

PATENT SPECIFICATION (11)

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(54) CINEFILM CASSETTE

(71) We, BOLEX INTERNATIONAL S.A., of 18 Avenue des Alpes, GH 1450 Sainte-Croix, Switzerland, a Swiss Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to a cinefilm cassette and is an improvement in, or modification of the cassette described and claimed in our co-pending application No. 39631/73 (Serial No. 1,416,050).

15 In Application No. 39631/73 (Serial No. 1,416,050) we described and claimed a cinefilm cassette comprising a case and an openable lid with two spaced drive-shaft openings therethrough opening into the inside of the case, which is provided with a rotatable core having an anchorage for holding a film leader and being axially aligned with one of the drive shaft openings, and which is shaped to receive a flanged film spool in axial alignment with the other of the drive shaft openings such that a growing winding on the core is guided by film-support means inside the case between the flanges of the film spool when in place in the case.

20 The invention provides a cine-film cassette as claimed in any one of the claims of Patent Application No. 39631/73 (Serial No. 1,416,050), wherein a portion of the core engages with a surface of the cassette in such a way that the core is held against displacement along its axis of rotation in the cassette while being freely rotatable.

25 In the cassette of the invention risk of the take-up core slipping out of its correct operating position when the lid is closed and subsequently jamming between the case and the lid so that it cannot be turned normally by the projector, is avoided.

30 Preferably, the core is held axially in position in the cassette by the engagement of projections on the core behind a rebated surface of the cassette.

[Price 33p]

50 Preferably, arcuate guides are arranged the inside corners of the cassette where the film convolutions are likely to come into contact with the cassette during their transfer between the core and spool in the cassette.

55 Preferably, the cassette includes a locking key and aligned openings in the case and lid into which the locking key can be fitted to lock the lid to the case.

60 Preferably, the locking has a head at one end and a laterally-projecting catch at the other end, and the openings in the lid and the case are provided with rebated portions to receive the head and catch when the locking key is in its locking position.

65 The key may be joined in a simple manner to the cassette in order to prevent its loss. In a preferred form the key is moulded from plastics in one piece with the cassette and can simply be broken off at a place where the plastics is less resistant. However, it is also possible for it to be lightly glued 70 to the cassette.

75 The present invention will now be described in more detail, by way of example, with reference to the accompanying drawings in which:—

80 Figure 1 shows a plan view of an open cassette in which there is a take-up core and a film spool;

85 Figure 2 is a section through the cassette shown in Figure 1, when closed and inverted, and taken on a line passing through the centres of the core and spool;

90 Figure 3 is a plan view of a second form of cassette and shows the method of guiding the film;

95 Figure 4 is an enlargement, in section, of part of the cassette shown in Figure 3, the cassette being held closed by a locking key; and,

Figure 5 is a greatly enlarged view of the key as viewed in section from the right of Figure 4.

In the embodiments to be described corresponding parts serving the same function bear the same reference numerals and are not therefore to be described in detail twice.

This is done to simplify the description of the drawings.

Figure 1 shows an opened cassette with a lid 1 turned back from a case 2, the lid 1 and the case 2 each having two spaced drive-shaft openings 42, 43. The case contains a standard spool 3, e.g. super 8, and a take-up core onto which the film is to be wound, lying side by side in the case 2. The leader of the film 5 which is to be unwound from the spool 3 is introduced into an inclined slot in the take-up core 4 and is kept in place by a tooth 7 which enters one of the marginal perforations of the film.

During projection the film unwinds from the spool 3, passes over a pressure plate 8 and in front of a film-gate (not shown) before being wound up on the take-up core 4. During use the cassette is closed, i.e. the lid is turned back onto the case 2, to which it is connected by two hinges 9, and locked in position.

The take-up core 4 has two projections 10, shown clearly in Figure 2, which fit into a circular groove 11 in the bottom of the cassette, thus preventing the core 4 from being displaced along its axis of rotation from its normal working position. Essentially the take-up core 4 comprises a cylindrical part 13 around which the film is wound after projection and a neck which extends through an opening 14 in the bottom of the case and joins the projections 10 to the part 13.

The opening 14 is elliptical to enable the take-up core to move a limited extent tangentially of the film spool 3 but not to approach it.

Three radial ribs 15 are provided in the bottom of the case 2 and are arranged opposite three radial ribs 16 inside the lid 1. Thus, when the cassette is closed, the edges of the film, after projection, are guided precisely by these ribs and thus the coils of film build up on the core neatly between the flanges of the feed spool 3 without coming into noticeable functional engagement with them.

A spring catch 20 is provided on the case, as shown in Figure 1, and fits into a recess 21 in the lid when the cassette is closed. The cassette may be locked, when closed, by a screw which passes through an opening 17 in the lid registering with a threaded hole 18 in the lid registering with a threaded hole 18 in a thicker part 19 of the case. The head of this screw is arranged to fit into a countersunk hole in the lid and may be hidden with a label on the lid if desired.

There are a certain number of indentations 22 formed in one edge of the lid of the cassette and which provide in coded form instructions to a projector to which the cassette may be fitted.

The cassette shown in Figure 3 differs from that shown in Figure 1 in that inside

each of the four corners of the case is a curved inner surface which prevents the film from getting snagged, particularly at the splices, by the corners of the case. The curved surfaces should have a radius slightly greater than that of the outer coils of a roll of film. They are made of plastics and are integrally moulded with the case.

A key 32 which is for locking the cassette closed is temporarily stored in a trough 31 in the bottom of the case 2. This key is attached at one of its extremities by a thin web to one side of the trough 31 and may be moulded integrally with the rest of the case if desired.

Figures 4 and 5 show the form of the key 32 in greater detail and in its working position. There is a head 33 formed at one end of the key 32 and the other end is bifurcated to provide two resilient arms 34 one of which has a catch 35. When the lid 1 is closed onto the case 2, a case opening 36 registers with an opening 37 in the lid. The key 38, which has been detached from the trough in the bottom of the case is inserted through the openings 37 and 36. When fully inserted its head 33 holds down the lid and its catch 35 engages in a widened portion 39 of the opening 36 in order to lock the cassette closed. The two arms 34 flex together during insertion of the key 32 as they are slightly wider than the non-widened portion 38 of the opening 36. When the catch 35 reaches the widened portion 39 of the opening 36 the two strips 34 spring apart into their released positions.

It is advantageous in the case of rented cassettes for the head 33 of the key 32 to be sunk in a well in the lid and be covered with an adhesive label to prevent the user from opening the cassette. In order to open the cassette any such label is removed, together with a second label or strip blanking off the mouth of the widened portion 39 of the opening 36, and the two arms 34 are flexed together, thus disengaging the catch at the extremity 35 of one of the arms. The key 32 may then be slid along the slot 38 in the direction of the head 33.

During closing of the cassette the free end of a spring catch 20, integrally moulded with the case 2, is introduced into a rectangular opening 40 in the lid as shown in Figure 4. This free end has a hook 41 which engages over the upper marginal edge of one of the walls of the rectangular opening. The spring catch 20 is eased back, thus disengaging the hook 41, when the cassette is to be opened. The dimensions of the rectangular opening 40 are such that the spring catch 20 cannot be pushed beyond the limits of its elasticity.

WHAT WE CLAIM IS:—

1. A cine-film cassette as claimed in any

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The take-up core 4 has two projections 10, shown clearly in Figure 2, which fit into a circular groove 11 in the bottom of the cassette, thus preventing the core 4 from being displaced along its axis of rotation from its normal working position. Essentially the take-up core 4 comprises a cylindrical part 13 around which the film is wound after projection and a neck which extends through an opening 14 in the bottom of the case and joins the projections 10 to the part 13.

The opening 14 is elliptical to enable the take-up core to move a limited extent tangentially of the film spool 3 but not to approach it.

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WHAT WE CLAIM IS:—

1. A cine-film cassette as claimed in any



one of the claims of Patent Application No. 39631/73 (Serial No. 1,416,050), wherein a portion of the core engages with a surface of the cassette in such a way that the core is held against displacement along its axis of rotation in the cassette while being freely rotatable.

2. A cine-film cassette as claimed in claim 1, wherein the core is held axially in position in the cassette by the engagement of projections on the core behind a rebated surface of the cassette.

3. A cine-film cassette is claimed in claim 1 or 2, wherein arcuate guides are arranged in the inside corners of the cassette where the film convolutions are likely to come into contact with the cassette during their transfer between the core and spool in the cassette.

4. A cine-film cassette as claimed in any one of the preceding claims, including a locking key and aligned openings in the case and lid into which the locking key can be fitted to lock the lid to the case.

5. A cine-film cassette as claimed in claim 4, wherein the locking key has a head at one end and a laterally-projecting catch at the other end, and the openings in the lid and case are provided with rebated portions to provide the head and catch when the locking key is in its locking position.

6. A cine-film cassette as claimed in

claim 5, wherein the locking key has a bifurcated portion, the laterally-projecting catch being on one of the arms of the bifurcated portion.

7. A cine-film cassette as claimed in claim 5 or 6, in which the locking key is mounted in a trough inside the cassette and is integrally moulded with the trough and is secured therein by a rupturable web of plastics material.

8. A cine-film cassette as claimed in any one of the preceding claims, having a resilient catch for holding the lid to the case.

9. A cine-film cassette as claimed in claim 8, in which the catch is integrally moulded with either the lid or the case and when the cassette is closed the catch passes through an aperture in the case or lid respectively with a camming flexing motion and snaps back to its relaxed position behind a latching surface of the case or lid when the cassette is closed.

10. A cine-film cassette substantially as herein described with reference to Figures 1 and 2, or Figures 3 to 5 of the accompanying drawings.

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