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W. ZAPP

2,218,966

PACKAGE FOR ROLL FILM

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FIG. 1.

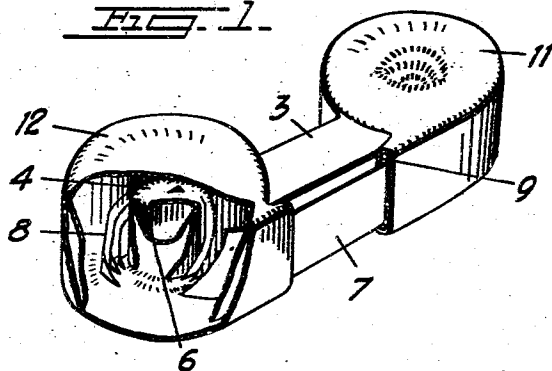
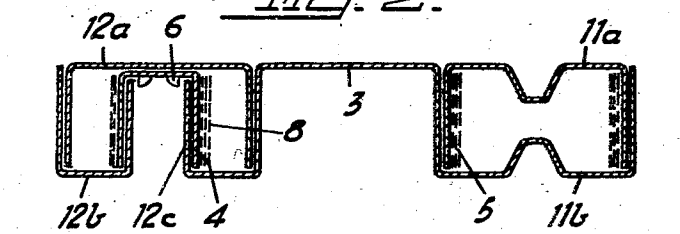


FIG. 2.



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UNITED STATES PATENT OFFICE

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PACKAGE FOR ROLL FILM

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Application December 6, 1937, Serial No. 178,390
In Finland December 23, 1936

3 Claims. (Cl. 242—71)

The present invention relates to a light-tight package for roll film comprising two cases containing the film rolls and interconnected at a certain distance, for instance, of the type used in photographic apparatus of the vest pocket size.

One object of the invention is to provide a package in which the film extends in a straight path from one case to the other without sharp bends, and in which the part of the film between the two cases is entirely free on both sides.

Another object of the invention is to create a package by means of which the exchange of the film in the photographic apparatus may be carried out in a simple manner in daylight without manipulations for fastening the end of the film to a roller.

Another object of the invention is to produce a package the receiving roller of which is coupled with a film feeding mechanism simply by the insertion of the package into a photographic apparatus, at the same time as the lens system of this photographic apparatus may find its location in the space between the two cases of the package.

Another object of the invention is to provide a package having an interconnecting piece of such construction and arrangement that it may be used as a handle when the package is inserted into a photographic apparatus or removed therefrom.

Another object of the invention is to avoid the use of special changing boxes or similar means which must be filled by the photographing person.

A further object is to produce a package of such simple and inexpensive construction that it may be thrown away after being used only once.

One embodiment of the invention is shown in the annexed drawing.

Fig. 1 is a perspective view of the package according to the present invention.

Fig. 2 is a longitudinal section through the same package.

The package according to the present invention is intended to be used especially in photographic apparatus of the type described in my two co-pending patent applications Serial Nos. 178,389 and 178,388, both filed Dec. 6, 1937, now Patents No. 2,169,548 of Aug. 15, 1939 entitled "Roll film camera" and No. 2,161,941 of June 13, 1939 entitled "Film feeding mechanism for photographic apparatus", respectively. Some

features herein shown and described are shown and described in my said co-pending applications.

The package consists of two cases 11 and 12 and an intermediate piece 3. The case 11 is formed of two caps 11a, 11b of substantially cylindrical shape and pressed into each other. The case 12 also is formed of two caps 12a, 12b of substantially cylindrical shape and pressed into each other. The intermediate piece 3 is formed as a plate rigidly interconnecting the two cases 11 and 12 and lying flush with the end sides of the cases 11 and 12. The plate 3 may be integral with the outer caps 11b, 12b of the two cases.

The two cases 11, 12 lay at a distance from each other substantially corresponding to the length of a picture. The case 11 contains the roll 5 of film not exposed, and the case 12 contains the roll 8 of film exposed. The film 7 which is preferably unperforated is passed through slots 9 in the two cases 11, 12 and extends between the two cases in a plane perpendicular to the plane of the plate 3. Thus, the film is entirely free on its two sides.

The film roll 8 is wound on to a hub 4 rotatably mounted upon a hollow stud 12c centrally formed in the cap 12b. In the bottom of this stud an opening is provided through which coupling means 6 upon the hub 4 project. These means 6 are adapted to be engaged by a film feeding mechanism of the type described in my co-pending patent application Serial No. 178,388, filed Dec. 6, 1937, now Patent No. 2,161,941 of June 13, 1939.

The film is kept for sale in the package described above. The intermediate piece 3 is used as a handle when the package is being inserted. The portion of the film extending between the two cases 11 and 12, now lies in a slot behind the lens. Now, the first unexposed picture square of the film is brought into position and that square may now be exposed.

After the entire film has been exposed the package is removed from the apparatus and may be left for developing. The package may be thrown away. A new package containing a film not exposed is inserted into the apparatus.

What I claim is:

1. A light-tight package for unperforated roll film, comprising, in combination, a supply case for containing a roll of film to be exposed, said supply case having a slot opening substantially tangentially so that the film may be discharged in a direction substantially tangential to the

film roll, said supply case having end walls substantially perpendicular to the axis of the film roll, a second case arranged at a distance from the supply case substantially corresponding to the length of a picture, a take-up roller in said second case, to which roller one end of the film is attached, a slot in the take-up case lying opposite to and facing toward the slot in the supply case, to allow the film after exposure to enter the take-up case tangentially to the roller, said second case having an end wall lying substantially perpendicular to the axis of the take-up roller, a piece rigidly interconnecting the two cases extending between one of the end walls of each of said cases, the space between said two cases being free except for said interconnecting piece, the take-up case having a central opening, and coupling means on the take-up roller, which coupling means is accessible through said opening for engagement with a film-feeding mechanism to drive the take-up roller, the film extending in a straight path between the two film slots.

2. A light-tight package for unperforated roll film, comprising, in combination, a supply case for containing a roll of film to be exposed, said supply case having a slot in its periphery opening substantially tangentially to the roll of film, so that the film may be discharged in a direction substantially tangential to the film roll, said supply case having an end wall lying substantially perpendicular to the axis of the film roll, a second case arranged at a distance from the supply case substantially corresponding to the length of a picture, a take-up roller in said second case, to which roller the one end of the film is attached, a slot in the take-up case lying opposite to and facing toward the slot in the supply case, so as to allow the film, after exposure, to enter the take-up case tangentially to the roller, said take-up case having an end wall lying perpendicularly to the axis of the roller, a plate extending substantially perpendicularly to the axis of

the film rolls between only one end wall of each of said cases, the space between the two cases being free except for said plate, said plate being fixed to said end walls so as to maintain the cases in spaced relation, the take-up case having a central opening, and coupling means on the take-up roller, which coupling means is accessible through said opening for engagement with a film-feeding mechanism to drive the take-up roller, the film extending in a straight path between the two film slots.

3. A light-tight package for unperforated roll film, comprising in combination, two cylindrical caps integral with a rigid intermediate plate and having open ends, two other cylindrical caps inserted into the open ends of said first-mentioned caps to close said open ends and attached to said caps to form two substantially cylindrical chambers, a roll of unexposed film in one of said chambers, said unexposed film supply chamber having a slot extending substantially perpendicularly to the plane of said plate and opening substantially tangentially to the periphery of said supply chamber so that the film may be discharged from the unexposed film chamber in a direction substantially tangential to the film roll, a cylindrical hollow central stud in the other chamber, said stud being open at both ends, a cap-shaped film roller journaled on said stud, one end of the film being attached to said roller, said film having its part between said two chambers free on both sides and extending in a straight path, the exposed film take-up chamber having a slot facing the slot in the unexposed film supply chamber and disposed in such position that the exposed film may enter the take-up chamber in a direction substantially tangential to the roller, and projections on the bottom of said roller, said projections extending into said hollow stud to be operatively engaged by a film-feeding mechanism.

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