

Nov. 25, 1958

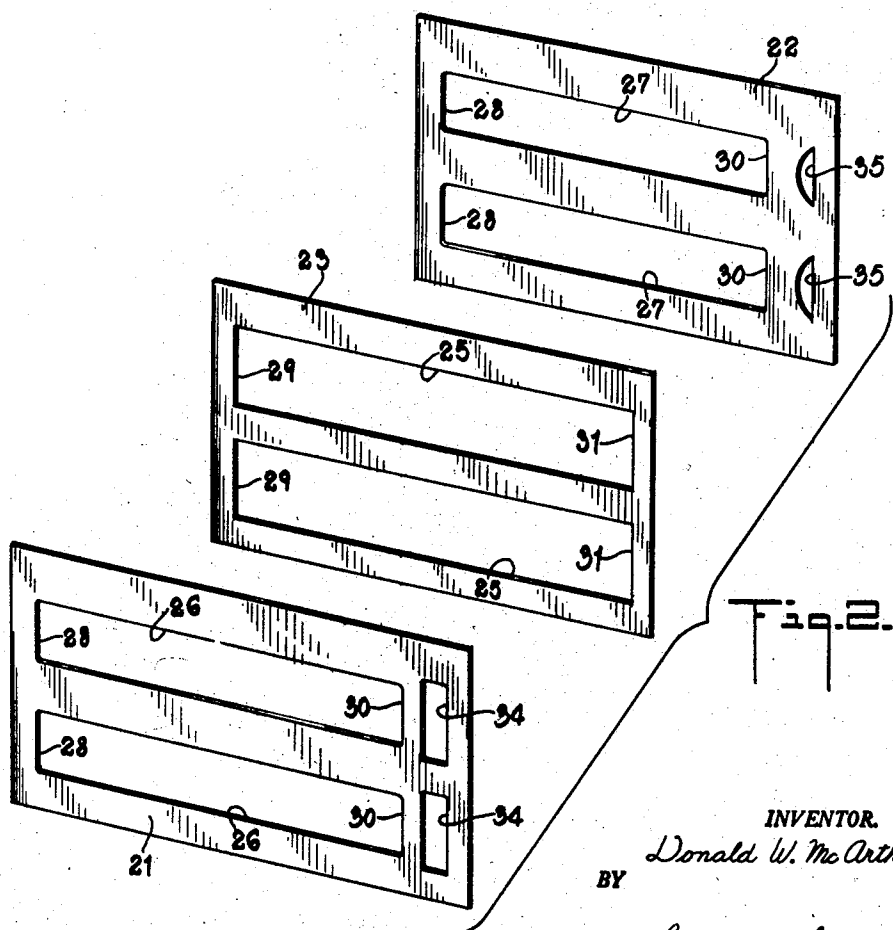
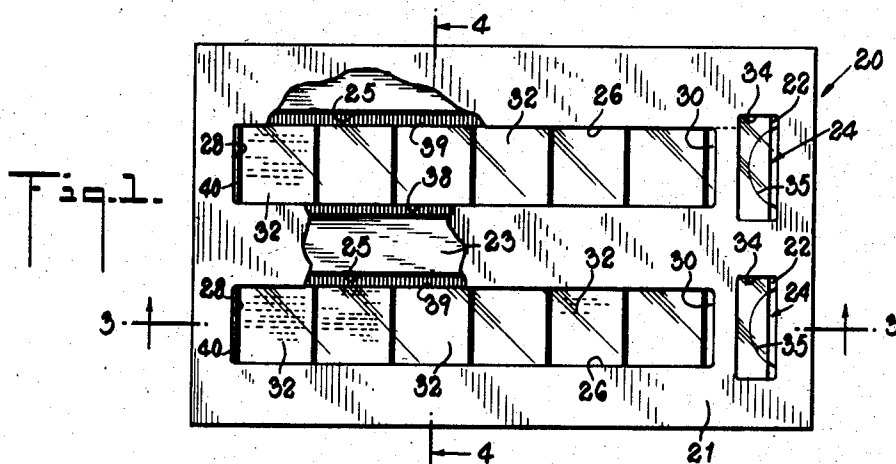
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2,861,370

FILE CARD STRUCTURE

Original Filed Sept. 24, 1953

2 Sheets-Sheet 1



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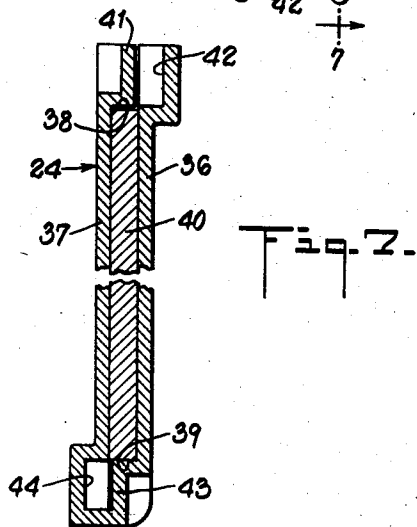
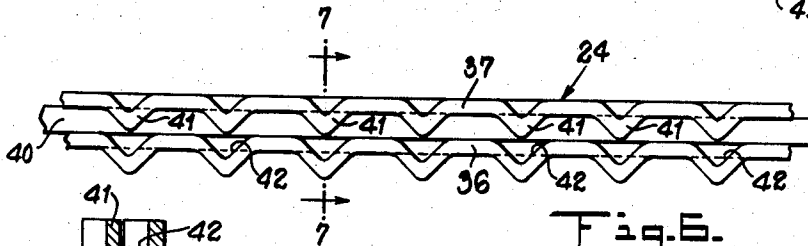
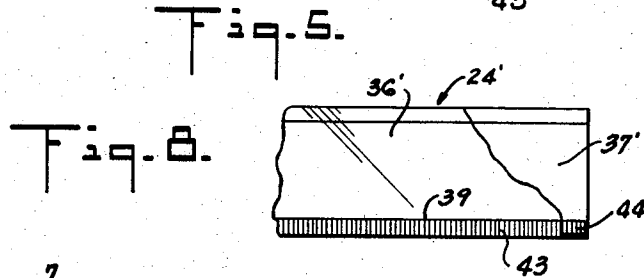
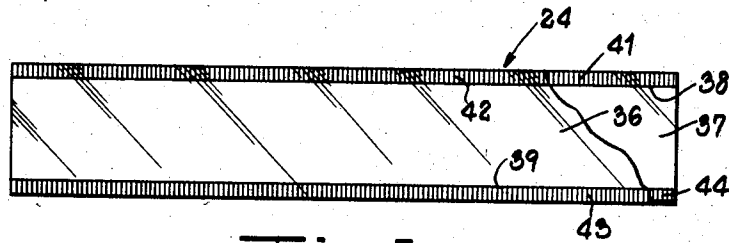
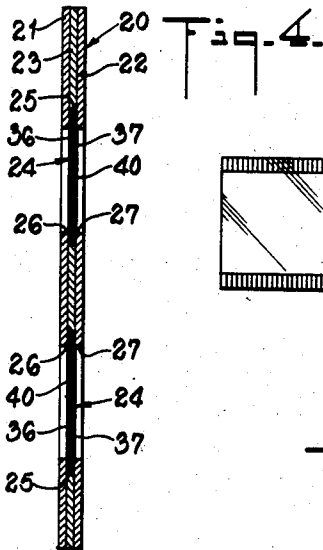
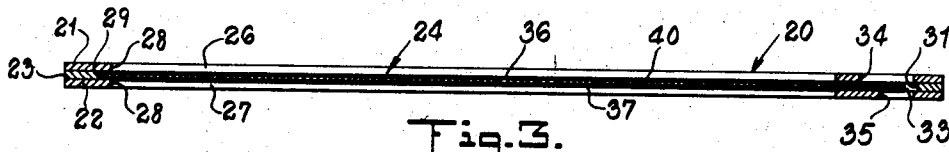
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2 Sheets-Sheet 2



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1

2,861,370

FILE CARD STRUCTURE

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Original application September 24, 1953, Serial No. 382,172, now Patent No. 2,799,107, dated July 16, 1957. Divided and this application October 9, 1956, Serial No. 614,875

8 Claims. (Cl. 40—159)

This invention relates to devices which provide a mount or holder for strips and/or individual frames of exposed photographic film, or the like, and more particularly to a strip or frame protecting transparent envelope insertable into a card structure provided for this purpose.

This application is a division of application Serial No. 382,172, filed September 24, 1953 and which on July 16, 1957 issued as Patent No. 2,799,107.

One of the objects of the present invention is to provide a novel constructed strip or frame-protecting transparent envelope which automatically centers the strip or frame in a vertical direction with respect to the envelope so that when the latter is inserted into a pocket in a supporting card said film strip or frame will likewise be automatically centered vertically with respect to the sight opening in the card.

A further object of the invention is to provide a novel transparent protective envelope which automatically locates one edge of the strip or frame contained therein along a desired predetermined line with respect to an edge of the envelope.

Another object is to provide a novel transparent protective envelope for a strip or a row of individual frames of photographic negative film, such as micro-film, said envelope being of a width larger than that of said strip or frame and having means therein for positioning the strip or frames centrally between the upper and lower edges of said envelope.

Yet another object of the invention is to provide a transparent envelope, of the character and for the purpose set forth, having at least one marginal edge portion which is inwardly offset in a novel manner so as to confine the film strip or frames and to locate the same along a desired line within the envelope.

Another object is to provide a transparent envelope of the character and for the purpose above described, having upper and lower marginal edge portions which are inwardly offset in a novel manner so as to confine the film strip or frames and to locate the same centrally in said envelope.

Another object of the invention is the provision of a novel method for forming embodiments of the protective envelope of the invention wherein the strip-locating shoulder or shoulders are formed integrally with a panel or with the panels of the envelope.

The above and further objects and novel features of the present invention will more fully appear from the following detailed description when the same is read in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not intended as a definition of the limits of the invention.

In the drawings, wherein like reference characters refer to like parts throughout the several views,

Fig. 1 is a front or face elevation of one form of holder or file card useful with the protective envelope of the present invention and adapted for mounting two strips of photographic negative film therein, portions of the

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card being broken away for purposes of clearer illustration;

Fig. 2 is an exploded view, in perspective, of three plies employed in producing the holder or file card shown in Fig. 1;

Fig. 3 is a vertical longitudinal sectional view on the line 3—3 of Fig. 1, on an enlarged scale;

Fig. 4 is a vertical transverse sectional view on the line 4—4 of Fig. 1, on an enlarged scale;

Fig. 5 is an enlarged face view of a first embodiment of film receiving and protecting envelope constructed in accordance with the present invention and forming a part of and included in the holder or file card shown in Fig. 1, a portion of said envelope being broken away for purposes of clearer illustration;

Fig. 6 is a fragmentary to plan view on a considerably larger scale of the envelope shown in Fig. 5, and including a strip of photographic negative film inserted therein;

Fig. 7 is a vertical transverse sectional view on the line 7—7 of Fig. 6; and

Fig. 8 is a fragmentary view, similar to Fig. 5, of a second illustrative embodiment of the protective envelope of the invention, said envelope having only a bottom off-set marginal edge portion.

Referring to the drawings, there is shown, by way of example, one form of holder or file card with which the protective envelope of the present invention is useful. The file card shown is particularly designed for use in mounting one or more strips of photographic negative film, such as micro-film, containing several successive exposures, or one or more rows of individual frames of such film. In the illustrated embodiment, the file card is of the standard 3 x 5 file card size and is constructed to accommodate two strips of micro-film of the 16 mm. size, or the equivalent thereof in individual frames of such film. The file card may be constructed to receive only one strip of film, or the size of the card may be increased to accommodate any desired number of strips of 16 mm. film, or two or more strips of film of a larger size. It will be apparent as the following detail description of the invention proceeds, that the protective envelope of the present invention may also be advantageously embodied in protective mountings for stamps, photographs, and other like objects of value and interest which are to be preserved.

As shown in the drawings, the holder or file card, indicated generally at 20 (Figs. 1, 3 and 4), is a three-ply structure consisting of a front ply 21 (Fig. 2), a rear ply 22, and an intermediate ply 23, which are all of the same length and width and are preferably formed of smooth surfaced card stock or heavy relatively stiff paper material. In the finished article shown in Figs. 1, 3 and 4, the card plies 21, 22 and 23 are disposed in superposed relation with their edges accurately aligned, and are firmly bonded together as a single unit such that said plies at the edges thereof are not distinguishable one from the other. This is accomplished by first coating the entire area of the available plane surfaces of the intermediate card ply 23 at opposite sides thereof with a suitable adhesive substance and then subjecting the assembly to heat and pressure sufficiently to firmly bond and in effect blend together the abutting surfaces of the card plies.

For a purpose to appear hereinafter, the intermediate card ply 23 is formed of card stock having a thickness substantially equal to the thickness of the film to be mounted, plus twice the thickness of the material which is used to form a transparent film-receiving, centering and protecting envelope 24 made in accordance with the invention.

In the illustrated embodiment, the envelope 24 is preferably formed of clear, transparent cellulose acetate material having a thickness of approximately .003 of an

inch which effectively provides a moisture proof, wear resisting and durable envelope without materially increasing the thickness of the card structure, and permits strong transmission of light therethrough for film projecting and viewing purposes. The relatively few standard sizes of microfilm have a thickness of approximately .006 of an inch. Accordingly, for the above-mentioned film and envelope material thicknesses, the intermediate card ply 23, in the illustrated embodiment, is formed of card material having a thickness of approximately .011 of an inch which is deemed sufficient and which has been found to give excellent results. Other materials, such as celluloid, cellophane, or rigid vinyls may be used to produce the envelope 24, and it will be apparent that the thickness of the intermediate card ply 23 varies with and is governed by the combined thicknesses of the film and envelope therefor. Although the front card ply 21 and the rear card ply 22 may be of any thickness desired, said plies, as herein shown, are preferably of the same thickness as that of the intermediate card ply 23 so as to simplify the manufacture of the card structure and to provide a card structure which is strong and durable, will not curl and is resistant to bending. It is to be understood that all or certain of the card plies 21, 22 and 23 may, if desired be made of other materials such as, for example, thermoplastic material.

The intermediate card ply 23 has die-cut therein two alike oblong apertures 25, 25 (Fig. 2) which are disposed in spaced parallel relation and extend lengthwise of said ply. The apertures 25, 25 extend substantially the full length of the card ply 23 leaving relatively narrow marginal positions of said ply at the opposite ends thereof. As shown in Figs. 1, 3 and 4, the apertures 25, 25 are each adapted to accommodate an envelope 24 above referred to, and for this purpose each aperture is of a width slightly in excess of the width of the envelope so that the latter may be wholly and freely positioned therein in a manner to be hereinafter described.

The front or outer card ply 21 and the rear or outer card ply 22 have die-cut therein two alike oblong sight openings 26, 26 and 27, 27 respectively (Fig. 2). These openings 26, 26 and 27, 27 extend lengthwise of the respective card plies and are of a width substantially the same as the width of the film strip or frames to be mounted, which width is less than the width of the apertures 25, 25 in the intermediate card ply 23. The openings 26, 26 and 27, 27 are so located in the respective card plies 21, 22 that, when the card plies 21, 22 and 23 are in superposed-assembled relation, as shown in Figs. 1, 3 and 4, the openings 26, 26 are in exact register with the openings 27, 27 and that said registering openings are symmetrically disposed widthwise with respect to the apertures 25, 25 in the intermediate card ply 23. The openings 26, 26 and 27, 27 are of a length less than the length of the apertures 25, 25 in the intermediate card ply 23 and are so located lengthwise with respect to said apertures that corresponding ends 28, 28 thereof (Figs. 1, 2 and 3) are disposed a slight distance inwardly from the adjacent ends 29, 29 of the apertures 25, 25, and that the opposite ends 30, 30 of said openings are disposed a greater distance inwardly from the adjacent opposite ends 31, 31 of said apertures. The effective length of film that can thus be viewed and projected is governed by the length of the openings 26, 26 and 27, 27 which, in the illustrated embodiment and as shown in Fig. 1, is the equivalent of six exposures or frames 32 of 16 mm. film. It will be apparent that by virtue of the described arrangement and relative sizes of apertures 25, 25 and openings 26, 26 and 27, 27, portions of the outer card plies 21 and 22 project beyond said apertures all the way around the same, thus forming in conjunction with the apertures 25, 25 elongated pockets 33 which are completely closed around the edges thereof and are of the proper length, width and depth to snugly receive and retain therein envelopes 24 above referred to.

The front outer card ply 21 has die-cut therein two alike narrow windows 34, 34 (Figs. 1, 2 and 3) which are located between the ends 30, 30 of the sight openings 26, 26 and the adjacent ends 31, 31 of the apertures 25, 25. The windows 34, 34 are of the same width as that of the apertures 25, 25 and they extend across the width of the latter and accurately register with the same, said windows serving as entrance openings to the otherwise closed pockets 33 through which the envelopes 24 may be edge-wise inserted into the pockets and removed therefrom. The rear outer card ply 22 has solid portions thereof backing the entrance openings or windows 34, 34 in the front card ply 21, said portions effectively serving as rests and guides for the envelopes 24 to facilitate the insertion thereof into the pockets 33 of the card structure, and being provided with die-cut arcuate or half-round finger openings 35, 35 to enable finger displacement of projecting ends of the envelopes upwardly from the pockets through the entrance openings 34, 34 to facilitate removal of said envelopes from said pockets. The diameter of the finger openings 35, 35 is less than the width of the entrance openings 34, 34, and said finger openings are so located that the straight edges thereof are substantially in line with the outer edges of said entrance openings.

As shown in Figs. 5, 6 and 7, the envelopes 24 of the first illustrated form of the invention are each in the form of a folder formed from a sheet of clear transparent material, preferably cellulose acetate material, folded upwardly and over upon itself substantially in the center thereof to provide alike front and back panels 36 and 37, respectively, which are connected together at the folded edge and are of a width greater than the width of the film strips or frames to be handled and slightly less than the width of the apertures 25, 25 in the intermediate card ply 23. The envelopes 24 are of a length less than the length of the apertures 25, 25 and such that when said envelopes are fully inserted into the pockets 33 of the card structure the trailing ends thereof project beyond the inner edges of the entrance openings or windows 34, 34 in the front card ply 21 and partly overlap the finger openings 35, 35 in the rear card ply 22, as shown in Figs. 1 and 3.

In order to facilitate centering of the film strips or frames in the oversize envelopes 24 between the upper and lower longitudinal edges of the latter, each envelope is novelly constructed to provide between the panels 36 and 37 thereof spaced parallel shoulders or shelves 38 and 39 (Fig. 7) which extend substantially the entire length of the envelope and are disposed parallel to the upper and lower edges, respectively, of said envelope. The shoulders or shelves 38 and 39 face each other and are symmetrically disposed on opposite sides of the longitudinal center line of the envelope 24 and are spaced apart a distance slightly in excess of the width of the film strip or frames to be handled. Accordingly, when a film strip 40 or film frame is placed in the envelope 24, the shoulders or shelves 38 and 39 effectively serve to receive said film strip or frame therebetween and thereby automatically locate the same centrally between the upper and lower edges of said envelope and at the same time confine the film strip or frame against upward and downward displacement from central position and against upward outward displacement from the envelope.

In the illustrated embodiment of Figs. 5, 6 and 7, the shoulders 38 and 39 are formed integrally with the envelope 24, and are conveniently and effectively produced in a novel manner by passing the folded sheet through and between opposed rotary knurling tools of a fine straight knurl type, whereby short, minute, shoulder-forming, teeth-like projections such as shown at 41 in the greatly enlarged views of Figs. 6 and 7 are impressed in one of the panels 36 and 37, i. e., the panel 37, of the envelope at and along the upper edge thereof; and companion depressions 42 are simultaneously formed in the other panel, i. e., the panel 36, to receive said projections

therein, and like projections 43 are impressed in the other panel, i. e., the panel 36, at and along the lower edge thereof with companion depressions 44 in the opposing panel, i. e., the panel 37. Preferably, the depth of the projections 41 and 43 is substantially equal to the thickness of the film, but they may be made deeper if desired so that when the film strip or frame is placed in the envelope 24 and the panels 36 and 37 are closed into contact with said film strip or frame, said projections will extend beyond the film strip or frame and beyond the inner plane surface of the opposing panel and into the companion depressions 42 and 44 and interlock with the same. When cellulose acetate material is used to form the envelopes 24 as in the illustrated embodiment, said material is folded and the projections 41 and 43 are formed therein while the material is subjected to heat so as to soften the same sufficiently to enable such folding and the formation of said projections without cracking, rupturing or otherwise damaging the material.

It might be pointed out that the thickness of the envelopes 24 is not noticeably increased by the formation of the projections 41 and 43 therein, and that no increase in the thickness of the intermediate card ply 23 over that hereinbefore mentioned is required because of said projections. It is to be understood that the projections 41 and 43 may, if desired, be impressed in the same panel of the envelope.

Since the centering of the film in the envelope is in the main effected by the lower projections 43 and resulting shoulder 39, the upper projections 41 and resulting shoulder 38 may be eliminated if desired. This embodiment of the envelope is illustrated in Fig. 8, where such envelope, designated 24, is shown as having a shoulder 39 along only its lower edge. Otherwise envelope 24' is of the same construction as, and may conveniently be made in the same manner as, the above described envelope 24, except for the omission of upper projections 41 and thus the shoulder 38.

It is believed that the utility and practicability of the novel transparent protective envelope illustrated in the accompanying drawings will be readily understood from the foregoing description and may be briefly summarized as follows. A film strip 40 substantially the length of the sight openings 26, 26 and 27, 27, or less as desired, or the equivalent thereof in individual frames of exposed film, is placed in an envelope 24 or 24' through the upper openable end of said envelope such that the leading or left-hand end thereof (Fig. 1) is substantially in line with the leading or left-hand end of the envelope, and because of the shoulders 38 and 39 in said envelope said film strip or each individual film frame is quickly and accurately centered vertically in the envelope and is retained in such position. The leading end of the envelope 24 with the film insert 40 is then positioned in the entrance opening 34 of the selected card pocket 33 and engaged with the exposed solid portion of the rear outer card ply 22, and using said card ply portion as a guide, said envelope is easily inserted edgewise beneath the front outer card ply 21 and into said pocket until it contacts the left-hand end of the pocket defined by the end wall 29 of the respective aperture 25 in the intermediate card ply 23. When the envelope 24 is fully inserted into the card pocket, all portions of the various exposures on the film strip 40 or frames are contained within the field of the respective sight openings 26 and 27 and, hence, said exposures are visible in their entirety for complete projection and viewing purposes. Data relating to the exposures may be written on the blank outer surfaces of the front card ply 21 and rear card ply 22. When the envelope 24 is fully inserted in the card pocket, endwise displacement thereof in its plane in either direction from the card is absolutely prevented because of the fully closed ends of said pocket. The film strips or frames contained in the envelopes 24 are fully protected against dust, dirt, moisture, etc., and against scratching and fingerprints, etc. Since the en-

velopes 24 are made of clear transparent material, light may be transmitted therethrough and through the various film exposures, whereby the latter may be projected onto a screen and magnified for viewing and examining purposes without removing the envelopes or film strips from the card. The envelopes 24 or 24' may be easily removed from the card by merely finger bending the trailing end of the envelope upwardly out of the plane thereof and above the plane of the outer surface of the front card ply 21 through the entrance opening 34 from the rear card ply side of the card by means of the finger opening 35, and then grasping the upwardly deflected end and pulling the envelope from the card pocket.

Although the envelopes 24 and 24' have been particularly described in connection with their use with a card, such as the described card 20, they may, when removed from the card, be used effectively as a holder or slide for film strips or frames. Thus, for example, they may be used in this manner with projectors or readers which cannot accommodate the card.

Although only two embodiments of the protective envelope of the invention have been described in the foregoing specification and illustrated in the accompanying drawings, it is to be understood that the same is not limited to said embodiments or to the particular type of insert contained in said envelope. Various changes may be made in the structure, some of which have been mentioned in the foregoing specification, without departing from the spirit and scope of the invention, as will now be clear to those skilled in the art. For example, the insert locating and confining shoulders within the envelope may be made in other ways and by other means, such as for example, by adhesively securing to one or both panels of the envelope two narrow thin strips of cellulose acetate or other material. For a definition of the limits of the invention reference is had primarily to the appended claims.

What is claimed is:

1. An envelope for photographic negative film and the like, comprising a sheet of transparent material longitudinally folded over once on'y upon itself so as to provide hingedly connected separable front and back panels of a width greater than that of the film, said panels being connected only at the fold between them, and means on the inner surface of one of said panels providing an upwardly facing flat shoulder having abrupt edges and projecting toward the other of said panels, said shoulder being engageable by an edge of the inserted film for locating the inserted film along a predetermined desired line and between the fold and the free edges of said panels.
2. The envelope defined in claim 1 wherein the film locating means is integral with the said one of the panels of the envelope.
3. The envelope defined in claim 2 wherein the film locating means is a series of projections pressed inwardly from and spaced along the said one of the panels and which are disposed at right angles to the fold of the envelope, said projections terminating at the tops thereof in flat horizontally aligned surfaces having abrupt edges.
4. A transparent protective envelope adapted to receive therein photographic negative film and the like, said envelope being of a width greater than that of said film and having means arranged within the same so as to be engaged by the longitudinal edges of said film for locating said film centrally between the longitudinal edges of the envelope, said last named means comprising an upper and lower series of flat parallel film edge engaging shoulders on said envelope interiorly thereof and facing each other, said shoulders having abrupt edges and extending lengthwise of said envelope and the series thereof being symmetrically disposed on opposite sides of the longitudinal center line of said envelope such that the spacing between the same is substantially equal to the width of the film.

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5. An article as defined in claim 4 wherein said means for locating the film centrally in the envelope comprises a series of short vertically extending projections impressed in the material of said envelope and spaced along the lower portion of one face panel of said envelope, said projections projecting inwardly from said panel and having flat upper film engaging surfaces terminating in abrupt edges and spaced below the longitudinal center line of said envelope a distance substantially equal to one-half the width of the film.

6. An article as defined in claim 4 wherein said means for locating the film centrally in the envelope comprises a first series of short vertically extending projections impressed in the material of said envelope and spaced along the lower portion of the inner surface of one face panel of said envelope, and a second series of short vertically extending projections impressed in said material and spaced along the upper portion of the inner surface of the opposite face panel of said envelope, said first and second series of projections terminating at the confronting ends thereof in flat film edge engaging surfaces having abrupt edges.

7. An envelope for photographic negative film and the like comprising a sheet of transparent material folded longitudinally once only over upon itself so as to provide abutting hinge-like separable front and back panels of a width greater than that of the film and connected only at the fold, said panels having formed on their inner surfaces vertically spaced parallel film edge engaging shoulders which are flat and face each other for locating the inserted film centrally between the fold and the upper separable edges of said panel, said shoulders having abrupt edges and extending lengthwise of said panels and parallel to the fold and being symmetrically disposed on opposite sides of the longitudinal center line of said

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panels such that the spacing between the same is substantially equal to the width of the inserted film.

8. An envelope for photographic negative film and the like comprising a sheet of transparent material folded longitudinally once only over upon itself so as to provide abutting hinge-like separable alike front and back panels of a width greater than that of the film, said panels being connected to each other only at the fold between them, one of said panels having impressed therein a first series of inwardly projecting vertical teeth-like projections there along at the bottom thereof and the other of said panels having impressed therein a second series of inwardly projecting vertical teeth-like projections spaced there along at the top thereof, said projections being located such that the space between the series thereof is symmetrical with respect to the longitudinal center line of the panels and is substantially equal to the width of the inserted film, the projections of said first series terminating at their upper ends in upwardly facing flat shoulders for locating and supporting the inserted film centrally between the fold and the upper separable edges of said panels, and the projections of said second series terminating at their lower ends in downwardly facing flat shoulders for engaging the inserted film and holding the same against upward displacement.

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