ROLL FILM CONTAINER

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Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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ROLL Film CONTAINER

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The present invention relates to improvements in a roll film container and, more particularly, to details of construction for such a container. Rolls of containers for enclosing film are known to the prior art. However, previous film containers have either been complicated in construction or difficult to assemble. Furthermore, some of the prior art containers could not be opened for removal of the film roll without destroying some part of it.

The primary object of the present invention is the provision of a container for roll film which is simple, but rugged, in construction and which may be readily assembled or dismantled without destruction of any of the component parts.

Another object of the invention is the provision of a film container comprising a body portion and end caps, and including interengaging connections between the end caps and body portion and which are moved into engagement by the positioning of the end caps upon the body portion. For this purpose, the end caps are each provided with a circular groove having an inclined wall for engaging the edge or rim of the body portion to spring the same into location of the end caps.

Other and further objects of the invention will occur to those skilled in the art during the following disclosure.

The above and other objects of the invention are embodied in a film container which comprises a body portion provided with a longitudinal slot forming a film passage and which is resiliently formed so that the edges of the slot are separated, and which includes a pair of end caps having flanges for overlapping the margins of the body portion and for constraining the body portion in a compressed position. Interengaging connections between the end caps and body portion are moved into engagement by cooperation between the inclined wall of a groove in each end cap and the end rim of the body portion.

Reference is hereby made to the accompanying drawings wherein similar reference characters designate similar elements and wherein:

Fig. 1 is a perspective view of the assembled film container according to the invention.

Fig. 2 is a transverse cross-section through the body portion of the film container.

Fig. 3 is a fragmentary longitudinal cross-section through the end cap and margin of the body portion during assembly.

Fig. 4 is also a fragmentary longitudinal cross-section through the end cap and margin of the body portion after assembly has been completed.

Fig. 5 is a side elevation in partial section of the film spool to be inserted within the film container of the invention.

As previously indicated, the film container includes a body portion 10. Said body portion 10 is composed of resilient material and is provided with a longitudinal slot forming a film passage. Such a longitudinal slot may be formed by integral lips 11 and 12 of the body portion 10. The body portion 10 is preferably cylindrical and lips 11 and 12 are deformed or bent, in a known manner, to form a passage which extends from the interior of the body portion 10. The lips 11 and 12 and adjacent areas of the body portion 10 are lined with sections 13 of light sealing material, such as plush. A beaded rim 14 is formed around each edge of the body portion 10.

In dismantled condition of the film container, the body portion 10 being of resilient material normally assumes a position with the lips 11 and 12 separated, as illustrated in Fig. 2. For assembly of the film container, the body portion is compressed and constrained in this compressed position by a pair of end caps 15.

The end cap 15 includes a flange 16 for overlapping the margins of the body portion 10. A portion 17 of the flange 16 is bent out of the cylindrical formation of said flange 16 and forms in the flange a notch through which the lips 11 and 12 of the body portion may extend. An overlapping portion 18 is formed integrally with the portion 17 on the end cap 15. Said overlapping portion 18 seals the end edges of the film passage formed by the lips 11 and 12 on the body portion 10.

The end cap 15 also includes an end wall 19 which is provided with a groove 20. The groove 20 has an inclined wall 21, which cooperates with the beaded rim 14 of body portion 10 to expand the same in a manner to be more fully explained hereinafter.

Another end cap 22 is fitted onto the body portion 10 at the other end and includes a flange 23 for overlapping the margins of the body portion 10 and includes a portion 24 adjacent to the lips 11 and 12 for formation of the film passage. The second end cap 22 is very similar to end cap 15, except that it is modified for insertion on the opposite end of the body portion 10.

Interengaging connections are provided between the body portion and the end caps 15 and 22. Such interengaging connections are preferably of the type that will become engaged upon expansion of the ends or beaded rim 14 of the body portion 10. These connections may be of
any suitable type but are preferably provided in the manner disclosed. A plurality of protuberances 25 are provided upon the body portion 10 and may be deformed from the material of the body portion 10. A plurality of holes 26 are provided in the flanges 15 and 23 of respective end caps 15 and 22. The protuberances 25 and holes 26 are so dimensioned and located that in assembled position of the end caps 15 and 22 on the body portion 10, the protuberances 25 fit into the holes 26 and the end caps are securely fastened to the body portion.

The end caps 15 and 22 are fitted onto the body portion 10 in the following manner. The body portion 10 is first compressed so that the plush sections 13 on lips 11 and 12 are pressed against each other. This compression of the body portion 10 makes it small enough to fit within the flange 16 of end cap 15, which is moved axially along the body portion 10 to spring the protuberance 25 into hole 26. As a practical matter, the resiliency of the body portion 10 is not large and it is necessary to provide some auxiliary means for insuring the interengagement of protuberances 25 and holes 26. Such auxiliary means to expand the body portion 10 is provided by the inclined wall 21 of the groove 20 in end cap 15.

The relative position of parts during positioning of the end cap 15 is illustrated in Fig. 2. Continued axial movement of the end cap 15 with respect to body portion 10, brings the beaded rim 14 into engagement with the inclined wall 21 of the groove 20. Additional axial movement of the end cap will cause the beaded rim 14 to slip along the inclined wall 21, to expand this beaded rim 14 or margin of the body portion 10. In this manner the margins of the body portion 10 may be flexed so that when protuberances 25 arrived opposite the holes 26, said protuberances snap into the said holes 26. Without such auxiliary arrangement the assembling of the film containers is more difficult and proper attachment of the end caps to the body portion is less certain.

The film to be enclosed by the film container is preferably supplied upon a spool of the type shown in Fig. 5. The spool which has portions 28, 29 and 30 of reduced diameter. Portion 28 receives the disk 32 and forms a journal for one end of the film spool in the end cap 15, as shown in Fig. 1. Portion 32 receives the disk 32 and is also journaled in end cap 22. Portion 29 forms an undercut for the film core 27 so that the film to be wound on the spool will be supported only at its margins. The core 27 is provided with a slot 33 through which the tapered end of the film F may be inserted. A plug 34 is forced into the interior of core 27 and engages the end of the film which has been inserted through slot 33. The plug 34 may be of soft wood. A pin 35 extends through the core 27. The film spool is journaled in the end caps 15 and 22 and may be rotated by grasping the portion 28 of the core 27 which extends to the exterior of the film container.

The film container just disclosed is outstanding in simplicity of construction and easy to assemble. Other modifications of the film container will be obvious to those skilled in the art, but the scope of the invention is not to be judged by the present illustrations, but rather by the appended claims.

Having now particularly described my invention what I desire to secure by Letters Patent of the United States and what I claim is:

1. In a film container, the combination with a resilient body portion provided with a longitudinal slot to form a film passage and which is formed so that edges of said slot are normally separated, and a pair of end caps having flanges for overlapping said body portion to maintain the same in a compressed position, of a plurality of interengaging connections on said cap and on said body portion, and which are maintained in engagement by the resiliency of said body portion.

2. In a film container, the combination with a resilient body portion provided with a longitudinal slot to form a film passage and which is formed so that the edges of said slot are normally separated, and a pair of end caps having flanges for overlapping said body portion to maintain the same in a compressed position and which are provided with holes, of a plurality of protuberances on said body portion for engaging the holes in said flanges of said end caps and urging into such engagement by the resiliency of said body portion.

3. In a film container, a body portion provided with a longitudinal slot to form a film passage and which is provided with a groove, and a plurality of interengaging connections for fastening said caps to said body portion, characterized by a wall of said groove being inclined to expand said body portion upon axial movement of each end cap toward said body portion and said interengaging connections being located to become interengaged upon expansion of said body portion by the inclined wall of said groove.

4. In a film container, the combination with a cap having a flange and provided with a groove, and a body portion having around each edge a beaded rim which may fit into said groove, of interlocking parts for fastening said cap to the body portion, one wall of said groove being inclined and adapted upon axial movement of the cap toward the body portion to engage said beaded rim and to expand one interlocking part into the other.

5. In a film container, the combination with a body portion which is open at one end, a cap for covering one end of said body portion including a flange overlapping the same, and cooperating parts on said body portion and the flange of said cap which are adapted upon engagement to fasten said cap to said body portion, of an inclined surface on said cap adapted upon relative axial movement between the cap and body portion to engage the margin of the body portion for engagement of said cooperating parts.

6. In a film container, the combination with a body portion which is open at one end, a cap for covering one end of said body portion including a flange overlapping the same, and cooperating parts on said body portion and the flange of said cap and which are adapted upon engagement to fasten said cap to said body portion, of an inclined surface on said cap adapted upon relative axial movement between the cap and body portion to engage the margin of the body portion for engagement of said cooperating parts.

7. In a film container, the combination with a body portion which is open at one end and which has a beaded edge around the open end, a cap for covering said open end of said body portion including a flange overlapping the same, and cooperating parts on said body portion and the flange of said cap and which are adapted upon engagement to fasten said cap to said body portion, of an inclined surface on said cap adapted upon relative axial movement between the cap and body portion to engage the margin of the body portion for engagement of said cooperating parts.
clined surface on said cap for engaging the beaded edge of said body portion and adapted upon relative axial movement between the cap and body portion to expand the end of the body portion for engagement of said cooperating parts.

8. In a film container, the combination with a cylindrical body portion which is open at one end and which has a beaded rim around the open end, a cap for covering said open end of said body portion and including a flange for overlapping the margin of said body portion, and interlocking parts for fastening the cap to the body portion including a protuberance on the body portion and a hole in the flange of said cap, of an inclined surface forming in said cap one wall of an annular groove which receives the beaded rim of said cap and adapted upon axial movement of the cap toward the body portion to expand the rim and margin of said body portion and to force said protuberance into said hole.

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