United States Patent [19]

Harvey

[11] **3,763,753**

[45] **Oct. 9, 1973**

[54] **PHOTOGRAPHIC APPARATUS**

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[73] Assignee: **Eastman Kodak Company**, Rochester, N.Y.

[22] Filed: **Sept. 7, 1971**

[21] Appl. No.: **177,934**

[52] **U.S. Cl.** ..... **95/13**, 95/11 R

[51] **Int. Cl.** **G03b 17/52**

[58] **Field of Search** 95/11, 13, 19, 22, 95/89; 96/76

[56] **References Cited**

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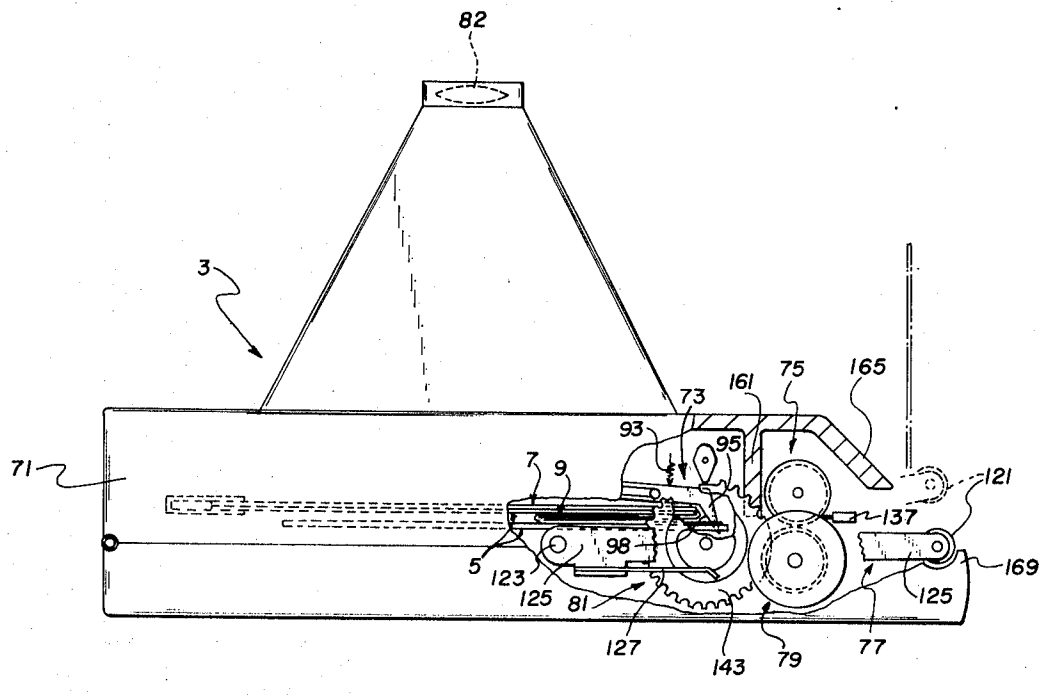
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[57] **ABSTRACT**

Photographic apparatus for use with film units of the self-processing type, and including a mechanism for folding one section of such a film unit relative to other sections thereof after processing of the film unit has been initiated. The foldable section preferably includes a structure for supplying a processing fluid (e.g. a pod), and that section is folded by the apparatus to a position behind the final print for disposing of the supply structure after it has served its primary function, but without requiring removal of the structure from the final print.

7 Claims, 16 Drawing Figures



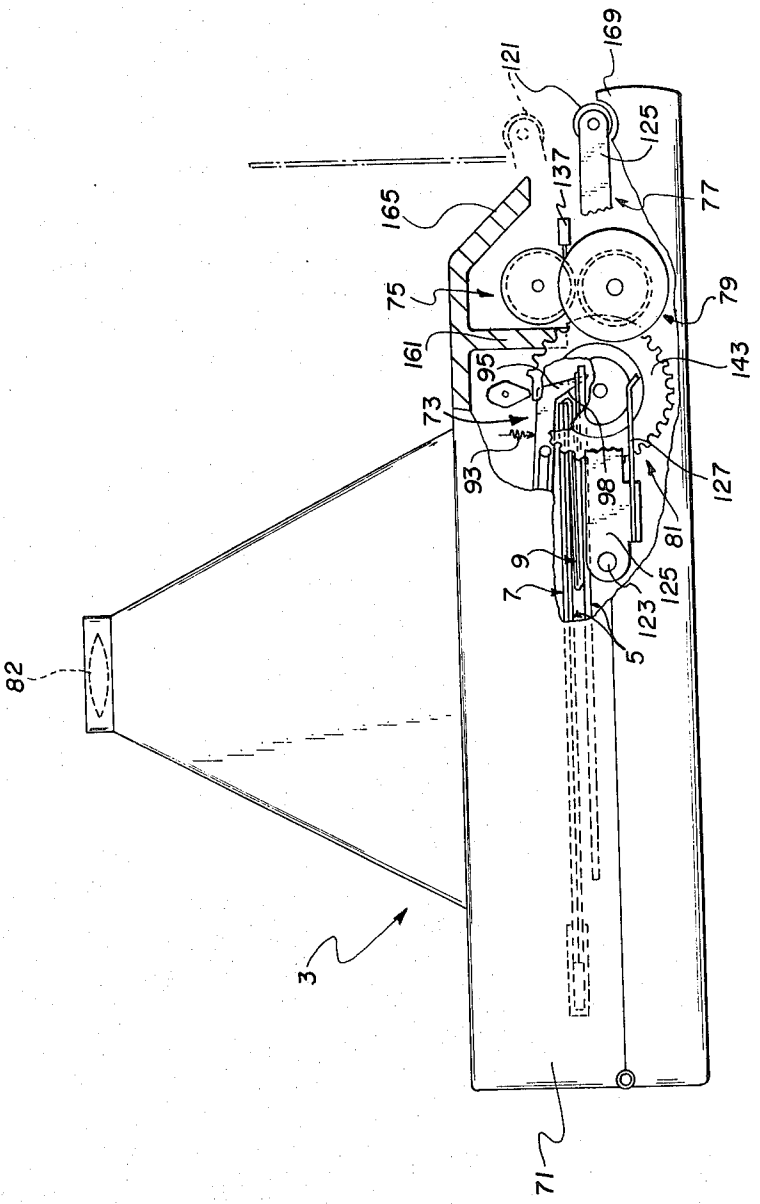


FIG. 1

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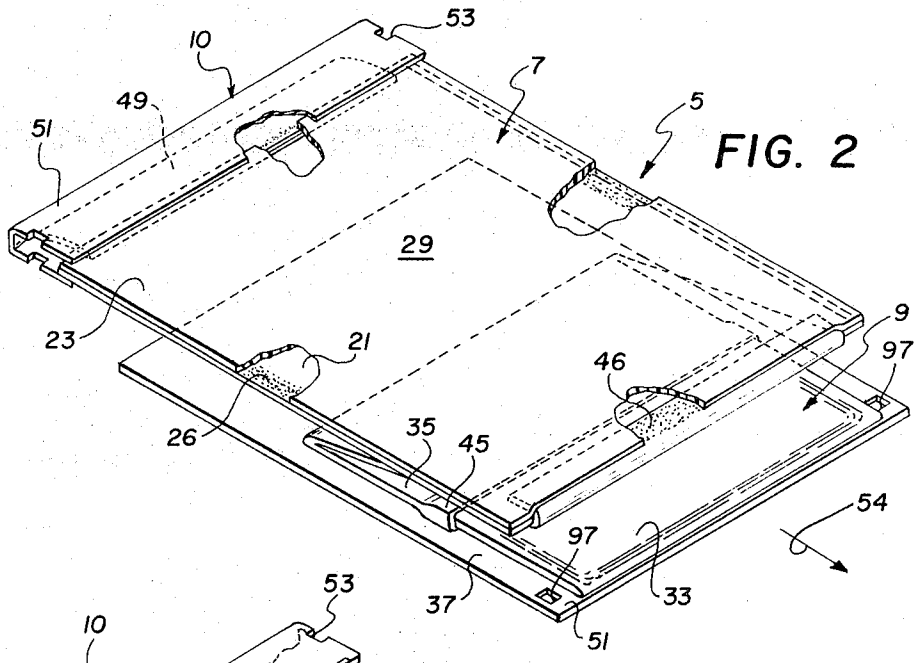


FIG. 2

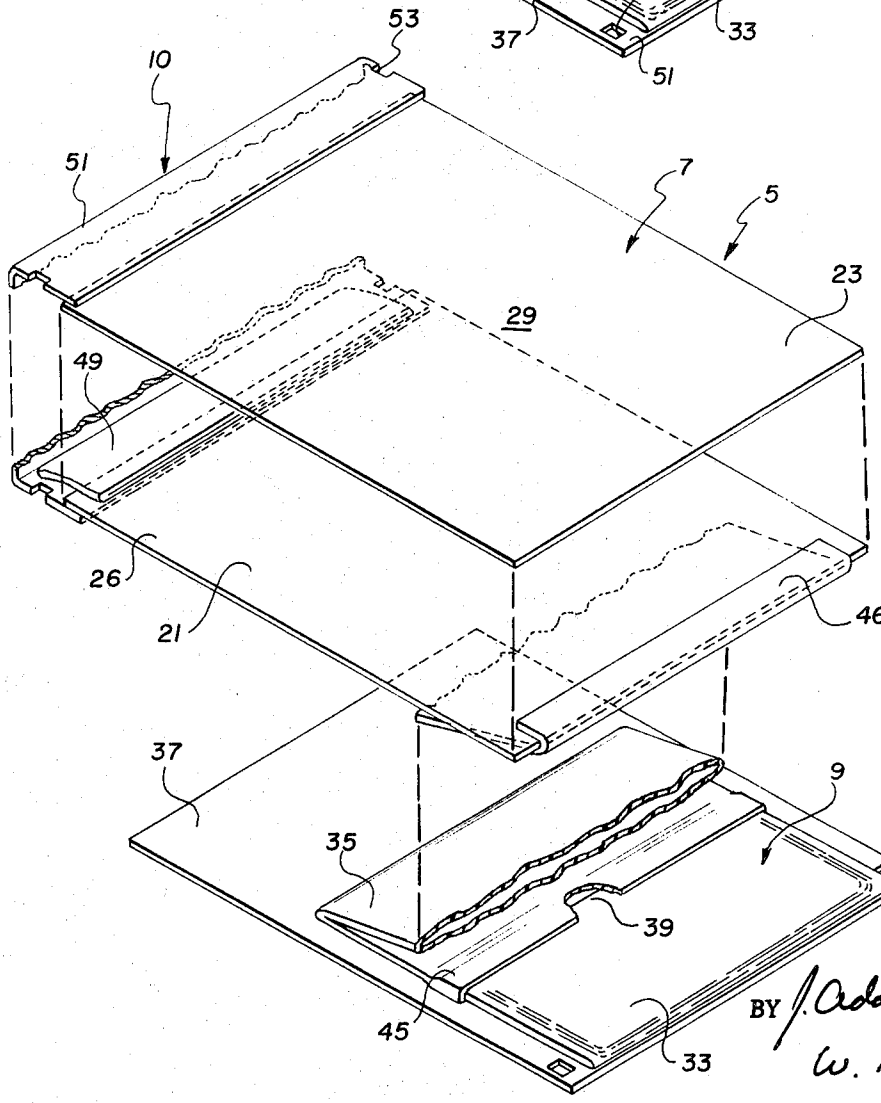


FIG. 3

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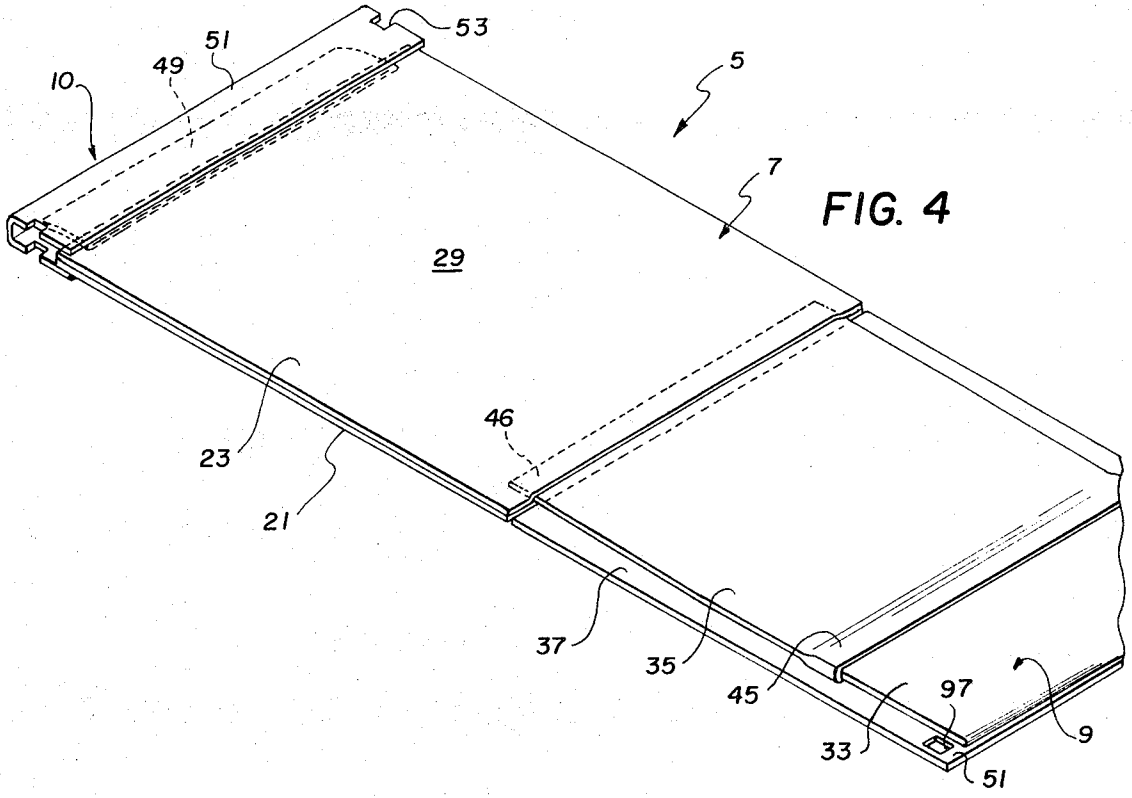


FIG. 4

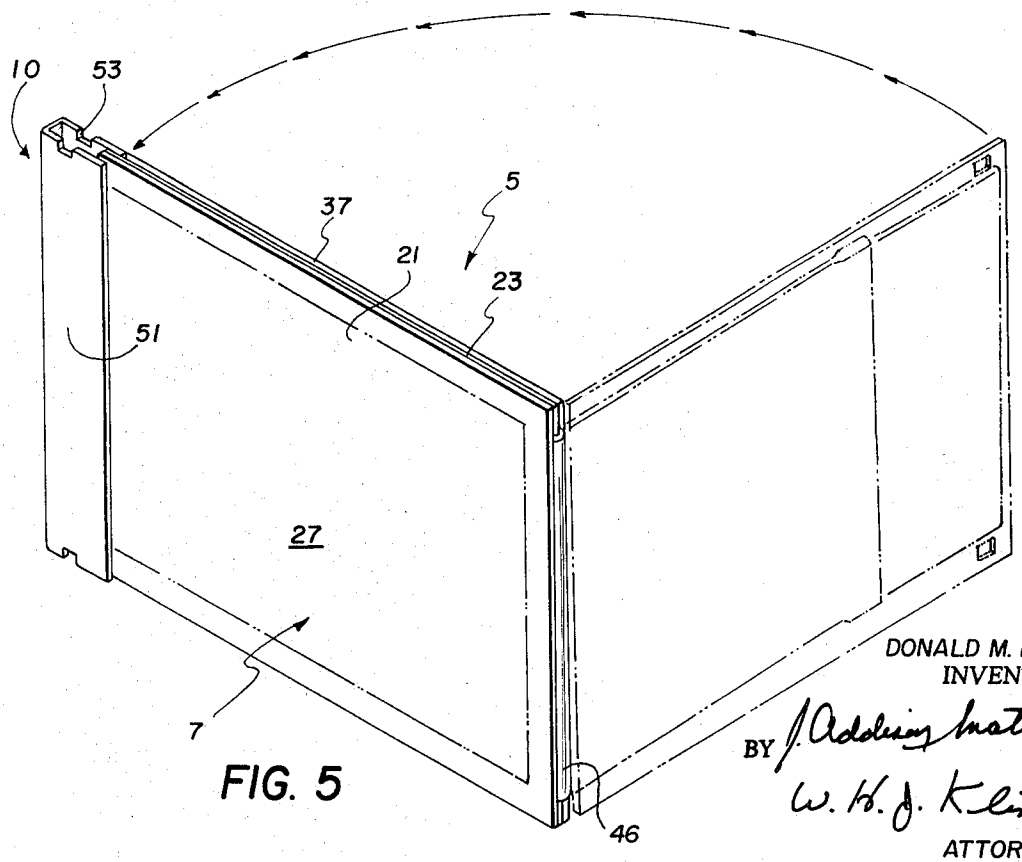


FIG. 5

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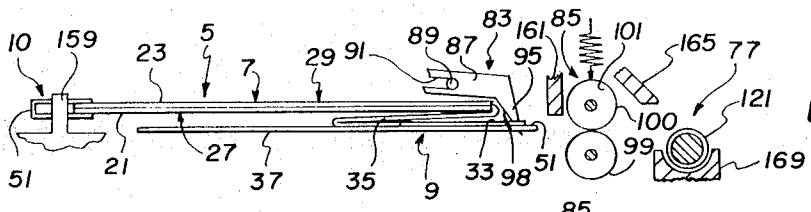


FIG. 6

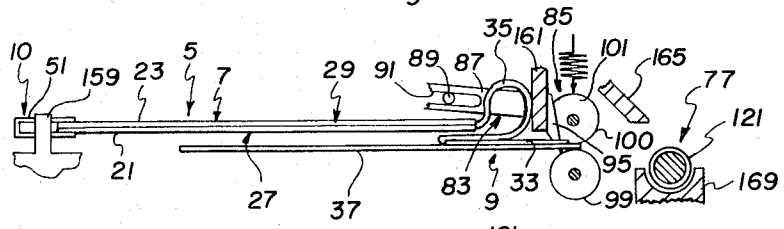


FIG. 7

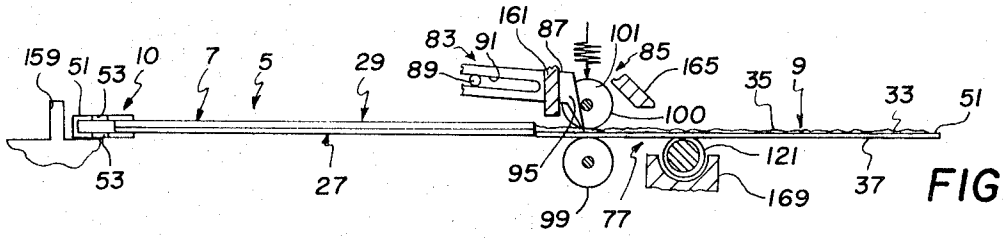


FIG. 8

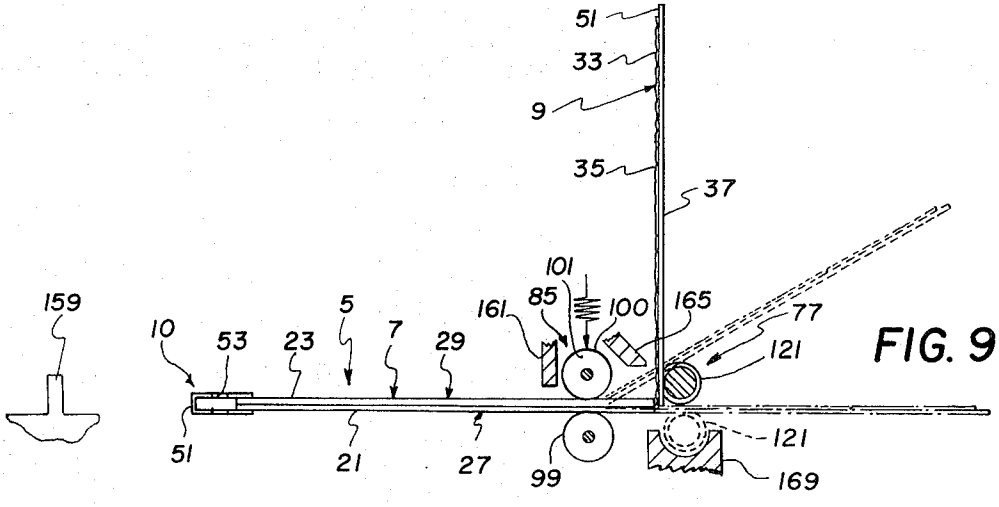


FIG. 9

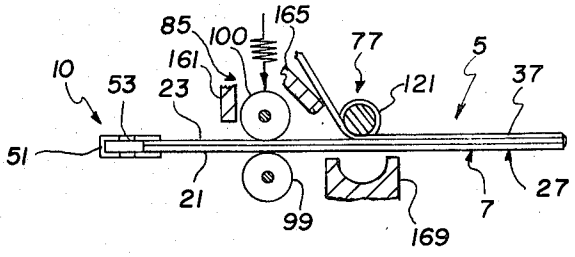


FIG. 10

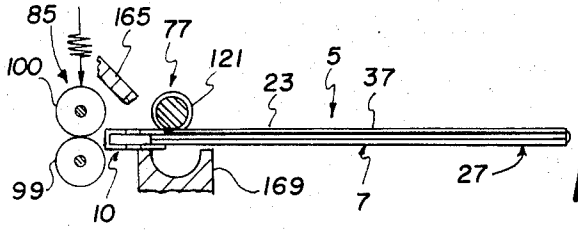


FIG. 11

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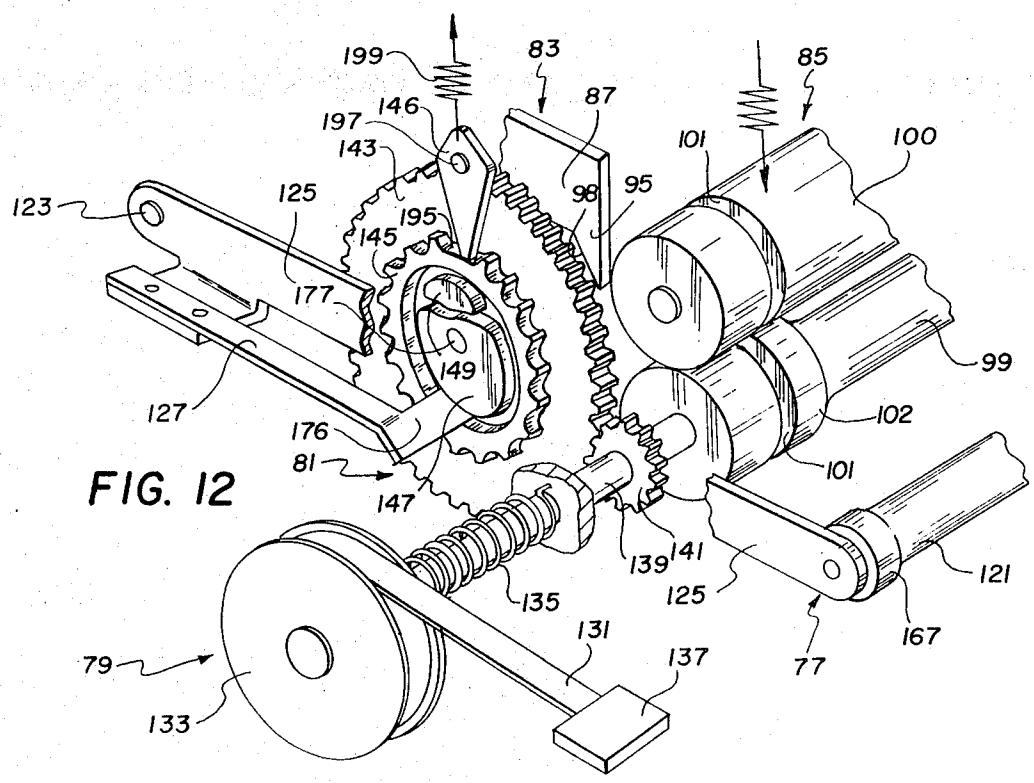


FIG. 12

FIG. 13

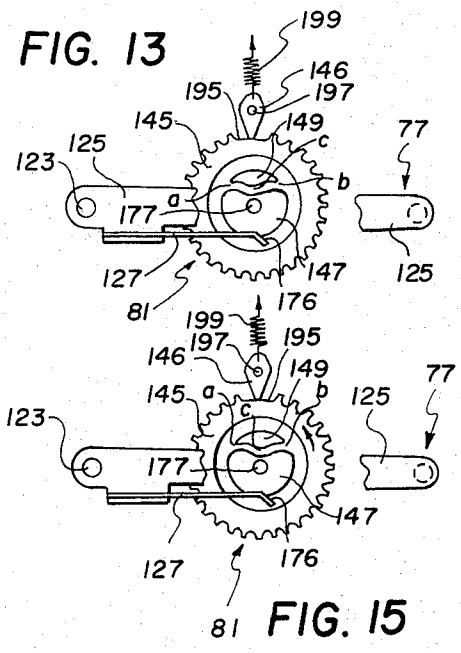
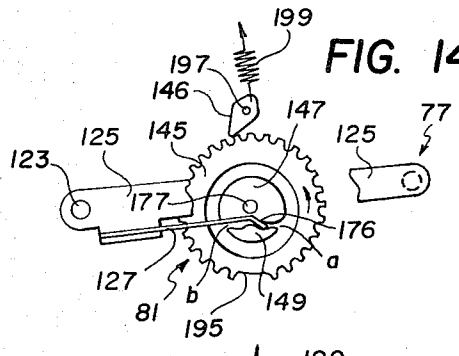


FIG. 15

FIG. 14



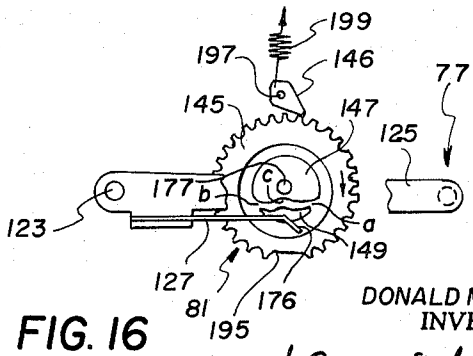


FIG. 16

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PHOTOGRAPHIC APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

Reference is made to my copending U.S. Pat. application Ser. No. 178,048, entitled FILM UNIT, filed on even date herewith.

BACKGROUND OF THE INVENTION

The present invention relates to photographic apparatus for use with film units of the self-processing type.

Self-processing film units and processing photographic apparatus offer several well-known advantages over "conventional " film and apparatus. Still, however, they suffer from persistant disadvantages, many of which are associated with ecology, consumer convenience, and related matters, that have become especially significant with increasing public attention.

By way of example only, considerable resources have been expended in attempts to provide an improved means for handling certain materials, such as the containers or pods and collectors or traps, that serve their primary function during processing and essentially comprise waste after that processing function is accomplished. Resulting possible approaches have ranged from reliance on the consumer for the proper separation and disposal of such materials to the provision of camera mechanisms for their automatic separation and collection. However, while each of these approaches has particular advantage, and generally is satisfactory, each also suffers from certain disadvantages, at least under certain operating conditions. Reliance on the consumer to dispose of the waste permits camera simplification and reduced costs, but usually has not been considered reliable in obtaining proper waste disposal. Separation and collection of the waste material by the camera can be nearly 100 percent reliable, but requires more complex and expensive camera mechanisms, as well as increased size and bulkiness of the camera. Additionally, in almost all of the presently knwon film units where waste materials are intended to be separated from the final point, there is an added danger that processing fluid can escape from the waste materials or the print itself. This problem can be particularly troublesome becuase of the nature of the fluid, which can be caustic, or otherwise objectionable in certain environments.

SUMMARY OF THE INVENTION

A primary object of the present invention is to provide improved photographic apparatus for handling self-processing film units.

Another object of the invention is to provide photographic apparatus including improved means for handling fluid supply and/or collecting sections of self-processing film units after processing of the units has been initiated.

A further object of the invention is to provide a processing camera for use with self-processing film units of the type including permanently attached reservoir means, such as fluid supply and/or collecting sections, wherein the apparatus includes means for handling the reservoir means after processing has been initiated, to improve the appearance and other properties of the final print.

Yet another object of the invention is to provide photographic apparatus for use with self-processing film units, wherein the units are handled in the apparatus in a manner that substantially eliminates the possibility of processing fluid escape from the film unit or any of its parts.

Another object of the invention is to provide photographic apparatus for use with preregistered, integral film units, wherein the units have an image-recording portion with supply and collecting mechanisms for processing fluid permanently attached to leading and trailing ends thereof, respectively, and wherein the supply mechanism is foldable by the apparatus after processing has been initiated to a position engaging one side of the image-recording portion.

Still another object of the invention is to provide photographic apparatus for use with film units of the self-processing type, wherein a substantially flat element of the film unit is movable automatically by the apparatus into engagement with one side of the image-recording portion, after processing has been initiated.

Still another object of the invention is to provide an improved control mechanism for a processing photographic camera.

In accordance with a preferred embodiment of the present invention, a processing photographic camera is provided with an improved mechanism for handling self-processing film units. In accordance with one aspect of the invention, the mechanism includes means for disposing of processing waste materials of the film unit, such as a supply structure for processing fluid, without removing the materials from the film unit. Such disposal is effected, after processing of the film unit has been initiated, by folding the waste materials relative to the rest of the film unit to a position where the materials will not be visible when viewing the final print. In accordance with another aspect of the invention, the handling mechanism includes improved means for automatically controlling cyclical operation of the mechanism.

The invention, and its objects and advantages, will become more apparent in the detailed description of the preferred embodiment presented below.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objects and advantages of the present invention will become apparent to those skilled in the art from the following detailed description read in conjunction with the attached drawings, wherein like reference numerals indicate like elements, and wherein:

FIG. 1 is a schematic view of photographic apparatus in accordance with the present invention, with parts broken away to illustrate a film unit representing an assemblage of such film units receivable in the apparatus.

FIG. 2 is a pictorial view of a self-processing film units usable with the apparatus of FIG. 1, illustrating the film unit with a processing-fluid supply section in a folded position similar to that it might assume when supplied to the apparatus.

FIG. 3 is an exploded view of the film unit depicted in FIG. 2, illustrating various components of that film unit and their assembled arrangement.

FIGS. 4 and 5 are pictorial views of the film unit depicted in FIG. 2, illustrating the supply section in extended and folded-over positions assumed during various stages in the handling of the film unit by the photographic apparatus of FIG. 1.

FIGS. 6–11 are schematic views depicting various parts of the photographic apparatus of FIG. 1, schematically illustrating its operation with the film unit of FIGS. 2–5.

FIGS. 12–16 are pictorial and somewhat schematic views of the film unit handling and control mechanism in accordance with the present invention, illustrating its operation with the film unit depicted in FIGS. 2–5.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and first to FIG. 1, the preferred embodiment of the present invention comprises photographic apparatus, such as the processing camera 3, for sequentially exposing and initiating the processing of a plurality of self-processing film units. The film units 5 are supplied in an assemblage thereof, and each includes an image-recording section 7, for recording a processable latent image, a supply section 9, fo applying a processing or activating fluid to the image-recording section, and means for permanently but movably attaching the image-recordingsection to the fluid supply section. After exposure, each film unit is transported from the apparatus to initiate its processing, and, as depicted in phantom in FIG. 1, the fluid supply section is folded by the apparatus to a position engaging one face of the image-recording section where it will not be visible when viewing the final print.

PREFERRED FILM UNIT

While the present invention is not limited to use with any particular film unit, it is best understood when described in connection with a preferred film unit illustrated in FIGS. 2–5. That film unit comprises the image-recording section 7 and reservoir means, including a fluid collecting structure 10 as well as the fluid supply section 9, for accommodating the processing fluid.

The image-recording section or portion is adapted to record a latent image that is processable by the processing fluid, and for this purpose is provided with a first or photosensitive element 21, that is suitable for supporting the latent image, and a second element or process sheet 23, for aiding in distributing the fluid over the photosensitive element. The fluid accommodating means, on the other hand, provides the fluid for distribution, usually with some excess, and receives any such excess for storage or disposal after the distribution is completed. Thus, it should be apparent that the film unit includes all materials necessary for recording and processing a photographic image, when used in the apparatus depicted in FIG. 1.

The preferred image-recording section is of the preregistered, integral type, wherein the process sheet 23 is permanently secured to the photosensitive element 21 along lateral edges 26 and remains in substantially the same physical arrangement during exposure and after processing.

The photosensitive element 21 is defined by resiliently flexible materials and includes one or more radiation-sensitive layers for recording the latent image, as well as a mordant, or other appropriate layer, for receiving a visibly presentable image that is established during processing of the latent image. Since this element serves to support both the latent image and the visibly presentable image, it can be referred to as an integral negative receiver.

The process sheet 23 also is defined by resiliently flexible materials, and cooperates with the photosensitive element to provide a flat rectangular unit having straight edges and square corners, as well as other properties facilitating its handling in photographic apparatus. While the lateral edges of the sheet are permanently secured to the photosensitive element, as previously mentioned, the central portions are resiliently separable to permit distribution of the processing fluid, and the ends are free to permit introduction of the fluid between the element and sheet at the leading end and collection of any excess from therebetween at the trailing end.

Further details of the photosensitive element and process sheet are described and illustrated in commonly assigned U.S. Pat. applications Ser. No. 869,186, entitled PHOTOGRAPHIC FILM UNIT FOR DIFFUSTION TRANSFER PROCESSING filed Oct. 24, 1969 in the name of Harold E. Cole and now abandoned; Ser. No. 43,322 entitled PHOTOGRAPHIC FILM UNIT, filed June 4, 1970 in the name of Harold E. Cole and now issued as U.S. Pat. No. 3,672,272; and U.S. Pat. Ser. No. 70,836, entitled FILM UNIT, filed Sept. 9, 1970 in the name of Hubert Nerwin and now abandoned.

The preferred image-recording section is adapted to be exposed and viewed from opposite sides, the image-receiving or mordant layer being located where it is visible (in the case of a reflection print) from a first side or face 27 (FIG. 5), the radiation-sensitive layers being exposable from the opposite side or face 29 (FIGS. 2 and 4). Such viewing and exposure can be permitted by using transparent materials, both as a support for the image-receiving or mordant layer and as the process sheet, to define substantially clear protective coverings on both sides of the recording section.

The preferred fluid accommodating means includes the supply section 9 for discharging the processing fluid between the photosensitive element and process sheet at the leading end of the unit, and the collecting structure 10 for receiving any excess of the fluid from therebetween at the trailing end.

As illustrated in FIG. 3, the supply section encompasses three basic parts comprising a container or pod 33 of the processing fluid, a funnel or conduit 35 for directing the processing fluid from the container to the leading end of the image-recording portion between the photosensitive element and process sheet, and a support or carrier 37 that also is adapted to serve as a covering element in a manner to be described hereinafter. The container 33 is sealed around its periphery to provide a cavity for the processing fluid, but is adapted to release that fluid from one edge 39 (FIG. 3) upon the application to the container of a mechanical stress by juxtaposed pressure-applying members in related photographic apparatus such as the camera 3 depicted in FIG. 1.

Funnel or conduit 35 is defined by a flexible plastic envelope, and includes first separable edges 45 that receive the rupturable edge 39 of the container therebetween, as well as second contacting edges 46 that are inserted between the separable leading ends of the photosensitive element and process sheet. The funnel is particularly well adapted for directing processing fluid discharged from the container to a location at the leading end of the image-recording portion with little or no possibility of leakage. Other features of the funnel are

described hereinafter in connection with coupling of the supply section to the image-recording portion and the relative movement of such section and portion between the respective positions illustrated in FIGS. 2, 4 and 5.

The support or carrier 37 is constructed from relatively stiff but somewhat flexible material, such as paper or cardboard, and defines a substantially flat rectangular element having straight edges and square corners. For purposes to become more apparent hereinafter, the rectangular element has substantially the same width and length as the image-recording portion.

The previously mentioned container 33 and funnel 35 are permanently attached to one side of the carrier, and this side preferably is treated with a suitable material for facilitating such attachment, as well as for protecting the carrier from any of the processing fluid. The side of the carrier opposite from the container, on the other hand, provides a surface that is suitable for receiving ink or other writing materials to facilitate print identification.

The fluid collecting structure or trap 10 is permanently attached to the trailing end of the image-recording section, where it is adapted to receive and retain any excess of the processing composition from between the photosensitive element and process sheet. It is preferably that the collecting structure be very compact, relatively stiff, and pleasant in external appearance, so it will not substantially increase the border at the trailing end of the final print or otherwise detract from its aesthetic appearance. For these reasons, it has been illustrated as comprising an internal bag or bladder of flexible plastic 49 covered by a relatively stiff white cardboard cover 51. The bladder insures confinement without leakage of any processing fluid received therein, while the cover improves its appearance and prevents crushing of the bladder during handling of the film unit. For purposes to be described more fully hereinafter, the cover also can be provided with cut-outs 53 for cooperating with camera restraining means.

The supply and collecting structures are coupled to the image-recroding section by suitable adhesives, or the like, that are selected and applied to cooperate with the sealed lateral edges of the image-recording section for providing a completely closed system, both during and after processing, that essentially eliminates any significant likelihood that deleterious components of the processing fluid will escape therefrom. This is not meant, however, to preclude any desirable escape from the system of water or other possible neutral components of the fluid

Referring now very generally to the operation of the film unit, it is intended to be supplied in the configuration illustrated in FIG. 2, with the supply mechanism 9 disposed adjacent to the first surface 27 of the image-recording section, but with the leading end 51 of carrier 37 extending slightly beyond the leading end of the image-recording section, where it can be engaged by the camera mechanisms. The funnel is folded between the carrier 37 and the first surface 27 of the image-recording section and extends from the container 33 to the leading end of the image-recording section. After exposure of the photosensitive element, the carrier 37 is moved longitudinally of the film unit in the direction of arrow 54 (FIG. 2), to and between juxtaposed pressure-applying members, for discharging the processing fluid from the container and into the funnel, at the same time the funnel is unfolded or extended to the position illustrated in FIG. 4. Further movement of the film unit through the pressure-applying members then drives the processing fluid through the funnel 35, and distributes the fluid between the photo-sensitive element and process sheet, with any excess being directed into the collecting structure. As described in the previously mentioned U.S. Pat. application Ser. No. 869,186, the processing fluid preferably includes an opacifier, that cooperates with an opaque layer in the photosensitive element, to permit immediate withdrawal of the film unit from the camera where processing is completed. Referring now to FIGS. 4 and 5, the supply section is movable, after processing has been initiated, from the extended position illustrated in FIG. 4 to a folded position engaging the back or second surface 29 of the image-recording section, as illustrated in FIG. 5.

Proper folding of the supply section at the juncture between the funnel and the image-recording section can be further insured by using cohesives between the carrier and funnel to adhere the same together in the extended position illustrated in FIG. 4. Similarly, cohesives can be used to hold the film unit in its final configuration illustrated in FIG. 5.

Still further features and advantages of such film units are illustrated and described in my U.S. Pat. applications Ser. Nos. 178,048, entitled FILM UNIT, and 178,045, entitled FILM UNIT, both filed on even date herewith, the former still pending, the latter now abandoned.

PHOTOGRAPHIC APPARATUS

Referring now more specifically to the present invention, and again to FIG. 1, the apparatus 3 is illustrated as a processing camera including a housing 71, a film transporting mechanism 73, a processing mechanism 75, a film handling or folding mechanism 77, a driving mechanism 79 and a control or coordinating mechanism 81. The housing supports the above-noted mechanisms and is adapted to receive a plurality of the film units with the forwardmost unit in a film plane or position for exposure behind the camera objective 82.

The film transporting mechanism includes first and second translating means 83 and 85, shown in FIGS. 6–8, for effecting initial and then further movement of the film unit from its exposure position to the camera exterior. The first translating means comprises two similar pickers or slidable elements 87 located adjacent to the leading end of the film unit near the lateral edges thereof. Each element 87 is supported in the apparatus for longitudinal reciprocation and for rotation by a housing pin 89 received in an elongated slot 91 of the element. The picker element is resiliently and lightly urged in a clockwise direction into engagement with the forwardmost film unit by a spring 93 (FIG. 1), and includes a pointed end or finger 95 for entering an aperture 97 at the leading end of the fluid supply carrier 37 (FIG. 2). The second transporting means includes juxtaposed pressure-applying rollers 99 and 100, shown in FIGS. 6–8, that are driven in a manner to be described hereinafter, and that define a nip therebetween for frictionally engaging and driving the film unit from the apparatus. One or both of the pressure rollers are rotated at a rate for moving the film unit somewhat faster than the movement effected by the picker finger 95, so the film unit will be drawn against an angular sur-

face **98** of the finger to pivot the same in a counterclockwise direction and to release the first translating means from its driving engagement with the carrier.

Additional compactness of the camera can be realized by providing the pressure rollers with slots **101** (FIG. 12) aligned with and for receiving the fingers **95** of the first translating means at the end of their forward travel. Similarly, th slots permit more positive initial movement of the film unit into the bite of the pressure rollers.

The pressure rollers **99** and **100** also serve as the processing mechanism which ruptures the container of processing fluid and distributes the fluid between the photosensitive element and process sheet. One or both of the pressure members preferably are of the stepped type and include raised shoulder portions or rims **102** that are adapted to ride on the lateral edges of the film unit to establish a proper thickness of the processing fluid distributed between the photosensitive element and process sheet.

The handling or folding mechanism is most clearly illustrated in FIGS. **1** and **12,** and includes a bail or cross bar **121** pivotally mounted on the housing at **123** by linkages **125.** The linkages support the bail on the opposite side of, and spaced from, the processing mechanism for movement between a first rest position, below the film exit path, and a second folding position above the exit path. Such movement is effected by a resilient coupling **127** between the bail and the control mechanism, to be described more fully hereinafter, and is timed for moving the bail into engagement with the fluid-supply carrier **37** of the film unit and for folding that carrier behind the image-recording section as the film unit is transported from the apparatus. Additionally, after accomplishing such folding, the bail is resiliently urged back toward its first position by the coupling **127,** for holding the folded film unit in a position extending from the apparatus where it can be grasped and withdrawn to obtain the final print.

The driving mechanism is of a lanyard type, and includes a pull-tape **131** that normally is wound into successive convolutions on a spool **133** by a coil spring **135.** A tab **137** of the tape is accessible from the exterior of the apparatus and is adapted to be pulled to effect driving rotation of the spool. Such rotation of the spool, in turn, rotatably drives one or both of the pressure rollers **99** and **100** through a drive shaft **139,** and also drives the control mechanism, to be described hereinafter, through a spur gear **141.**

The control mechanism coordiantes the various previously described mechanism in a cyclical manner insuring a proper timing and order of their operational sequences. This coordination is effected by a plurality of coaxially mounted gears and cams including a main power transmitting gear **143,** that is driven by the spur gear **141,** an anti-reversing gear **145** driven by the power gear **143** and cooperating with a pawl **146,** and camming elements **147** and **149** for controlling movement of the bail. Since the control mechanism is most easily understood when considered in connection with its operation, further details will be more completely described below in connection with the operation of the present invention.

OPERATION OF THE PHOTOGRAPHIC APPARATUS

The operation of the preferred apparatus is most clearly illustrated in FIGS. **6–16.** Referring first to FIGS. **6** and **12,** and assuming the film unit has been exposed in a conventional manner, the tab **137** of lanyard **131** is pulled outwardly from the apparatus to drive the various mechanisms through the drive shaft **139,** the spur gear **141** and the drive gear **143.** While no specific coupling has been illustrated for driving the initial film translating means **83,** it should be understood that any conventional coupling could be used, such as a pin of the picker element **87** extending into engagement with an appropriate cam or slot in drive gear **143,** for coordinating movement of the initial film transporting means with the other mechanisms. The ratio of the spur and drive gears **141** and **143** is chosen to effect one complete revolution of the drive gear for each complete pull or full extension of the lanyard. Similarly, the lanyard length and roller diameters are chosen to transport the film unit from its initial position on one side of the pressure rollers to a final position on the opposite side of the rollers with each full extension of the lanyard, and, therefore, also with each full revolution of the drive gear **143.**

As depicted in FIGS. **6** and **7,** the pointed fingers **95** of the initial or first film advancing means are pivoted in a clockwise direction and translated toward the pressure rollers during the initial stages of the lanyard pull. Such pivoting and translation moves the fingers into driving engagement with the apertures **97,** at the leading end of the fluid supply section **9,** and then slides that leading end into the bite of the pressure rollers or second film advancing means. At the same time, the image-recording portion of the film unit is restrained against movement by resilient restraining member **159,** of the camera or film cartridge, that is received in the cut-outs **53** at the trailing end of the film unit. Since movement of the image-recording portion **7** is restrained, while sliding movement of the supply mechanism **9** proceeds, the flexible funnel **35** begins to unfold and moves upwardly against an abutment **161** of the camera housing that prevents premature entry of the funnel between the pressure rollers.

As the fingers **95** of the first translating means reach their forward limits of travel (toward the rollers), they are received in the roller slots **101,** and positively force the leading end **51** of the supply mechanism into the bite of the rollers. Such an arrangement permits placement of the apertures **97** very close to the leading end of the film unit, thus permitting a length reduction in the camera, and the use of more flexible materials for the carrier **37** of the supply mechanism.

The pressure rollers of the second film translating means are rotated continuously throughout the lanyard pull and continue the transporting movement of the film unit after the fingers **95** no longer are effective for that purpose. A smooth transition of the transporting control, from the first to the second film translating means, is effected by rotating the rollers at a rate that advances the film unit faster than it previously was advanced by the fingers, and the film unit is pulled against the inclined surface **98** of the fingers to cam the fingers in a counterclockwise direction out of the apertures **97.** Timing of that transition cams the fingers out of the apertures while the fingers are still moving with the film unit, to reduce the abruptness of the finger removal and the possibility of resulting damage to the apertures or the film unit.

Continued rotation of the rollers ruptures the pod or container **33**, and forces the processing fluid into and through the funnel **35** to the leading end of the image-recording portion **7**. At the same time, the funnel is unfolded to its fully extended position, illustrated in FIG. **8**, and preferably is permanently secured to the carrier **37** by appropriate cohesives, or the like, on the funnel and carrier. After reaching its fully extended position, the funnel pulls the image-recording portion from its restrainer **159** and into the bite of the pressure rollers. The processing fluid is then distributed between the photosensitive element and process sheet, and any excess of the fluid is directed into the trap.

From the pressure rollers, the film unit is directed with the supply mechanism first, along an exit path to the camera exterior. The folding bail **121** initially is located adjacent to that path on one side thereof, as depicted in FIG. **8**, but is movable to the other side of the path, as depicted in FIG. **9**, for folding the supply section relative to the image-recording portion. Such movement is effected by the resilient spring **127** (FIG. **12**), and is timed to occur when the supply section is in a position to be engaged and folded by the bail.

The supply section **9** is folded approximately 135° into engagement with a sloped housing wall **165**, the leading end of the image-recording portion passes beyond the bail **121** along the exit path, and then the bail is resiliently urged back toward its first position for forcing the carrier **37** of the supply section against the second or exposure side of the image-recording portion as depicted in FIG. **9**. The folding bail includes raised shoulders or rims **167** that span the thickness of the edges of the carrier and image-recording portion to ensure their exact alignment, and cohesives preferably are used to securely adhere or laminate the carrier to the image-recording portion.

As illustrated in FIG. **11**, the bail also can be used in cooperation with a holding abutment **169** for capturing the film unit in a final position extending from the apparatus after the entire film unit has passed between the rollers. In such case, the film unit can be retrieved at any desired time by merely pulling it from between the bail and the abutment.

Referring now to FIGS. **12–16**, the resilient coupling means **127** includes a bent cam follower **176** that is lightly and resiliently urged towards the rotational axis **177** for riding on cams **147** and **149**. When the cams are rotated in the counterclockwise direction depicted in FIGS. **13–15**, and as will be effected by pulling on the lanyard, the follower **176** rides on the cam **147** until it reaches the point "*a*" between the cams. At that point, the lower edge of the follower (i.e., the edge closest to the rotational axis) enters the path "*c*" and directs the follower between the cams to resiliently urge the folding bail toward its second or raised position. The cams then continue to rotate until the follower exits from path "*c*" at point "*b*" and the bail is urged back toward its original or lowered position. However, the actual return of the bail may be delayed by engagement with the film unit as illustrated in FIGS. **10** and **11**.

Upon releasing the lanyard, the cams are rotated in a clockwise direction by spring **135**, as depicted in FIG. **16**. When rotated in that direction, however, the follower **176** does not follow the path c, because the angular orientation of the follower causes it to ride up over the cam **149** at point "*b*." Thus, the lanyard can be released without releasing the film unit from the captured position depicted in FIG. **11**.

FIGS. **13–16** also illustrate an antireversing mechanism comprising the gear **145** and pawl **146**. The pawl is pivotally mounted at **197**, but is urged toward a straight position extending toward axis **177** by a spring **199**. When the lanyard is in either of its fully retracted and fully extended positions, a cut-out or discontinuity **195** in the teeth of control gear **145** is aligned with the pawl and permits its pivoting in either direction. However, once the gear is rotated by pulling on or releasing the lanyard, the pawl is pivoted as illustrated in FIGS. **14** and **16**, and the direction of rotation of the control mechanism cannot be reversed until the gear completes one complete revolution where the cut-out **195** again is aligned with the pawl.

The invention has been described in detail with particular reference to the 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. Photographic apparatus adapted to initiate processing of a self-processing film unit, the film unit including an image-recording section of the preregistered integral type having an end portion and a substantially planar surface, the film unit further including means coupled to the end portion of the image-recording section for containing a processing fluid, said apparatus comprising:

means engageable with the containing means for effecting application of the processing fluid to the image-recording section; and

means, engageable with the containing means after the application of the processing fluid to the image-recording section has been effected, for moving the containing means into contact with the planar surface of the image-recording section.

2. A photographic camera adapted to effect an exposure and to initiate processing of a self-processing film unit, the film unit including an image-recording section having an image portion for recording a processable latent image and a border portion adjacent to the image portion, a supply section having a processing fluid applicable to the image-recording section for processing the latent image, and means coupling the supply section to the border portion of the image-recording section, said camera comprising:

means for effecting the exposure;

juxtaposed pressure-applying members, engageable with the supply section after the exposure has been effected, for initiating the processing by effecting application of the processing fluid to the image-recording section; and

means, engageable with the supply section after the application of the processing fluid to the image-recording section has been effected, for moving the supply section into contact with the image portion of the image-recording section.

3. A processing camera adapted to effect an exposure of, and to initiate processing of, a self-processing film unit, the film unit including first and second relatively foldable sections, said camera comprising:

means for receiving the film unit in a position suitable for the exposure;

a film transporting mechanism including means for moving the film unit from its exposure position

along an exit path to a position accessible from outside said camera; and

a folding mechanism including means, engageable with the first film unit section and movable from a first position at one side of said path to a second position at a side of said path opposite to said one side, for moving the first film unit section out of said path to fold the first film unit section relative to the second film unit section as the film unit is transported along said path by said moving means.

4. A processing camera as claimed in claim **3** further comprising means cooperable with said folding mechanism and engageable with the film unit for holding the film unit in its accessible position after the first film unit section has been folded relative to the second film unit section.

5. Photographic apparatus for use with a film unit including a pair of relatively stiff planar sections, the planar sections of the film unit being slidably movable and foldable relative to each other, said apparatus comprising:

means for receiving the film unit with the planar sections in substantially superposed relationship to each other;

means for transporting the film unit from the receiving means along an exit path first by sliding one planar section relative to and into coplanar relationship with the other planar section and then by effecting movement of both planar sections in unison; and

means movable across said exit path during said movement of both planar sections in unison or folding the one planar section relative to and into superposed relationship with the other planar section.

6. A handling mechanism for use with a self-processing film unit including first and second relatively foldable sections defining lateral edges, said mechanism comprising:

means for effecting movement of the film unit with its first and second sections in substantially coplanar relationship along a predetermined path; and

means movable across said path during said movement of the film unit for folding the first film unit section into superposition with the second film unit section, said folding means including means for aligning the lateral edges of the film unit sections as the first section is folded into superposition with the second section.

7. Photographic apparatus for handling a flexible self-processing film unit, said apparatus comprising:

a housing;

means for effecting movement of the film unit along an exit path from a first location within said housing to a second location at least partially without said housing;

a member engageable with the film unit and movable from a first position on one side of said path to a second position on another side of said path opposite to said first side;

means for moving said member from said first position to said second position in coordination with and during said movement of the film unit along said path; and

means adjacent to said first position of said member and cooperable with said member for retaining the film unit in said second location.

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