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PATENT SPECIFICATION

236,157

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COMPLETE SPECIFICATION.

Improvements in Photographic Film Holders.

We, PATHE CINEMA, ANCIENS ETABLISSEMENTS PATHE FRERES, Manufacturers, 30, Boulevard des Italiens, Paris, France, a company organized under the laws of France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The film holders which, in cameras, are designed for containing the blank or unexposed film, or adapted to receive the exposed film, are provided with suitable slots for the entrance and the exit of the film which should be perfectly light tight in order to prevent any damage to the film.

In order to obtain the proper light tight conditions, such slots are usually lined with velvet or felt which however will become worn after a time.

A spool-box has also been proposed comprising two cylindrical casings sliding within each other, each casing being provided with an opening; when the film is at rest, one of these cylindrical casings is rotated so that the two openings are in diametrically opposite positions, a curved passage being so afforded for the film between the two cylindrical casings.

A curved passage for the film in a cylindrical spool-box has further been proposed by overlapping the end portions of the cylindrical wall of the box.

The film-holder according to the invention is characterised in that within the peripheral wall of the holder, which is made of any substance which can be properly moulded, are provided one or more curved passages adapted to provide for the entrance and the exit of the film, while preventing the light rays to enter the holder, said passage or passages

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being produced by moulding the material of which the holder is formed. 45

The film holder according to the invention may be employed to contain a bobbin of unexposed film or to receive the exposed film leaving the camera. It may also be arranged so as to contain two bobbins, one exposed and the other unexposed, formed of a single film which is unwound from the first bobbin in order to constitute the second bobbin after proceeding upon an outer path. 50 55

Fig. 1 is a plan view of a film holder described hereinafter, by way of example of a constructional form of the device according to the invention and to illustrate the latter in the proper manner. The following description is given with reference to the appended drawings wherein:— 60

Fig. 1 is a plan view of a film holder according to the invention, with the cover removed and the film being shown in place in the holder. 65

Fig. 2 is a like view, but without the film, the path of the rays of light within the curved passages being indicated. 70

Fig. 3 is a vertical longitudinal section of the film holder and cover, with the film in position in the holder.

And Fig. 4 is a like view showing a modification, but without the film. 75

The film holder according to the invention as shown in Figs. 1 to 3 comprises the box or body 1 in which are formed two recesses 2 and 3 respectively adapted to contain the unwinding bobbin 4 and the winding bobbin 5 and a cover 6 which may be secured to the body 1 by any suitable means. The film constituting the two bobbins 4 and 5 is indicated by the reference 7. 80 85

The unwinding bobbin 4 is disposed loosely within the recess 2, whilst the end

8 of the film is attached to a cap 9 fitted upon a socket 10 which is integral with the body 1. By acting from the exterior, by any known means, upon the said cap, the film will be unwound from the bobbin 4 in order to constitute the bobbin 5, said cap being fitted upon the socket 10 in a light tight manner so as to prevent all light from entering through this part of the holder.

The film 7 is guided, when proceeding from the unwinding bobbin to the exterior, by a suitable passage 11 provided within the side wall of the holder, and after the exposure, the film is guided towards the winding bobbin by means of a second and like passage 12.

It is observed in Figs. 1 and 2 that the passages 11 and 12 have a relatively considerable length and a marked curvature. Due to this arrangement, the light rays such as the rays X and Y, Fig. 2, are reflected several times when proceeding towards the recesses 2 and 3 provided for the bobbins, so that they are practically arrested before attaining the said bobbins not only during the travel of the film in the camera, but also when the spoolbox containing the film completely wound in its casing is handled out of the camera. Only the part of the film which is out of the holder will be subjected to fogging when the holder is handled out of the camera and exposed to the light, the fogging effect decreasing gradually from the outer slot 11^a or 12^a of each passage to the inner slot where the fogging effect is null.

As shown in the drawings, each passage comprises an inner part which is substantially concentric with the film holding recess and an outer part having a radius of curvature different from that of said inner part.

In principle, any suitable cross section can be given to the said passages, but an elliptical or analogous cross section will be preferably employed, as shown in Fig. 3, so that the film will be only in contact at its edges with the guiding surfaces, both when leaving the holder through the slot 11^a and when entering the holder through the slot 12^a so that the friction which opposes the motion of the film will be reduced to a minimum, and all alteration of the sensitized surface of the film, due to its friction against the side walls of the passages, is avoided.

The curved passages for guiding the film which are not provided within the material of the side walls of the film holder are not necessarily formed solely in the body 1 of the said holder. To facilitate the manufacture, and chiefly when the cross section of the passage is enlarged

at the middle part as above indicated the said passages may be formed partly in the body of the holder and partly in the cover of the said holder. By this construction, the cleaning of the passages will be also facilitated.

Fig. 4 is a vertical section of a film holder in which this latter arrangement is employed; it will be noted that the body of the holder 13 comprises the two lower half-passages 14 and 15 whilst the cover 16 comprises the two upper half-passages 17 and 18, the said half-passages being adapted to register with one another. A light tight fitting of the cover upon the holder can be readily and efficiently obtained by assembling the two parts by means of a joint with a single step, Fig. 4 or optionally with a double step, Fig. 3.

Any suitable material which can be properly moulded may be employed in the manufacture of the film holders according to the invention.

Obviously, the arrangements hereinbefore set forth are given solely by way of example of a particular embodiment of the invention, and the latter is in no wise limited to the constructional forms herein represented.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A photographic film-holder characterized in that within the peripheral wall of the holder, which is made of any substance which can be properly moulded, are provided one or more curved passages adapted to provide for the entrance and the exit of the film, while preventing the light rays to enter the holder, said passage or passages being produced by moulding the material of which the holder is formed.

2. A film-holder according to Claim 1, characterized in that each passage comprises an inner part which is substantially concentric with the film holding recess and an outer part having a radius of curvature different from that of said inner part.

3. A film-holder according to Claim 1 or 2, characterized in that the cross-section of each wall of each passage has a concave shape, whereby all friction of the film upon said walls is obviated.

4. A film-holder according to any of the preceding claims, characterized in that each curved passage is formed in part in the holder wall and in part in the corresponding wall of the cover.

5. A film according to any of the

preceding claims characterized in that it comprises two cylindrical recesses respectively adapted to contain a bobbin of blank part of a film and a bobbin of the exposed part of the same film, and two curved passages respectively corresponding to said recesses.

5 6. A photographic film holder substantially as described and as shown in the accompanying drawing. 10

Dated this 9th day of January, 1925.

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3rd Edition

Fig.1

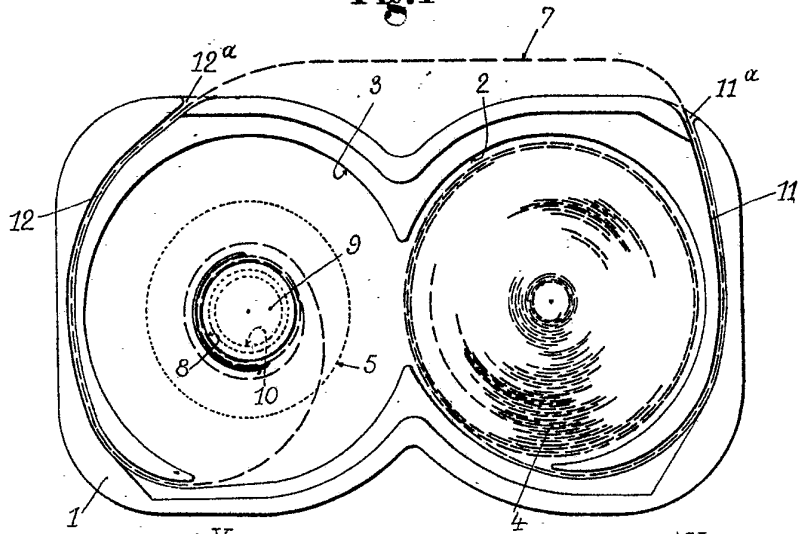


Fig.2

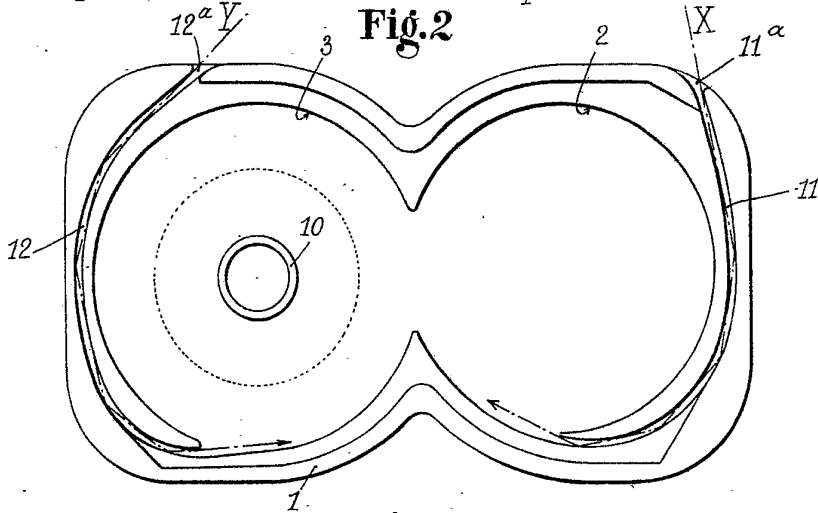


Fig.3

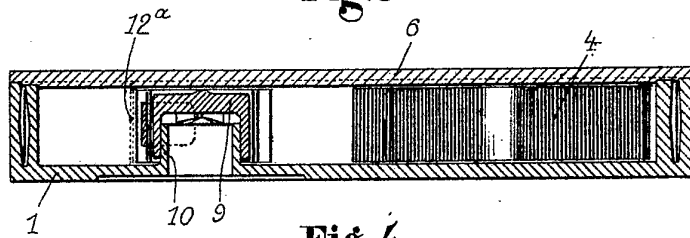
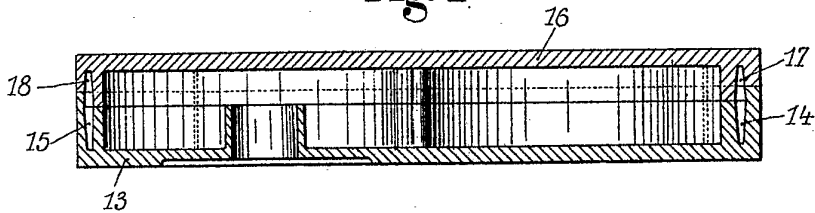


Fig.4



[This Drawing is a reproduction of the Original on a reduced scale.]