Aug. 1, 1944. J. K. RULON 2,354,706

PHOTOGRAPHIC PACKAGE

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Fig. 1.

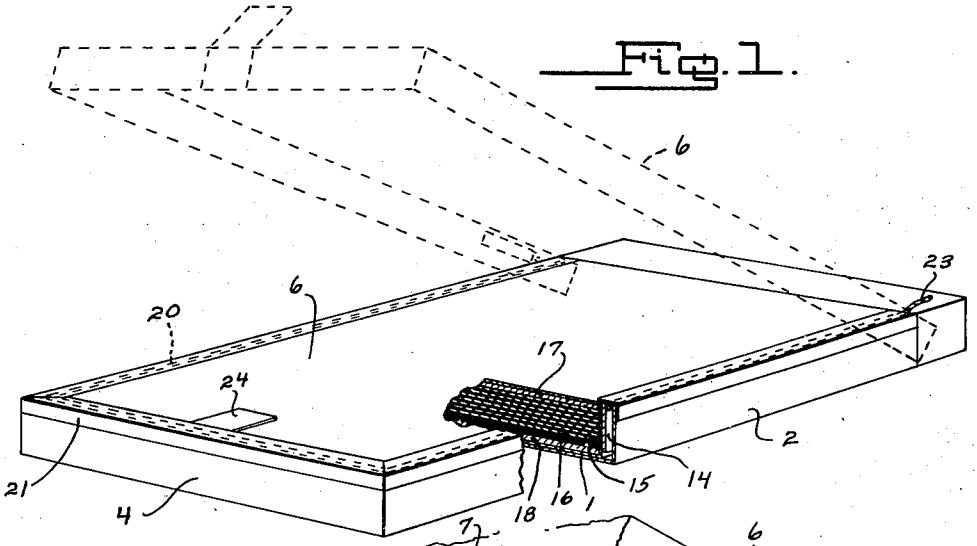


Fig. 2.

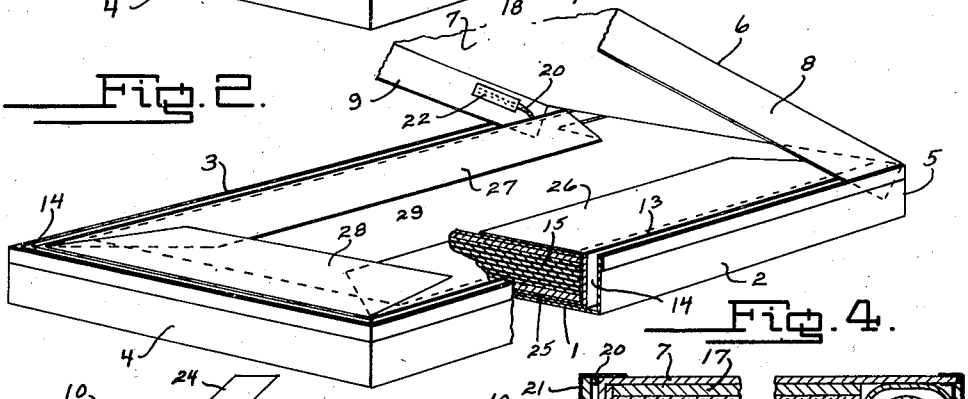


Fig. 4.

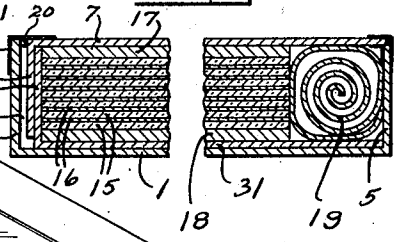


Fig. 3.

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PHOTOGRAPHIC PACKAGE

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3 Claims. (Cl. 206—62)

This invention relates to a package of radiation sensitive films or plates. More particularly it relates to a lightproof package for photographically sensitive elements, more particularly light sensitive films and plates which can be easily opened initially and subsequently used as a storage box for unused films or plates. Still more particularly it relates to a package of the above type having a hinged cover and light-locking edges.

Various types of film packages are known in the prior art which are quite practical. Some of them have the disadvantage that they cannot be safely used for the storage of unused film after the initial opening thereof. Some packages have a large number of similar separate compartments which render it difficult to ascertain in a darkroom which one contains the film. Some packages are so constructed that it is difficult to remove the film elements therefrom without injury to the sensitive surfaces thereof.

This invention has for an object the production of a film package which is free from aforementioned disadvantages. A further object is to provide a simple and effective film package which is lightproof and can be used for the storage of unused film. A further object is to provide a practical film package which is composed of a few simple parts. A still further object is to provide a film package which can be quickly opened and from which the film elements can be removed therefrom without injury. Another object is to provide a film package composed of economical material and provided with a simple inexpensive opening means. Another object is to provide a package which can be assembled with a minimum amount of time and effort. Still other objects shall be apparent from the following description.

The invention will now be described with reference to the accompanying drawing wherein similar reference numerals refer to similar parts throughout the several views.

Fig. 1 is a perspective view of the package with parts shown in broken section and a dotted outline of the cover when in an open position.

Fig. 2 is a perspective view of a modified construction with the cover partly open and parts in section.

Fig. 3 is a perspective view of a further modified construction with the cover partly open and parts in section.

Fig. 4 is a broken section taken along a medial line of the package of Figs. 2 and 3.

The film package comprises a shallow rectangular box having a flat bottom 1, upstanding side walls 2 and 3, a forward end wall 4 and a back wall 5 to which is flexibly attached cover member 6. The hinged cover at or near the hinged edge may be integral with the box body or separate and attached by paper sheets, adhesive strips, etc. It comprises a flat top 7 having depending side walls 8 and 9 and an end wall 10. In the embodiment shown in Fig. 1 the cover is hinged a short distance from the end of the box, but the side walls extend to the end of the box. The body is provided with inner walls 11, 12 and 13 and if desired an additional bottom 31, which cooperate with the outer walls 2, 3 and 4 to form a narrow channel 14 in which the depending side walls and end wall of the cover snugly fits. The channel between the respective peripheral walls is of substantially the same thickness as the walls of the cover and thus forms an effective light lock or light obstructing maze.

A plurality of film elements 15 which may be separated by interleaving sheets 16 are placed in the body of the package. Sheets like 16 may be placed on the outside of the outer film elements. They may be further protected against injury by protective outer sheets 17 and 18, respectively. The sheets 16 are preferably made of a flexible, soft, photographically opaque paper which may be colored with a black pigment. Instead of cut sheets, flat folders which cover the film on both surfaces and along one edge can be used, for instance. The protective sheets 17 and 18 as well as the box body can be made of cardboard, strawboard, corrugated paper, laminated paper, metal, or made from cellulose derivatives, synthetic resins and the like.

The package is assembled by inserting sheet 17 in the bottom of the box, next a plurality of film elements and interleaving sheets, next protective sheet 18 and, if desired, a packing 19 to prevent movement of the film elements in the package. Upon removal of the packing a space is formed which enables one to insert the fingers and grasp the bundle of film elements. The cover member is then closed. A rip cord 20 which is attached to the body or cover, for instance, with sealing tape 22 is wound about the peripheral walls of the cover, preferably at the juncture or in the groove formed between the walls. It is held in place by sealing tape 21 which extends along the top adjacent to side walls 2 and 3 and end wall 4 of the box, and along said walls. The rip cord extends beyond the end of the sealing strip at a hinged corner to form a pull-portion 23 which can be grasped.

Rip cord 20 can be made of various materials such as textile materials, wire, synthetic fibers, etc., but preferably has a roughened surface so that it acts as a cutting edge. It may be made of porous material so that it can be adhesively secured to the sealing tape 21 if desired. In some instances, the cord may be attached to the strip before the latter is attached to the box.

Hinged cover member 6 as clearly shown in a closed position in Fig. 1 has a tab member 24 which can be grasped to open the package after the sealed edges have been broken to open the package. The tab is in the practical construction shown attached to depending end wall 10 and extends up and along the cover being covered by the sealing tape. Various tab constructions can be made without departing from the spirit and scope of the invention and need not be placed in the manner shown. They may be stapled, adhesively secured, riveted, etc. to cover and may be composed of paper, cloth, cellulose derivatives, resins or metal, etc. The end of rip cord 20 can be secured in a similar manner.

The box body and cover may in a practical manner be made from a single blank of cardboard which is cut, ruled or scored and folded to form a box. The box thus may be fabricated in a conventional manner and lined or covered in or out with paper, etc. A smooth or hard surface paper is preferred. It can be ornamental or provided with indicia, etc. The cover paper and/or strips are pasted or otherwise affixed to maintain the walls, etc. in assembled relation. A photographically opaque, e. g. black paper thus may line the inner surfaces. In some instances, separate blanks can be cut and folded and joined and covered to form an integral box as shown.

In place of the sealing strip and pull cord in a modified construction a pressure sealing tape with a tab portion can be provided. However, the use of the pull cord as shown constitutes the preferred embodiment hereof.

The inner walls which form the narrow channel can be made from a flat blank which comprises a center portion about the same size as the bottom 1 of the box and wall portions which can be pressed up in a manner common in the paper box art. The bottom of the blank can be pasted or adhesively secured to the bottom of the box forming a double wall which offers further protection against abrasion markings, mechanical shock, etc.

In a modified package a folder can be attached in the box. Two practical folders are shown. One comprises a bottom 25, side flaps 26 and 27, an end flap 28 and a tongue 29. In assembling this package, the tongue and flaps are folded back and next are inserted a plurality of film elements such as shown in Fig. 2, with interleaving sheets and with or without protecting sheets such as 17 and 18. The tongue is pressed down and next the side and end flaps. The cover is closed and sealed as previously described.

In a further modified construction a wrapper or folder which has a bottom 25', an outer flap 30 and side and end flaps 26', 27' and 28' is affixed to the box bottom. It is assembled in a similar way, but the small flaps are pressed down first.

In the modification shown in Figs. 2 and 3, the inner wrappers may be affixed to the side and end walls only if desired. It is not necessary to have the wrapper attached to the bottom 1. The wrappers may be loosely inserted in the box. Likewise the elements may be wrapped in a single sheet of paper which is folded and may be sealed, or enclosed in an envelope.

The wrappers or folders can be made of the same material as the interleaving sheets or folders and is preferably photographically opaque and somewhat flexible. However, fairly rigid folders have utility.

The above-described packages are useful for packaging various types of photographically sensitive elements, e. g. cut film, such as portrait film, radiographic films and plates, but are designed primarily for lithographic film. Usually one or several dozen film elements are enclosed in a single package.

The package of Fig. 1 has some advantages in that the extended side walls remain in the channel 14 when the cover is opened more than 90°, permitting complete access to the contents. This insures the box will close properly. In this embodiment, the packing 19 may in some instances be placed at the forward end of the box. However, if the packing space extends beyond the hinge point access to the packing and end of the film elements is possible. Space can be left along the side walls for an insertion of packing material.

The novel packages hereof have a number of distinct advantages, for example:

1. They can be quickly assembled and sealed.
2. They are economical and require a minimum of material and assembly time.
3. They protect the film from pressure or abrasion markings which show up when a film is developed.
4. They can be used safely for storing unused film.
5. They can be opened and the contents removed in a darkroom.
6. They require no special packaging apparatus or materials.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that I do not limit myself to the specific embodiments herein except as defined by the appended claims.

I claim:

1. A lightproof photographic film package comprising a shallow rectangular box having a hinged cover provided with depending side walls and one end wall the cover being hinged a short distance from the end wall of the box but having the side walls extend to the said end wall of the box, a narrow peripheral channel in said box which coacts with said dependent walls to form a light lock, a plurality of sensitized film sheet elements in said package, an inner and outer protective sheet for said elements, a rip cord extending along the top-side edges and top-front edges of the box, said cord being covered with a tape which extends along the said edges and overlaps the cover and side walls, said cover being provided with a pull tab which is attached to said end wall and is partially covered by said tape.

2. A lightproof photographic film package comprising a shallow rectangular box having a hinged cover provided with depending side walls and one end wall, the cover being hinged a short distance from one end wall of the box but having the side walls thereof extend to the said end wall of the box in closed position, a narrow peripheral channel in said box which coacts with the depending walls of said cover to form a light-lock, a plurality of sensitized photographic elements in said box, an inner and outer protective

sheet for said elements, a sealing tape which covers the juncture of said walls and said channel and extends along the top and side walls and one end wall of the box, the inner surfaces of the box being lined with photographically opaque paper, and said sealing tape being provided with a rip cord.

3. A light-proof photographic film package comprising a shallow rectangular box having a hinged cover with depending side walls and one end wall, the cover being hinged a short distance from one end wall of the box but having the side walls thereof extend to the said end wall of the box in closed position, a narrow peripheral channel in said box which co-acts with the depending walls of said cover to form a light-lock, a plurality of sensitized photographic elements in said box, an inner and outer protective sheet for said elements, a sealing tape which covers the juncture of said walls and said channel and extends along the top and side and one end wall of the box, the inner surfaces of the box being lined with a photographically opaque paper.

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