

Description

CROSS-REFERENCE TO RELATED APPLICATION

Reference is made to commonly assigned, co-
pending, related PCT Patent Application No. WO
91/0934, filed concurrently herewith by Applicant
herein and titled FILM PACKET IMPROVEMENT.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to film
holders, and particularly to such holders that are
mountable on a photographic camera back and coop-
erate with a compatible film assemblage to facilitate
daylight-handling of one or more photosensitive film
sheets in the assemblage.

Description of the Prior Art

The prior art is replete with film holders of the
type referred to above. Examples may be found in the
following documents.

U.S. Patent No. 3,053,160 - Discloses a film hold-
er (12), mountable on a camera back, for holding in
exposure position, and then initiating processing of,
a self-processable film assemblage (68). The assem-
blage (68) is held in exposure position between a
fixed rear plate (20) and a fixed front plate (18) having
an exposure window. A slider (116) is manually actu-
able in a plane parallel with those plates (20, 18) to
move assemblage-engaging latches (106 & 102, 104)
perpendicularly away from the assemblage, to permit
withdrawal of the assemblage, and is spring-returned
(122, 128) when released to restore said latches (106
& 102, 104) to their assemblage-engaging positions.
This film holder is similar to the Polaroid 545 Land
Film Holder used by professional photographers.

U.S. Patent No. 3,319,555 - Discloses a film hold-
er (10) having a pressure plate (21) that is actuated
to move perpendicularly relative to the film plane by
movement of a slider (11) parallel with said plane. The
slider (11) has angled spring legs (31) thereon in slid-
able engagement with the pressure plate (21). The
spring legs cause the pressure plate to move away
from the film plane when the slider is pushed inward-
ly, and back toward said plane when the slider is re-
leased and spring-returned (17) to its initial, outward
position.

U.S. Patent No. 4,725,865 - Discloses a film hold-
er (47), usable in a camera back, comprising base and
cover portions (26 & 33a) that are telescopically as-
sociated for relative movement toward and away from
each other in directions perpendicular to the film
plane. The base and cover portions are normally
biased away from each other into an open position by

springs (45) disposed therebetween. A rigid, planar
film-supporting surface (27) is fixed inside the base
portion in parallel relation to the top wall (38) of the
cover portion, to define a film pathway (46) extending
therebetween in alignment with an access slot (42) in
an end wall (39) of the cover portion. When the holder
is in its normally open position, a film assemblage
(1a) can be freely inserted and withdrawn through the
slot and along the pathway. With an assemblage fully
inserted, the base and cover portions are urged to-
ward each other (in opposition to the springs) into a
closed position by the act of loading the holder into a
spring-loaded camera back. When the holder is thus
brought to its closed position, a tab (43) and a stop
(43a), which depend from the cover portion top wall,
are caused to protrude into the pathway so as to in-
teract with a clip (8) and a stop-strip (14a) on the as-
semblage. To withdraw or reinsert an assemblage,
the holder must first be removed from the camera
back and thereby restored to its open position, where-
in the tab and stop are both clear of the pathway.

U.S. Patent No. 4,821,055 - Discloses a holder
(H), mountable on a camera back, for use with a co-
operating packet (P) having film (F, F') removably at-
tached to a carrier (C), which has, at one end (18), an
asymmetrical tab (24) and, at its opposite end (20), a
transverse light-locking element (30). Telescopically
receivable over the carrier (C) and film (F, F') is a light-
shielding envelope (E). The envelope (E) has an open
end (46) that is closable by engagement with the light-
locking element (30) and a closed end (44) with a
squeezable area (62) that overlies and, when grasped,
squeezes the tab (24), to prevent inadvertent separa-
tion of the envelope (E) from the carrier (C). An ad-
jacent area (64), not overlying the tab (24), is grasp-
able for pulling the squeezable area (62) free of the
tab (24) and the envelope (E) away from the film (F,
F'), to permit intended exposure. The envelope (E)
also has, near its open end (46), a stop strip (66, 68)
for limiting envelope (E) movement. The packet (P) is
slidably insertable into, and withdrawable from, the
holder (H), which comprises a spring-loaded (132)
pressure-applying member (130) for maintaining the
film (F, F') in an exposure plane, a spring-loaded
(140) latching member (138) engageable with the
light-locking element (30) to retain the carrier (C) in
place, a spring-loaded (142b, c, d) stopping member
(142a) engageable with the stop strip (66, 68) to limit
envelope (E) movement while the carrier (C) is re-
tained, and a spring-loaded releasing member (144)
that is manually actuable (184) for negating (158, 168
& 166) the spring-loadings (132, 140 & 142b, c, d) on
the pressure-applying, latching, and stopping mem-
bers (130, 138 & 142a), to permit unrestricted with-
drawal of the packet (P) from the holder (H). To with-
draw the packet (P) from this holder (H), it is neces-
sary to both actuate and then hold the spring-loaded
releasing member (144) in its fully actuated position

while the packet (P) is being withdrawn. Should the user let go of the releasing member (144) before the packet (P) has been completely withdrawn, the spring-loaded stopping member (142a) will intercept the exiting light-locking element (30) and may then tear that element (30) from its carrier (C) and/or become damaged by it. This holder (H) has thus posed a problem to users who fail to hold the releasing member (144) in its fully actuated position while they pull the packet (P) out of the holder.

SUMMARY OF THE INVENTION

Accordingly, a primary object of this invention has been to solve the foregoing problem. Another object has been to do so in a highly effective and efficient manner. Those and other objects have been achieved by the invention herein claimed.

This invention finds particular utility as an improvement in a photographic holder that is especially adapted for efficient and reliable operation with a film assemblage.

According to the present invention, there is provided a holder for a photographic film assemblage as defined in claim 1.

Essentially, the holder for a photographic film assemblage according to the present invention comprises an arresting member 142 having a protruding edge portion 142a arranged for engaging said envelope movement-limiting element 66 and thereby preventing a complete extraction of said envelope, and a deflecting ramp 142e extending from said edge portion 142a toward said second end region 112 so that, during extraction of said film assemblage P from said holder H, said second end section 20 of said film assemblage P is deflected away from said protruding edge portion 142a by means of said light-locking element 30 sliding over said deflecting ramp 142e, thereby avoiding said envelope movement-limiting element 66 to come into engagement with said edge portion 142a and so facilitating extraction of said film assemblage.

Preferred embodiments of the holder for a photographic film assemblage are described in the detailed description with reference to the accompanying drawings and claimed in the subclaims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the detailed description of the preferred embodiment of this invention presented below, reference is made to the accompanying drawings, wherein like reference numerals denote like elements, and wherein:

Fig. 1 is a top-plan view of a photographic film assemblage, or film packet, of a type usable in cooperation with the improved film holder of this invention, showing the packet in its fully assembled

and closed condition;

Fig. 2 is a top-plan view of the film packet depicted in Fig. 1, showing a light-shielding envelope thereof as withdrawn from a photosensitive film sheet therein;

Fig. 3 is an enlarged top-plan view of the film packet of Fig. 1 in its fully assembled and closed condition, showing (via broken lines) the photosensitive film sheet and a carrier sheet therefor as hidden within the light-shielding envelope;

Fig. 4 is an elevational view of the film packet of Fig. 3;

Fig. 5 is an enlarged bottom-plan view similar to Fig. 3 but showing (via broken lines) a second photosensitive film sheet on the other side of the carrier sheet;

Fig. 6 is a top-plan view of a photographic film holder constructed and configured, according to the preferred embodiment of this invention, for use with the film packet of Figs. 1-5 on a cooperating camera back, with portions shown broken away for clarity of illustration;

Fig. 7 is a cross-sectional elevation of the film holder of Fig. 6, taken along line 9-9 therein, showing its principal components in exploded form;

Fig. 8 is a top-plan view of the film holder of Figs. 6-7, with upper components thereof removed to reveal details of certain lower components as disposed in respective rest positions;

Fig. 9 is a top-plan view similar to Fig. 8 but showing the same lower components as moved to their fully actuated positions;

Figs. 10 and 11 are partial cross-sectional elevations showing an end region of the film holder as taken along line 12/13 - 12/13 in Fig. 6, Fig. 10 depicting operative components disposed in respective rest positions with a film packet locked thereby in a seated position, Fig. 11 illustrating the same components in their actuated positions with the film packet thus released and moving away from the seated position;

Figs. 12 and 13 are partial cross-sectional elevations showing another region of the film holder as taken along line 14/15 - 14/15 in Fig. 6,

Fig. 12 depicting operative components disposed in respective rest positions, Fig. 13 illustrating those components as normally moved to their actuated positions to release a film packet (not shown) for unrestricted withdrawal from the holder; and

Figs. 14-16 are partial cross-sectional elevations similar to Fig. 12, all portraying operative components in their rest positions while a released film packet is being withdrawn, Fig. 14 showing the packet's movement-limiting and light-locking elements approaching the holder's movement arresting means, Fig. 15 depicting the light-locking

element engaged with camming means on the arresting means, Fig. 16 illustrating the light-locking element moving freely past the arresting means.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Because certain parts of photographic film assemblages and holders therefor are well known, the following description is directed in particular to those elements forming, cooperating directly with, or relating to, this invention. Elements not specifically shown or described herein are selectable from those known in the relevant art.

Figs. 1-5 illustrate a photographic film assemblage, or film packet, of a type usable in cooperation with the improved film holder of this invention. Figs. 1, 3, and 5 present plan views of such a packet, designated generally therein by the letter P, as it appears when in its fully assembled and closed condition.

Fig. 1 shows only the exteriorly visible components of packet P, as viewed from a first side thereof, including a light-shielding envelope E made of cardboard or other opaque material. As illustrated in Fig. 2, envelope E removably encloses a photosensitive film sheet F having leading and trailing ends 10 and 12, respectively, and an elongate film carrier sheet C, to which film sheet F is detachably attached for facilitating use of the film sheet.

Figs. 3 and 5 present, respectively, top-plan and bottom-plan views of packet P, Fig. 3 showing the first side thereof seen in Fig. 1, Fig. 5 showing the opposite, or second, side. It will thus be seen in Figs. 3 and 5 that carrier sheet C (shown in broken lines) has first and second outward-facing surfaces 14 and 16 respectively. The carrier sheet includes leading and trailing end sections 18 and 20, respectively, and an intermediate section 22 between the two end sections. As seen in Fig. 3, film sheet F is detachably attached to the first outward-facing surface 14 of intermediate section 22, with its leading and trailing ends 10 and 12 respectively oriented toward the leading and trailing end sections 18 and 20. Similarly, as seen in Fig. 5, a second photosensitive film sheet F' is detachably attached to the second outward-facing surface 16 of intermediate section 22, with its leading and trailing ends 10' and 12' respectively oriented toward leading and trailing end sections 18 and 20.

Leading end section 18 extends longitudinally beyond intermediate section 22 (to the right, as viewed in Figs. 3 and 5) and terminates in a tab 24 projecting therefrom as shown. Trailing end section 20 extends longitudinally beyond intermediate section 22 (to the left, as viewed in Figs. 3 and 5) and includes a transverse edge 28, along which is secured a transversely disposed light-locking element 30. Element 30 may be secured to end section 20 by crimping it

thereto, as illustrated by the three series of dimples 32 extending parallel with, and adjacent to, edge 28.

As shown in Fig. 4 (which presents an end view of element 30), the light-locking element is generally V-shaped in cross section, having a vertex 30v with diverging first and second flange portions 30a and 30b extending angularly therefrom over the first and second outward-facing surfaces 14 and 16, respectively, of end section 20 and terminating in outward-projecting edges 31a and 31b. As shown in Figs. 3 and 5, edges 31a and 31b have spaced-apart pairs of cutouts 33a and 33b, respectively, located near the lateral ends of element 30. When secured to end section 20 as shown, element 30 provides first and second recesses 34a and 34b disposed, respectively, between flange portions 30a and 30b and the outward-facing surfaces 14 and 16 of end section 20.

Light-shielding envelope E comprises first and second opposing walls 36 and 38, respectively, which are joined along their lateral edges 40 and 42 to provide a sleeve-like enclosure for receiving the carrier sheet and attached film sheets. The opposing interior surfaces of walls 36 and 38 comprise first and second inward-facing surfaces 36' and 38' (see Figs. 6 and 7) that respectively overlie the first and second outward-facing surfaces 14 and 16 of carrier sheet C when received therebetween. In like manner, the corresponding exterior surfaces of walls 36 and 38 comprise first and second outward-facing surfaces 36'' and 38'' (see Figs. 1-7) that respectively overlie the carrier sheet surfaces 14 and 16.

The envelope further includes longitudinally extending leading and trailing end portions 44 and 46 that respectively overlie the leading and trailing end sections 18 and 20 of the carrier sheet. Leading end portion 44 is sealed closed along its outer edges, and its corners are beveled as shown at 48 and 50. Trailing end portion 46 by itself is left open to permit insertion and withdrawal of the carrier sheet and film sheets therethrough; but when those sheets are fully inserted as shown in Figs. 1 and 3-5, end portion 46 is closed by entry thereof into recesses 34a and 34b and compressive engagement with flange portions 30a and 30b of light-locking element 30.

To facilitate insertion of the carrier and film sheets through end portion 46 and fully into the envelope, the carrier sheet leading end section is beveled as shown at 52 and 54, and the two film sheets F and F' are detachably attached to the carrier sheet at their leading ends 10 and 10'. Also, to facilitate detaching the film sheets from the carrier sheet after withdrawal from the envelope, each film sheet is detachably attached only at its leading end, so that its trailing end and image area can be easily lifted from the carrier sheet and its leading end then peeled off.

As shown in Figs. 1-5, the envelope first and second walls 36 and 38 have a pair of movement-limiting elements, or stop strips, 66 and 68 transversely dis-

posed on their outward-facing exterior surfaces 36" and 38", respectively, near the envelope trailing end portion 46. Strips 66 and 68 may be made of cardboard or plastic and adhered or sealed to their respective envelope wall surfaces. Their thickness or height above those surfaces must be sufficient to be readily engageable by one or more cooperating members in a compatible film packet holder such as that described below.

Figs. 6-16 illustrate a photographic film packet holder H adapted for use with the film packet P, described above, on a cooperating camera back (not shown). The holder H comprises a substantially rectangular-shaped housing 100 having parallel, spaced-apart front and rear walls 102 and 104 respectively, opposing sides 106 and 108, and oppositely disposed first and second end regions 110 and 112 respectively.

The front wall 102 includes a frame portion 114 defining a film-exposure window 116. The first end region 110 includes an access opening 118 configured to permit ingress and egress of film packet P along a movement path 120 extending to and from, respectively, a seated position wherein the packet film sheets F and F' are aligned with window 116 and the packet light-locking element 30 is located in second end region 112.

As shown most clearly in Fig. 7 housing 100 comprises separately formed front and rear components 122 and 124 which include the front and rear walls 102 and 104 respectively, the two components being light-tightly fitted together with access opening 118 and movement path 120 disposed therebetween. Preferably, each of the front and rear components 122 and 124 is an integral molded plastic piece; and such components include matable interlocking means for snap-fitting them together. Such means are shown as comprising a plurality of resiliently flexible latching fingers 126, which depend from front wall 102 along both sides of front component 122, and a like plurality of mating channels 128 correspondingly located in both side walls of rear component 124.

Inside housing 100, in housing rear component 124, is a substantially flat pressure-applying member, or plate, 130 movably disposed between and substantially parallel with the housing front and rear walls 102 and 104. Plate 130 is movable in directions transverse to the front wall and is normally urged, by influence of biasing means thereon, toward movement path 120 so as to press the film packet, when in its seated position, against the front wall frame portion 114. Biasing means for so urging the pressure-applying plate is shown as comprising a plurality of spring elements 132 depending angularly from the plate toward rear wall 104. To guide movement of plate 130 in directions transverse to front wall 102, and to locate the plate and restrain it from moving in directions parallel with that wall, a pair of guide elements 134 also

depend from the plate toward rear wall 104. Guide elements 134 are configured to fit slidably into a pair of correspondingly located hollow bosses 136 that project from rear wall 104 toward the plate.

Also in housing rear component 124 is a movement blocking means comprising a member 138 movably disposed in the housing second end region 112. Blocking member 138 also is movable in directions transverse to the front wall; and it too is normally urged by influence of biasing means thereon toward movement path 120, but in this case to engage the packet light-locking element 30, when the packet is in its seated position, to thereby block movement of element 30 toward access opening 118. Biasing means for so urging blocking member 138 is depicted as comprising a cantilever spring element 140 having a fixed end portion 140a secured to rear wall 104 and a movable free end portion 140b resiliently supporting member 138. Fixed end portion 140a includes a pair of flanges 140a' extending laterally therefrom in spaced parallel relation to rear wall 104. Free end portion 140b is bifurcated as shown to provide a pair of engageable legs 140b' depending angularly therefrom toward rear wall 104.

Movably mounted on housing front component 122, between front wall frame portion 114 and access opening 118, is a movement arresting means comprising a spaced-apart pair of arresting members 142 respectively disposed near the housing sides. Each of the arresting members 142 is movable in directions transverse to front wall 102; and each of them is normally urged, by influence of biasing means thereon, toward movement path 120, but in this case to engage the packet envelope movement-limiting element (stop strip 66 or 68) then facing front wall 102 during movement thereof from its seated position toward the access opening, to thereby arrest further movement thereof toward the opening. Each arresting member 142 includes a protruding edge portion 142a that is normally biased toward path 120 by a cantilever spring element 142b having a fixed end portion 142c secured to front wall 102 and a movable spring leg 142d which depends from element 142b toward rear wall 104. Extending angularly from edge portion 142a toward second end region 112 is a camming means comprising a deflecting ramp 142e disposed for engagement by the packet light-locking element 30 during movement thereof toward the access opening, to deflect and guide element 30 past the arresting member and thereby facilitate continued movement thereof toward the opening. To further facilitate movement of element 30 past the two arresting members 142, the outward-projecting edges 31a and 31b of flange portions 30a and 30b are provided with the aforementioned pairs of openings, or cutouts, 33a and 33b, respectively. The cutouts are aligned with but made slightly narrower than the deflecting ramps 142e, so that the adjacent portions of the confronting one of

edges 31a and 31b will engage and ride on those ramps toward the protruding edge portions 142a. However, the cutouts are aligned with but made slightly larger than the protruding edge portions 142a, so as to allow the engaged one of flange portions 30a and 30b to move freely past those protruding edge portions and thence to the access opening.

Slidably mounted in housing rear component 124, between plate 130 and rear wall 104, is a releasing member, or slider, 144, which preferably is formed as an integral molded plastic piece. Slider 144 is movable in first and second opposing directions extending toward the first and second end regions 110 and 112 respectively. The slider is normally urged, by influence of biasing means thereon, in the first direction to a rest position (shown in Fig. 8), and is adapted for manual movement in the second direction away from that position (see arrow in Fig. 9).

Slider 144 is provided with means, operatively associated with plate 130, blocking member 138, and arresting members 142, and responsive to said manual movement in the second direction, for negating the aforementioned biasing means influences that normally urge plate 130 and members 138 and 142 toward movement path 120, so as to remove the plate and the blocking and arresting members from said path and thereby release the film packet for unrestricted movement therealong from its seated position and out through the access opening.

The slider has front and rear surfaces 146 and 148 facing plate 130 and rear wall 104 respectively, lateral portions 150 and 152 that extend along housing sides 106 and 108 respectively, and first and second end portions 154 and 156 directed toward the first and second end regions 110 and 112 respectively.

The slider negating means, mentioned above, comprises camming means 158 on front surface 146, including a plurality of ramps 160 in lateral portions 150 and 152 and a like plurality of projections 162 and depressions 164 respectively disposed at opposite ends of the ramps. The front surface camming means 158 interacts with the spring elements 132 that depend angularly from plate 130, to control their biasing influence on the plate.

The slider negating means further comprises camming means 166 and 168 in first and second end portions 154 and 156, respectively, which interact with the arresting member spring legs 142d and the blocking member spring legs 140b', respectively, to control their respective biasing influences on the arresting and blocking members. The first end portion camming means 166 includes a pair of laterally projecting ears 170 and 172 respectively disposed in lateral portions 150 and 152 adjacent to housing sides 106 and 108, in engageable relation with spring legs 142d. The second end portion camming means 168 includes a tapered tab 174 that is bifurcated to provide a pair of tapered tab portions 174' which project

longitudinally toward blocking member 138 for symmetrical engagement with spring legs 140b' about their common longitudinal center line.

To guide longitudinal movement of slider 144 in its first and second directions, and to locate the slider and restrain it from moving in other directions, a pair of recessed sections 176 are provided to fit slidably between the laterally extending flanges 140a' and opposing areas of rear wall 104.

The aforementioned biasing means normally urging slider 144 in the first direction to its rest position shown in Fig. 8 comprises a pair of S-shaped cantilever springs 178 and 180 that extend transversely from lateral portions 150 and 152, respectively, toward each other, with their free ends 178' and 180' trapped by a flanged tab 182 centrally disposed on rear wall 104.

To facilitate the aforementioned manual movement of slider 144 in the second direction away from its rest position (see arrow in Fig. 9), the slider is provided with externally accessible means, including an L-shaped handle 184, that extends from first end portion 154 through a passageway 186 in housing first end region 110 adjacent to access opening 118.

To limit slider return movement (by springs 178 and 180) in the first direction, and thereby define its rest position, the slider includes a transversely disposed stopping member 188 that abuts opposing surfaces 190, which project from rear wall 104 at opposite sides of passageway 186, when the rest position is reached.

The stopping member also coacts with a transversely disposed, pliant, light-sealing element 192, to help prevent light from entering the holder housing through passageway 186 when the slider is in its rest position. Element 192 extends from passageway 186, into access opening 118, and into the movement path 120, so as to contact film packet P and thereby help prevent light from entering the housing through the access opening.

Operation of holder H in use with packet P will now be described.

When slider 144 is in its rest position (shown in Fig. 8), spring elements 132, which depend angularly from plate 130, are in resilient engagement with projections 162 on the slider, and thereby provide the biasing influence that urges the plate toward the movement path so as to press packet P (when in its seated position) against front wall frame portion 114. Also, as shown in Fig. 10, spring legs 140b', which depend angularly from free end portion 140b of spring element 140, are engaged by tapered tab portions 174' on the slider, while free end portion 140b resiliently supports blocking member 138 in its position blocking the packet light-locking element 30. Also, as shown in Fig. 12, spring legs 142d, which depend from their respective cantilever spring elements 142b of arresting members 142, are disposed in engage-

able relation with, but not yet engaged by, ears 170 and 172 on the slider, while the spring elements 142b maintain the arresting member protruding edge portions 142a in their movement-path positions for engagement by the packet movement-limiting stop strip 66 or 68 then facing front wall 102.

Now, when slider 144 is moved from its rest position to its fully actuated position (shown in Fig. 9), by pushing handle 184 inwardly (see Fig. 9 arrow) against the biasing influence of springs 178 and 180, the above-described negating means is actuated to effect its intended functions. The slider projections 162 are thus moved out of engagement with spring elements 132, which in turn follow ramps 160 downwardly (as viewed in Figs. 12 and 13) into depressions 164. That action negates the biasing influence that urged plate 130 toward the movement path. Also, the slider tapered tab portions 174' are moved into further engagement with spring legs 140b' so as to cam them downwardly (as viewed in Figs. 10 and 11), against the biasing influence of spring element 140, and thereby move blocking member 138 downwardly away from the movement path. Also, the slider ears 170 and 172 are moved into engagement with spring legs 142d so as to pivot them clockwise (as viewed in Figs. 12 and 13), against the biasing influences of spring elements 142b, and thereby pivot the arresting member protruding edge portions 142a clockwise (upwardly) out of the movement path. It will thus be seen that, by a single actuation of handle 184, the pressure-applying plate 130, the blocking member 138, and the arresting members 142 are all moved away from the movement path, thereby permitting unrestricted movement of the film packet into and out of the holder.

Upon releasing handle 184, the slider is returned to its rest position by springs 178 and 180, causing the foregoing actions to be reversed and the pressure-applying plate and the blocking and arresting members to be restored to their described film-path positions.

A significant advantage of this holder is that a film packet may easily be inserted into and withdrawn from it whether or not the holder is mounted on a camera back.

To use film packet P with holder H, first the packet side labeled "A" in Figs. 1 and 3 should be oriented to face the holder film-exposure window 116. Then, with slider handle 184 depressed to actuate slider 144, the packet should be inserted through access opening 118 until it reaches its seated position. Now, with handle 184 released and the holder mounted on a camera back, with its window 116 facing the camera lens, the packet envelope should be grasped at its graspable zone 64 (labeled 1 in Figs. 1-3), pulled outwardly, and thereby withdrawn until it is stopped by engagement of its stop strip 66 with the arresting member protruding edge portions 142a disposed in the movement

path, while the carrier and film sheets are retained in their seated position by engagement of light-locking element 30 with blocking member 138 also in the movement path. The film sheet F is thus uncovered and ready for a photographic exposure via the camera shutter and lens.

After that exposure, the envelope should again be grasped at zone 64 (again, 1 in Figs. 1-3) and pushed in to its seated position, thereby re-covering the now-exposed film sheet. Then, with handle 184 again depressed to actuate slider 144, to thereby release the packet for unrestricted withdrawal (as explained above), the envelope should be grasped at zone 62 (labeled 2 in Figs. 1-3), so as to squeeze the envelope walls in that zone together through the aperture 58 in tab 24, and the whole packet thus pulled out of the holder. The packet may then be turned over so that its side labeled "B" in Fig. 5 faces the holder window 116, and the foregoing steps repeated to effect a photographic exposure of the other film sheet F'.

With both film sheets now exposed and safely recovered by the envelope and light-locking element 30, the envelope walls again become squeezed together through tab aperture 58 when the packet is once again grasped at zone 62 (labeled 2 in Fig. 5) and removed from the holder. With the film sheets still protected by the envelope and light-locking element, the packet may then be safely handled, stored, and/or transported until disassembled for processing under controlled light conditions.

Preferably, in the foregoing procedure for withdrawing the packet from the holder, handle 184 should be held fully depressed, so as to keep slider 144 in its fully actuated position, until the packet has been completely removed. It may occur, however, that the user, after first depressing handle 184 and thereby releasing light-locking element 30, lets go of the handle, and thereby allows slider 144 to return to its rest position, before the envelope stop strip 66 or 68 has passed the arresting members 142. Figs. 14-16 illustrate what happens in that situation, wherein the arresting members have returned to their movement-path positions while the packet is still being withdrawn. Fig. 14 shows both stop strip 66 and light-locking element 30 as they are approaching arresting member 142. Fig. 15 shows element 30 after it has engaged the arresting member ramp 142e and is being deflected thereby downwardly (as viewed in Fig. 15). As element 30 is thus deflected, the stop strip 66 preceding it also is deflected downwardly so as to clear the protruding edge portion 142a. Fig. 16 shows element 30 after the confronting edge 31a on its flange portion 30a has passed ramp 142e and is just clearing edge portion 142a because of the cutouts 33a provided in that edge. It will thus be seen that, with the arresting member ramps 142e disposed to intercept and deflect element 30 so as to guide stop strip 66 past the protruding edge portions 142a, and

with the flange portion edge cutouts 33a providing clearance for element 30 to then ride past edge portions 142a, the film packet can still be freely withdrawn even when the arresting members have prematurely resumed their movement-path positions after the blocking member 38 has first been actuated to release element 30.

Claims

1. A holder (H) for a photographic film assemblage (P) said assemblage being of the type comprising:

a photosensitive film sheet (F) having first and second ends (10, 12);

a film carrier sheet (C) detachably attached to the film sheet (F) for facilitating use thereof, the carrier sheet (C) including first and second sections (18, 20) thereof projecting longitudinally beyond the film sheet first and second ends (10, 12), respectively, the second section (20) having a transverse edge (28) along which is secured a transversely disposed light-locking element (30); and

a light-shielding envelope (E) removably enclosing the film sheet (F) and the carrier sheet (C), the envelope (E) including a film-covering part and first and second parts (44, 46) extending longitudinally and covering the carrier sheet first and second sections (18, 20), respectively, the envelope first part (44) having a closed end that is manually graspable, the envelope second part (46) having an open end that is closable by cooperative engagement with the light-locking element (30), the envelope (E) being removable from the film sheet (F) and the carrier sheet (C) by longitudinal relative movement therebetween in a direction separating the envelope second part end from the light-locking element (30), the envelope (E) further including a movement-limiting element (66, 68) projecting from an exterior surface (36, 38), thereof, near said open end;

said holder (H) having a housing (100) in form of a flat, substantially rectangular box, with spaced apart front and rear walls (102, 104), constituting the major faces of the box, and delimited on the sides by two opposite side walls (106, 108) and two opposite first and second end regions (110, 112), said front wall (102) including a frame portion (114) defining a film-exposure window (116), said first end region (110) including elements delimiting an elongate access opening (118) configured to permit insertion and extraction of the film assemblage (P) along a movement path (120) extending from said aperture to said second end region, wherein, when the assemblage is fully inserted, it occupies a seated position

wherein the film sheet (F) is aligned behind said window (116) and the light-locking element (30) is in said second end region (112);

a substantially flat pressure-applying member (130) disposed between and substantially parallel with said housing front and rear walls (102, 104), said pressure-applying member (130) being movable in directions substantially perpendicular to said front wall (102) and urged by resilient means mounted thereon, toward said movement path (120), to press the film assemblage (P), when it is in its seated position, against said front wall frame portion (114);

a blocking member (138) disposed inside said housing in said second end region (112), said blocking member (138) being movable in directions to and away from said front wall (102), and urged by resilient means mounted thereon, toward said movement path (120), to engage the light-locking element (30), when the film assemblage is in its seated position, thereby blocking movement of said light-locking element toward said access opening (118);

an arresting member (142) disposed inside said housing (100), between said front wall frame portion (114) and said access opening (118), said arresting member (142) being movable in directions to and away from said front wall (102) and urged by resilient means mounted thereon, toward said movement path (120), to engage the envelope movement-limiting element (66, 68) during extraction of the envelope from its seated position toward said access opening (118), thereby preventing a complete extraction thereof; and

a releasing member (144) disposed between said pressure-applying member (130) and said housing rear wall (104), said releasing member (144) being movable in first and second opposing directions along a further path extending between said housing first and second end regions (110, 112) respectively, said releasing member (144) being urged by resilient means (178, 180) mounted thereon, toward said first direction to stay in a rest position, and being adapted for manual movement in said second direction away from said rest position; said releasing member (144) having cam means operatively engaging said pressure-applying member (130), said blocking member (138) and said arresting member (142), and adapted to disengage, in response to said manual movement in said second direction, said resilient means from urging said pressure-applying, blocking and arresting members (130, 138, 142) toward said movement path (120), thereby releasing the film assemblage (P) for unrestricted movement to and from its seated position and through said access opening (118);



with the flange portion edge cutouts 33a providing clearance for element 30 to then ride past edge portions 142a, the film packet can still be freely withdrawn even when the arresting members have prematurely resumed their movement-path positions after the blocking member 38 has first been actuated to release element 30.

Claims

1. A holder (H) for a photographic film assemblage (P) said assemblage being of the type comprising:

a photosensitive film sheet (F) having first and second ends (10, 12);

a film carrier sheet (C) detachably attached to the film sheet (F) for facilitating use thereof, the carrier sheet (C) including first and second sections (18, 20) thereof projecting longitudinally beyond the film sheet first and second ends (10, 12), respectively, the second section (20) having a transverse edge (28) along which is secured a transversely disposed light-locking element (30); and

a light-shielding envelope (E) removably enclosing the film sheet (F) and the carrier sheet (C), the envelope (E) including a film-covering part and first and second parts (44, 46) extending longitudinally and covering the carrier sheet first and second sections (18, 20), respectively, the envelope first part (44) having a closed end that is manually graspable, the envelope second part (46) having an open end that is closable by cooperative engagement with the light-locking element (30), the envelope (E) being removable from the film sheet (F) and the carrier sheet (C) by longitudinal relative movement therebetween in a direction separating the envelope second part end from the light-locking element (30), the envelope (E) further including a movement-limiting element (66, 68) projecting from an exterior surface (36, 38), thereof, near said open end;

said holder (H) having a housing (100) in form of a flat, substantially rectangular box, with spaced apart front and rear walls (102, 104), constituting the major faces of the box, and delimited on the sides by two opposite side walls (106, 108) and two opposite first and second end regions (110, 112), said front wall (102) including a frame portion (114) defining a film-exposure window (116), said first end region (110) including elements delimiting an elongate access opening (118) configured to permit insertion and extraction of the film assemblage (P) along a movement path (120) extending from said aperture to said second end region, wherein, when the assemblage is fully inserted, it occupies a seated position

wherein the film sheet (F) is aligned behind said window (116) and the light-locking element (30) is in said second end region (112);

a substantially flat pressure-applying member (130) disposed between and substantially parallel with said housing front and rear walls (102, 104), said pressure-applying member (130) being movable in directions substantially perpendicular to said front wall (102) and urged by resilient means mounted thereon, toward said movement path (120), to press the film assemblage (P), when it is in its seated position, against said front wall frame portion (114);

a blocking member (138) disposed inside said housing in said second end region (112), said blocking member (138) being movable in directions to and away from said front wall (102), and urged by resilient means mounted thereon, toward said movement path (120), to engage the light-locking element (30), when the film assemblage is in its seated position, thereby blocking movement of said light-locking element toward said access opening (118);

an arresting member (142) disposed inside said housing (100), between said front wall frame portion (114) and said access opening (118), said arresting member (142) being movable in directions to and away from said front wall (102) and urged by resilient means mounted thereon, toward said movement path (120), to engage the envelope movement-limiting element (66, 68) during extraction of the envelope from its seated position toward said access opening (118), thereby preventing a complete extraction thereof; and

a releasing member (144) disposed between said pressure-applying member (130) and said housing rear wall (104), said releasing member (144) being movable in first and second opposing directions along a further path extending between said housing first and second end regions (110, 112) respectively, said releasing member (144) being urged by resilient means (178, 180) mounted thereon, toward said first direction to stay in a rest position, and being adapted for manual movement in said second direction away from said rest position; said releasing member (144) having cam means operatively engaging said pressure-applying member (130), said blocking member (138) and said arresting member (142), and adapted to disengage, in response to said manual movement in said second direction, said resilient means from urging said pressure-applying, blocking and arresting members (130, 138, 142) toward said movement path (120), thereby releasing the film assemblage (P) for unrestricted movement to and from its seated position and through said access opening (118);



said holder (H) being characterized in that:
said arresting member (142) has a protruding edge portion (142a) arranged for engaging said envelope movement-limiting element (66) and thereby preventing a complete extraction of said envelope, and a deflecting ramp (142e) extending from said edge portion (142a) toward said second end region (112) so that, during extraction of said film assemblage (P) from said holder (H), said second end section (20) of said film assemblage (P) is deflected away from said protruding edge portion (142a) by means of said light-locking element (30) sliding over said deflecting ramp (142e), thereby avoiding said envelope movement-limiting element (66) to come into engagement with said edge portion (142a) and so facilitating extraction of said film assemblage (P).

2. A holder (H) as claimed in Claim 1 wherein said housing (100) comprises separately formed front and rear components (122, 124) that include said front and rear walls (102, 104), respectively, said components (122, 124) being light-tightly fitted together with said access opening (118) and movement path (120) disposed therebetween.

3. A holder (H) as claimed in Claim 2 wherein said pressure-applying member (130), said blocking member (138), and said releasing member (144) are movably mounted on said housing rear component (124), and said arresting member (142) is movably mounted on said housing front component (122).

4. A holder (H) as claimed in Claim 3 wherein said releasing member (144) has front and rear surfaces (146, 148) facing said pressure-applying member (130) and said housing rear wall (104) respectively, lateral portions (150, 152) extending substantially parallel to said housing sides (106, 108) respectively, and first and second end portions (154, 156) directed toward said housing first and second end regions (110, 112) respectively; wherein said releasing member includes cam means (158) on said front surface (146), engaging said resilient means urging said pressure-applying member (130) toward said movement path (120), for reducing said resilient means influence on said pressure-applying member (130) in response to said manual movement in said second direction; and wherein said releasing member further includes cam means (166, 168) on said first and second end portions (154, 156), engaging said resilient means urging said arresting and blocking members (142, 138), respectively, toward said movement path (120), for reducing said resilient means influences on said arresting

and blocking members (142, 138) in response to said movement in said second direction.

5. A holder (H) as claimed in Claim 4 wherein said front surface cam means (158) includes a plurality of ramps (160) on said lateral portions (150, 152), and said resilient means urging said pressure-applying member (130) toward said movement path (120) includes a like plurality of spring elements (132) extending from said pressure-applying member (130) into resilient engagement with said ramps (160); wherein said first end portion cam means (166) includes laterally projecting ears (170, 172) on said lateral portions (150, 152), and said resilient means urging said arresting member (142) toward said movement path (120) includes spring elements (142d) extending from said arresting member (142) into engageable relation with said ears (170, 172); and wherein said second end portion cam means (168) includes a tab (174) projecting longitudinally toward said blocking member (138), and said resilient means urging said blocking member (138) toward said movement path (120) includes a spring element (140b) resiliently supporting said blocking member (138) and engageable by said tab (174).

6. A holder (H) as claimed in Claim 5 wherein said front surface cam means (158) includes a like plurality of projections (162) and depressions (164) respectively disposed at opposite ends of said ramps (160); wherein said first end portion cam means (166) includes a pair of said ears (170, 172) respectively disposed adjacent to said opposing housing sides (106, 108); and wherein said second end portion cam means tab (174) and said blocking member spring element (140b) are bifurcated for symmetrical engagement about a common longitudinal center line.

7. A holder as claimed in claim 6, including a pair of said arresting members (142), each one of said arresting members (142) being disposed near a respective one of said opposite housing side walls (106, 108) and being provided with a respective one of said spring means (142d) extending into engageable relation with a respective one of said ears (170, 172).

8. A holder (H) as claimed in Claim 7 wherein said releasing member (144) includes externally accessible means (184) extending from said first end portion (154) through a passageway (186) in said first end region (110), adjacent to said access opening (118), for effecting said manual movement.



9. A holder (H) as claimed in Claim 8 wherein each of said releasing member (144) and said housing front and rear components (122, 124) is an integral molded plastic piece; and wherein said front and rear components include matable interlocking means (126, 128) for snap-fitting said components (122, 124) together.

Patentansprüche

1. Kassette (H) für eine Filmeinheit (P) bestehend aus

einem lichtempfindlichen Blattfilm (F) mit einem ersten und einem zweiten Ende (10, 20), einem Filmträger (C), der lösbar am Blattfilm (F) befestigt ist, um dessen Verwendung zu vereinfachen, und der einen sich in Längsrichtung über das erste und zweite Ende (10, 12) des Blattfilms erstreckenden ersten bzw. zweiten Abschnitt (18, 20) aufweist, wobei der zweite Abschnitt (20) eine quer verlaufende Kante (28) besitzt, an der eine sich quer erstreckende Lichtschleuse (30) befestigt ist, und aus

einer Lichtschutzhülle (E), die den Blattfilm (F) und den Filmträger (C) einschließt, von diesen abziehbar ist und ein Filmabdeckteil sowie ein erstes und zweites Element (44, 46) aufweist, die sich in Längsrichtung erstrecken und den ersten und zweiten Abschnitt (18, 20) des Filmträgers abdecken, wobei das erste Element (44) der Lichtschutzhülle ein von Hand greifbares geschlossenes Ende und das zweite Element (46) ein offenes Ende umfaßt, das durch gemeinsamen Eingriff mit der Lichtschleuse (30) verschließbar ist, wobei die Lichtschutzhülle (E) vom Blattfilm (F) und vom Filmträger (C) durch eine in Längsrichtung erfolgende Relativbewegung derart entfernbar ist, daß das Ende des zweiten Elements der Lichtschutzhülle sich von der Lichtschleuse ablöst, und wobei die Lichtschutzhülle (E) einen Bewegungsbegrenzer (66, 68) aufweist, der sich in der Nähe des offenen Endes von einer Außenfläche (36, 38) der Umhüllung weg erstreckt, wobei die Kassette (H)

aus einem Gehäuse (100) in Form eines flachen, im wesentlichen rechteckigen Behälters gebildet ist, der eine vordere und eine von dieser beabstandete hintere Wandung (102, 104) aufweist, die die Hauptflächen des Behälters darstellen, und der seitlich von zwei einander gegenüberliegenden Seitenwandungen (106, 108) sowie einem ersten und einem diesem gegenüberliegenden zweiten Endbereich (110, 112) begrenzt ist, wobei die vordere Wandung (102) einen ein Filmbelichtungsfenster (116) bildenden Ausschnitt (114) aufweist, der erste Endbereich

(110) Elemente umfaßt, die eine langgestreckte Öffnung (118) bilden, durch die die Filmeinheit (P) entlang einer sich von der Öffnung bis zum zweiten Endbereich erstreckenden Bewegungsbahn (120) eingelegt und entnommen werden kann, derart, daß wenn die Filmeinheit ganz eingelegt ist, sie eine aufliegende Position einnimmt, in der der Blattfilm (F) hinter dem Filmbelichtungsfenster (116) ausgerichtet ist und die Lichtschleuse (30) sich im zweiten Endbereich (112) befindet,

ein im wesentlichen flaches Andruckelement (130) aufweist, das zwischen der vorderen und hinteren Wandung (102, 104) des Gehäuses und im wesentlichen parallel dazu angeordnet und in Richtungen bewegbar ist, die sich im wesentlichen senkrecht zur vorderen Wandung (102) erstrecken, und das von auf der vorderen Wandung angebrachten nachgiebigen Mitteln zur Bewegungsbahn (120) hin gedrückt wird, um die Filmeinheit (P) in ihrer aufliegenden Position gegen den Ausschnitt (114) der vorderen Wandung zu drücken,

eine Blockiervorrichtung (138) aufweist, die im Gehäuse im zweiten Endbereich (112) angeordnet und zur vorderen Wandung (102) hin und von dieser weg bewegbar ist und die von auf der vorderen Wandung angebrachten nachgiebigen Mitteln zur Bewegungsbahn (120) hin gedrückt wird, um mit der Lichtschleuse (30) in Eingriff zu gelangen, wenn die Filmeinheit sich in ihrer aufliegenden Position befindet, und dadurch die Bewegung der Lichtschleuse hin zur Öffnung (118) zu blockieren,

eine Arretiervorrichtung (142) umfaßt, die im Gehäuse (100) zwischen dem Ausschnitt (114) der vorderen Wandung und der Öffnung (118) angeordnet und zur vorderen Wandung (102) hin und von dieser weg bewegbar ist und die von auf der vorderen Wandung angebrachten nachgiebigen Mitteln zur Bewegungsbahn (120) hin gedrückt wird, um in Eingriff mit dem Bewegungsbegrenzer (66, 68) der Lichtschutzhülle zu gelangen, während diese aus ihrer aufliegenden Position zur Öffnung (118) hin gezogen wird, wodurch ein vollständiges Herausziehen der Umhüllung vermieden wird, und

eine Freigabevorrichtung (144) aufweist, die zwischen dem Andruckelement (130) und der hinteren Wandung (104) des Gehäuses angeordnet, in eine erste sowie eine dieser entgegengesetzten zweiten Richtung entlang einer weiteren, sich zwischen dem ersten und dem zweiten Endbereich (110, 112) des Gehäuses erstreckenden Bahn bewegbar ist und von auf ihr angebrachten nachgiebigen Mitteln (178, 180) in die erste Richtung gedrückt wird, um in einer inaktiven Position zu verbleiben, und manuell in die zweite Richtung



- weg von der inaktiven Position bewegbar ist, wobei die Freigabevorrichtung (144) Steuermittel aufweist, die mit dem Andruckelement (130), der Blockiervorrichtung (138) und der Arretiervorrichtung (142) in Eingriff bringbar sind und in Abhängigkeit von ihrer manuellen Bewegung in die zweite Richtung außer Eingriff mit den nachgiebigen Mitteln gelangen und bewirken, daß das Andruckelement, die Blockier- und die Arretiervorrichtung (130, 138, 142) zur Bewegungsbahn (120) hin gedrückt werden, wodurch die Filmeinheit (P) zur Ausführung einer ungehinderten Bewegung in ihre aufliegende Position und aus dieser Position heraus und durch die Öffnung (118) hindurch freigegeben wird, **dadurch gekennzeichnet, daß** die Arretiervorrichtung (142) eine vorstehende Kante (142a) aufweist, die mit dem Bewegungsbegrenzer (66) der Lichtschutzhülle in Eingriff bringbar ist und dadurch ein vollständigen Herausziehen der Lichtschutzhülle verhindert, und ein Ablenkelement (142e) umfaßt, das sich von der Kante (142a) zum zweiten Endbereich (112) erstreckt, so daß beim Herausziehen der Filmeinheit (P) aus der Kassette (H) der zweite Endabschnitt (20) der Filmeinheit (P) mittels der über das Ablenkelement (142e) gleitenden Lichtschleuse (30) von der vorstehenden Kante (142a) weggelenkt und dadurch verhindert wird, daß der Bewegungsbegrenzer (66) der Lichtschutzhülle mit der Kante (142a) in Eingriff gelangt, wodurch das Herausziehen der Filmeinheit (P) erleichtert wird.
2. Kassette (H) nach Anspruch 1, dadurch gekennzeichnet, daß das Gehäuse (100) ein jeweils getrennt ausgebildetes, die vordere bzw. hintere Wandung (102, 104) umfassendes Vorder- und Rückteil (122, 124) aufweist, die lichtundurchlässig aneinander befestigt sind und zwischen sich die Öffnung (118) und die Bewegungsbahn (120) aufweisen.
 3. Kassette (H) nach Anspruch 2, dadurch gekennzeichnet, daß das Andruckelement (130), die Blockiervorrichtung (138) und die Freigabevorrichtung (144) am Rückteil (124) des Gehäuses bewegbar gelagert sind und die Arretiervorrichtung (142) am Vorderteil (122) des Gehäuses bewegbar angeordnet ist.
 4. Kassette (H) nach Anspruch 3, dadurch gekennzeichnet, daß die Freigabevorrichtung (144) eine dem Andruckelement (130) und der hinteren Wandung (104) des Gehäuses zugewandte Vorder- bzw. Rückseite (146, 148) aufweist, wobei seitliche Abschnitte (150, 152) sich im wesentlichen parallel zu den Seitenwandungen (106 bzw.

- 108) des Gehäuses erstrecken und ein erster bzw. zweiter Endabschnitt (154, 156) zum ersten bzw. zweiten Endbereich (110, 112) des Gehäuses hin ausgerichtet ist, daß die Freigabevorrichtung auf ihrer Vorderseite (146) Steuermittel (158) aufweist, die mit den nachgiebigen Mitteln in Eingriff gelangen und das Andruckelement (130) zur Bewegungsbahn (120) hin drücken, um in Abhängigkeit von der manuellen Bewegung in die zweite Richtung die Wirkungskraft der nachgiebigen Mittel auf das Andruckelement (130) zu mindern, und daß die Freigabevorrichtung auf dem ersten und zweiten Endabschnitt (154, 156) angeordnete Steuermittel (166, 168) aufweist, die mit den nachgiebigen Mitteln in Eingriff gelangen und die Arretier- bzw. Blockiervorrichtung (142, 138) zur Bewegungsbahn (120) hin drücken, um in Abhängigkeit von der Bewegung in die zweite Richtung die Wirkungskraft der nachgiebigen Mittel auf die Arretier- und Blockiervorrichtung (142, 138) zu mindern.
5. Kassette (H) nach Anspruch 4, dadurch gekennzeichnet, daß die Steuermittel (158) auf der Vorderseite eine Vielzahl von auf den seitlichen Abschnitten (150, 152) vorgesehenen Rampen (160) aufweisen, daß die das Andruckelement (130) zur Bewegungsbahn (120) hin drückenden nachgiebigen Mittel eine gleiche Anzahl an Federelementen (132) aufweisen, die sich vom Andruckelement (130) weg in federnden Eingriff mit den Rampen (160) erstrecken, daß die Steuermittel (166) des ersten Endabschnitts an den seitlichen Abschnitten (150, 152) seitlich abstehende Vorsprünge (170, 172) aufweisen und die die Arretiervorrichtung (142) zur Bewegungsbahn (120) hin drückenden nachgiebigen Mittel ein Federelement (142d) umfassen, das sich von der Arretiervorrichtung (142) aus in Eingriffsbeziehung mit den Vorsprüngen (170, 172) erstreckt, und daß die Steuermittel (168) des zweiten Endabschnitts eine Nase (174) umfassen, die sich in Längsrichtung zur Blockiervorrichtung (138) hin erstreckt, und die die Blockiervorrichtung (138) zur Bewegungsbahn hin drückenden nachgiebigen Mittel ein Federelement (140b) aufweisen, das die Blockiervorrichtung (138) federnd lagert und mit der Nase (174) in Eingriff bringbar ist.
 6. Kassette (H) nach Anspruch 5, dadurch gekennzeichnet, daß die Steuermittel (158) auf der Vorderseite eine gleiche Anzahl an Vorsprüngen (162) und Vertiefungen (164) aufweisen, die jeweils an entgegengesetzten Enden der Rampen (160) vorgesehen sind, daß die Steuermittel (166) des ersten Endabschnitts jeweils zwei Vorsprünge (170, 172) umfassen, die den einander



gegenüberliegenden Seitenwandungen (106, 108) benachbart angeordnet sind, und daß die Nase (174) der Steuermittel des zweiten Endabschnitts und das Federelement (140b) der Blockiervorrichtung derart gabelförmig ausgebildet sind, daß sie auf einer gemeinsamen sich in Längsrichtung erstreckenden Mittellinie symmetrisch in Eingriff bringbar sind.

7. Kassette (H) nach Anspruch 6, dadurch gekennzeichnet, daß zwei Arretiervorrichtungen (142) vorgesehen sind, von denen jeweils eine in der Nähe der entsprechenden Seitenwandungen (106, 108) des Gehäuses angeordnet und mit dem jeweiligen Federelement (142d) versehen ist, das sich in Eingriffsbeziehung mit dem entsprechenden Vorsprung (170, 172) befindet.

8. Kassette (H) nach Anspruch 7, dadurch gekennzeichnet, daß die Freigabevorrichtung (144) ein von außen zugängliches Mittel (184) aufweist, das sich vom ersten Endabschnitt (154) durch einen Durchlass (186) hindurch in den der Öffnung (118) benachbarten ersten Endbereich (110) erstreckt, um die manuelle Bewegung zu bewirken.

9. Kassette (H) nach Anspruch 8, dadurch gekennzeichnet, daß jede der Freigabevorrichtungen (144) sowie das Vorder- und Rückteil (122, 124) des Gehäuses aus einem einstückig gegossenen Kunststoffteil bestehen und daß das Vorder- und das Rückteil in Eingriff stehende Rastmittel (126, 128) aufweisen, um die beiden Gehäuseteile in Schnappverbindung zu bringen.

Revendications

1. Organe de retenue (H) destiné à un ensemble à pellicule photographique (P), l'ensemble étant du type qui comprend

une feuille photosensible (F) de pellicule ayant une première et une seconde extrémité (10, 12),

une feuille (C) de support de pellicule fixée de façon amovible à la feuille (F) de pellicule afin qu'elle en facilite l'utilisation, la feuille (C) de support ayant un premier et un second tronçon (18, 20) qui dépassent longitudinalement de la première et de la seconde extrémité (10, 12) de la feuille de pellicule respectivement, le second tronçon (20) ayant un bord transversal (28) le long duquel est fixé un élément (30) d'arrêt de lumière placé transversalement, et

une enveloppe (E) de protection contre la lumière, entourant de façon amovible la feuille (F) de pellicule et la feuille de support (C), l'enveloppe (E) ayant une partie de recouvrement de pel-

licule et une première et une seconde partie (44, 46) disposées longitudinalement et recouvrant le premier et le second tronçon (18, 20) de la feuille de support respectivement, la première partie (44) de l'enveloppe ayant une extrémité fermée qui peut être saisie manuellement, la seconde partie (46) de l'enveloppe ayant une extrémité ouverte qui peut être saisie par coopération avec l'élément (30) d'arrêt de lumière, l'enveloppe (E) pouvant être retirée de la feuille de pellicule (F) et de la feuille de support (C) par un déplacement longitudinal relatif en direction de séparation de l'extrémité de la seconde partie de l'enveloppe de l'élément d'arrêt de lumière (30), l'enveloppe (E) comportant en outre un élément (66, 68) de limitation de déplacement qui dépasse de sa surface externe (36, 38), à proximité de l'extrémité ouverte,

l'organe de retenue (H) ayant un boîtier (100) sous forme d'une boîte plate sensiblement rectangulaire ayant des parois avant et arrière distantes (102, 104) constituant les grandes faces de la boîte, et délimité sur les côtés par deux parois latérales opposées (106, 108) et une première et une seconde région opposées (110, 112) d'extrémité, la paroi avant (102) comprenant une partie de cadre (114) délimitant une fenêtre (116) d'exposition de pellicule, la première région d'extrémité (110) comportant des éléments qui délimitent une ouverture allongée d'accès (118) dont la configuration permet l'introduction et l'extraction de l'ensemble à pellicule (P) le long d'un trajet (120) de déplacement allant de l'ouverture à la seconde région d'extrémité, et dans lequel, lorsque l'ensemble est totalement introduit, il occupe une position sur un siège d'une manière telle que la feuille de pellicule (F) est alignée derrière la fenêtre (116) et l'élément d'arrêt (30) se trouve dans la seconde région d'extrémité (112),

un organe sensiblement plat (130) d'application de pression, disposé entre les parois avant et arrière (102, 104) du boîtier et pratiquement parallèle à ces parois, l'organe (130) d'application de pression étant mobile en direction sensiblement perpendiculaire à la paroi avant (102) et étant repoussé par un dispositif élastique monté sur lui vers le trajet (120) de déplacement afin qu'il repousse l'ensemble (P) à pellicule contre la partie (114) de cadre de la paroi avant lorsqu'il se trouve en position contre son siège,

un organe d'arrêt (138) disposé à l'intérieur du boîtier dans la seconde région d'extrémité (112), l'organe d'arrêt (138) étant mobile en translation de manière qu'il puisse se rapprocher et s'éloigner de la paroi avant (102) et étant repoussé, par un dispositif élastique monté sur lui, vers le trajet (120) de déplacement afin qu'il vienne au contact de l'élément d'arrêt de lumière (30)



lorsque l'ensemble à pellicule se trouve en position contre son siège, si bien qu'il empêche le déplacement de l'élément d'arrêt de lumière vers l'ouverture d'accès (118),

un organe d'interruption (142) placé à l'intérieur du boîtier (100), entre la partie (114) de cadre de la paroi avant et l'ouverture d'accès (118), l'organe (142) d'interruption étant mobile afin qu'il puisse se rapprocher et s'écarter de la paroi avant (102) et étant rappelé par le dispositif élastique qui est monté sur lui, vers le trajet de déplacement (120) afin qu'il soit au contact de l'élément (66, 68) de limitation du déplacement de l'enveloppe pendant l'extraction de l'enveloppe de sa position contre son siège vers l'ouverture d'accès (118), si bien qu'il empêche l'extraction totale de l'enveloppe, et

un organe (144) de libération placé entre l'organe (130) d'application de pression et la paroi arrière (104) du boîtier, l'organe de libération (144) étant mobile dans un premier et un second sens opposé le long d'un trajet supplémentaire formé entre la première et la seconde région (110, 112) d'extrémité du boîtier, l'organe de libération (144) étant rappelé, par l'organe élastique (178, 180) qui est monté sur lui, dans le premier sens afin qu'il reste en position de repos, et étant destiné à être déplacé manuellement dans le second sens afin qu'il s'écarte de sa position de repos, l'organe de libération (144) ayant un dispositif à came qui, pendant le fonctionnement, coopère avec l'organe (130) d'application de pression, l'organe d'arrêt (138) et l'organe d'interruption (142), et destiné, lors du déplacement manuel dans le second sens, à empêcher le rappel des organes d'application de pression, d'arrêt et d'interruption (130, 138, 142) par le dispositif élastique vers le trajet (120) de déplacement, si bien qu'il libère l'ensemble à pellicule (P) et permet son déplacement libre vers sa position contre son siège et à distance de celle-ci et dans l'ouverture d'accès (118),

l'organe de retenue (H) étant caractérisé en ce que :

l'organe d'interruption (142) possède une partie (142a) de bord en saillie destinée à être au contact de l'élément (66) de limitation du déplacement de l'enveloppe et ainsi à empêcher une extraction complète de l'enveloppe, et une rampe (142e) de flexion dépassant de la partie de bord (142a) vers la seconde région d'extrémité (112) afin que, pendant l'extraction de l'ensemble à pellicule (P) de l'organe de retenue (H), le second tronçon d'extrémité (20) de l'ensemble à pellicule (P) soit écarté de la partie (142a) de bord en saillie par fléchissement sous la commande de l'élément (30) d'arrêt de lumière qui coulissera sur la rampe (142e) de fléchissement, si bien que l'élé-

ment (66) de limitation du mouvement de l'enveloppe ne vient pas au contact de la partie de bord (142a) et l'extraction de l'ensemble à pellicule (P) est ainsi facilitée.

2. Organe de retenue (H) selon la revendication 1, dans lequel le boîtier (100) comporte des éléments avant et arrière (122, 124) formés séparément et qui comprennent les parois avant et arrière (102, 104) respectivement, ces éléments (122, 124) étant ajustés de manière étanche à la lumière l'un sur l'autre, l'ouverture d'accès (118) et le trajet (120) de déplacement étant disposés entre eux.
3. Organe de retenue (H) selon la revendication 2, dans lequel l'organe (130) d'application de pression, l'organe d'arrêt (138) et l'organe de libération (144) sont montés afin qu'ils soient mobiles sur l'élément arrière (124) du boîtier, et l'organe d'interruption (142) est monté afin qu'il soit mobile sur l'élément avant (122) du boîtier.
4. Organe de retenue (H) selon la revendication 3, dans lequel l'organe de libération (144) a des surfaces avant et arrière (146, 148) tournées vers l'organe (130) d'application de pression et la paroi arrière (104) du boîtier respectivement, des parties latérales (150, 152) disposées en directions pratiquement parallèles aux côtés (106, 108) du boîtier respectivement, et une première et une seconde partie (154, 156) d'extrémité dirigées vers la première et la seconde région (110, 112) d'extrémité du boîtier respectivement, dans lequel l'organe de libération comporte un dispositif à came (158) placé à la surface avant (146) et coopérant avec le dispositif élastique qui repousse l'organe (130) d'application de pression vers le trajet (120) de déplacement afin qu'il réduise l'influence du dispositif élastique sur l'organe (130) d'application de pression lors du déplacement manuel dans le second sens, et dans lequel l'organe de libération comporte en outre un dispositif à came (166, 168) placé sur la première et la seconde partie (154, 156) d'extrémité et coopérant avec le dispositif élastique qui repousse les organes d'interruption et d'arrêt (142, 138) respectivement vers le trajet (120) de déplacement afin qu'il réduise les influences du dispositif élastique sur les organes d'interruption et d'arrêt (142, 138) lors du déplacement dans le second sens.
5. Organe de retenue (H) selon la revendication 4, dans lequel le dispositif (158) à came de la surface avant comporte plusieurs rampes (160) placées sur les parties latérales (150, 152), et le dispositif élastique rappelant l'organe (130) d'appli-



- cation de pression vers le trajet de déplacement (120) comprend un nombre analogue d'éléments à ressort (132) dépassant de l'organe (130) d'application de pression en contact élastique avec les rampes (160), dans lequel le dispositif à came (166) de la première partie d'extrémité comprend des oreilles dépassant latéralement (170, 172) sur les parties latérales (150, 152), et le dispositif élastique rappelant l'organe d'interruption (142) vers le trajet de déplacement (120) comporte des éléments à ressort (142d) dépassant de l'organe d'interruption (142) afin qu'ils viennent coopérer avec les oreilles (170, 172), et dans lequel le dispositif à came (168) de la seconde partie d'extrémité comporte une patte (174) qui dépasse longitudinalement vers l'organe d'arrêt (138), et le dispositif élastique rappelant l'organe d'arrêt (138) vers le trajet de déplacement (120) comprend un élément à ressort (140b) supportant élastiquement l'organe d'arrêt (138) et destiné à coopérer avec la patte (174).
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6. Organe de retenue (H) selon la revendication 5, dans lequel le dispositif (158) à came de la surface avant comporte un nombre analogue de saillies (162) et de cavités (164) disposées respectivement aux extrémités opposées des rampes (160), dans lequel le dispositif (166) à came de la première partie d'extrémité comporte deux oreilles (170, 172) disposées respectivement près des côtés opposés (106, 108) du boîtier, et dans lequel la patte (174) du dispositif à came de la seconde partie d'extrémité et l'élément à ressort (140b) de l'organe d'arrêt ont une forme de fourche afin qu'ils coopèrent symétriquement autour d'un axe central longitudinal commun.
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7. Organe de retenue selon la revendication 6, comprenant deux organes d'interruption (142), chacun des organes d'interruption (142) étant disposé près d'une paroi respective des deux parois latérales opposées (106, 108) du boîtier et ayant un dispositif respectif parmi les dispositifs à ressort (142d) qui dépasse en coopération avec une oreille respective parmi lesdites oreilles (170, 172).
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8. Organe de retenue (H) selon la revendication 7, dans lequel l'organe de libération (144) comporte un dispositif (184) accessible depuis l'extérieur et dépassant de la première partie d'extrémité (154) dans un passage (186) dans la première région d'extrémité (110), près de l'ouverture d'accès (118) afin qu'il assure le déplacement manuel.
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9. Organe de retenue (H) selon la revendication 8, dans lequel chacun des organes de libération (144) et des éléments avant et arrière (122, 124)

de boîtier est formé en une seule pièce de matière plastique moulée, et les éléments avant et arrière comprennent des dispositifs coopérant par emboîtement (126, 128) et destinés à permettre l'enclenchement élastique desdits éléments (122, 124).