

[54] CARTRIDGE POSITIONING APPARATUS

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[58] Field of Search 352/72, 73, 74, 75,
352/76, 77, 78 R, 78 C; 274/4 G

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[57] ABSTRACT

A cartridge positioning apparatus is adapted for use with several web cartridges of the kind wherein cartridge locating structures and web passage openings

on respective ones of the cartridges are differently situated with regard to each other. The cartridge positioning apparatus includes a nest for separately receiving these cartridges in a manner such that respective ones of the openings on the cartridges can occupy generally the same web feeding position in the nest, causing respective ones of the locating structures on the cartridges to occupy different positions in the nest. A cartridge retaining member on the apparatus operates to secure a cartridge in the nest. To insure proper placement of a cartridge in the nest, the apparatus includes a locator which cooperates with the locating structure on a cartridge in the nest for verifying that the opening on such cartridge occupies the web feeding position and, in the event that the opening on such cartridge does not occupy the web feeding position, the locator prevents the cartridge retaining member from securing the cartridge in the nest. Optionally, if the several web cartridges are further of the kind provided respectively with web identifying structures, then the cartridge positioning apparatus can further include an identifier for verifying the presence of the identifying structure on a cartridge properly placed in the nest and, in the absence of that structure on such cartridge, the identifier prevents the cartridge retaining member from securing the cartridge in the nest.

11 Claims, 8 Drawing Figures

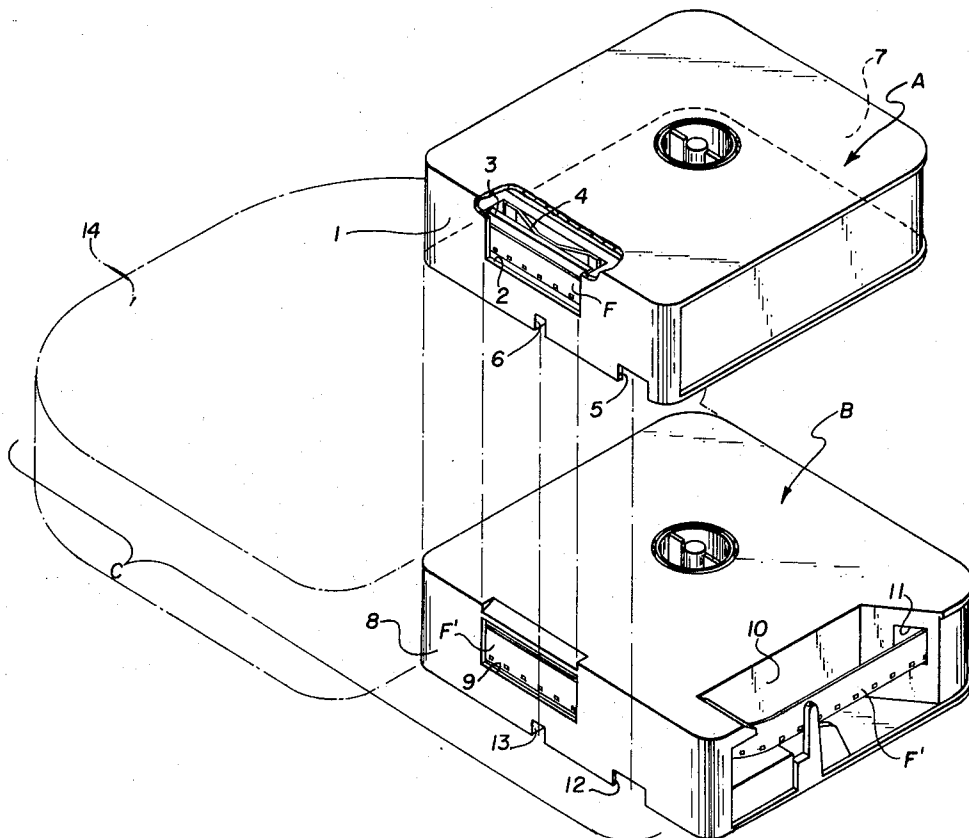


FIG. 1

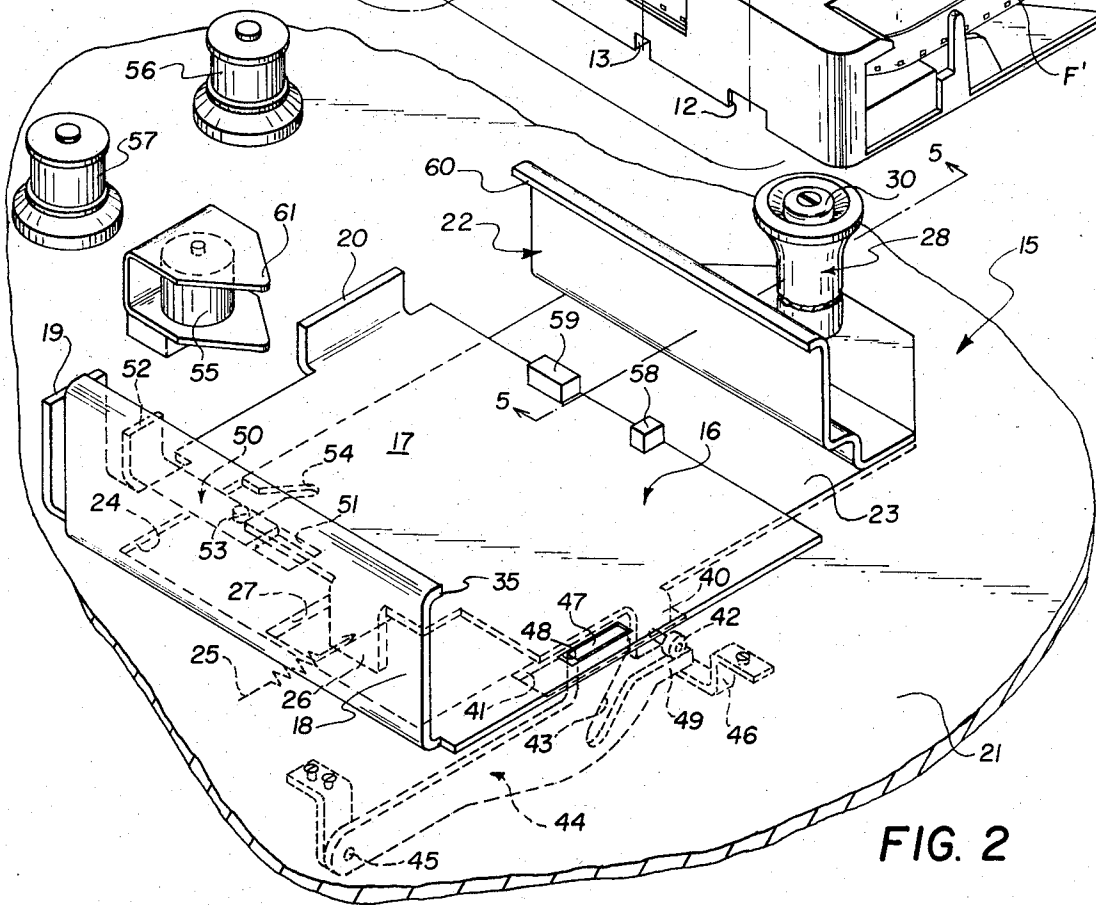
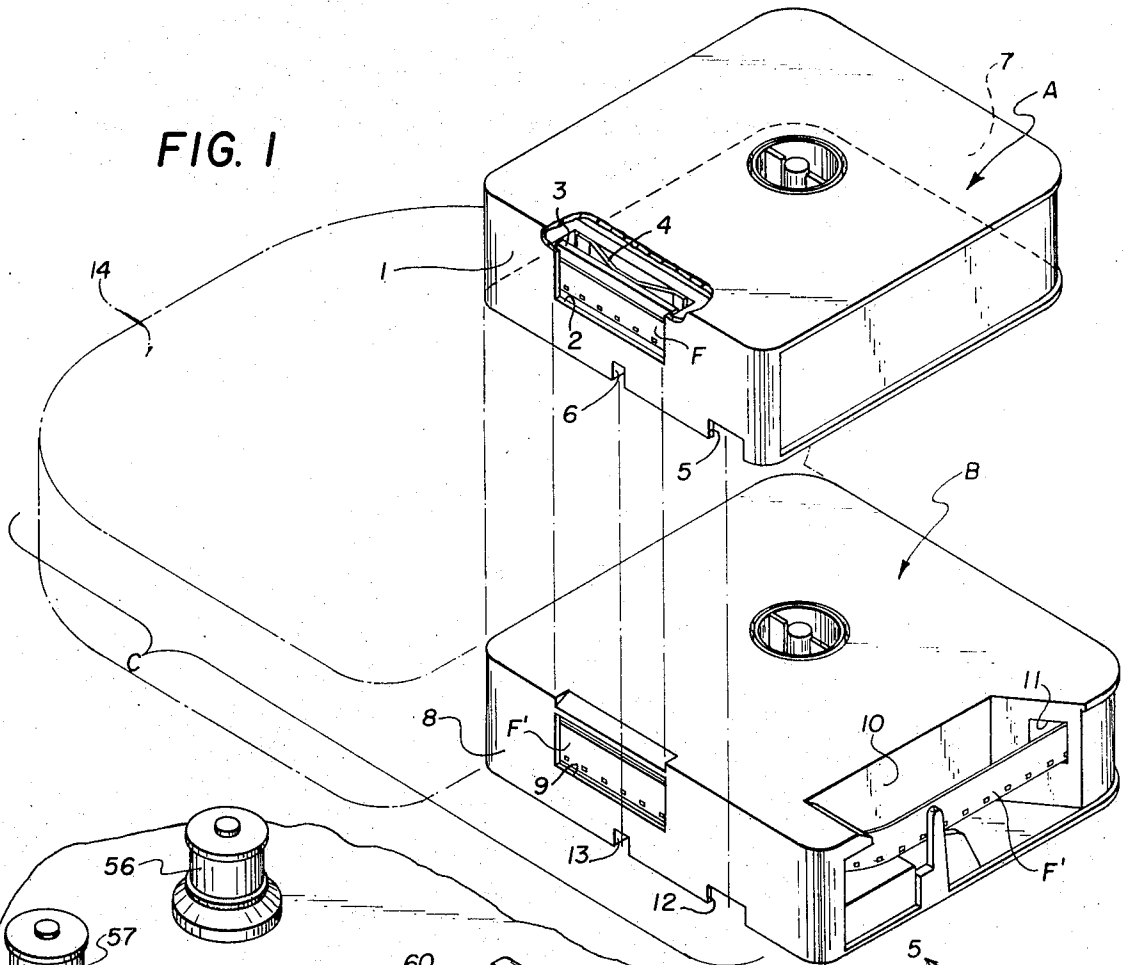


FIG. 2

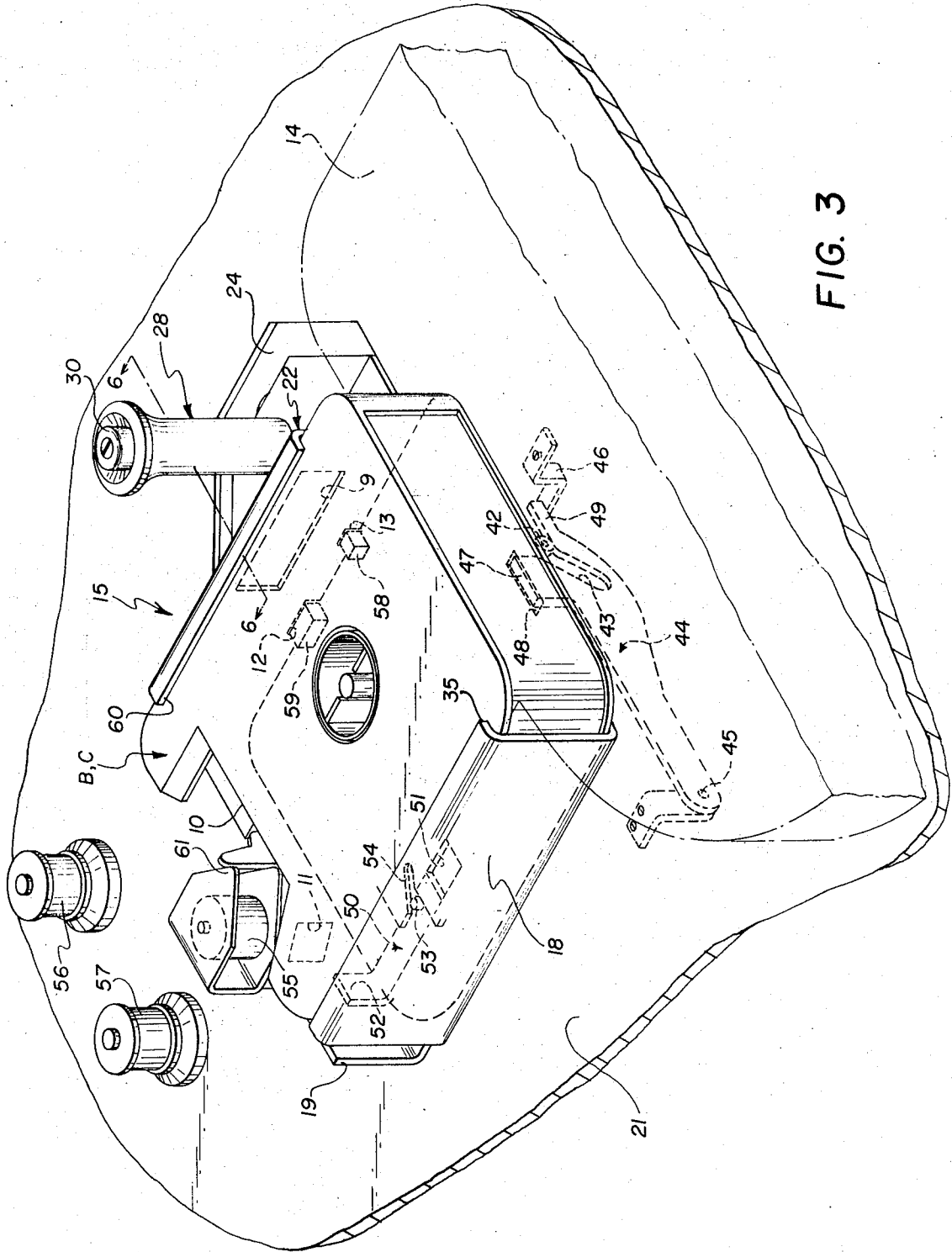


FIG. 3

CARTRIDGE POSITIONING APPARATUS

CROSS REFERENCE TO RELATED APPLICATIONS

Reference is made to commonly assigned copending U.S. patent application, Ser. No. 248,513, entitled "Film Cartridge" and filed in the names of Gerald J. Kosarko and Gerald L. Jenkins on Apr. 28, 1972.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a web cartridge positioning apparatus in a photographic or other device adapted to make use of web material, such as a film strip, normally stored within the cartridge. More particularly, the invention relates to a cartridge positioning apparatus which insures proper placement of the cartridge in a cartridge-receiving nest of the photographic or other device and which, optionally, verifies that a properly placed cartridge in the nest is of the kind containing web material compatible for use in such device.

2. Description of the Prior Art

Various forms of cartridge positioning apparatus have been devised heretofore for insuring that a web cartridge is situated in a cartridge-receiving nest, in an orientation such that a web passage opening on the cartridge occupies a web feeding position in the nest. The web feeding position, for example, may be one in which the cartridge opening is in alignment with the exposure lens of a camera, permitting film in the cartridge to be fed across the exposure axis of such lens. Generally, the cartridge positioning apparatus includes a locating structure, such as a member projecting from the nest surface, which cooperates with a complementary locating structure on the cartridge, such as a recess shaped for accepting the projecting member, to insure exact placement of the cartridge in the nest, in the orientation just mentioned. Moreover, the cartridge positioning apparatus may include a lid or a door which is moveable from an open position to a closed position for completing the enclosure of, and confining, a properly placed cartridge in the nest. However, if a cartridge is improperly placed in the nest, such that the opening on the cartridge is not in the web feeding position, the configuration of the nest may cause the cartridge to be supported in a raised manner from the nest surface, possibly blocking movement of the lid from the open position to the closed position and allowing the cartridge to slip from the nest.

Other cartridges are known, which in addition to having a locating structure, have an identifying structure for identifying the web material contained within the cartridge. Cartridges of this kind are disclosed, for example, in U.S. Pat. Nos. 3,444,795 and 3,702,406, respectively patented on May 20, 1969 and Nov. 7, 1972. In this instance, the cartridge positioning apparatus may further include some means for sensing the identifying structure on a cartridge in the nest, as well as including a locating structure which cooperates with a locating structure on the cartridge for insuring proper placement of the cartridge in the nest. As suggested in U.S. Pat. No. 3,702,406, this sensing means, after detecting the identifying structure on a cartridge in the nest, may initiate some operation which is related to web material contained within the cartridge.

Although a cartridge positioning apparatus of the general configuration now described is suitable for use

with cartridges of the kind wherein the web passage opening and the locating and identifying structures on individual ones of the cartridges are similarly situated with respect to each other, it will be appreciated that such apparatus cannot be used with cartridges of the kind wherein the web passage opening and the locating and identifying structures on individual ones of the cartridges are differently situated with respect to each other.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a cartridge positioning apparatus, suitable for use with several web cartridges of the kind wherein a web passage opening and some cartridge locating structure on individual ones of the cartridges are differently situated with respect to each other, and which serves to insure proper placement of such a cartridge in the cartridge-receiving nest of a photographic or other device.

It is another object of the present invention to provide a cartridge positioning apparatus, suitable for use with several web cartridges of the kind wherein a web passage opening and some cartridge locating and web identifying structures on individual ones of the cartridges are differently situated with respect to each other, and which serves to insure proper placement of such a cartridge in the cartridge-receiving nest of a photographic or other device and to verify that a properly placed cartridge in the nest has the identifying structure.

In accordance with the present invention there is disclosed, in detail hereinafter, a cartridge positioning apparatus which is adapted to separately receive several web cartridges (1) of the kind provided respectively with cartridge locating structures and with openings through which web material can be passed and (2) of the kind wherein the locating structure and the opening on individual ones of the cartridges are differently situated with respect to each other. The cartridge positioning apparatus includes a nest for separately receiving the several web cartridges in a manner such that respective ones of the openings on the cartridges can occupy generally the same web feeding position in the nest, causing respective ones of the locating structures on the cartridges to occupy different positions in the nest. A cartridge retaining member on the apparatus operates to secure a cartridge in the nest. To insure proper placement of the cartridge in the nest, the apparatus includes cartridge location verifier means which cooperates with the locating structure on a cartridge in the nest for verifying that the opening on such cartridge occupies the web feeding position and, in the event that the opening on a cartridge in the nest does not occupy the web feeding position, the same verifier means prevents the cartridge retaining member from securing such cartridge in the nest. Optionally, if the several web cartridges are further of the kind provided with web identifying structure, then the cartridge positioning apparatus can further include cartridge identifying verifier means for verifying the presence of the identifying structure on a cartridge properly placed in the nest and, in the absence of that structure on such cartridge, the same verifier means prevents the cartridge retaining member from securing the cartridge in the nest.

BRIEF DESCRIPTION OF THE DRAWINGS

The above-mentioned and other features and objects

of the present invention and the manner of obtaining them will become more apparent by reference to the following detailed description of a preferred embodiment of such invention taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a perspective view of several film cartridges suitable for use with a preferred embodiment of the present invention, showing the cartridges in similar orientations with certain portions of the cartridges in aligned relation;

FIG. 2 is a perspective view of a cartridge positioning apparatus in accordance with a preferred embodiment of the present invention;

FIG. 3 is a perspective view of the cartridge positioning apparatus and showing the manner in which such apparatus is used with first and second ones of the cartridges illustrated in FIG. 1;

FIG. 4 is a perspective view of the cartridge positioning apparatus and showing the manner in which such apparatus is used with a third one of the cartridges illustrated in FIG. 1;

FIGS. 5, 6 and 7 are section views, as viewed along the line 5—5 in FIG. 2, the line 6—6 in FIG. 3 and the line 7—7 in FIG. 4, and showing a locking device for locking a cartridge retaining member of the cartridge positioning apparatus in several positions for respectively retaining individual ones of the cartridges in a nest; and

FIG. 8 is a partial perspective view of a detail of the locking device.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A preferred embodiment of the invention will be described hereinafter for use in a photographic processing device. However, because photographic processing devices are well known in the art, the present description will be directed in particular only to those components of a processing device which cooperate directly with the invention, components of the processing device not specifically shown or described are understood to be selectable from those known in the art. Moreover, it will be appreciated from the description hereinafter that the invention is suitable for use with other photographic devices, such as a camera or a projector, and, in general, can be used with any device adapted to receive a web cartridge and make use of web material contained within the cartridge.

Referring now to the drawings and in particular to FIG. 1, there is illustrated three different kinds of film cartridges generally designated A, B and C. Each of the cartridges A-C is adapted to contain motion picture film or the like and are shown as having different sizes, with the cartridge A being the smallest and the cartridge C being the largest. Cartridges of the kind such as the cartridge A are disclosed in U.S. Pat. No. 3,208,686, patented on Sept. 28, 1965, and the before-mentioned U.S. Pat. Nos. 3,444,795 and 3,702,406. Cartridges of the kind such as the cartridge B are disclosed in the beforementioned commonly assigned co-pending U.S. patent application, Ser. No. 248,513. Therefore, in order to avoid repetition of the disclosure in such patents and such patent application, those disclosures are incorporated herein by reference.

Considering the cartridge A first, which is a conventional super 8 film cartridge, it is shown in FIG. 1 that this cartridge has an end wall 1 with an aperture 2

therein through which a silent film F in the cartridge can be exposed and through which the exposed film can be withdrawn from the cartridge. Located behind a section of the film F in the exposure aperture 2, is a depressible pressure pad 3 which is held against such film section by a spring member 4. The cartridge end wall 1 is provided with a series of tactile code markings in the form of notches, only two of which are shown as notches 5 and 6. The notch 5 is normally used to identify the ASA film speed or rating of the film F contained within the cartridge A, but may serve in other ways to identify different characteristics of the film. When the cartridge A containing the film F is placed in a camera, the notch 5 is detected by a sensing mechanism in a camera (not shown) for adjusting the camera in relation to the film speed. As will become apparent hereinafter, it is this notch 5 which is detected by apparatus in a preferred embodiment of the invention for identifying the film F contained within the cartridge A. The notch 6 is normally used to insure proper location of the cartridge A in a camera by engaging with a complementary member in the camera. However, this notch 6 is not used for insuring proper location of the cartridge A in a preferred embodiment of the invention. Rather, as is shown hereinafter, a cartridge end wall 7, opposite to the cartridge end wall 1, cooperates with apparatus in the preferred embodiment for insuring such location.

The cartridge B has an end wall 8 with an aperture 9 therein through which a sound film F' in such cartridge can be exposed. A section of the film F' in the cartridge B extends along a recessed portion 10 of such cartridge between an opening 11 in one end of the recess and another opening (not shown) at a remaining end of the recess. When the cartridge B is placed in a sound camera this recess 10 must be situated adjacent the camera sound device (not shown). The cartridge end wall 8 is provided with a series of tactile code markings in the form of notches, only two of which are shown as notches 12 and 13. Analogous to the example of the notch 5 on the cartridge A, the notch 12 is normally used to identify the ASA film speed or rating of the film F' contained within the cartridge B, but may be used for identifying other film characteristics. Thus, the notch 12 is similar to the notch 5 in that these notches serve as film identifying structure on the respective cartridges A and B, which is detected by apparatus in a preferred embodiment of the invention and is detected by a sensing mechanism in a camera for adjusting the camera speed according to the film speed. Analogous to the example of the notch 6 on the cartridge A, the notch 13 is normally used to insure proper location of the cartridge B in a camera by engaging with a complementary member in the camera. However, whereas the notch 6 is not used for locating the cartridge A in a preferred embodiment of the invention, the notch 13 as will become apparent hereinafter is used for locating the cartridge B in such invention embodiment.

The cartridge C is similar to the cartridge B, but for an extension 14 on the first-mentioned cartridge which is a film supply and take-up chamber. Therefore, a further description of the cartridge C is not considered necessary for an understanding of the present invention.

As can be seen in FIG. 1, the exposure apertures 2 and 9, the notches 5 and 12, and the notches 6 and 13

on the cartridges A and B are respectively aligned when the end walls 1 and 8 of these cartridges are oriented in the same general sense. Moreover, the exposure aperture 2 and the notches 5 and 6 on the cartridge A are situated in the same relative spaced manner as are the exposure aperture 9 and the notches 12 and 13 on the cartridge B. When the cartridge A is used with a preferred embodiment of the invention, as is described in detail below, the film F in such cartridge is withdrawn therefrom through the exposure aperture 2, the notch 5 functions as a film identifying structure, and the cartridge end wall 7 serves as a cartridge locating structure. In addition, when the cartridge B is used with the preferred embodiment of the invention, the film F' in such cartridge is withdrawn therefrom through the opening 11 at one end of the recess 10, the notch 12 serves as a film identifying structure, and the notch 13 serves as a cartridge locating structure. In view of the foregoing, it will be realized that the film withdrawal openings 2 and 11, the film identifying structures 5 and 12 and the cartridge locating structures 7 and 13 on respective ones of the cartridges A and B are differently situated with regard to each other.

Referring now to FIGS. 2-4 and for the movement to FIG. 2, there is shown a cartridge positioning apparatus 15 according to a preferred embodiment of the invention. In such apparatus, a nest 16 is arranged to separately receive individual ones of the film cartridges A-C and has a generally planar surface 17 on which the respective cartridges are placed. Three spaced cartridge stop members 18, 19 and 20 project upwardly, as viewed in FIG. 2, from the nest surface 17 for locating anyone of the film cartridges A-C in the nest 16. A lip portion 35 of the stop member 18 contributes to such cartridge location. The nest surface 17 is supported on a flat base member 21 of a photographic processing device with which the cartridge positioning apparatus 15 is to be used. A cartridge retaining member 22, for holding anyone of the film cartridges A-C in the nest 16, is fixed to a retainer plate 23 which, in turn, lies within an elongate track 24 recessed in the nest support base 21. The track 24 has a length greater than that of the retainer plate 23, and is disposed with respect to the nest surface 17 for enabling the cartridge retaining member 22 to be moved toward and away from the cartridge stop member 18 and along a path which extends substantially parallel to the nest surface. By these means, the cartridge retaining member 22 is supported for movement from an idle position wherein that member is spaced from the nest 16, as shown in FIG. 2, to a first cartridge retaining position for holding either of the film cartridges B or C in the nest, as shown in FIG. 3. Moreover, the cartridge retaining member 22 is supported for movement from the first cartridge retaining position to a second cartridge retaining position for holding the film cartridge A in the nest 16, as shown in FIG. 4. As shown most clearly in FIG. 2, a helical compression spring 25 bears against a tongue 26, depending from the retainer plate 23 into an elongate opening 27 in the nest support base 21, to urge the cartridge retaining member 22 from either of the first and second cartridge retaining positions to the idle position. The shape of the opening 27 enables movement of the tongue 26 with the retainer plate 23.

The details of a locking device 28, for locking the cartridge retaining member 22 in the first and second cartridge retaining positions, is shown in FIGS. 5-8 and

includes a tubular handle 29 fixed to the retainer plate 23. Within the handle 29, a plunger 30 is moveable back and forth respectively between locking and releasing positions. the locking operation for locking the cartridge retaining member 22 in the first cartridge retaining position is effected by the insertion of detent members 31 and 32, projecting sidewise from the plunger 30, into oppositely spaced first locking slots in a lock plate 33, secured to the underside of the nest support base 21. In FIGS. 5-8, only one of the first locking slots is shown as a slot 34. The locking operation for locking the cartridge retaining member 22 in the second cartridge retaining position is effected by the insertion of the detent members 31 and 32 into oppositely spaced second locking slots in the lock plate 33. As can be seen in FIGS. 5-8 only one of the second locking slots is shown as a slot 36. To enable movement of the locking device 28 with the retainer plate 23, the nest support base 21 and the lock plate 33 have contiguous elongate openings 37 and 38 respectively therein and through which the plunger 30 extends. A helical compression spring 39 normally holds the plunger 30 in locking engagement with the lock plate 31 in the manner just mentioned. To release the plunger 30 from such engagement with the lock plate 31, the plunger 30 is depressed against the urging of the spring 39, as shown in FIG. 5, until the detent members 31 and 32 are moved out of the first and second locking slots 34 and 36.

Referring again to FIG. 2, it can be seen that the retainer plate 23 has a tongue 40 depending therefrom into an elongate opening 41 in the nest support base 21. The shape of this opening 41 enables movement of the tongue 40 with the retainer plate 23. A roller 42, rotatably supported on the tongue 40, is receivable in a camming slot 43 in a first probe or lever member 44. The first probe 44 is pivotally coupled to an underside of the nest support base 21 by a pivot pin connection 45. A bracket 46 mounted on the underside of the nest support base 21 serves to support the first probe 44 in the position shown in FIG. 2. In such position, a free end portion 47 of the first probe 44 is located within an opening 48 in the nest surface 17, but does not extend into the nest 16. However, as can be seen by comparing FIGS. 3 and 4, during movement of the cartridge retaining member 22 from the first cartridge retaining position toward the second cartridge retaining position, the roller 42 enters the camming slot 43 and cooperates therewith to pivot the first probe 44 about the pivot pin connection 45, bringing the free end portion 47 of that probe well into the nest 16. As can be seen on viewing FIGS. 2 and 3, during movement of the cartridge retaining member 22 from the idle position to the first cartridge retaining position, the roller 42 moves along a finger-like member 49 extending from the camming slot 43, but does not yet enter that slot.

A second probe member 50 partially lies within an elongate slot 51 recessed in the nest support base 21 and, as viewed in FIG. 2 has an upstanding portion 52 which is moveable to and from the nest 15 during movement of the second probe in opposite directions along that track. The second probe 50 has a pin 53 projecting therefrom which is receivable in a camming slot 54 in the retainer plate 23. As can be seen by comparing FIGS. 3 and 4, when the cartridge retaining member 22 is moved from the first cartridge retaining position toward the second cartridge retaining position, the

camming slot 54 receives the pin 53 and cooperates therewith to draw the second probe 50 along the track 51, causing the upstanding portion 52 of that probe to enter the nest 16. It will be appreciated that, on viewing FIGS. 2 and 3, when the cartridge retaining member 22 is moved from the idle position to the first cartridge retaining position, the camming slot 54 does not yet receive the pin 53.

Now considering the operation of the cartridge positioning apparatus 15, it can be seen in FIG. 3 that when the cartridge B or C is placed on the nest surface 17, in abutment against the cartridge stop members 18-20, the opening 11 on such cartridge occupies a web feeding position in the nest 16. Here, the web feeding position is one in which the opening 11 is located such that the film F' can be withdrawn therethrough from the cartridge B or C and successively about spaced rollers 55, 56 and 57, rotatably supported on the nest support base 21. From the roller 57, the withdrawn film F' (not shown in FIG. 3) can be fed to the wet processing section of a photographic processing device.

When the cartridge B or C is properly placed in the nest 16 such that the opening 11 on such cartridge occupies the web feeding position with respect to the rollers 55-57, it can be seen in FIG. 3 that spaced abutments or blocks 58 and 59, secured to the nest surface 17, are received respectively in the film identifying notch 12 and the cartridge locating notch 13 in the cartridge end wall 8. This placement of the cartridge B or C in the nest 16, allows the cartridge retaining member 22 to be moved from the idle position to the cartridge retaining position. In the cartridge retaining position, a lip portion 60 of the cartridge retaining member 22 holds the cartridge B or C on the nest surface 17, as shown in FIG. 3, and the locking device 28 locks the retaining member in place, as shown in FIG. 6. However, if the cartridge B or C is improperly placed in the nest 16, such that the opening 11 does not occupy the web feeding position, the abutments 58 and 59 cannot align with the notches 12 and 13 and, thus, serve to support such cartridge in a raised manner from the nest surface 17, causing the raised cartridge to block movement of the cartridge retaining member 22 from the idle position to the first cartridge retaining position. In the way just described, the abutment 58 cooperates with the cartridge locating notch 13 to verify that the opening 11 occupies the web feeding position in the nest 16 and, in the event that the opening does not occupy this position, the same abutment prevents the cartridge retaining member 22 from securing the cartridge B or C in the nest. Additionally in the way just described, the abutment 59 cooperates with the film identifying notch 13 on the cartridge B or C (properly placed in the nest 16) to verify the presence of that notch on such cartridge and, in the absence of the notch on the cartridge, the same abutment prevents the cartridge retaining member 22 from securing the cartridge in the nest.

When the cartridge A is properly placed in the nest 16, such that the exposure aperture 2 on such cartridge occupies the web feeding position with respect to the rollers 55-57, it can be seen in FIG. 4 that the abutments 58 and 59 are spaced from the cartridge (owing to the fact that the cartridge A is smaller than the cartridge B), but the cartridge is in contact with the cartridge stop members 18-20. A bifurcated depresser member 61, adjacent the roller 55, straddles the film F'

(not shown in FIG. 4) and serves to slightly push the pressure pad 3 on the cartridge A against the spring member 4. This allows the film F' to be easily withdrawn from the cartridge A through the exposure aperture 2, for movement about the rollers 55-57 and to the web processing section of a photographic processing device. Proper placement of the cartridge A in the nest 16, permits the cartridge retaining member 22 to be moved from the idle position to the first cartridge retaining position and, thence, to the second cartridge retaining position. In the second cartridge retaining position, the lip portion 60 of the cartridge retaining member 22 holds the cartridge A on the nest surface 17, as shown in FIG. 4, and the locking device 28 locks the retaining member in place, as shown in FIG. 7. Movement of the cartridge retaining member 22 from the first cartridge retaining position toward the second cartridge retaining position causes the free end portion 47 of the first probe 44 to move into the nest 16, coming to rest generally alongside the end wall 7 of the cartridge A. Additionally, such movement of the cartridge retaining member 22 causes the upstanding portion 52 of the second probe 50 to enter the nest 16, passing through the film identifying notch 5 on the cartridge A. However, if the cartridge A is improperly positioned in the nest 16 such that the exposure aperture 2 does not occupy the web feeding position, movement of the cartridge retaining member 22 from the first cartridge retaining position toward the second cartridge retaining position causes the free end portion 47 of the first probe 44 to lift such cartridge from the nest surface 17 and into the path of the movement of the retaining member. Thus, the cartridge A is positioned to block further movement of the cartridge retaining member 22 toward the second cartridge retaining position. If the cartridge A is properly positioned in the nest 16 but does not have the film identifying notch 5 (or is in an upside down position from that shown in FIG. 4), movement of the cartridge retaining member 22 from the first cartridge retaining position toward the second cartridge retaining position causes the upstanding portion 52 of the second probe 50 to abut against such cartridge and, because of the configuration of the camming slot 54 in the second probe, to prevent further movement of the retaining member toward the second cartridge retaining position. By the way just described, the first probe 44 cooperates with the end wall 7 of the cartridge A to verify that the exposure aperture 11 on such cartridge occupies the web feeding position in the nest 16 and, in the event that the aperture does not occupy this position, the same probe prevents the cartridge retaining member 22 from securing the cartridge in the nest. Moreover, by the way just described, the second probe 50 cooperates with the film identifying notch 5 on the cartridge A (properly placed in the nest 16) to verify the presence of that notch on such cartridge and, in the absence of the notch on the cartridge, the same probe prevents the cartridge retaining member 22 from securing the cartridge in the nest.

The invention has been described in detail with particular reference to a preferred embodiment thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention.

I claim:

1. Cartridge positioning apparatus adapted to separately receive several web cartridges (1) of the kind

provided respectively with cartridge locating structures and with openings through which web material can be fed and (2) of the kind wherein the locating structure and the opening on individual ones of the cartridges are differently situated with respect to each other, said apparatus comprising:

means defining a nest for separately receiving the several web cartridges in a manner such that respective ones of the openings on the cartridges can occupy generally the same web feeding position in said nest, causing respective ones of the locating structures on the cartridges to occupy different positions in said nest;

means for securing anyone of the cartridges in said nest; and

means cooperating with the locating structure on a cartridge in said nest for verifying that the opening on such cartridge occupies the web feeding position and, in the event that the opening on a cartridge in said nest does not occupy the web feeding position, for preventing said securing means from securing such cartridge in said nest.

2. Cartridge positioning apparatus as recited in claim 1, wherein said cartridge securing means includes (a) a cartridge retaining member and (b) means supporting said member for movement with respect to said nest from an idle position to first and second cartridge retaining positions for separately holding first and second ones of the cartridges in said nest, and wherein said cartridge opening position verifying means includes (a) means, operating in the event that the opening on a first cartridge in said nest does not occupy the web feeding position, for supporting the first cartridge in a raised manner from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the first cartridge retaining position and (b) means, operating in the event that the opening on a second cartridge in said nest does not occupy the web feeding position, for supporting the second cartridge in a raised manner from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the second cartridge retaining position.

3. Cartridge positioning apparatus as recited in claim 1, wherein said cartridge securing means includes (a) a cartridge retaining member and (b) means supporting said member for movement with respect to said nest from an idle position to first and second cartridge retaining positions for separately holding first and second ones of the cartridges in said nest, wherein the locating structure on a first one of the cartridges is a notch, wherein said cartridge opening position verifying means includes an abutment disposed on said nest, and shaped, for entry into the notch on a first cartridge in said nest whose opening occupies the web feeding position and, in the event that the opening on a first cartridge in said nest does not occupy the web feeding position, for supporting the first cartridge in a raised manner from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the first cartridge retaining position, wherein the locating structure on a second one of the cartridges is a particular wall area, and wherein said cartridge opening position verifying means further includes (a) a probe member supported for movement into, and from, said nest and (b) cooperating, motion-imparting, means disposed on said cartridge retaining

member and said probe member for respective movement therewith and, during movement of said cartridge retaining member from the first cartridge retaining position toward the second cartridge retaining position, for causing said probe member to move into said nest generally alongside the particular wall area on a second cartridge in said nest whose opening occupies the web feeding position and, in the event that the opening on a second cartridge in said nest does not occupy the web feeding position, for causing said probe member to move into said nest and lift the second cartridge from said nest such that the same cartridge blocks movement of said cartridge retaining member from the first cartridge retaining position to the second cartridge retaining position.

4. Cartridge positioning apparatus adapted to receive a web cartridge of the kind provided with an opening through which web material can be fed and with a particular wall area spaced from the opening, said apparatus comprising:

means defining a nest for receiving the web cartridge in an orientation such that the opening on the cartridge occupies a web feeding position in said nest, causing the particular wall area on the cartridge to occupy a different position in said nest;

a cartridge retaining member;

means supporting said cartridge retaining member for movement with respect to said nest from an idle position to a cartridge retaining position for holding the cartridge in said nest;

a probe member;

means supporting said probe member for movement into, and from, said nest; and

cooperating, motion-imparting, means disposed on said cartridge retaining member and said probe member for respective movement therewith and, during movement of said cartridge retaining member from the idle position toward the cartridge retaining position, for causing said probe member to move into said nest generally alongside the particular wall area on a cartridge in said nest whose opening occupies the web feeding position and, in the event that the opening on a cartridge in said nest does not occupy the web feeding position, for causing said probe member to move into said nest and lift the cartridge from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the cartridge retaining position.

5. Cartridge positioning apparatus as recited in claim 4, wherein said nest includes (a) a generally planar surface on which a cartridge is received, (b) means defining an opening in said nest surface and (c) a cartridge stop member projecting from said nest surface, wherein said cartridge retaining member includes a lip portion shaped to engage and hold a cartridge on said nest surface, wherein said cartridge retaining member supporting means includes means supporting said cartridge retaining member for movement such that said lip portion of said retaining member moves toward and away from said cartridge stop member, projecting from said nest surface, and along a path which is substantially parallel to said nest surface, wherein said probe member includes a free end portion shaped for passage through said opening in said nest surface, and wherein said cooperating means includes (a) a roller rotatably supported on said cartridge retaining member and (b)

means defining a camming slot in said probe member which is arranged to receive said roller and effect movement of said free end portion of said probe member through said opening in said nest surface during movement of said cartridge retaining member from the idle position toward the cartridge retaining position.

6. Cartridge positioning apparatus adapted to separately receive several web cartridges (1) of the kind provided respectively with web identifying structures, with cartridge locating structures, and with openings through which web material can be fed and (2) of the kind wherein the identifying structure, the locating structure and the opening on individual ones of the cartridges are differently situated with respect to each other, said apparatus comprising:

means defining a nest for separately receiving the several web cartridges in a manner such that respective ones of the openings on the cartridges can occupy generally the same web feeding position in said nest, causing respective ones of the identifying structures on the cartridges to occupy different positions in said nest, and causing respective ones of the locating structures on the cartridges to occupy different positions in said nest;

means for securing anyone of the cartridges in said nest;

means cooperating with the locating structure on a cartridge in said nest for verifying that the opening on such cartridge occupies the web feeding position and, in the event that the opening on a cartridge in said nest does not occupy the web feeding position, for preventing said securing means from securing such cartridge in said nest; and

means for verifying the presence of the identifying structure on a cartridge in said nest and, in the absence of that structure on such cartridge, for preventing said securing means from securing such cartridge in said nest.

7. Cartridge positioning apparatus as recited in claim 6, wherein said cartridge securing means includes (a) a cartridge retaining member and (b) means supporting said member for movement with respect to said nest from an idle position to first and second cartridge retaining positions for separately holding first and second ones of the cartridges in said nest, wherein the locating structure on a first one of the cartridges is a locating notch, wherein said cartridge opening position verifying means includes an abutment disposed on said nest, and shaped, for entry into the locating notch on a first cartridge in said nest whose opening occupies the web feeding position and, in the event that the opening on a first cartridge in said nest does not occupy the web feeding position, for supporting the first cartridge in a raised manner from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the first cartridge retaining position, wherein the locating structure on a second one of the cartridges is a particular wall area, wherein said cartridge opening position verifying means further includes (a) a first probe member supported for movement into, and from, said nest and (b) first cooperating, motion-imparting, means disposed on said cartridge retaining member and said first probe member for respective movement therewith and, during movement of said cartridge retaining member from the first cartridge retaining position toward the second cartridge retaining position, for causing said first probe

member to move into said nest generally alongside the particular wall area on a second cartridge in said nest whose opening occupies the web feeding position and, in the event that the opening on a second cartridge in said nest does not occupy the web feeding position, for causing said first probe member to lift the second cartridge from said nest such that the same cartridge blocks movement of said cartridge retaining member from the first cartridge retaining position to the second cartridge retaining position, wherein the identifying structure on a first one of the cartridges is an identifying notch, wherein said means for verifying the presence of the identifying structure on a cartridge includes an abutment disposed on said nest, and shaped, for entry into the identifying notch on a first cartridge in said nest whose opening occupies the web feeding position and, in the event that the identifying notch is not present on a first cartridge in said nest whose opening occupies the web feeding position, for supporting the first cartridge in a raised manner from said nest such that the same cartridge blocks movement of said cartridge retaining member from the idle position to the first cartridge retaining position, wherein the identifying structure on a second one of the cartridges is an identifying notch, and wherein said means for verifying the presence of the identifying structure on a cartridge further includes (a) a second probe member supported for movement into, and from, said nest and (b) second cooperating, motion-imparting, means disposed on said cartridge retaining member and said second probe member for respective movement therewith and, during movement of said cartridge retaining member from the first cartridge retaining position toward the second cartridge retaining position, for causing said second probe member to move into said nest and through the identifying notch on a second cartridge in said nest whose opening occupies the web feeding position and, in the event that the identifying notch is not present on a second cartridge in said nest whose opening occupies the web feeding position, for causing said second probe member to move into said nest, stopping in abutment against the second cartridge, to interrupt the motion of said cartridge retaining and second probe members and prevent movement of said cartridge retaining member from the first cartridge retaining position to the second cartridge retaining position.

8. Cartridge positioning apparatus adapted to receive a web cartridge of the kind provided with an opening through which web material can be fed and with a notch spaced from the opening, said apparatus comprising:

means defining a nest for receiving the web cartridge in an orientation such that the opening on the cartridge occupies a web feeding position in said nest, causing the notch on the cartridge to occupy a different position in said nest;

a cartridge retaining member;

means supporting said cartridge retaining member for movement with respect to said nest from an idle position to a cartridge retaining position for holding the cartridge in said nest;

a probe member;

means supporting said probe member for movement into, and from, said nest; and

cooperating, motion-imparting, means disposed on said cartridge retaining member and said probe member for respective movement therewith and,

during movement of said cartridge retaining member from the idle position toward the cartridge retaining position, for causing said probe member to move into said nest and through the notch on a cartridge in said nest whose opening occupies the web feeding position and, in the event that the notch is not present on a cartridge in said nest whose opening occupies the web feeding position, for causing said probe member to move into said nest, stopping in abutment against the second cartridge, to interrupt the motion of said cartridge retaining and probe members and prevent movement of said cartridge retaining member from the idle position to the cartridge retaining position.

9. Cartridge positioning apparatus adapted to separately receive several cartridges of at least first and second different sizes, said apparatus comprising:

- means defining a surface on which the several cartridges can be separately received;
- first and second cartridge stop members disposed in fixed relation to said surface for preventing movement of a cartridge, on said surface, respectively in first and second substantially perpendicular directions along said surface;
- a cartridge retaining member;
- means supporting said cartridge retaining member for movement toward and away from said first cartridge stop member between (1) a first position for holding a first size cartridge, on said surface, in abutment with said first and second cartridge stop

members and (2) a second position for holding a second size cartridge, on said surface, in abutment with said first and second stop members; and means, operating in the event that a cartridge is on said surface and in abutment with said first and second cartridge stop members, for preventing movement of such cartridge in a third direction along said surface which is dissimilar to the first and second directions.

10. A cartridge positioning apparatus as recited in claim 9, wherein the several cartridges are of the kind individually provided with at least one tactile marking and said apparatus further comprises means for verifying the presence of a tactile marking on a cartridge, on said nest and in abutment with said first and second cartridge stop members, and, in the absence of that marking on such cartridge, for preventing movement of said cartridge retaining member toward said first stop member.

11. A cartridge positioning apparatus as recited in claim 9, wherein said means for preventing movement of a cartridge in the third direction includes means, operating in the event that a cartridge on said surface is not in abutment with said first and second cartridge stop members, for supporting the cartridge in a raised manner from said surface such that the cartridge blocks movement of said cartridge retaining member toward said first cartridge stop member.

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