United States Patent

Nerwin

[15] **3,672,273**

[45] **June 27, 1972**

[54] PHOTOGRAPHIC FILM UNIT

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

[22] Filed: **June 4, 1970**

[21] Appl. No.: **43,323**

[52] **U.S. Cl.** ..... **95/13**, 96/76 R

[51] **Int. Cl.** **G03b 17/50**

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

[56] **References Cited**

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2,991,703	7/1961	Eloranta	95/13
3,241,468	3/1966	Wolff	95/13
3,416,427	12/1968	Murphy	95/13 X

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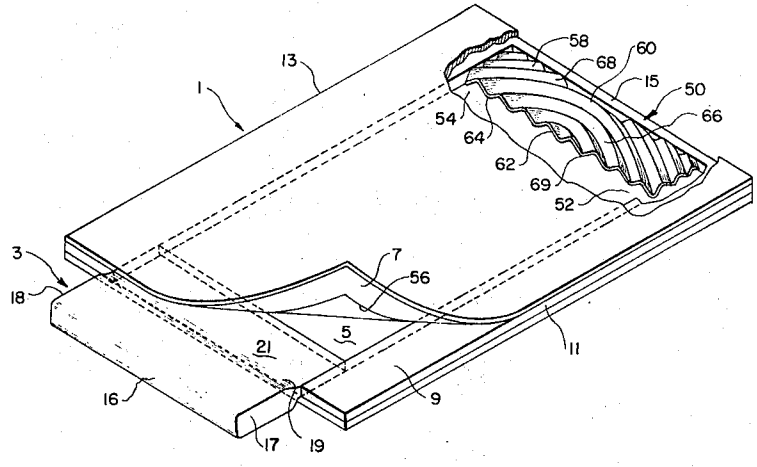
[57] **ABSTRACT**

A self-processing photographic film unit which includes a fluid flow-controlling mechanism and trap for diverting processing fluid from the center toward the corners of the unit while collecting any excess processing fluid at both the center and the corners. The mechanism and trap are best adapted for use in composite or integral film units and are permanently locatable entirely within the borders of the unit making unnecessary their separation from the unit after use. The trap may be formed by a porous material, a plurality of ridges, or corrugations.

9 Claims, 9 Drawing Figures



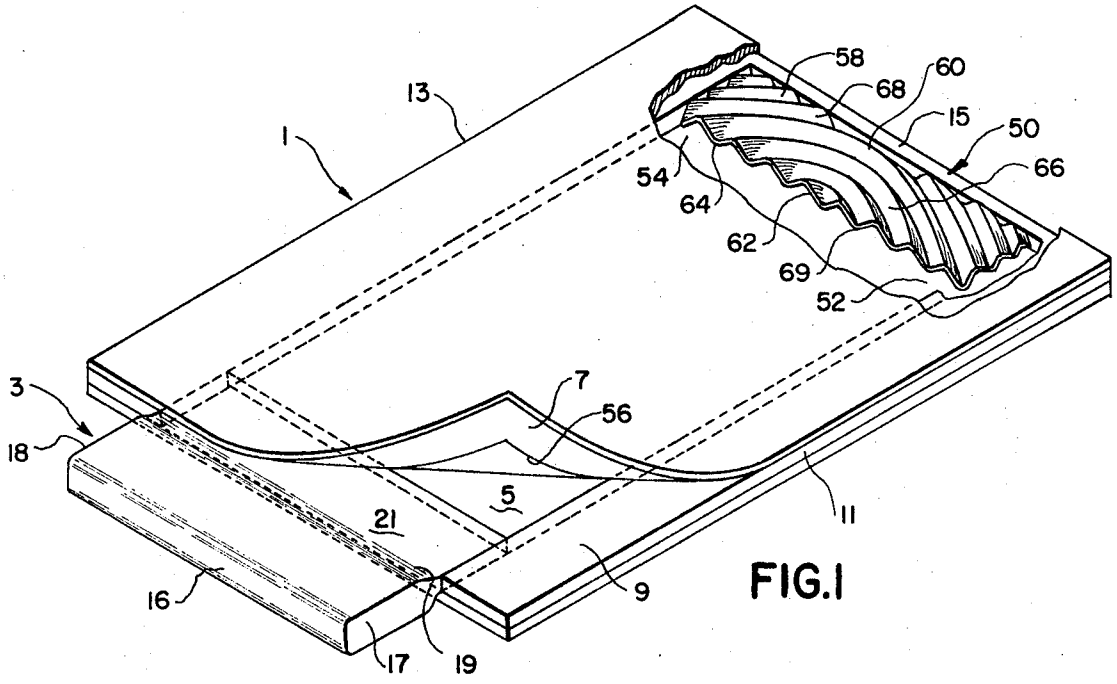


FIG.1

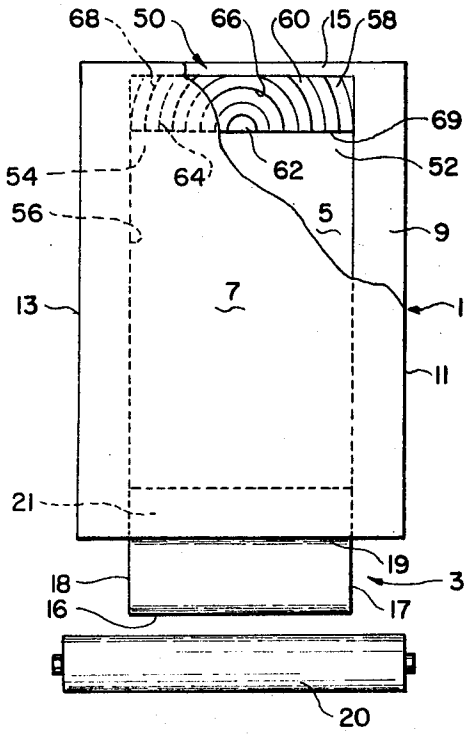


FIG.2

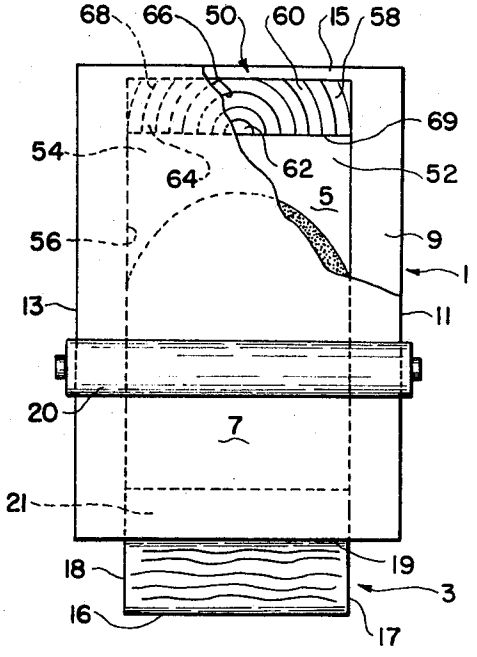


FIG.3

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FIG.4

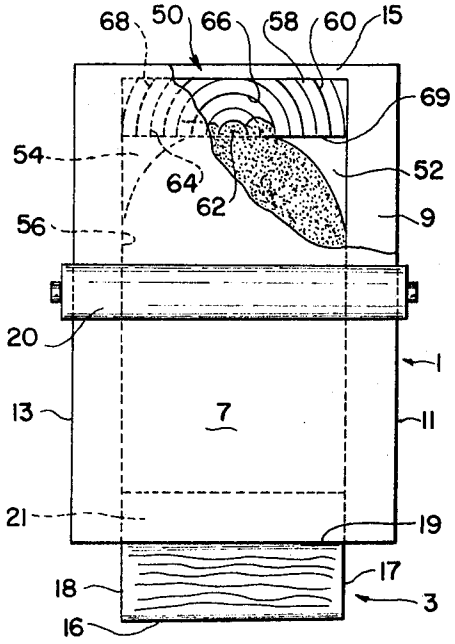
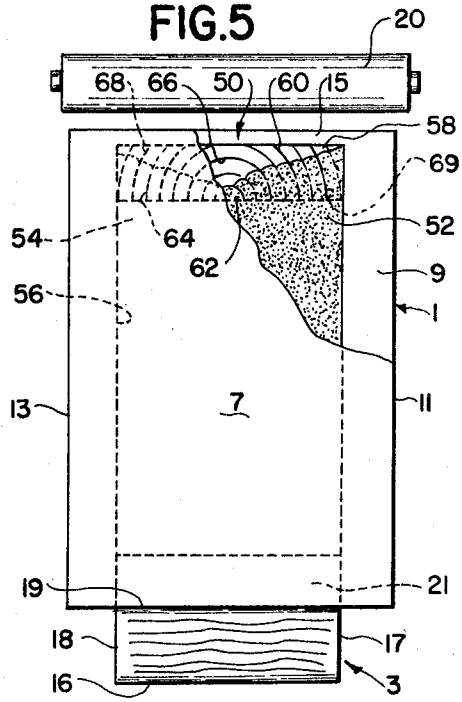


FIG.5



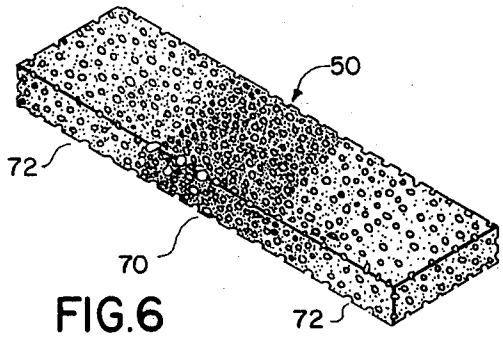


FIG.6

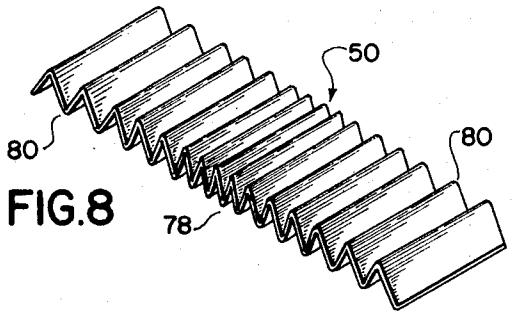


FIG.8

FIG.7

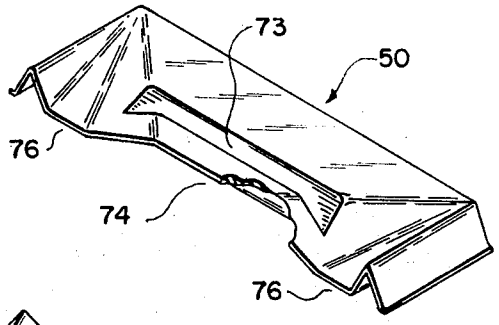
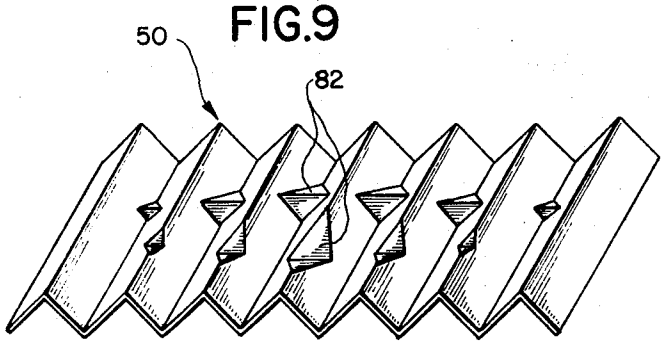


FIG.9



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PHOTOGRAPHIC FILM UNIT

CROSS-REFERENCE TO RELATED APPLICATIONS

Reference is made to commonly assigned copending U.S. Patent application Ser. No. 43,322 entitled PHOTOGRAPHIC FILM UNIT, filed on even date herewith in the name of Harold E. Cole.

BACKGROUND OF THE INVENTION

The present invention relates to "self-processing" photography and more particularly to film units and photographic assemblages for distributing and for collecting any excess of a fluid composition spread within or across the unit.

It is well known in the photographic arts to provide film units and photographic assemblages with materials for processing the units immediately after their exposure. Generally such units include a photosensitive element, comprising a support having thereon at least one layer of photosensitive material, and a receiving element adapted to be registered over the photosensitive element after exposure. A viscous processing composition is released from a rupturable pod located between the two elements at one end of the unit and is spread toward the other end by passing the unit between juxtaposed pressure-applying members that ideally effect an even distribution of the composition in a layer of predetermined thickness and without excess. The fluid composition then permeates the layers of the unit to effect or initiate development of each of said exposed photosensitive layers. An imagewise distribution of diffusible dye or silver then diffuses to or is formed on an image-receiving layer in the receiving element and that element is stripped from the film unit to provide a positive image.

Film units of a preferred type, and with which the present invention will be described, generally are referred to as "preregistered" or "integral" units in which a photosensitive element and a transparent process sheet are preassembled before processing, with a rupturable container or pod therebetween, and remain in a face-to-face composite or superposed relationship after processing. The "bottom side" of the photosensitive element is opaque to light actinic to the photosensitive materials; the process sheet is transparent for exposure of the photosensitive materials from the "top side" of the photosensitive element; and the processing composition includes an opacifying agent that covers the top side of the photosensitive element after the pod is ruptured and cooperates with the opaque bottom side after exposure to permit processing of the unit in daylight. The image-receiving layer may be located either on the process sheet on the side closest to the photosensitive element or, preferably, on the bottom side of the photosensitive element between an opaque layer and a transparent support.

In order to insure that a predetermined exposed area of the film unit to be processed is completely covered by a processing composition layer of uniform thickness, it is usual to supply the container with a quantity of the fluid composition in excess of the minimum amount required. This practice is dictated by the inability to attain the ideal spreading conditions referred to above, and, in turn, dictates the use of means for collecting and retaining the excess composition at the opposite end of the unit from the pod.

Previous collectors for excess processing composition, generally referred to as "traps," are disclosed, for example, in U.S. Pat. No. 2,686,717, and have been provided on extended or trailing end portions of the units as illustrated in U.S. Pat. No. 3,080,805.

Continuous emphasis has been placed on reducing the size of the units to permit their use in more compact cameras, and on eliminating most stripping operations and waste materials left over after processing. These efforts have met only limited success, however, due in part to the fact that the processing composition is highly caustic and must be completely enclosed to prevent damage to the apparatus and injury to its user, and to the significant amount of excess composition used because of inefficient spreading.

In addition to the above, substantial efforts have been directed toward development of a mechanism for spreading the processing composition more efficiently, such that the amount of excess composition and the size of the trap can be reduced without sacrificing quality of the finished print. Previous devices for this purpose have taken many forms, as illustrated in U.S. Pat. Nos. 2,991,703, 3,221,942, and 3,342,600, but, at least in these cases, have concentrated on the leading end of the unit rather than the trailing end where the problem most seriously manifests itself. Still further, solutions of the type illustrated in aforementioned U.S. Pat. No. 2,991,703 require additional mechanisms in the camera that not only add to camera expense but also may significantly increase the force necessary to withdraw the unit from the camera.

The particular properties and configuration of the preferred integral film unit mentioned above even further aggrevate fluid spreading and trapping problems. By way of example only, the fact that the unit remains intact after processing, and the relatively narrow margin around pictures of this type, prevent the use of built-in traps of the relatively large size usable with other types of units. Moreover, the excess fluid must be retained in an area immediately adjacent to the finished print or exposure frame of the unit without flowing back over that frame. Still further, the fluid composition must be spread to corners of the exposure frame that may be adjacent to a sealed edge of the unit where the sheets are likely to resist separation.

SUMMARY OF THE INVENTION

In accordance with the present invention, a fluid flow-controlling mechanism and trap are provided at a trailing-end portion of the unit for distributing a processing composition to the trailing-end corners of the exposure frame and then for collecting any excess of the composition. The mechanism is particularly adapted for use with integral film units and may be concealed entirely within a border of the unit. The trap includes means for collecting amounts of the composition varying from a minimum but positive collecting ability at its center portion to greater collecting abilities toward its end portions.

In accordance with a preferred embodiment of the invention, the trap comprises a plurality of arcuate corrugations of different radii concentrically arranged to define fluid controlling and collecting surfaces. These surfaces are arranged to extend substantially transversely of the film unit in central portions of the unit, and in directions more longitudinally oriented to the unit at edge portions of the unit. In this manner a trap is provided that continuously varies in its resistance to the collection of excess fluid composition from a maximum in its central portion to minimums towards its edge portions. As a result of this varying collecting resistance, the trap will effect more efficient spreading of the composition by directing some of the composition from the center of the unit toward its trailing edges before it is collected in the trap.

BRIEF DESCRIPTION OF THE DRAWINGS

In the detailed description of the preferred embodiment presented hereinafter, reference is made to the accompanying drawings in which:

FIG. 1 is a pictorial view of an integral film unit in accordance with the present invention with corners of the second or process sheet turned back to illustrate interior portions of the unit.

FIGS. 2–5 are schematic representations of the film unit and pressure-applying members at various stages during spreading of the processing composition from a pod, across the unit, and to a trap in accordance with the present invention.

FIGS. 6–9 are pictorial views illustrating various alternative embodiments of trap in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Because photographic film units and apparatus of the self-processing type are well known, the following description is

directed in particular to elements forming part of, or cooperating directly with, the present invention. Elements not specifically shown or described herein should be understood to be selectable from those known in the art.

Referring now to the drawings, and especially to FIG. 1, a preferred embodiment of the invention is illustrated in connection with a film unit 1 and cooperating fluid container or pod 3.

The film unit is illustrated and described more completely in commonly assigned copending U.S. Patent application Ser. No. 027,990, entitled PHOTOGRAPHIC FILM UNIT FOR DIFFUSION TRANSFER PROCESSING, and filed on Apr. 13, 1970 in the name of Harold E. Cole. Briefly, the unit is of the preferred composite or integral type and includes a first sheet or photosensitive element 5 and a second sheet or process element 7 that are supplied before exposure and remain after processing as a precut and laminated structure substantially in the form illustrated. The photosensitive element 5 comprises a transparent support having thereon the following layers in sequence: an image-receiving layer, an opaque reflecting layer, and at least one, and preferably three, silver halide emulsion layers having associated therewith a dye image-providing material. The process sheet 7 is formed of a transparent material, e.g., cellulose triacetate film base, and permits exposure of the photosensitive element from the top side of the unit (the side illustrated in FIG. 1). Photosensitive element 5 and process sheet 7 are preferably, although not necessarily, rectangular and coextensive with one another and are maintained in registered or superposed facing relationship either by direct edge and end seals or by adhesive connections between the sheets and spacing members 9 positioned along the two edges 11 and 13 and the trailing end 15 of the unit.

The above-described film unit can be used to produce positive images in single or multicolors. In a three-color system, each silver halide emulsion layer of the film unit will have associated therewith a dye image-providing material possessing a spectral absorption range substantially complementary to the predominant sensitivity range of its associated emulsion, i.e., the blue-sensitive silver halide emulsion layer will have a yellow dye image-providing material associated therewith, the green-sensitive silver halide emulsion layer will have a magenta dye image-providing material associated therewith, and the red-sensitive silver halide emulsion layer will have a cyan dye image-providing material associated therewith. The dye image-providing material associated with each silver halide emulsion layer may be contained either in the silver halide emulsion itself or in a layer contiguous to the silver halide emulsion layer. In the aforementioned application Ser. No. 027,990, the dye image-providing materials described are nondiffusible couplers capable of reacting with an oxidized color developing agent to produce diffusible dyes. Other dye image-providing materials can also be employed in film units useful in the present invention including dye developers, coupling dyes, etc.

The rupturable container 3 may be selected from any of several types and generally comprises a rectangular blank of a vapor-impervious material that is folded along a first side edge 16 and is securely sealed or closed along its ends 17 and 18. A second side 19, opposite from folded side 16, is provided along substantially its entire length with a rupturable seal adapted to release a fluid composition supplied in the container upon the application of hydraulic forces generated by passing the container between a pair of juxtaposed pressure-applying members such as rollers 20 (FIGS. 2–5) as might be found in a camera. The container is attached to or cooperates with a leading end of the unit in any suitable manner for discharging its fluid contents between the photosensitive element and process sheet, and for this purpose has been illustrated with a flattened discharge mouth 21 inserted into a space or slot provided between the photosensitive element and process sheet at the leading end of the unit. After exposure of the film unit from the top side, the processing composition containing an opacifier is released from the pod and spread in a layer over at least a predetermined exposure frame of the photosensitive element by passing the entire unit between the pressure-applying members. Since the negative portion of the film unit is surrounded by opaque material to render it light-insensitive, the unit can be removed from the camera during development. The processing composition then diffuses into the photosensitive element to either effect or initiate imagewise development of the silver halide emulsion layers. Imagewise distributions of diffusible dye image-providing material which is contained in each silver halide emulsion layer, or in a layer contiguous thereto, are formed as a function of the imagewise exposure of each said silver halide emulsion layer. At least a portion of the imagewise distributions of diffusible dye image-providing material diffuse to the image-receiving layer to produce a positive dye image. When the positive image is viewed through the transparent support layer, it will be a right-reading image on the opaque reflecting layer background. The image-receiving layer does not have to be stripped away from the rest of the film unit and no timing of development is required.

While film unit 1 has been described with reference to the above-mentioned U.S. application Ser. No. 027,990, other film units such as the type disclosed in U.S. Pat. No. 3,415,644, issued Dec. 10, 1968, can also be employed in my invention. In addition, integral film units for obtaining a black and white image can also be employed in my invention as will be obvious from the description hereinafter.

The alkaline processing composition employed in the rupturable container is the conventional aqueous solution of an alkaline material, e.g., sodium hydroxide, sodium carbonate, or an amine such as diethylamine, preferably possessing a pH in excess of 12, and an aromatic primary amino color developing agent such as a p-phenylenediamine developing agent. The solution also preferably contains a viscosity-increasing compound such as a high molecular weight polymer, e.g., a water-soluble ether inert to alkaline solutions such as hydroxyethyl cellulose or alkali metal salts of carboxymethyl cellulose such as sodium carboxymethyl cellulose. A concentration of viscosity-increasing compound of about 1 to about 5 percent by weight of the processing composition is preferred which will impart thereto a viscosity of about 100 cps. to about 200,000 cps.

While the alkaline processing composition can be employed in a rupturable container, as described previously, to conveniently facilitate the introduction of processing composition into the film unit between the transparent process sheet and the photosensitive element, other methods of inserting processing composition into the film unit could also be employed, e.g., interjecting processing solution with communicating members similar to hypodermic syringes which are attached either to a camera or camera cartridge.

The alkaline solution-permeable, substantially opaque, light-reflective layer in the above-described photographic film unit can generally comprise any opacifier dispersed in a binder as long as it has the desired properties. Particularly desirable are white light-reflective layers since they would be esthetically pleasing backgrounds on which to view a transferred dye image and would also possess the optical properties desired for reflection of incident radiation. Suitable opacifying agents include titanium dioxide, barium sulfate, zinc oxide, barium stearate, silver flake, silicates, alumina, zirconium oxide, zirconium acetyl acetate, sodium zirconium sulfate, kaolin, mica, or mixtures thereof in widely varying amounts depending upon the degree of opacity desired. The opacifying agents may be dispersed in any binder such as an alkaline solution-permeable polymeric matrix such as, for example, gelatin, polyvinyl alcohol, and the like. When it is desired to increase the opacifying capacity of the light-reflective layer, dark-colored opacifying agents may be added to it, e.g., carbon black, nigrosine dyes, etc. Another technique to increase the opacifying capacity of the light-reflective layer is to employ a separate opaque layer underneath it comprising, e.g., carbon black, nigrosine dyes, etc., dispersed in an alkaline solution-permea-

ble polymeric matrix such as, for example, gelatin, polyvinyl alcohol, and the like. Such an opaque layer would generally have a density of at least 4 and preferably greater than 7 and would be substantially opaque to actinic radiation.

The transparent process sheet and the support for the photosensitive element described above can be of any transparent material as long as it does not deleteriously affect the photographic properties of the film unit and is dimensionally stable. Typical actinic radiation transmissive flexible sheet materials include cellulose nitrate film, cellulose acetate film, poly (vinyl acetal) film, poly-styrene film, poly(ethyleneterephthalate) film, polycarbonate film, poly-α-olefins such as polyethylene and polypropylene film, and related films or resinous materials as well as glass.

The respective elements of the film unit described above are selected, pre-cut, and designed to provide a pleasing aesthetic appearance and preferably are stiff enough to be suitable for handling both within and outside of the camera. On the other hand, the structure is sufficiently flexible for manipulation by camera mechanisms and is sufficiently resilient to recover from any normal flexing. In the preferred unit (exposed from the process sheet or top side and viewed from the bottom side through the transparent support), the photosensitive portion of the film unit after processing is hidden from the top side by the opacifying agent in the processing composition and from the bottom side by the opaque reflecting layer. A satisfactory exposure frame and border can be provided by masks or photo-resist techniques, either within the unit or externally, and for either covering or preventing diffusion of the image except in the predetermined picture area. Similarly, this border may be applied to the process sheet side of the unit, as well as the picture side, to cover the excess-fluid trap to be described hereinafter.

Referring now more specifically to the details of a preferred embodiment of the present invention, the film unit is provided with a trap **50** both for collecting excess fluid processing composition and for effecting more efficient spreading of the fluid composition. As illustrated in FIG. **3**, and in previously mentioned U.S. Pat. No. 2,991,703, the composition as it is being spread ordinarily will define a wave or flow front having a configuration substantially resembling a tongue or bullet shape with an apex that flows ahead of the rest or main body of the composition unless and except insofar as it otherwise is controlled. Ordinarily this apex travels substantially in a straight line along an axis down the center of the unit as the composition is spread by the rollers in a first direction from the pod at the leading end of the unit, across the exposure frame at a central portion of the unit, and toward the trap at the trailing end of the unit. It is possible, of course, that the apex will be off-center, due, for example, to initial collection of the composition at one end of the pod. However, with modern pod designs, and due to the viscosity of the fluid, it is unlikely that any such off-center position will be significant by the time the flow front reaches the trap. In other words, the apex almost always will be located within the central one third of the unit on either side of the above-mentioned axis before the flow front reaches the trailing end of the unit. Similarly, the use of divided pods or other flow controlling mechanisms at the leading end of the unit or in the camera may substantially flatten or even invert the apex. Again, however, at least with most presently known mechanisms, the central one-third portion of the flowing fluid composition will advance ahead of the composition adjacent to the edges of the unit by the time the composition reaches the trailing end of the unit.

The above phenomena make it difficult to obtain efficient spreading of the processing composition, and, unless a significant excess of fluid is supplied, may result in fluid exhaustion or starvation at the trailing or distal corners **52** and **54** of the exposure frame **56** (see especially FIG. **4**). On the other hand, if a sufficient excess processing composition is suppled, a larger trap usually is necessary to collect and store the excess.

The fluid trap of the present invention substantially eliminates the above-mentioned problems by directing the fluid composition in a second direction substantially normal to the first-mentioned direction and toward the corners at the trailing end of the exposure frame. Unlike a related solution, however, illustrated in the cross-referenced commonly assigned copending U.S. Pat. application Ser. No. 43,322, entitled PHOTOGRAPHIC FILM UNIT and filed on even date herewith in the name of Harold E. Cole, a trap in accordance with the present invention may operate more efficiently in its central portions while still effecting efficient fluid spreading over the exposure frame.

As illustrated in FIG. **1**, the preferred trap comprises an elongated element or spacer **58** formed with raised ridges or corrugations **60** defining a three-dimensional receiver or space for collecting excess processing composition. The ridges are of arcuate configuration and are concentrically arranged at different radii such that the ridges extend almost longitudinally of the trap (transversely relative to the unit) at central portions **62** of the trap, and more transversely of the trap (longitudinally relative to the film unit) at end portions **64** of the trap. Due to this arrangement and orientation of the respective ridges, the trap will collect a minimum but positive amount at its central portions **62** while directing most of the processing composition away from this central portion and toward the trailing-end corners of the exposure frame. Any excess composition then remaining at those trailing-end corners will readily be collected by the areas of the trap having the greatest ability to collect the fluid.

The ridges or corrugations may be formed from any number of materials and in any number of ways, but preferably are pressed as concentric circles in plastic-sheet material that is then cut in strips with squared-off ends. In such case the traps cut from a single sheet will have differently shaped arches but each still will operate substantially in the same manner; that is, each trap will have central portions adjacent to the center axis of the film unit and end or edge portions adjacent to the side edges of the film unit, and the center portions will effect a greater resistance to collection of the composition as compared to the collection resistance at the edge portions. It is preferable, however, that a majority of the ridges define a closed arch from one side of the trap to the other, as represented by ridge **66** and as distinguished from ridge **68**, since these ridges cooperate with the photosensitive and process sheets to define separate containers closed everywhere except at the entrances to the trap. It also is preferable that the trap entrances **69**, at the leading edge of the trap adjacent to the trailing edge of the exposure frame, extend across the entire width of the exposure frame.

Alternate embodiments of the trap have been illustrated in FIGS. **6–9**. Since each of these embodiments operates in substantially the same manner as the preferred embodiment, they will be described only briefly.

In the embodiment of FIG. **6**, the trap is defined by a sponge, felt, or other suitable material that varies in density from the central portion **70** to the edge portions **72** again to provide a trap having minimum but positive collecting ability at its central portion and maximum collecting abilities at its end portions. In the case of sponge material, the resistance to fluid collection can be provided by combination of open and closed cells with the greatest number of closed cells in portions of the trap where greater resistance is required. If felt material is used, it can be woven with greater density where the greater resistance is desired.

In the embodiment of FIG. **7**, the trap may be formed either from single or double sheets, preferably of plastic material, having corrugations **73** extending substantially longitudinally of the trap (transversely of the film unit), which corrugations vary in height from a maximum at the central portions **74** to a minimum at the end or edge portions **76**. These respective heights are selected to permit the entrance of a minimum but positive amount of fluid in the central portions and a maximum amount at the edge portions.

In the embodiment of FIG. 8, the trap is defined by corrugations that extend substantially transversely of the trap (longitudinally of the film unit), and have a pitch that varies from a minimum at the central portion 78 of the trap to maximums at end portions 80 of the trap. Again this varying pitch provides a trap having a minimum but positive fluid collecting ability at its central portion and maximum fluid collecting ability at its end portions.

The embodiment of FIG. 9 is somewhat similar to that of FIG. 8 in that the trap is defined by corrugations extending substantially transversely of the trap. However, in this case the pitch of the corrugations remains substantially constant while the collecting ability of the trap is varied by partially indenting or crushing the central trap portions at 82 to restrict or increase the resistance to the collecting of fluid in the central trap portions.

It should be understood from the preferred embodiments that the term corrugations has been used in its broad sense to include, for example, accordian or sharply bent shapes as illustrated in the last embodiment as well as wave configurations as illustrated in the embodiment of FIG. 8.

Referring now to the operation of the present invention and first to FIG. 2, the unit is exposed for recording a latent image in the area defined by exposure frame 56 and then is transported to and between a pair of juxtaposed pressure-applying members adapted to rupture the pod and deposit the processing composition between the photosensitive and process sheets. Assuming the absence of other flow-controlling mechanisms at the leading end of the unit or in the camera, movement of the unit between the pressure-applying members spreads the fluid in a body having a wave front or leading portion in the center of the unit that advances ahead of the fluid along the edges of the unit. This is represented in FIG. 3, wherein the flow front has been illustrated in a configuration resembling a tongue or bullet. As the wave front continues to advance to the position illustrated in FIG. 4, its apex or leading end portion engages the trap before the trailing end corners of the exposure frame have been sufficiently covered. In the absence of the present invention or a significant amount of excess composition, the fluid would be exhausted by flowing directly into the trap and the corners of the exposure frame would be starved of sufficient fluid for processing. With the invention, however, and as illustrated most clearly in FIG. 5, the trap diverts or directs the leading front of the wave in a direction substantially perpendicular to its previous direction of movement and into the trailing-end corners of the exposure frame. However, in doing so, it still accepts a minimum but positive amount of fluid in the central trap portion for more efficient use of the entire trap area. Should there still be excess processing composition after covering the trailing-end corners of the exposure frame, it will enter the trap at the end portions thereof where collecting ability is at a maximum, and will permanently be stored in the unit concealed behind or under the unit border.

The trap in its preferred form does not block the fluid processing composition but merely slows down or offers resistance to the flow in certain areas by creating partial obstacles to the flow in such areas.

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

I claim:

1. A film unit adapted to record a latent image developable by a fluid composition, said film unit having a first end and a second end, said film unit comprising:

a photosensitive element for recording the latent image, the image being developable by spreading the fluid composition over said element in a predetermined direction from said first end toward said second end; and

a trap adjacent to said second end for receiving and retaining any excess of the fluid composition spread over said element, said trap having a central portion and lateral portions extending from said central portion in directions substantially perpendicular to said predetermined direction, said trap including means for resisting entry of the composition into said trap, said resisting means varying in resistance to entry of the composition from a maximum amount in said central portion to increasingly lesser amounts in said lateral portions.

2. A photographic film unit for recording a latent image developable by spreading a viscous fluid composition generally in a predetermined direction across said unit, during which spreading the composition normally defines a substantially tongue-shaped wave front having an apex, said film unit comprising:

a photosensitive element for recording the latent image and for supporting the composition during the spreading thereof across said unit; and

a trap cooperable with said element for receiving and retaining any excess of the composition remaining after the spreading is completed, said trap including means engageable by the composition wave front for admitting the composition into said trap, said admitting means having a central portion engageable by the apex of the wave front and lateral portions extending from said central portion in directions substantially normal to said predetermined direction, said admitting means varying in capacity to admit the composition from a minimum but positive amount in said central portion to increasingly greater amounts in said lateral portions.

3. In a photographic film unit having first and second ends and adapted to record a latent image developable by spreading a fluid composition across said unit from said first end toward said second end, the composition normally defining a substantially tongue-shaped wave front during the spreading thereof, the improvement comprising:

a trap having a central portion and lateral portions for receiving any excess of the composition at said second end after the spreading, said trap including means for admitting the excess composition to said portions, said admitting means varying from a minimum positive capacity to admit the excess composition to said central portion to increasingly greater capacities to admit the excess composition to said lateral portions.

4. A photographic film unit adapted to record a latent image developable by a processing composition, said film unit comprising:

a photosensitive sheet defining a rectangular exposure frame for recording the latent image, the image being developable by spreading the processing composition over said sheet in a predetermined direction, said frame having a width dimension extending in a direction normal to said predetermined direction; and

a trap substantially coextensive with said width dimension and having a central portion and lateral portions for receiving any excess of the processing composition after the spreading thereof over said sheet, said trap including means for resisting entry of the excess composition into said portions, said resisting means varying in resistance to entry of the excess composition from a maximum resistance in said central portion through successively decreasing resistances in said lateral portions.

5. A trap cooperable with a photographic film unit of the self-processing type wherein a processing solution is spread across the unit in a predetermined direction to initiate processing and wherein any excess of the solution enters said trap in the same direction, said trap defining a central portion and lateral portions, said trap comprising:

a plurality of ridges defining storage spaces for receiving and retaining the excess solution, said ridges varying in direction from substantially perpendicular to the predetermined direction at said central portion to significantly more parallel with the predetermined direction at said lateral portions.

6. For use in cooperation with a photographic film unit of the self-processing type wherein a processing composition is spread across the unit to initiate processing, a trap for receiving and retaining any excess composition from the unit, said trap having a central portion and lateral portions, said trap comprising:

a porous material for absorbing different amounts of the excess composition in different ones of said central and lateral portions, said material varying in its capacity to absorb the composition from a minimum capacity in said central portion through successively increasing capacities in said lateral portions.

7. For use in cooperation with a photographic film unit of the self-processing type wherein a processing composition is spread across the unit in a first direction to initiate processing, a trap for receiving and retaining any excess composition from the unit, said trap having a central portion and lateral portions, said trap comprising:

means defining a cavity for receiving and retaining the excess composition; and

means in said cavity, defining a corrugation extending in a second direction substantially normal to the first direction, for resisting entry of the excess composition into said cavity, said corrugation varying in height from a maximum height in said central portion to a minimum height in at least one of said lateral portions.

8. For use in cooperation with a photographic film unit of the self-processing type wherein a processing composition is spread across the unit in a first direction to initiate processing, a trap for receiving and retaining any excess composition from the unit, said trap having a central portion and lateral portions, said trap comprising:

means defining a cavity for receiving and retaining the excess composition; and

means in said cavity, defining a plurality of corrugations extending in a second direction substantially parallel with the first direction, for resisting entry of the excess composition into said cavity, said corrugations varying in pitch from a minimum pitch in said central portion to a maximum pitch in at least one of said lateral portions.

9. For use in cooperation with a photographic film unit of the self-processing type wherein a processing composition is spread across the unit in a first direction to initiate processing, a trap for receiving and retaining any excess composition from the unit, said trap having a central portion and lateral portions, said trap comprising:

means defining a cavity for receiving and retaining the excess composition; and

means in said cavity, defining a plurality of corrugations extending in a second direction substantially parallel with the first direction, for resisting entry of the excess composition into said cavity, said corrugations being partially flattened by a predetermined amount in said central portion and by lesser amounts in said lateral portions.

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