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Sankus, Jr. et al.

[11] **3,901,702**

[45] **Aug. 26, 1975**

[54] **IMAGING ELEMENT WITH ABSORBENT BLOTTER OVERLAYER MIGRATION**

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[22] Filed: **Mar. 1, 1973**

[21] Appl. No.: **337,242**

Related U.S. Application Data

[62] Division of Ser. No. 872,282, Oct. 29, 1969, Pat. No. 3,753,706.

[52] **U.S. Cl.** **96/1.5**; 96/1.8; 96/67; 96/83; 117/1.7; 117/6; 117/8; 117/36.4; 117/70; 117/71; 117/72; 346/135

[51] **Int. Cl.** **G03g 5/06**; G03g 5/08; G03g 5/02

[58] **Field of Search** ..... 96/1.5–1.8, 96/67, 83, 1 R, 1 PS; 117/36.4

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Attorney, Agent, or Firm—James J. Ralabate; David C. Petre; John B. Mitchell

[57] **ABSTRACT**

A migration imaging system having a migration imaging member comprising a softenable layer, migration material and an absorbent blotter member, which imaging member may be imaged by forming a latent image on said member, softening the softenable layer and removing residual materials by removing the absorbent blotter member.

3 Claims, 11 Drawing Figures

FIG. 1a



FIG. 1b

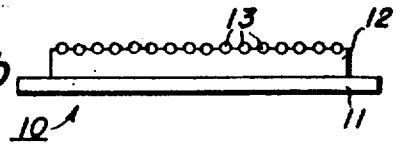


FIG. 2

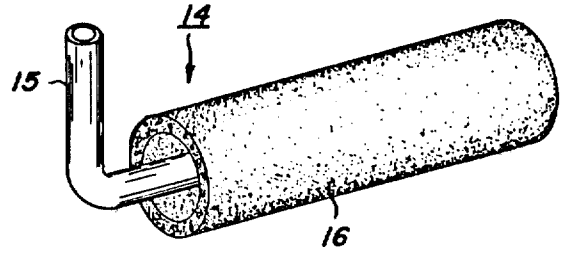


FIG. 3

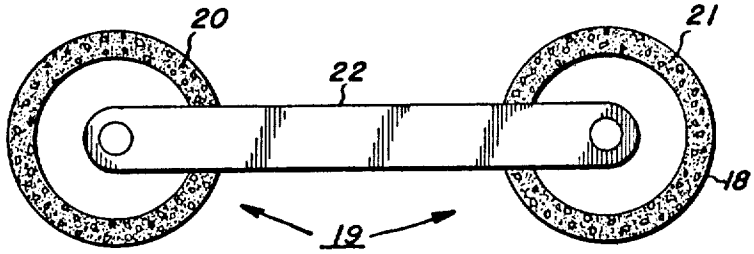


FIG. 4

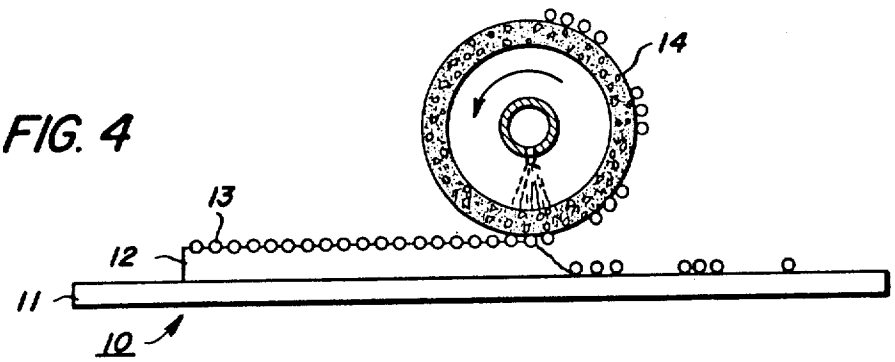


FIG. 5a

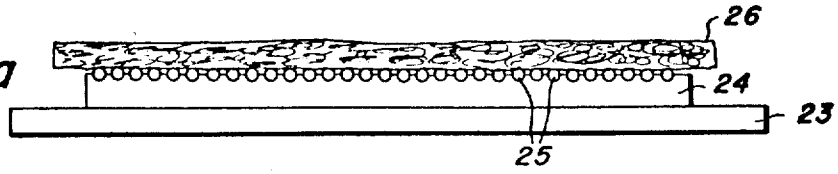


FIG. 5b

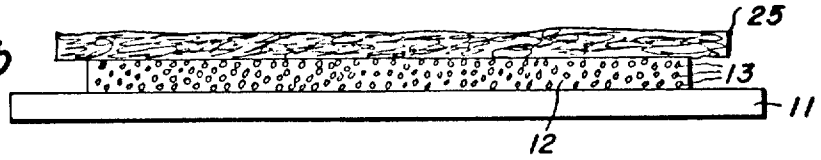


FIG. 6

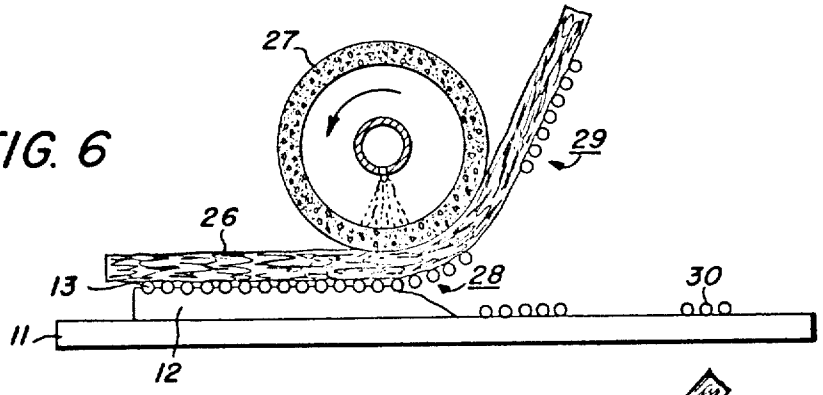
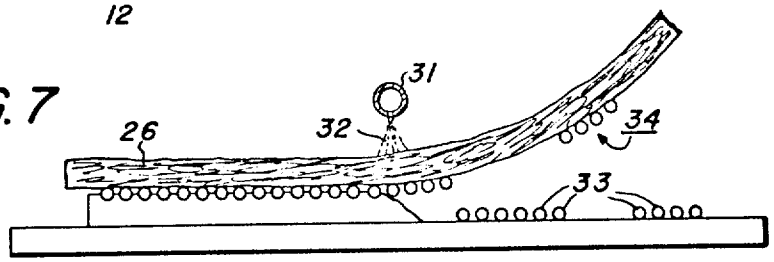


FIG. 7



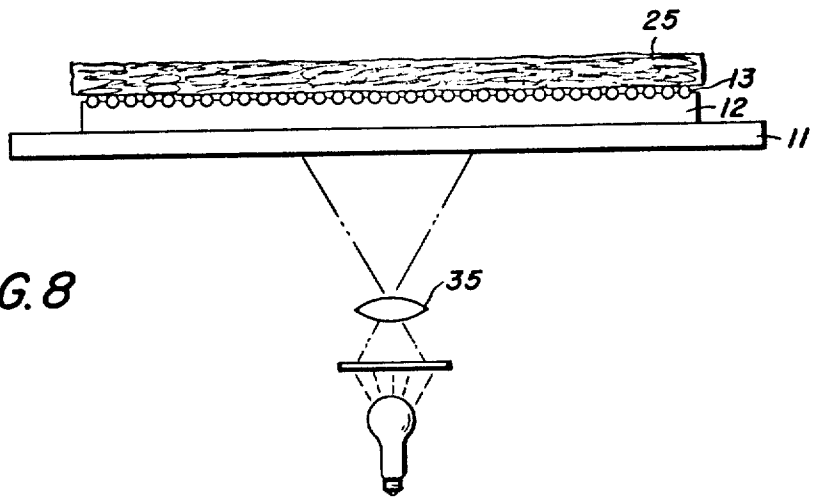


FIG. 8

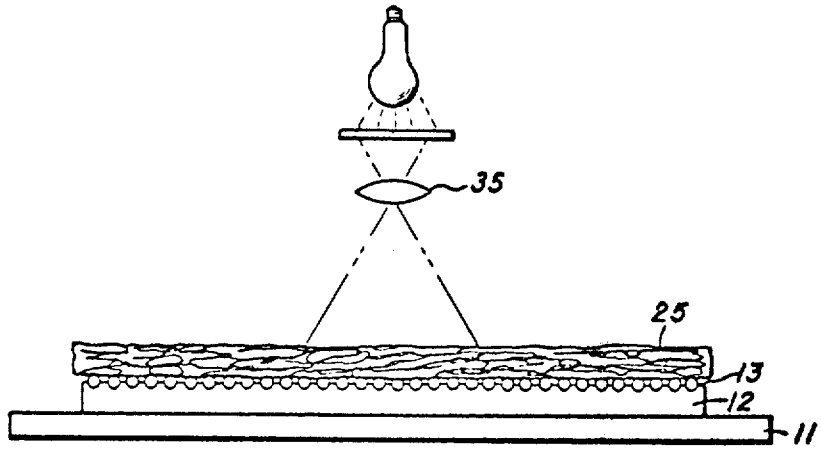


FIG. 9

IMAGING ELEMENT WITH ABSORBENT BLOTTER OVERLAYER MIGRATION

CROSS-REFERENCE TO RELATED APPLICATION

The application is a divisional of copending application Ser. No. 872,282, filed Oct. 29, 1969, now U.S. Pat. 3,753,706.

BACKGROUND OF THE INVENTION

This invention relates to a novel imaging system in which the recording material is selectively moved through a softenable medium under the influence of electrical forces.

Various methods of forming visible images in response to patterns of lights and shadows are well known. Recently, palpable, visible images have often been formed by means involving the electrical properties rather than the chemical properties of various photoconductive materials. For example, a uniformly charged layer of photoconductive material is exposed to a pattern of light-and-shadows and the resulting electrostatic latent image pattern is used to control the selective attraction or repulsion of a marking material onto the surface of the photoconductive layer thereby forming one type of electrostatographic image.

More recently, however, a migration imaging system capable of producing high quality images of high density, continuous tone, and high resolution has been developed. Such a migration imaging system is disclosed in copending application Ser. No. 460,377, filed June 1, 1965 now U.S. Pat. 3,520,681. In one embodiment of that system an imaging member comprising a substrate layer with a layer of softenable material overlying the substrate and a third layer comprising photosensitive particles overlying the softenable layer, is imaged in the following manner: A latent image is formed on the member by suitable means, for example, by uniformly electrostatically charging and exposing the uniformly charged member to a pattern of activating electromagnetic radiation. The latently imaged member is then developed by exposing it to a solvent which dissolves only the softenable layer. The photosensitive particles of the third layer which have been exposed to the radiation, migrate through the intermediate softenable layer as it is softened, depositing on the substrate an image of migrated photosensitive particles corresponding to the radiation pattern to which the member was exposed. Where the softening step is performed by simply washing the member in a suitable solvent, the material of the softenable layer along with unmigrated residual portions of the upper layer comprising photosensitive particles, are substantially completely washed away by the liquid solvent. The migrated particle image upon the substrate may then be fixed to the substrate. For many photosensitive particles which are preferred for use in such a migration imaging system, the image produced is a negative of a positive original. However, positive-to-positive imaging may be accomplished by varying imaging parameters and materials.

The basic imaging member used in the new migration imaging system is typically in one of three configurations: (1) a layered configuration comprising a substrate, coated with a layer of softenable material, and a fracturable or particulate layer comprising photosensitive material on or embedded at the upper surface of the softenable layer; (2) a binder structure, in which the photosensitive particles are dispersed in the softenable layer overcoating the substrate; or, (3) an overcoated structure, in which a substrate is overcoated with a layer of softenable material, followed by an overlayer comprising photosensitive particles, and a second overlayer of softenable material sandwiching the layer comprising photosensitive particles.

"Softenable" as used herein is intended to mean any material which can be rendered more permeable thereby enabling particles to migrate through its bulk. Conventionally, changing permeability is accomplished by heat or solvent softening. "Fracturable" layer or material as used herein, means any layer or material which is capable of breaking up during development, thereby permitting portions of said layer to migrate towards the substrate or to be otherwise removed.

There are other systems for forming the latent image, wherein non-photosensitive or inert, fracturable layers or particulate material may be used to form said images, as described in copending application Ser. No. 483,675, filed Aug. 30, 1965 now U.S. Pat. No. 3,656,990. In that application and copending application Ser. No. 725,676, filed May 1, 1968, now abandoned, as well as the present application, a variety of methods which may be used for imaging the migration imaging member are disclosed.

Likewise, various means for developing latent images in the novel migration imaging system are known. Typical developing means include solvent washaway, as described above, solvent vapor softening, heat softening and combinations of these methods. In another mode of development, if the softenable layer is at least partially left behind on the substrate, it has been found that the unmigrated fracturable material remaining on the imaging member after development may be adhesively stripped off to yield complementary positive and negative images, as disclosed for example, in copending application Ser. No. 642,830, filed June 1, 1967 now U.S. Pat. No. 3,740,216.

In new and growing areas of technology such as migration imaging system suitable for use in the present invention, new methods, apparatus, compositions of matter, and articles of manufacture continue to be discovered for the application of the new technology in a new mode. The present invention relates to a new and advantageous system for the development of latent images in such migration imaging systems.

SUMMARY OF THE INVENTION

It is, therefore, an object of this invention to provide a novel imaging system.

It is another object of this invention to provide a novel imaging system wherein a photosensitive layer is selectively displaced in image configuration.

It is a further object of the invention to provide a novel imaging member.

It is another object of this invention to provide a migration imaging system employing a more simple development system.

It is yet another object of this invention to provide a migration imaging system including a cleaner, neater, more efficient system for the disposal of residual by-products of development.

It is still a further object of this invention to provide a migration imaging system which is more suitable for automatic imaging apparatus.

The foregoing objects and others are accomplished in accordance with this invention by a migration imaging

system having a novel migration imaging member comprising a softenable layer, migration material and an absorbent blotter member, which imaging member may be imaged by forming a latent image on said member, softening the softenable layer and removing residual materials by removing the absorbent blotter member.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention as well as other objects and further features thereof reference is made to the following detailed disclosure of the preferred embodiments of the invention taken in conjunction with the accompanying drawings thereof, wherein:

FIG. **1** shows cross-sectional views of typical embodiments of a migration imaging member.

FIG. **2** shows a solvent applicator-blotter roller suitable for use in the advantageous system of the present invention.

FIG. **3** illustrates a dual roller applicator-blotter system for use in the present inventive system.

FIG. **4** illustrates a preferred embodiment of the present invention wherein the advantageous solvent applicator-blotter roller is used in conjunction with a migration imaging member.

FIG. **5** is a partially schematic cross-sectional view of preferred embodiments of the novel imaging member.

FIG. **6** illustrates a preferred embodiment of the novel migration imaging member in conjunction with a suitable roller applicator.

FIG. **7** illustrates the novel migration imaging member in cooperation with a solvent spray applicator.

FIG. **8** illustrates the novel migration imaging member being used in the novel migration imaging system including exposure through a substantially transparent substrate of said imaging member.

FIG. **9** illustrates the novel migration imaging member being used in the novel migration imaging system including exposure through a substantially transparent absorbent blotter layer of said imaging member.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIG. **1**, an imaging member suitable for use in a migration imaging system is typically a layered configuration **10** comprising a substrate **11** coated with a layer of softenable material **12**. The substrate **11** is typically an integral part of the imaging member, giving the entire member support and serving as the backing for the desired image. However, imaging members without integral substrates may be used to form migration images on any suitable surface which takes the place of the illustrated substrate.

In FIG. **1***b* a fracturable or particulate layer **13** comprising a migration marking material is contiguous the upper surface of the softenable layer. In various embodiments, the marking material may be coated onto, slightly embedded in, or substantially embedded in the softenable material of layer **12** at the upper surface of that layer. In FIG. **1***a* particulate marking particles **13** are dispersed throughout the softenable layer **12** in a binder structure. Both of these imaging member configurations are suitable for use in preferred embodiments of the present inventive system.

In FIG. **2**, applicator-roller **14** is designed to apply liquid or vapor solvent, or heat, which dissolves or softens the softenable layer in developing a migration imaging member. The roller applicator-blotter system **14** includes means **15** for continuously supplying solvent or heat to the surface **16** of the roller which is porous to allow passage of liquid or vapor solvent from the roller to the imaging member. The surface **16** of the roller preferably comprises a porous, absorbent material designed to blot up the unmigrated portion of the photosensitive particles and the residue of the softenable layer from a migration imaging member substantially simultaneously with the application of the solvent or heat. Ideally, a system of blotter, solvent, and imaging member materials so synergistically matched that an absorbent system absorbs or totally assimilates the residual materials, is preferred.

In FIG. **3** a dual roller system **19** comprising applicator-roller **20** and blotter-roller **21** cooperatively connected by member **22** is illustrated as an embodiment of a system which performs essentially the same functions as roller **14** shown in FIG. **2**, but the dual roller system of FIG. **3** provides for a lapse of time between application and blotting, in which time the applied solvent has a greater opportunity to act upon the softenable layer of the imaging member. In FIG. **3**, the first applicator-roller **20** need not include the absorbent surface **18**, which in this embodiment, is included on the blotter-roller **21**.

The operation of a preferred embodiment of the present inventive system is illustrated in FIG. **4** wherein applicator-blotter roller **14** substantially simultaneously applies the required solvent or heat to migration imaging member **10**, as the same roller **14** also blots up the residue comprising unmigrated photosensitive material, undissolved particles of softenable layer **11**, and excess solvent. It is understood that the dual roller system **19** of FIG. **3** may similarly be used in conjunction with the migration imaging member **10** in another preferred embodiment of the present inventive system. Likewise, any suitable means may be used in place of applicator roller **20**, so that the medium being used to soften the softenable layer can be suitably applied.

The novel structure for a migration imaging member preferred for use in the present inventive system is illustrated in FIG. **5**, wherein substrate **23** supports softenable layer **24**. In FIG. **5***a* the softenable layer **24** is coated with a fracturable layer of migration marking material **25**, and advantageous layer **26** is an electrically insulating, porous, absorbent layer which overlies the fracturable layer **25**. In FIG. **5***b* migration marking particles **25** are dispersed throughout the softenable layer **24** in a matrix configuration. In preferred embodiments of the novel imaging member, the migration marking material or particles are electrically photosensitive. Any one of these embodiments is suitable for use with the advantageous migration imaging member development system of the present invention.

The electrically photosensitive material or particles, portions of which migrate to the substrate during image formation, may comprise any suitable electrically photosensitive material which is typically not readily soluble in any of the media used to soften the softenable layer during development of the migration imaging member. Preferably, photosensitive materials in particle form should be about 0.01 to about 3 microns in size and optimally about 0.5 to about 1 microns in size for optimum resolution and otherwise high quality images according to this invention.

Electrically photosensitive particles as used herein refers to any particles which when dispersed in a softenable, electrically insulating binder or matrix layer as described herein, in response to electrical charging, imagewise exposure to activating radiation, and contact with suitable softening media, are caused to selectively deposit in image configuration on a substrate.

While photoconductive particles, (and "photoconductive" is used in its broadest sense to mean particles which show increased electrical conductivity when illuminated with electromagnetic radiation and not necessarily only those which have been found to be useful in xerography in xerographic pigment-binder plate configurations) have been found to be a class of particles useful as "electrically photosensitive" particles in this invention and while the photoconductive effect is often sufficient in the present invention to provide in "electrically photosensitive" material, photoconductivity does not appear to be a necessary effect. Apparently the necessary effect according to the invention is the selective relocation of charge into, within or out of the material or particles, said relocation being effected by light acting on the bulk or surface of the "electrically photosensitive" material, by exposing said material or particle to activating radiation which may specifically include photoconductive effects, photoinjection, photoemission, photochemical effects and others which cause said selective relocation of charge.

The absorbent layer **26** is itself preferably substantially electrically insulating so that electrostatic latent images or charge patterns on the imaging member, and particularly on the photosensitive layer of such layered embodiments of the imaging member, will not be dissipated through the absorbent overlayer.

The substrate, and therefore also the other layers of the migration imaging member typically adhered to said substrate, may generally be in any suitable form such as a strip, sheet, plate, coil, cylinder, drum, endless belt, moebius strip, circular disk or the like, depending upon the specific embodiment of the novel migration imaging system. The substrate may be electrically conductive or insulating. Conductive substrates generally facilitate the charging or sensitization of the imaging member according to the optimum electrical-optical mode of the invention. However, electrically insulating substrates open up a wide variety of film formable synthetic materials for use as the substrate.

The softenable layer may be coated directly onto the conductive substrate, or alternatively, the softenable layer may be self-supporting and may be brought into contact with a suitable substrate during imaging. The softenable layer may comprise one or more layers of softenable materials. The softenable layer should preferably be substantially electrically insulating for use in the optimum electrical-optical mode, especially during the migration force applying and softening steps; but, more conductive materials may be used in other electrical modes of the imaging system wherein a constant and replenishing supply of charges in image configuration is applied to the imaging member. The softenable layer may be one or more layers of any suitable thickness, with thicker layers generally requiring a greater electrostatic potential in various modes of the migration imaging system. Thicknesses in the range of about ½ to about 16 microns have been found preferable for use in such imaging systems.

Materials suitable for use as substrates, softenable layers, and migration marking particles in such a migration imaging system, are more fully discussed in copending applications Ser. No. 837,780, filed June 30, **1969,** and Ser. No. 837,591, filed June 30, 1969.

The substantially electrically insulating, porous and absorbent member, layer, membrane, sheet or web **26,** in FIG. **5,** generally sufficiently porous to allow passage of solvent fluid, either liquid or vapor, and yet substantially insoluble in the particular solvent used. This layer is also sufficiently absorbent or adhesive to substantially completely absorb, blot, or pick up residual unmigrated particles, undissolved particles of the softenable layer, and excess solvent, from the desired imaged member comprising the substrate supporting the migrated photosensitive particles. The absorbent sheet is also preferably substantially electrically insulating so that in the layered configurations such as shown in FIG. **5***a*, the charge image pattern on the fracturable layer is not dissipated by contact with the absorbent layer. For example, absorbent, substantially insulating layers having bulk resistivities greater than about 10^8 ohm-centimeters an preferred for use in the present invention. Absorbent layers of thicknesses less than about 200 microns are similarly preferred.

This layer is typically a porous membrane, sheet, or web, selected to adequately perform with the solvent, migration particles, and softenable layer, comprising the particular migration imaging system. Examples of materials typically used for the insulating absorbent layer include Xerox 914 Bond available from Xerox Corporation, Rochester, N.Y.; A-M Mimeograph Master stencil tissue, available from Addressograph-Multigraph Corporation; Brown Company's carbonizing tissue; Delsey toilet tissue; Bible tissue, available from Weyerhauser Papers; Olin Papers' unbleached tissue paper. A particularly preferred material is Olin Papers' unbleached 10 lb. single-side glazed tissue typically made as a carbon paper base.

It will also be appreciated that when the heat softening system rather than a solvent softening system is used with a migration imaging member, that the absorbent layer need not be porous if it is otherwise a suitable conductor of heat and is not itself susceptible to being melted by the heat necessary to soften the softenable layer in the migration imaging member. Again, however, the layer used with the heat softening system must have the requisite absorptive or adhesive characteristics.

Another preferred embodiment of the present inventive system is illustrated in FIG. 6 wherein the novel migration imaging member illustrated in FIG. **5** is cooperatively used in conjunction with a suitable roller applicator **27** which is shown applying solvent through porous layer **26** at point **28,** after which porous, blotting layer **26** is removed from the remainder of the novel migration imaging structure, with layer **26** having absorbed and absorbed residual photosensitive particles, parts of the softenable layer, and excess solvent, shown at **29.** Substrate **23** supports migrated image **30** comprising photosensitive particles which migrated to substrate **23** after the imaging member was charged, exposed and the developing solvent or heat applied by the advantageous system of the present invention.

In FIG. **7,** the novel migration imaging system is illustrated in another preferred embodiment wherein the novel migration imaging member illustrated in FIG. **5**

is cooperatively used in conjunction with spray applicator **31** which applies liquid or vapor solvent to the migration imaging member through insulating, porous layer **26** in the area indicated at **32.** Thereafter, porous blotting layer **26** is removed from the remaining substrate **23** supporting the migrated photosensitive particles comprising the developed image **33,** and said porous blotting layer **26** has absorbed residual photosensitive particles, parts of the softenable layer, and excess solvent, shown adhering to it at **34.**

In FIG. **8,** the novel migration imaging system just described and as illustrated in FIG. **6,** is shown in cooperation with means **35** for exposing a photosensitive migration imaging member to a light-and-shadow image pattern **36,** said exposure taking place from the side of substantially transparent substrate **23** opposite the side supporting the remaining layers **24, 25, 26** of the novel migration imaging member of the present invention. Similarly, FIG. **9** illustrates a novel migration imaging member being used in cooperation with means **35** for exposing the photosensitive imaging member to a light-and-shadow image pattern from the side of substantially transparent absorbent blotter layer **26.** For example a bleached tissue layer **26** saturated with solvent during the exposure step may be used in this embodiment. Also, substantially heat fusible low melting waxes may also perform this function. It will be understood that any means suitable for exposing the inventive imaging member to a light-and-shadow image may be used as shown in FIGS. **8** and **9.** It will also be appreciated that the system shown in FIG. **9** requires that the absorbent layer **26** be substantially transparent to allow passage of sufficient light to effect the photosensitive particles so that an image of the desired quality is formed. When such an absorbent layer **26** is not used, an appropriately transparent substrate must be used so that the system illustrated in FIG. **8** may be used.

The advantageous imaging system of the present invention may also be used with migration imaging members whose fracturable layers or binder structures utilize marking material comprising non-photosensitive or photosensitively inert materials. In such systems, as described for example in copending application Ser. No. 483,675, filed Aug. 30, 1965 now U.S. Pat. 3,656,990, the latent image may be formed by any of a wide variety of methods including charging in image configuration through the use of a mask or stencil; first forming such a charge pattern on a separate photoconductive insulating layer according to conventional xerographic reproduction techniques and then transferring this charge pattern to the imaging member by bringing the two layers into very close proximity and utilizing breakdown techniques as described, for example, in Carlson U.S. Pat. No. **2,982,647** and Walkup Pat. Nos. 2,825,814 and 2,937,943. In addition, charge patterns conforming to selected, shaped, electrodes or combinations of electrodes may be formed by the "TESI" discharge technique as more fully described in Schwertz Pat. Nos. 3,023,731 and 2,919,967 or by techniques described in Walkup Pat. No. 3,001,848 and 3,001,849 as well as by electron Walkup U.S. Pat. Nos. 3,001,848 and 3,001,849 as well as by electron beam recording techniques, for example as described in Glenn U.S. Pat. No. 3,113,179.

It will be appreciated that migration imaging systems involving the novel migration imaging member of this invention, provide a system wherein the development of latent images upon said imaging member may be carried out in a simpler, neater, and more expedient manner, than in previous embodiments of solvent washaway, solvent vapor softening, or heat softening development. The absorbent layer used in the present invention may be a permanent recyclable web, or it may be a disposable layer which is discarded after performing its function during a single imaging of such a migration imaging member. As such, the system of the present invention is quite practical for adaptation to automatic imaging apparatus.

The following examples further specifically define the present invention with respect to a novel migration imaging system. The parts and percentages are by weight unless otherwise indicated. The examples below are intended to illustrate various preferred embodiments of the novel migration imaging member and development system.

EXAMPLE I

The novel system for development of migration imaging member is performed using a migration imaging member comprising an about 5-mil aluminum substrate coated with a layer of a matrix of softenable material containing photosensitive particles. The matrix mixture is composed of about a 3:1 ratio of a petroleum hydrocarbon resin with a color of G–10 on the Gardner scale, Piccopale 70–SF, available from Pennsylvania Industrial Chemical Co., to x-form metal-free phthalocyanine as described in Byrne U.S. Pat. No. 3,357,989. The 3:1 ratio of resin and phthalocyanine particles is ground in a long-chain saturated aliphatic hydrocarbon liquid, boiling point 315°–350°F., Isopar G solvent, available from Humble Oil Co. and coated on the aluminum substrate with an about 0.0005 inch Bird applicator bar available from Gardner Laboratories. The coated aluminum substrate is then dried for about 10 minutes at about 80°C. This method of application substantially uniformly disperses the photosensitive phthalocyanine particles throughout the resin matrix. This photosensitive migration imaging member is then negatively charged by a corona charging device and the charged member is exposed to the desired tungsten filament light-and-shadow image pattern by projection of said pattern upon the imaging member using an exposure of about 50 f.c.s. The latent imaged member is then covered with an overlayer of substantially insulating absorbent, blotting material, in this case A-M Master Stencal Tissue, available from Addressograph-Multigraph Corporation. Xylene solvent is applied by means of a roller having a microporous polyurethane foam resin sponge absorptive surface. After the application of the xylene solvent, the blotting material sheet having absorbed residual unmigrated photosensitive particles, undissolved particles of the softenable layer, and excess solvent, is removed from the imaging member. The remaining portion of the imaged member is the substrate supporting the migrated photosensitive particles in the desired image configuration.

This system yields, on the substrate, sharp positive images of excellent density and very low background. On the blotting material sheet removed from said imaging member, lateral diffusion of the photosensitive marking particles between the tissue fibers blurs the negative pattern picked up by the blotting sheet, therefore rendering the latter pattern commercially unacceptable.

EXAMPLE II

A migration imaging member suitable for use in the inventive system is constructed by coating an insulating about 3-mil Mylar polyester film, available from E. I. duPont deNemours & Co., Inc., with a softenable material, Stabelite Ester 10, available from Hercules Powder Company. A fracturable migration layer of selenium is vacuum evaporated onto the Stabelite softenable layer by exposing the softenable layer to selenium vapors at a vacuum of about 4×10^{-4} Torr for about 2 seconds. This imaging member is imaged by charging and exposing as described in Example I. The image is developed by the application of Sohio 3440 hydrocarbon solvent, available from the Standard Oil Company of Ohio. The developing solvent is applied by a roller having a microporous, absorbent surface of polyurethane sponge material. As the polyurethane roller applies the solvent, it substantially simultaneously picks up and absorbs unmigrated selenium marking material and residual solvent and dissolved Stabelite from the softenable layer. The developed image member remains having the imagewise marking particles in image configuration on the Mylar substrate.

EXAMPLE III

The novel system for development of migration imaging members is performed using a novel migration imaging member comprising a substrate of about 3 mils in thickness composed of polyethylene terephthalate, called "Mylar" and available from E. I. duPont deNemours & Co., overcoated with a thin layer of aluminum which is about 50% white light transmissive. The aluminized Mylar substrate is coated with a photoconductive matrix as described in Example I, in addition, an overlayer of substantially electrically insulating absorbent blotting material, in this case a sheet of 10 lb. (17×22 in., 500 sheet ream) glazed carbonizing tissue manufactured by Olin Industries. The imaging member is then negatively charged with a corona charging device and is exposed as described in Example I. However, the exposure step in this embodiment is performed through the substantially transparent aluminized Mylar substrate. The xylene solvent is then applied by means of a spray head which produces an effective spray width equal to the width of the migration imaging member. The spray head applies the solvent onto and through the blotting tissue layer which absorbs residual unmigrated photosensitive particles, undissolved particles of the softenable layer, and excess solvent. The blotting tissue, then saturated with the residual products of solvent development of the migration imaging member, is removed from said imaging member. The substrate remains supporting the migrated photosensitive particles in image configuration. This system also yields sharp positive images of good density and low background.

Although specific components, proportions and procedures have been stated in the above description of the preferred embodiments of the novel migration imaging system, other suitable materials, as listed above, may be used with similar results. In addition, it may be that other substances exist or may be discovered that have some or enough of the properties of the particular substances described herein to be used as substitutes, or that other materials and procedures may be employed to synergize, enhance or otherwise modify the novel migration imaging system.

Such other modifications and ramifications of the present invention will occur to those skilled in the art upon a reading of this disclosure. These are intended to be included within the scope of this invention.

What is claimed is:

1. A migration imaging member comprising a substrate, a layer of substantially electrically insulating softenable material overlying said substrate and a fracturable layer of electrically photosensitive migration marking material comprising selenium contacting said softenable layer and spaced apart from said substrate and a substantially electrically insulating non-image bearing absorbent blotter layer overlying the surface of the layer of softenable material.

2. The migration imaging member according to claim 1 wherein the fracturable layer of said migration marking material is contiguous the surface of said softenable layer furthest from said substrate.

3. The migration imaging member according to claim 1 wherein the migration imaging member additionally comprises a second layer of substantially electrically insulating softenable material overlying the fracturable layer of migration marking material and located between said fracturable layer and the non-image bearing absorbent blotter layer.

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