.

Referring now more particularly to the drawing, the framed photographic plate 10 of the present invention comprises a frame 12 having mounted therein a photographic plate 14. Said frame is formed of cardboard or paper stock and said photographic plate is preferably a sheet of sensitized paper.

Frame 12 comprises front and rear frame members 16 and 18 formed of cardboard or of paper stock. Said frame members are laminated or united with each other in face-to-face relation and secured together in said relation by an interposed layer of adhesive as indicated at 20. Thus said frame is solid for the full thickness thereof around the front and rear openings 22 and 24. The opening 22 in front frame member 16 is somewhat smaller than the opening 24 in rear frame member 18, thus providing the frame with a peripheral shoulder 26 spaced from the front of the frame. The outer peripheral edges of said frame members are in alignment and said openings are in central registry. The photographic plate 14 fits in the opening 24 of frame member 18 so that a peripheral marginal edge portion of said photographic plate abuts said shoulder completely therearound. A backing member 28 is positioned in the frame back of said photographic plate in the opening 24 of the rear frame member 18. Said backing member is also formed of cardboard or paper stock and is preferably the piece which is removed from the sheet in forming the opening 24 in frame member 18. In order to facilitate the assembly of backing member 28 with the other parts of the frame, the inner peripheral edge 30 of frame member 18 is preferably slightly tapered toward the front of the frame and the peripheral edge 32 of backing member 28 is correspondingly tapered, the taper of said edges being conveniently formed when the part which constitutes backing member 28 is cut from the material in producing the opening in frame member 18. As backing member 28 is preferably of the same thickness as frame member 18, the outer surface of said backing member, when positioned in opening 24, is substantially flush with the rear surface of frame member 18. Said backing member is held in position by a sheet 34 of paper which is of subtantially the same area as the back of the frame. Said sheet 34 extends across the peripheral joint between frame member 18 and backing member 28 and is formed of water repellant or water proof paper so that the back of the frame is substantially water proof or water repellant throughout the area thereof and especially at the joint between frame member 18 and backing member 28.

Backing member 28 and sheet 34 constitute means for holding the photographic plate 14 against the peripheral shoulder 26 completely therearound, thus providing a liquid tight joint between said photographic plate and the inner

end of the inner peripheral edge of front frame member 16. For this purpose, when backing member 28 is placed in position at the back of the photographic plate 14, said backing member is pressed firmly against the back of said photographic plate which in turn is thereby pressed firmly at its peripheral marginal edge portion against shoulder 26, and while said backing member 28 is thus held firmly pressed against the marginal edge portion of the photographic plate, sheet 34 is secured in position. For securing sheet 34 in position, the latter is preferably provided with a water soluble adhesive coating. The water utilized for moistening the adhesive coating of sheet 34 has preferably added thereto a drying retarding agent, such as glycerin, whereby to prevent or delay for a long time the complete drying of sheet 34. This has been found beneficial in preventing buckling or warping of the frame due to the contraction of sheet 34. A relatively small quantity of an agent to prevent total drying is used in the water for moistening sheet 34.

It will be understood that when the framed photographic plate is used in the photographic machine referred to above, said plate is preferably also a tray in which is contained the various liquids applied to the photographic plate during the operation of the machine following the exposure of the photographic plate. It will be noted, therefore, that the construction of the framed photographic plate as described above is such that the latter also constitutes a tray, the peripheral side wall of which is formed by the inner edge 36 of front frame member 12 and the bottom of which is constituted by the photographic plate 14. As several liquids are applied to the photographic plate in the tray and as it is desirable to remove said liquids quickly, it is advantageous, although not necessary, to form edge 36 so that it tapers somewhat toward the bottom of the tray, that is toward plate 14, thus to facilitate the flow of the liquids from the tray when the latter is tilted during the several operations of the machine as described in said patent.

An important feature of the present invention, in addition to the above described construction of the combined framed photographic plate and tray, resides in the provision of the tray with means for preventing the liquids or liquid chemicals from impairing the frame. For this purpose, the inner peripheral edge 36, and the front surface 38 of the front frame member, and the outer peripheral edges 40 and 42 of frame members 16 and 18, respectively, are rendered substantially waterproof and impervious to the action of such liquids, it being noted further in this connection that as described above the back of the framed photographic plate is protected by the waterproof or water repellant backing sheet 34. For thus providing the framed photographic plate with this impervious property, said portions thereof are coated with a suitable varnish, preferably a varnish having a tar base, although other types of waterproofing varnishes, such as for example a China-wood oil varnish or a glyptal resin varnish may be used. As the front surface 38 of the frame is provided with ornamentation usually printed thereon, the varnish is applied over said ornamentation. For applying a varnish to edges 36, 40 and 42, the frames constituted by frame members 16 and 18 are sprayed at said edges with the varnish. This is conveniently accomplished by forming a stack of frames 12 with the inner and outer peripheral edges of said frames in registry and with the frames in the stack held tightly against each other forming in effect a tube, the varnish being sprayed on the inner and outer surfaces of this tube.

While we have shown and described the preferred embodiment of our invention, it will be understood that the latter may be embodied otherwise than as herein shown or described. It will be understood also that in the claims when the term "cardboard" is used, it embraces, unless otherwise specified, paper stock as well as cardboard proper. Since as stated, the invention may be otherwise embodied and since in the illustrated embodiment certain changes in the details of construction may be made, we do not wish to be limited to the specific construction herein shown or described except to the extent which may be required by the scope of the appended claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, and means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph, said inner edge and the front surface of the frame being impervious to said chemicals during the treatment of said plate.

2. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, and means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph, said inner edge and the front surface of the frame being impervious to said chemicals during the treatment of said plate and means sealing the back of the frame at the peripheral edges of said opening and of said backing member.

3. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic

plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph, said inner edge and the front surface of the frame being impervious to said chemicals during the treatment of said plate and a layer of water repellant material overlapping the back of the frame and said backing member and sealing the peripheral joint between the peripheral edge of said backing member and the inner edge of said larger opening.

4. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, and means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph, the outer peripheral edge of said frame and said inner edge and the front surface of said frame being impervious to said chemicals during the treatment of said plate.

5. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph, said inner edge and the front surface of the frame being impervious to said chemicals during the treatment of said plate and a layer of water repellant material overlapping the back of the frame and said backing member and sealing the peripheral joint between the peripheral edge of said backing member and the inner edge of said larger opening.

6. A framed photographic plate comprising a frame having two frame members, each having an opening, one of said openings being larger than the other, said frame members being secured together in abutting face to face relation with their openings in registry and providing a peripheral shoulder adjacent said openings, a photographic plate fitted in said larger opening and having a peripheral marginal edge portion thereof abutting said shoulder in peripherally continuous relation therewith, a backing member fitted in said larger opening and overlying said photographic plate, and means securing said backing member in said opening and holding said plate tightly against said shoulder, the inner edge of said frame member having the smaller opening and said plate forming a tray for liquid chemicals utilized in treating the plate after the exposure thereof in taking the photograph.

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