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E. P. FLYNN

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PACKAGE FOR LIGHT-SENSITIVE PHOTOGRAPHIC MATERIALS.

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FIG. 1.

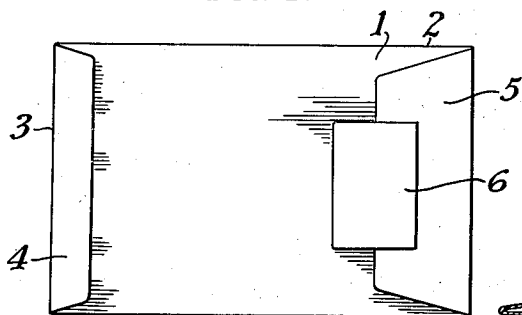


FIG. 3.

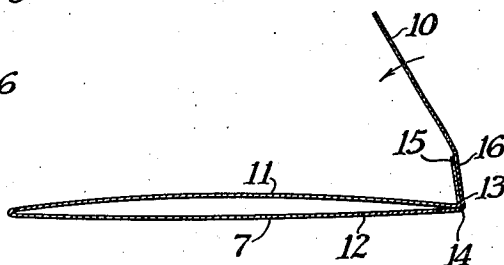
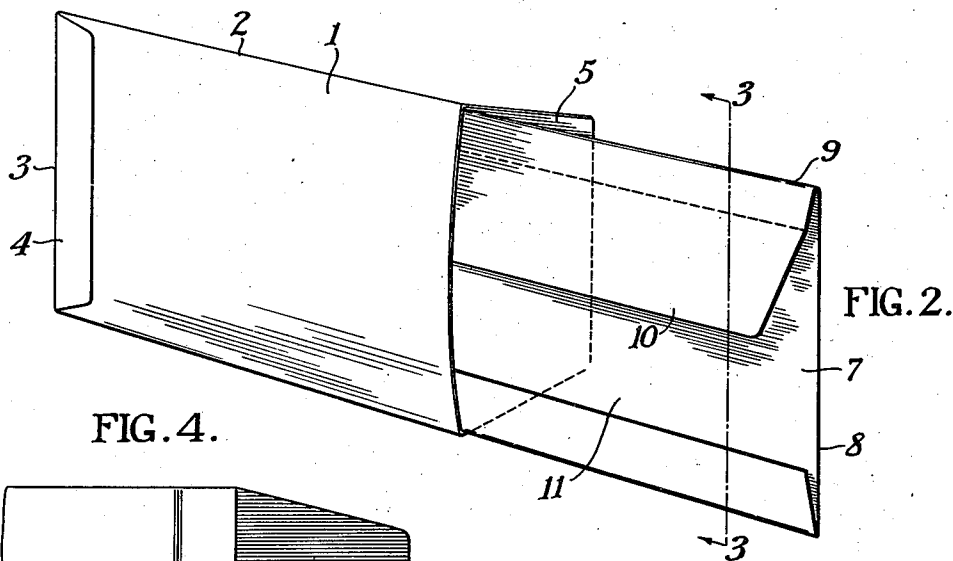


FIG. 4.

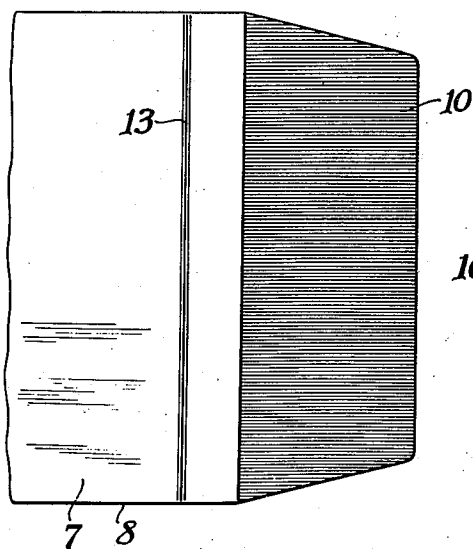
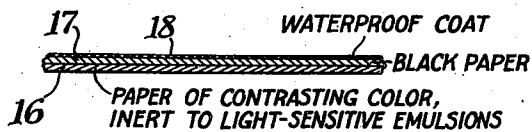


FIG. 5.



Inventor

EDWARD P. FLYNN

By

Newton M. Perrine
Donald H. Stewart

Attorneys

UNITED STATES PATENT OFFICE

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PACKAGE FOR LIGHT-SENSITIVE PHOTOGRAPHIC MATERIALS

Edward P. Flynn, Rochester, N. Y., assignor to
Eastman Kodak Company, Rochester, N. Y., a
corporation of New Jersey

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4 Claims. (Cl. 206—62)

This invention relates to photography and more particularly to packages for light-sensitive photographic materials.

One object of my invention is to provide a package for light-sensitive photographic materials in which the liability of light leaking into the package is greatly minimized. Another object of my invention is to provide a package of the class described, in which a duplex paper envelope is employed for receiving the sensitized materials, one side of the duplex paper selected primarily for excluding light and the other side of the duplex being selected of material which is inert toward the light-sensitive photographic material adapted to be contained in the package. Another object of my invention is to provide a duplex envelope of relatively heavy springy material and to provide fold lines in the envelope so arranged that the springy material of the envelope will tend to close the opening and will normally hold the opening of the envelope closed in a light-tight manner even when the envelope is not contained in a second envelope which forms a complete package. Another object of my invention is to provide a duplex paper envelope in which the opaque outer layer of the paper may contain any suitable heavy pigment or dye which will prevent the entrance of light into the envelope and to provide a lining on the duplex paper envelope of a material of contrasting color to the outside of the envelope as well as inert toward the light-sensitive photographic material, whereby loading of the light-sensitive photographic material into the duplex paper envelope in a dark room is facilitated. Still another object of my invention is to provide a package including two envelopes each of a shape other than square, one envelope having an opening along the short side and the other envelope having an opening along the long side so that when the two envelopes are inserted, the flap of the inner envelope will be definitely held in a closed position by the walls of the outer envelope, and other objects will appear from the following specification, the novel features being particularly pointed out in the claims at the end thereof.

Coming now to the drawing, wherein like reference characters denote like parts throughout:

Fig. 1 is a plan view of the outside of a package for photographic light-sensitive material constructed in accordance with and embodying a preferred form of my invention.

Fig. 2 is a perspective view of the material package of Fig. 1 with the inner envelope partially withdrawn from the outer envelope.

Fig. 3 is a section on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary elevation of a portion of the inner envelope shown in the preceding figures, and

Fig. 5 is an enlarged sectional view through a suitable duplex paper which is preferably used for the inner envelope.

The packaging of light-sensitive photographic materials is quite a problem because in packages such as the packages used for light-sensitive photographic paper and for sheets of cut film, the user frequently removes only one sheet at a time and the remaining sheets are not always replaced properly in an outer container in order to adequately protect them against light, particularly the intermittent use of light sufficient to fog such materials in a dark room.

It has been customary to pack such materials, particularly paper in three envelopes adapted to be contained one within the other and to have the openings of the envelopes on the short side, it being the intention of the manufacturer to have the opening of one envelope adjacent the closed end of the other envelope as they are loaded so as to effectually prevent light from entering. However, such packages, when improperly used, cause a great deal of difficulty. One trouble is that in drawing out one envelope from the other, it frequently occurs that paper is dropped out the end of the inner envelope as it is drawn from the outer envelope, and it frequently occurs that in the darkroom, an operator will place the envelope flaps in such a manner that they lie together, in which case light can readily enter.

Moreover, there has been considerable difficulty in the past in obtaining a suitable opaque paper of material which will not fog the light-sensitive photographic emulsions carried by the photographic materials. For instance, certain types of carbon black which is a usual pigment for opaque paper may sometimes fog such materials if the emulsions are placed in contact with the black pigment under unsuitable atmospheric conditions. Many of the black dyes which may be used are also liable to cause difficulties.

I have overcome the above-mentioned difficulties by providing a package which includes a duplex paper envelope, the outer side of which may contain any suitable heavy pigment which is opaque to light or even a dyed heavy paper base, if necessary, such a layer being laminated to a second paper surface which is particularly selected of material which is inert toward the light-sensitive photographic emulsions. This

second layer which is on the inside of the envelope is preferably of a contrasting color or shade to the outer black envelope paper layer, as this greatly facilitates returning the paper to the envelope and initially loading the paper in the envelope in the very dim light of a darkroom.

As indicated in Fig. 1, the package may comprise an outer envelope 1, in this instance having the length 2 somewhat greater than the width 3. A flap 4 is permanently fastened in place at one end, and a second flap 5, which may be sealed when it leaves the factory by a paster 6, is adapted to open to permit sheets of light-sensitive photographic material to be withdrawn. These sheets are normally carried in a second duplex paper envelope 7, the outside dimensions of which, when folded as shown in Fig. 2, are such that the envelope may slip readily into the envelope 1. In this instance the width of the envelope 8 is somewhat less than the length of the envelope 9, when folded, and a flap 10 extends along the long side of the envelope. Thus, when the flap is folded and the envelope is inserted, there is no possibility of this flap lying adjacent the flap 5 of the outer envelope, and consequently, light is definitely prevented from entering the package.

The envelope 7 is provided with a flap 10 as shown, but it does not rely on this flap for closing the opening through which the sheets of light-sensitive material may be removed. As indicated in Figs. 3 and 4, the front wall 11 and the back wall 12 of this envelope are provided with sharp creases at 13 and 14, these creases forming fold lines so that portions of the walls 15 and 16 which form the side walls of the envelope, because of the springy nature of the material, always tend to turn the flap in the direction shown by the arrow 3, in which position the opening is definitely closed against the admission of light. Thus, not only does the envelope tend to close itself, but when in its outer envelope, the folded wall portions are definitely held in a closed position.

The duplex paper may be as indicated in Fig. 5, that is, there may be an inner layer 16 of paper which may be white, red, green, tan or any other suitable color and which is selected of material inert with respect to light-sensitive photographic material. This layer is laminated onto a second or outer layer 17 which contains, preferably, a heavy opaque pigment or a suitable filler or dye which definitely prevents light from passing through this layer of the paper.

In addition, it is very desirable to have a coating 18 on the outside of the opaque paper layer, this coating being waterproof, such as may be formed by a suitable wax, cellulosic lacquer or the like. Thus, the paper which is built up of a number of layers not only is springy and resilient, but it has the desired qualities of being inert with respect to photographic material and impervious to light rays.

It has been found that when the inner envelope 7 is withdrawn from the outer envelope 1, because of the fold lines 13 and 14 which are impressed in the envelope, the flap 10 tends to lie flat against the envelope. Thus, the walls 15 and 16 form a light seal for the envelope and such an envelope is safe even in a bright light. In a darkroom, single sheets of material may be removed by straightening out the flap so it will lie substantially in the plane of the envelope and withdrawing the sensitive materials between the walls 15 and 16. However, as soon as the envelope is laid down, even if the operator is careless and does

not close the flap, it will swing, as indicated by the arrow in Fig. 3, through the resiliency of the material to bring the walls 15 and 16 together and thus form a satisfactory light-tight closure for the envelope.

What I claim as my invention and desire to be secured by Letters Patent of the United States is:

1. A package for light-sensitive photographic materials comprising a duplex paper envelope having on one side a paper inert towards photographic materials and on the opposite side an opaque paper through which light rays may not penetrate, the length of the envelope being greater than the width, a flap along an open side of the envelope, a fold inside of the flap whereby a part of two walls of the envelope are adapted to fold with the flap to make a light-tight fold, a second envelope larger than the first, having an opening and flap so positioned as to be at right angles to the flap of the first-mentioned envelope when the first-mentioned envelope is inserted in the second-mentioned envelope, whereby the length of the fold and flap of the first-mentioned envelope may be held definitely in a closed or folded position.

2. A package for light-sensitive photographic materials comprising a duplex paper envelope having on one side a paper inert towards photographic materials and on the opposite side an opaque paper through which light rays may not penetrate, said side which is inert toward photographic light-sensitive material being of lighter color than the opaque side of the paper, the length of the envelope being greater than the width, a flap along an open side of the envelope, a fold inside of the flap whereby a part of two walls of the envelope are adapted to fold with the flap to make a light-tight fold, a second envelope larger than the first having an opening and flap so positioned as to be at right angles to the flap of the first-mentioned envelope when the first-mentioned envelope is inserted in the second-mentioned envelope, whereby the length of the fold and flap of the first-mentioned envelope may be held definitely in a closed or folded position.

3. A package for light-sensitive photographic materials comprising a duplex paper envelope having on one side a paper inert towards photographic materials and on the opposite side an opaque paper through which light rays may not penetrate, said opaque side of the paper being spaced from the film by the inert side of the paper, a layer of waterproofing material carried by the opaque side of the paper, the length of the envelope being greater than the width, a flap along an open side of the envelope, a fold inside of the flap whereby a part of two walls of the envelope are adapted to fold with the flap to make a light-tight fold, a second envelope larger than the first having an opening and flap so positioned as to be at right angles to the flap of the first-mentioned envelope when the first-mentioned envelope is inserted in the second-mentioned envelope, whereby the length of the fold and flap of the first-mentioned envelope may be held definitely in a closed or folded position.

4. A package for light-sensitive photographic materials comprising a duplex paper envelope having on one side a paper inert towards photographic materials and on the opposite side an opaque paper through which light rays may not penetrate, the length of the envelope being greater than the width, a flap along an open side of

the envelope, a fold inside of the flap whereby a part of two walls of the envelope are adapted to fold with the flap to make a light-tight fold, the duplex paper comprising relatively heavy and
5 springy stock whereby the two folded walls of the envelope always tend to close the opening adjacent the flap to exclude light therefrom, a second envelope larger than the first having an

opening and flap so positioned as to be at right angles to the flap of the first-mentioned envelope when the first-mentioned envelope is inserted in the second-mentioned envelope, whereby the length of the fold and flap of the first-mentioned envelope may be held definitely in a closed or
5 folded position.

EDWARD P. FLYNN.