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2,604,710 7/1952 Beune ..... 283/10  
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[54] TAMPERPROOF LABEL CONSTRUCTION  
41 Claims, 3 Drawing Figs.

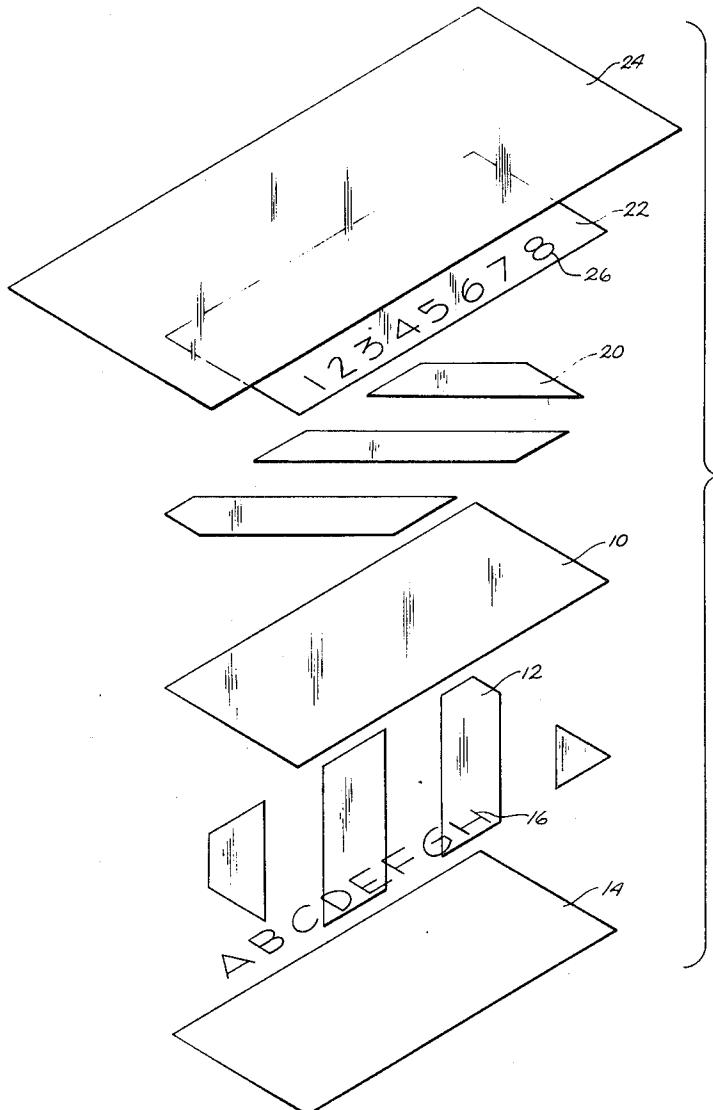
[52] U.S. Cl..... 40/2.2  
[51] Int. Cl..... G09f 3/02  
[50] Field of Search..... 40/2, 2 B,  
135, 2.2; 117/1.5, 15; 283/6, 10, 9, 8

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**ABSTRACT:** A tamperproof label is provided in which the underside of a transparent film is partially masked with a substance having limited adhesivity for the film and imprinting is applied to both the undersurface of the film and the mask. To form a tamperproof pressure-sensitive label, pressure-sensitive adhesive layer is applied over both the imprinted underside of the film and the mask, the adhesive layer having a greater adhesion for the mask than the adhesion of the mask for the undersurface of the transparent film. Once the label has been applied to a substrate any removal of the label will result in all or a portion of the adhesive layer, essentially corresponding to the pattern of the applied mask, to remain on the substrate with the printed mask. A portion of the imprinting will also be removed with the transparent film thereby destroying the intelligence of the imprint.

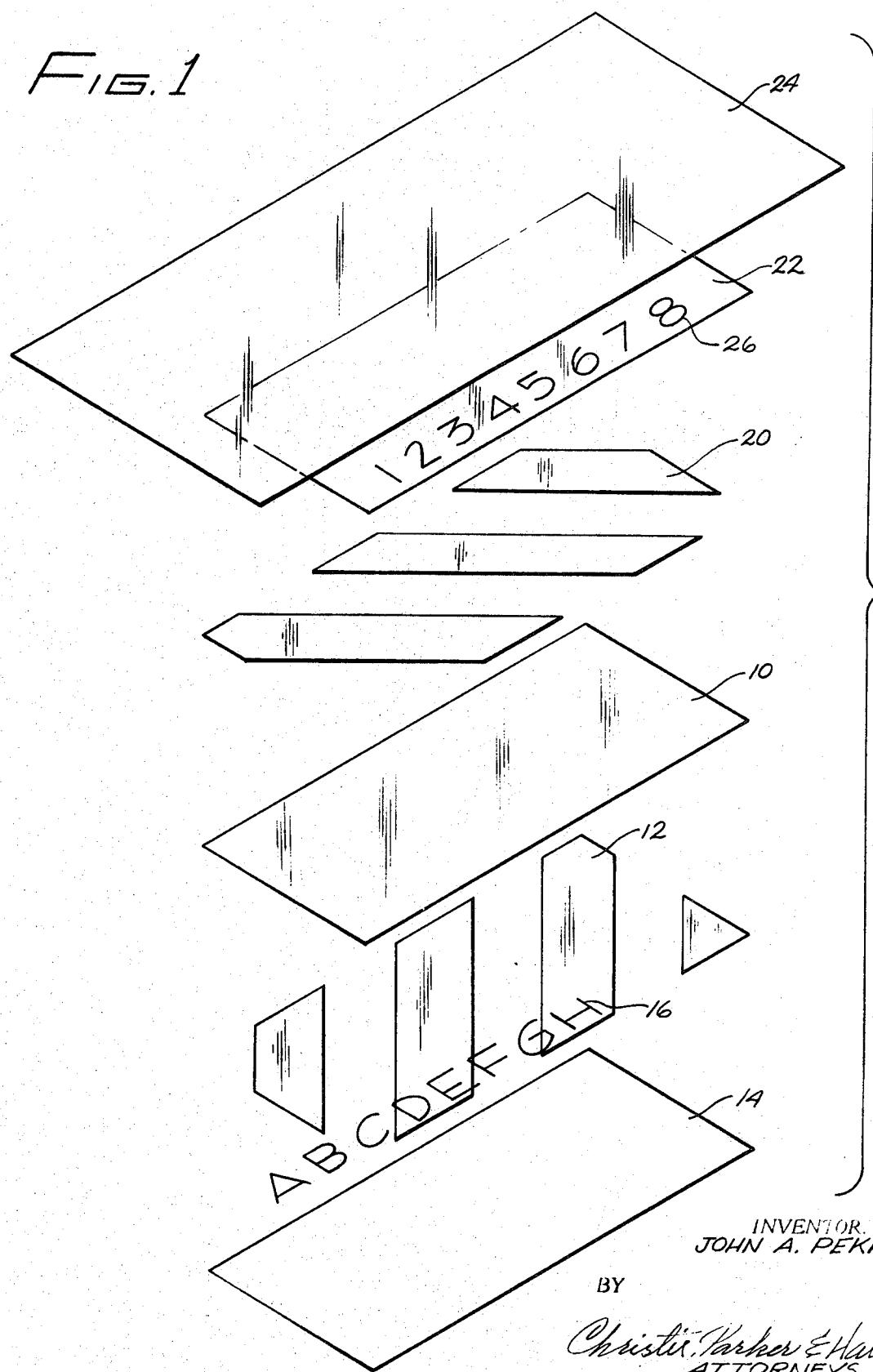


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SHEET 1 OF 2

FIG. 1



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Fig 2

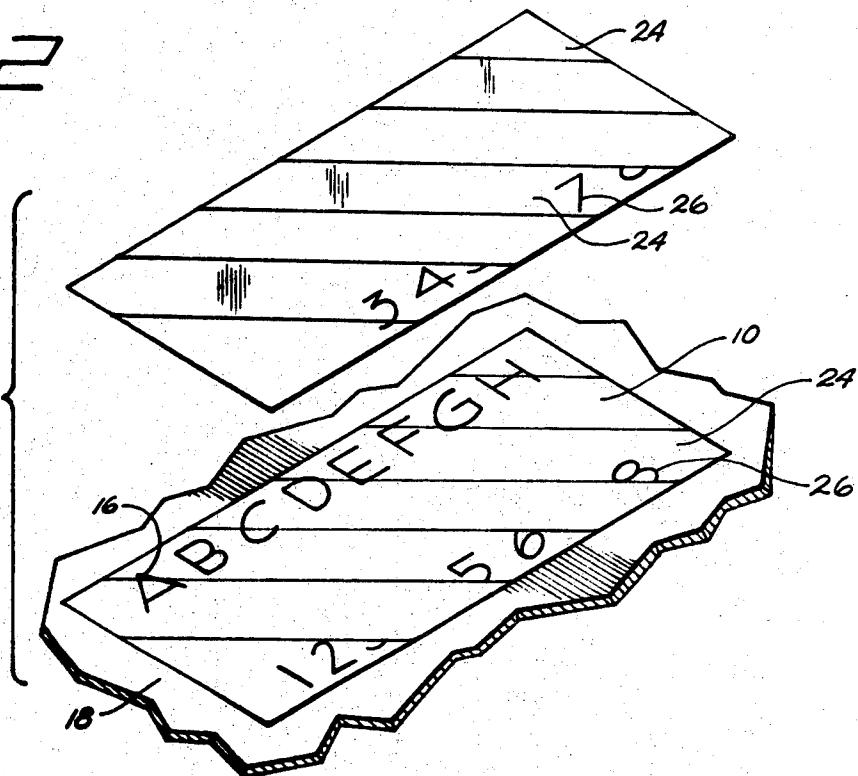
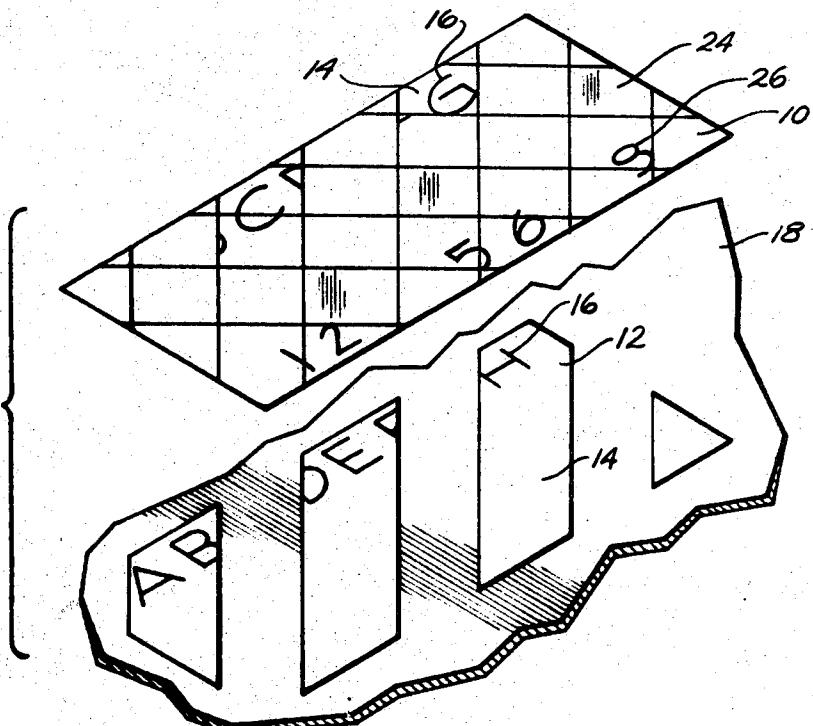


FIG. 3



## TAMPERPROOF LABEL CONSTRUCTION

## BACKGROUND OF THE INVENTION

The present invention relates to tamperproof labels particularly labels which must be permanently applied to a substrate.

Recently, the United States Federal Highway Administration developed a regulation requiring all manufacturers of motor vehicles to provide serial number, date and year of manufacture on a certification label permanently applied to the vehicle. This label certifies that the vehicle meets all applicable federal safety standards enabling purchasers to determine by the imprinted date of manufacture which standards are applicable to that particular vehicle. The regulation includes imported vehicles where the certification label should be affixed by the foreign manufacturer who is in the best position to know the foreign characteristics of the vehicle. Label required must remain in place and be legible for life of the vehicle and not easily transferable to another vehicle.

To prevent easy transferability to another vehicle the label must be essentially tamperproof. One tamperproof label has been proposed. In this label the required information is printed on a receptive transparent surface having an opaque adhesive backing for application to the substrate. Any removal of the label from the substrate will cause part of the opaque pressure sensitive material to separate from transparent surface and remain on the substrate forming thereby a transparent wording such as "void," on the film, which, in thereby, indicates that the label had been removed from the original substrate to which it was applied. The opaque adhesive backing, however, is readily obtainable and the defect area can be easily mended by a reapplication of the adhesive coating so that the label may be reused without an indication that it has been removed from the original substrate.

## SUMMARY OF THE INVENTION

According to the present invention there is provided a tamperproof label construction in which any attempt to remove the label from a substrate to which it has been applied will result in a destruction of visual indicia, preferably the intelligence of such indicia, appearing through a transparent portion of the label.

In a preferred construction, the structural member of the basic label is a self-supporting film at least a portion of which is transparent. Part of the underside of the transparent portion is printed with visual indicia and part of the underside of the transparent portion is in contact with a masking surface of limited adhesivity to the film and imprinted with a visual indicia. The imprinted and masked underside of the transparent film is in adhesive contact with an adhesive layer having upper and lower adhesive surfaces. The upper adhesive surface is in direct adhesive contact with both the imprinted transparent portion of the film and the imprinted mask and has a greater adhesive bond to the mask than the mask has to the transparent portion of the self-supporting film. The lower adhesive surface of the adhesive layer also has a greater adhesivity for the substrate to which the label is to be applied than the adhesivity of the mask to the film.

When the label is removed from the substrate to which it is applied that portion of the imprinting corresponding to the area defined by the mask will remain on the substrate with at least part of the adhesive and that portion of the imprinting corresponding to the masked area of the transparent portion of the film will be removed with the self-supporting film with, where desired, part of the adhesive destroying thereby the intelligence of the visual indicia.

There is also provided multidestruct label systems. A preferred system includes the basic label described above in combination with a protective adhesive film which allows destruction of both overprinted visual indicia. The basis label described above has imprinted beneath the transparent portion visual indicia which may be standard copy common to all labels of a series. Part of the upper surface of the transparent portion thereof is in contact with a similar mask and part in

contact with a printable layer covering both the mask and the upper surface of the transparent portion of the self-supporting film. The printable overlayer generally has a greater adhesion to the transparent self-supporting film than the greatest single adhesive bond provided by the printable overlayer mask transparent film laminate. The printable overlayer is at least transparent where the copy appears. The printable overlayer is then printable with some intelligent visual indicia generally peculiar to the substrate to which it is to be applied such as a vehicle serial number and manufacturing date, designed for the print to register on portions of the printable overlayer in contact with both film and mask.

The second part of the system is an adhesive self-supporting protective which is at least transparent wherever visual indicia are to appear. This protective film has a greater adhesivity for the printable overlayer than the adhesivity of the mask of the film, printable overlayer, or both, but a lesser adhesion for the printable overlayer than the adhesion of the printable overlayer for the film. The protective film also serves to protect the applied label from the elements. When the combined system is applied to a substrate removal of the second film removes portions the printable overlayer and any imprinting thereon, the portions corresponding to the masked areas of the transparent film. As indicated above, when the self-supporting film of the basis label is removed the visual indicia it protects is also destroyed

## DRAWINGS

FIG. 1 is an expanded illustration of the several components of a preferred multidestruct tamperproof label system of this invention showing in addition the preferred basic tamperproof label construction.

FIG. 2 is an illustration of the destruction which results from removal of the protective self-supporting, pressure-sensitive film from a multidestruct tamperproof label from a substrate.

FIG. 3 is an illustration of the destruction which then occurs upon removal of the self-supporting transparent film of the basic label construction applied to a substrate.

## DESCRIPTION

According to the present invention, there is provided a tamperproof label that once applied to a substrate. Any attempted removal will cause a destruction of provided intelligent visual indicia.

Tamperproof labels provided in accordance with the practice of this invention may be understood with reference to FIG. 1. With reference thereto a basic tamperproof label of this invention may be fabricated from a self-supporting film 10 which is at least transparent in areas where visual indicia are to be printed on the undersurface thereof. A patterned mask 12 having limited or even essentially no adhesion to the self-supporting film 10 and greater adhesion to the adhesive layer 14 is in contact with part of the undersurface of the film 10. Some visual indicia 16 such as a letter grouping shown, which may be composed of single or multiple colors, a symbol, a code or any other selected visual indicia including a color coating or multicolored pattern is applied to both mask 12 and transparent portion of film 10. Portion of the imprinted transparent self-supporting film and the transparent imprinted mask 12 are in adhesive contact with the upper adhesive surface of adhesive layer.

The self-supporting film 10 may be fabricated of any material of sufficient integrity to provide long term protection of visual indicia 16. Although cellulosic materials may be used, film 10 is preferably fabricated from normally solid polymers such as ethylene polymers such as polyethylene, ethylene-vinyl acetate copolymers, ethylene-acrylic acid copolymers and the like; propylene polymers such as polypropylene and ethylene-propylene copolymers and the like; acrylic polymers, vinyl polymers such as polyvinyl acetate, polyvinyl fluoride and the like; cellulose acetate, polycarbonates, polyesters, polyethers, polysulfones, styrene polymers and like polymers

which offer good surface life and long term resistance to the elements. The self-supporting film 10 may also be a laminate such as a paper print laminated to at least one or between two normally solid polymeric surfaces in a manner which provides a window through which the underprinted visual indicia 16 will appear. As indicated, areas where visual indicia 16 do not appear may be coated and provided with other visual indicia which need not be destroyed.

Although the displaying area must be transparent it may be tinted or dyed and the like, where desired.

The nature of the mask 12 is not narrowly critical except that its adhesivity to the upper adhesive surface adhesive layer 14 must, in the preferred label construction of this invention, exceed its adhesivity to self-supporting film 10. It may, for instance, be an imprinted or printable self-supporting film such as thin polymeric membrane which has limited or partial adhesivity to surface 10 per se or because of the presence of a release coating such as a silicone oil. The mask is preferably formed by the application of a transparent printable ink which is known to have poor adhesivity for the film surface. For polyester resins there can be formulated nitrocellulose, chlorinated rubber and certain acrylic inks to provide coating or poor adhesivity to the polyester surface. Similarly but nowise limiting, nitrocellulose and polyamide based inks may be used with styrene polymers; chlorinated rubber based inks may be used with polyvinyl fluoride; nitrocellulose inks with polyvinylchloride and polyamide inks with acrylic polymers.

Also within the ambit of this invention is the use of a film 10 which normally has poor adhesion to adhesives and inks but good adhesion when suitably treated or primed over a portion of the transparent surface will accept visual indicia with a greater tenacity than the adhesion of applied visual indicia to adhesive layer 14. An example is flame or corona treated polyethylene. A portion of a clear polyethylene film would be treated and where treated ink and adhesive adhesion will be good but where untreated ink and adhesive adhesion will be poor. The untreated portion provides in essence a fragile printing which serves as the mask surface 12 and which will remain with all or part of the adhesive when film 10 is removed.

Equally convenient is to apply a masking surface 12 to the bottom of film 10 which has good adhesion to film 10. There may then be applied visual indicia which has good adhesion to masking surface 12 but poor adhesion to film 10. An adhesive is then used which will remove visual indicia from film 10 but not from the masking surface 12.

Another alternative, within the ambit of this invention, is to apply all of the visual indicia to the underside of film 10, the visual indicia having poor adhesion to the surface of film 10. A masking surface 12 is applied over a portion of the visual indicia, the mask having a greater adhesivity for film 10 than for adhesive layer 14. In the alternative the masking surface 12 may have poorer adhesion for both the film 10 applied visual indicia 16. Where film 10 is removed from adhesive 14 the visual indicia protected by the masking surface 12 remains on the substrate with the adhesive.

Preferably, and for convenience and ease in manufacture, mask 12 is applied to layer 10 before imprinting occurs. The bottom surfaces of film 10 and mask 12 are then simultaneously imprinted with any desired visual indicia 16 and in this instance the mask is transparent where visual indicia are to appear. After imprinting adhesive layer 14 is applied to form the preferred composite basic tamperproof label of this invention. The adhesive layer 14 has two adhesive surfaces, an upper or first adhesive surface which will form a strong adhesive bond to film 10 and mask 12 and a lower or second adhesive surface which has a greater bond to the substrate to which contact label is to be applied than the adhesion of the mask 12 to film 10. Adhesive layer 14 may where desired be a laminate of two or more adhesives. More conveniently, however, adhesive surface 14 is simply a single-layer adhesive such as solvent, moisture, heat pressure activated and like adhesives. Pressure-sensitive adhesives are preferred. Where pressure-sensitive

adhesives are used, the lower adhesive surface may be protected prior to application to a substrate by a release coated paper (not shown) which is removed prior to label application.

5 With reference now to FIG. 3, there may be in general demonstrated one destruction which can occur when removal of an applied label is attempted. When the self-supporting film 10 is removed from the substrate 18 to which the label has been applied there will be removed with the film 10 a portion 10 of visual indicia 16 and a portion of adhesive 14 and there will remain on substrate 18 a laminate composed of a part of adhesive 14, mask 12, and part of the visual indicia 16. This occurs by virtue of failure of mask 12 where it is in contact with the film 10. In the alternative and depending on the substrate, the visual indicia on the film is removed leaving behind all of the adhesive along with the mask and its visual indicia.

15 The basic tamperproof label construction has a wide variety of uses, particularly where the material printed thereon can be printed in sequence before the adhesive surface 16 is applied 20 and where there is only desired destruction of the visual indicia such as a code number when the label is removed.

25 A typical application are validation bumper stickers, for factories, schools and the like. There, typically, a numbered sticker is issued at random and the recipient merely recorded 30 next to the assigned number in office records. Once the label is applied to the vehicle any attempted removal or transferral to another vehicle will result in a destruction of the code number. It also may be used as tamperproof license plates or license plate validation stickers, windshield inspection stickers and the like.

35 For the same or other applications, however, there may be required a label having standardized copy and a surface to which imprinting can be applied as the need occurs. Such is typical of the new federal regulation for automobiles wherein there is a part of every identifying label a standard printed copy, and to which there must be applied a production date and vehicle serial number. For such applications, there is conveniently used, in accordance with the practice of this invention, a dual destruct label system which is also illustrated in 40 FIG. 1.

45 One portion of the preferred label system is, generally, a composite of the self-supporting film 10 and mask 12, adhesive layer 14, and printed visual indicia 16, which can typically be a standard format provided with all labels. To an upper surface of self-supporting film 10 there may be applied a second mask masking 20 which like mask 12, has limited adhesion to surface 10 and generally a greater adhesion to a printable overlayer 22 which is transparent where indicia 16 must be 50 visible. In the alternative it may have good adhesion for surface 10 and poor adhesion for printable overlayer 22 or even poor adhesion to both. Materials used for masking surface 20 are, again, not narrowly critical and may, for instance by any 55 one of the ink-polymer surface combinations listed above. Printable overlayer 22 may be constructed of a thin polymeric film and the like, or is more conveniently applied as a fluid coating which is at least transparent in the areas where printing 16 must be visible and which when dry will form a printable surface.

60 Although the printable overlayer 22 must be transparent, it may be tinted or colored over any portion but is in color or tint so as not to convey to the viewer multilayer construction. In the alternative it may provide conspicuous alternate colored bands and the like which has a deterrent effect. Included as 65 printable overlayer 22 is an indicia forming layer such as microspheres which when ruptured will form visual indicia.

70 A composite stock comprising adhesive layer 14 supported by a nonadhesive release paper, visual indicia 16, masking surface 12, supporting film 10, masking surface 20, and printable overlayer 22 comprise one unit of the system. In this instance, since the printable overlayer 22 provides secondary protection the upper surface of film 10 may be imprinted with visual indicia and the lower surface printed with indicia having a greater adhesivity for the adhesive layer 14 than for film 10. In 75

this system the imprinting serves as its own masking surface 12. Overlayer 22 which is initially unprinted is later imprinted by the user with required information 26 when the item to which it is to be attached is produced. It may contain, as in the instance of motor vehicles, serial number and date of manufacture as required by federal regulations. The second component of the system is protective self-supporting film 24 having one adhesive surface and which is at least transparent where visual indicia is to be displayed. It should be constructed of a material resistant to the elements and may be identical, or different, from construction of the self-supporting film 10. As indicated, protective self-supporting film 24 must be transparent, at least at the zones where imprinted visual indicia 16 and applied printed visual indicia 26 are to appear. As indicated, the protective film 24 has applied on the undersurface thereof an adhesive, preferably, a pressure-sensitive adhesive which will more strongly adhere to printable overlayer 22 than the adhesion of mask 20 to self-supporting film 10, printable overlayer 22, or both. The protective film 24 is applied to the imprinted first component of the system generally after it has been applied to the substrate, or in the alternative, applied to the base label on a common pressure-sensitive adhesive release surface, such as a silicone coated paper, and both parts jointly applied to the substrate upon removal of the release surface.

With reference now to FIG. 2, when the protective film 24 is removed from the substrate, there is removed with it a portion of the imprinted indicia 26 and a portion of the printable overlayer 22, and masking surface 20, leaving behind a portion of the printed indicia 26 on the remaining printed overlayer 22 and exposing the self-supporting film 10 which still protects the integrity of imprinting 16. In the alternative, the masking surface 20 may remain on the surface of self-supporting film 10 when the protective self-supporting film 24 is removed carrying with it a portion of the printed overlayer 20.

When an attempt is made to remove film surface 10 from the substrate, destruction which occurs is that illustrated in FIG. 3. The removed self-supporting film 10 carries with it at least a portion of the imprinted indicia 26, printable overlayer 22, a portion of the lower visual indicia 16, and leaving behind part of visual indicia 16 and all or part of adhesive layer 14 on the substrate.

In the alternative, the upper surface of self-supporting film 10 may be entirely coated with a printable overlayer 22 having poor adhesion to film 10. A mask 22 is applied over a portion of printable overlayer 20, the mask having, however, poorer adhesion to the adhesive surface of the protective self-supporting film 24 than the adhesion printable overlayer 20 to film 10. When film 24 is lifted from a final applied label assembly the failure occurs at the mask which remains behind with a portion of printable overlayer 22 on film 10.

In another alternative a masking surface 22 having good adhesion to both the film 10 and a printable overlayer 20 may be applied to part of film 10 as a primer. As indicated printable overlayer 20 has good adhesion to masking surface 22, this adhesion being greater adhesion to the adhesive of protective film 24. The printable overlayer, however, has a greater adhesion to protective film 24 than to film 10. Removal of protective film 24 then results in a removal of that portion of printable overlayer 20 which is not in contact with masking surface 22.

Although the tamperproof label systems of this invention have been described in terms of end use construction, it is within the ambit to supply the systems as several component for imprinting and assembly by the user.

The basic tamperproof label may be provided as a two-component system. The first component would comprise the at least partially transparent self-supporting film 10 and applied masking surface 12. The second component would comprise adhesive layer 14. The film 10 and masking surface 12 would then be reverse printed and the tamperproof label constructed by application of adhesive layer 14. The composite of self-supporting film 10 and masking surface 12 could be coated with

5 indicia forming microspheres which could be activated to produce visual indicia before or after application of the adhesive layer 14 provided the bond of the microspheres to the underside of self-supporting film 10 exceeds the bond of the adhesive to the microsphere layer.

10 In the alternative component could be the self-supporting film 10 and masking surface 12, the masking surface having strong adhesion to the film 10. In this instance there would be used an ink having strong adhesion to the masking surface 12 but weak adhesion to film 10. In this instance there may be used indicia forming microspheres which only bond well to the masking surface 12 and which when ruptured will produce visual indicia. Adhesive layer 14 would then in the final assembly remove the imprinted visual indicia whenever an attempt is made to remove the applied label from a substrate.

15 It may also be provided as a three-component system. The first component would be self-supporting film 10, at least one surface of which is printable or capable of forming visual indicia by application of sufficient pressure such as by the use of rupturable microspheres. The second component would be the masking surface 12 and the third, adhesive layer 14. Imprinting would then be applied to self-supporting film 10 and the tamperproof label formed as a laminate of printed film 10,

20 masking surface 12 and adhesive layer 14, the masking surface 12 and adhesive layer 14 contacting the imprinted portion of film 10. In this instance masking surface 12 serves to insulate a portion of the imprinting from an adhesive surface having a greater adhesion to a selected applied visual indicia than the 25 adhesion of the visual indicia for film 10.

25 The three-component assembly may be used in which imprinting is applied to the combination of film 10 and masking surface 12. In this instance either the masking surface 12 or the imprinting on that portion of the film in contact with the 30 adhesive layer would be removed.

35 It will be well appreciated that these multicomponent systems are utile for the ultimate construction of the multidestruct label systems of this invention.

40 What is claimed is:

1. A composite tamperproof label construction comprising:  
a. a self-supporting film at least a portion of which is transparent and having at least one surface imprinted with first visual indicia;

b. a masking surface in contact with at least part of at least one surface of the transparent portion of a said self-supporting film said masking surface at least in contact with a second imprinted visual indicia; and

c. an adhesive layer having a first adhesive surface in contact with the transparent portion of said self-supporting film and said masking surface and a second adhesive surface for contact with a substrate; said masking surface and said first and second adhesive surfaces cooperating to allow a portion of the total visual indicia and at least a portion of said first and second adhesive surfaces to remain on the substrate to which the composite tamperproof label is applied when the label is removed therefrom.

2. A composite tamperproof label construction as claimed in claim 1 in which the masking surface is the separable imprinted second visual indicia.

3. A composite tamperproof label construction as claimed in claim 1 in which:

a. a part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a second masking surface; and

b. a printable overlayer, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in contact with the exposed transparent portion of the self-supporting film and said second masking surface, the adhesivity of said printable overlayer for the exposed transparent surface exceeding the maximum interlayer adhesion available from the laminate comprising said printable overlayer, said second masking

surface and the exposed transparent portion of said self-supporting film.

4. A composite tamperproof label as claimed in claim 3 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer, the adhesivity of said adhesive surface having a greater adhesivity for said printable overlayer than the maximum interlayer adhesive bond provided by the laminate comprising the overlayer, second masking surface and exposed transparent portion of said self-supporting film, but less than the adhesivity of said printable overlayer for the exposed transparent surface.

5. A tamperproof label construction as claimed in claim 1 in which:

- a. at least part of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a printable overlayer; and
- b. a second masking surface is in contact with a portion of said printable overlayer.

6. A tamperproof label construction as claimed in claim 5 in combination with a self-supporting protective, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer and said second masking surface, the adhesivity of said adhesive surface for said printable overlay exceeding the adhesivity of said printable overlay for the exposed portion of said transparent film and less than the minimum interlayer bond available from a laminate comprising said printable overlayer, said second masking surface and the exposed transparent portion of said self-supporting film.

7. A composite tamperproof label construction comprising:

- a. a self-supported film at least a portion of which is transparent and imprinted with visual indicia;
- b. a masking surface imprinted with visual indicia in contact with part of the transparent portion of said self-supporting film;

c. an adhesive layer having a first adhesive surface in adhesive contact with at least the transparent portion of said self-supporting film and said imprinted masking surface; the adhesivity of said first adhesive layer for said imprinted masking surface exceeding the contact adherence of said imprinted masking surface for the transparent portion of said film, and a second adhesive surface, having a greater adhesivity for substrate to which the label is to be applied than the contact adherence of said masking surface for the transparent portion of said film.

8. A composite tamperproof label construction as claimed in claim 7 in which the masking surface is transparent and imprinted on the surface thereof in contact with the adhesive layer.

9. A composite tamperproof label construction as claimed in claim 8 in which:

- a. a part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a second masking surface; and
- b. a printable overlayer, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in contact with the exposed transparent portion of the self-supporting film and said second masking surface, the adhesivity of said printable overlayer for the exposed transparent surface exceeding the maximum interlayer adhesion available from the laminate comprising said printable overlayer, said second masking surface and the exposed transparent portion of said self-supporting film.

10. A composite tamperproof label as claimed in claim 9 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer, the adhesivity of said adhesive

surface having a greater adhesivity for said printable overlayer than the maximum interlayer adhesive bond provided by the laminate comprising the overlayer, second masking surface and exposed transparent portion of said self-supporting film, but less than the adhesivity of said printable overlayer for the exposed transparent surface.

11. A composite tamperproof label construction as claimed in claim 8 in which:

- a. part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in adhesive contact with a second masking surface; and
- b. a printable overlay, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in adhesive contact with said second masking surface and in direct adhesive contact with part of the exposed transparent portion of said self-supporting film.

12. A composite tamperproof label construction as claimed in claim 11 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film providing an adhesive surface for contact with said printable overlay, the adhesivity of said adhesive surface to said printable overlay, exceeding the adhesivity of the printable overlay in direct contact with the exposed transparent portion of said self-supporting film but less than the adhesivity of the printable overlay for said second masking surface and the adhesivity of said second masking surface for the exposed transparent portion of said self-supporting film.

13. A tamperproof label construction as claimed in claim 8 in which:

- a. at least part of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a printable overlayer; and
- b. a second masking surface is in contact with a portion of said printable overlayer.

14. A tamperproof label construction as claimed in claim 13 in combination with a self-supporting protective, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer and said second masking surface, the adhesivity of said adhesive surface for said printable overlay for the exposed portion of said transparent film and less than the minimum interlayer bond available from a laminate comprising said printable overlay, said second masking surface and the exposed transparent portion of said self-supporting film.

15. A composite tamperproof label construction as claimed in claim 7 in which:

- a. a part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a second masking surface; and
- b. a printable overlayer, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in contact with the exposed transparent portion of the self-supporting film and said second masking surface, the adhesivity of said printable overlayer for the exposed transparent surface exceeding the maximum interlayer adhesion available from the laminate comprising said printable overlayer, said second masking surface and the exposed transparent portion of said self-supporting film.

16. A composite tamperproof label as claimed in claim 15 in combination with a self-supporting protective film, trans-

parent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer, the adhesivity of said adhesive surface having a greater adhesivity for said printable overlayer than the maximum interlayer adhesive bond provided by the laminate comprising the overlayer, second masking surface

and exposed transparent portion of said self-supporting film, but less than the adhesivity of said printable overlayer of the exposed transparent surface.

17. A composite tamperproof label construction as claimed in claim 7 in which:

a. part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in adhesive contact with a second masking surface; and

b. a printable overlay, at least transparent where visual indicia is to appear through transparent portion of said self-supporting film, is in adhesive contact with said second masking surface and in direct adhesive contact with part of the exposed transparent portion of said self-supporting film.

18. A composite tamperproof label construction as claimed in claim 17 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film providing an adhesive surface for contact with said printable overlay, the adhesivity of said adhesive surface to said printable overlay, exceeding the adhesivity of the printable overlay in direct contact with the exposed transparent portion of said self-supporting film but less than the adhesivity of the printable overlay for said second masking surface and the adhesivity of said second masking surface for the exposed transparent portion of said self-supporting film.

19. A tamperproof label construction as claimed in claim 7 in which:

a. at least part of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a printable overlayer; and

b. a second masking surface is in contact with a portion of 35 said printable overlayer.

20. A tamperproof label construction as claimed in claim 19 in combination with a self-supporting protective, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlay and said second masking surface, the adhesivity of said adhesive surface for said printable overlay exceeding the adhesivity of said printable overlay for the exposed portion of said transparent film and less than the minimum interlayer bond available from a laminate comprising said printable overlay, said second masking surface and the exposed transparent portion of said self-supporting film.

21. A composite tamperproof label construction comprising:

a. a self-supported film at least a portion of which is transparent and imprinted with visual indicia on at least one surface of the transparent portion;

b. a masking surface in contact with at least part of the visual indicia provided on at least one imprinted surface;

c. an adhesive layer having a first adhesive surface in contact with said masking surface and part of the imprinting on the surface of the transparent portion of said self-supporting film in contact with said masking surface, said first adhesive layer having a greater adhesivity for the imprinted visual indicia on the unmasked portion of the transparent film than the adhesivity of the imprinted visual indicia for the transparent portion of said self-supporting film and a second adhesive surface having a greater adhesivity for a substrate to which the label is to be applied than adhesivity of the unmasked printed indicia for the transparent portion of said self-supporting film.

22. A composite tamperproof label construction as claimed in claim 21 in which:

a. a part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a second masking surface; and

b. a printable overlayer, at least transparent where visual indicia is to appear through the transparent portion of said

self-supporting film, in contact with the exposed transparent portion of the self-supporting film and said second masking surface, the adhesivity of said printable overlayer for the exposed transparent surface exceeding the maximum interlayer adhesion available from the laminate comprising said printable overlayer, said second masking surface and the exposed transparent portion of said self-supporting film.

10 23. A composite tamperproof label as claimed in claim 22 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive for contact with said printable overlayer, the adhesivity of said adhesive surface having a greater adhesivity for said printable overlayer than the maximum interlayer adhesive bond provided by the laminate comprising the overlayer, second masking surface and exposed transparent portion of said self-supporting film, but less than the adhesivity of said printable overlayer for the exposed transparent surface.

20 24. A composite tamperproof label construction as claimed in claim 21 in which:

a. part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in adhesive contact with a second masking surface; and

b. a printable overlay, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in adhesive contact with said second masking surface and in direct adhesive contact with part of the exposed transparent portion of said self-supporting film.

25 25. A composite tamperproof label construction as claimed in claim 24 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film providing an adhesive surface for contact with said printable overlay, the adhesivity of said adhesive surface to said printable overlay exceeding the adhesivity of the printable overlay in direct contact with the exposed transparent portion of said self-supporting film but less than the adhesivity of the printable overlay for said second masking surface and the adhesivity of said second masking surface for the exposed transparent portion of said self-supporting film.

30 26. A composite tamperproof label construction as claimed in claim 21 in which:

a. part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in adhesive contact with a second masking surface; and

b. a printable overlay, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in adhesive contact with said second masking surface and in direct adhesive contact with part of the exposed transparent portion of said self-supporting film.

35 27. A composite tamperproof label construction as claimed in claim 26 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film providing an adhesive surface for contact with said printable overlay, the adhesivity of said adhesive surface to said printable overlay exceeding the adhesivity of the printable overlay in direct contact with the exposed transparent portion of said self-supporting film but less than the adhesivity of the printable overlay for said second masking surface and the adhesivity of said second masking surface for the exposed transparent portion of said self-supporting film.

40 28. A tamperproof label construction as claimed in claim 21 in which:

a. at least part of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a printable overlayer; and

b. a second masking surface is in contact with a portion of said printable overlayer.

29. A tamperproof label construction as claimed in claim 28 in combination with a self-supporting protective, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer and said second masking surface, the adhesivity of said adhesive surface for said printable overlay exceeding the adhesivity of said printable overlay for the exposed portion of said transparent film and less than the minimum interlayer bond available from a laminate comprising said printable overlay, said second masking surface and the exposed transparent portion of said self-supporting film.

30. A composite tamperproof label construction comprising:

- a. a self-supporting film at least a portion of which is transparent and imprinted with visual indicia on at least one surface of the transparent portion;
- b. a masking surface imprinted with visual indicia in adhesive contact with at least one imprinted surface of the transparent portion of said self-supporting film;
- c. an adhesive layer having a first adhesive surface in contact with said masking surface and the imprinted surface of the transparent portion of said self-supporting film, the adhesion of said first adhesive surface for the imprinted visual indicia on transparent portion of said self-supporting surface exceeding the adhesion of the imprinted visual indicia for the transparent portion of said self-supporting film and a second adhesive surface having a greater adhesion for a substrate to which the label is to be applied than the adhesion of the imprinted visual indicia for the transparent portion of said self-supporting film.

31. A composite tamperproof label construction as claimed in claim 30 in which said masking surface is transparent and imprinted on the surface thereof in contact with said adhesive layer.

32. A composite tamperproof label construction as claimed in claim 30 in which:

- a. a part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a second masking surface; and
- b. a printable overlayer, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in contact with the exposed transparent portion of the self-supporting film and said second masking surface, the adhesivity of said printable overlayer for the exposed transparent surface exceeding the maximum interlayer adhesion available from the laminate comprising said printable overlay, said second masking surface and the exposed transparent portion of said self-supporting film.

33. A composite tamperproof label as claimed in claim 32 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer, the adhesivity of said adhesive surface having a greater adhesivity for said printable overlay than the maximum interlayer adhesive bond provided by the laminate comprising the overlayer, second masking surface and exposed transparent portion of said self-supporting film, but less than the adhesivity of said printable overlay for the exposed transparent surface

34. A composite tamperproof label construction as claimed in claim 30 in which:

- a. part of the surface of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in adhesive contact with a second masking surface; and
- b. a printable overlay, at least transparent where visual indicia is to appear through the transparent portion of said self-supporting film, is in adhesive contact with said second masking surface and in direct adhesive contact with part of the exposed transparent portion of said self-supporting film.

35. A composite tamperproof label construction as claimed in claim 34 in combination with a self-supporting protective film, transparent at least where visual indicia is to appear therethrough, said protective film providing an adhesive surface for contact with said printable overlay, the adhesivity of said adhesive surface to said printable overlay exceeding the adhesivity of the printable overlayer in direct contact with the exposed transparent portion of said self-supporting film but less than the adhesivity of the printable overlay for said second masking surface and the adhesivity of said second masking surface for the exposed transparent portion of said self-supporting film.

36. A tamperproof label construction as claimed in claim 30 in which:

- a. at least part of the exposed transparent portion of the self-supporting film opposed to the surface in contact with the masking surface is in contact with a printable overlayer; and
- b. a second masking surface is in contact with a portion of said printable overlay.

37. A tamperproof label construction as claimed in claim 36 in combination with a self-supporting protective, transparent at least where visual indicia is to appear therethrough, said protective film having an adhesive surface for contact with said printable overlayer and said second masking surface for contact with said printable overlayer and said second masking surface, the adhesivity of said adhesive surface for said printable overlay exceeding the adhesivity of said printable overlay for the exposed portion of said transparent film and less than the minimum interlayer bond available from a laminate comprising said printable overlay, said second masking surface and the exposed transparent portion of said self-supporting film.

38. A composite for construction of a tamperproof label which comprises:

- a. a self-supporting film at least a portion of which is transparent and adapted to accept imprinting;
- b. a transparent masking surface in contact with part of the transparent portion of said self-supporting film said masking surface adapted to accept imprinting; and
- c. an adhesive layer having a first adhesive surface for contact with said self-supporting film and said masking surface, the adhesivity of said first adhesive surface for said masking surface exceeding the contact adherence of said masking surface for the transparent portion of said self-supporting film and a second adhesive surface adapted for contact to a substrate, the adhesivity of said second adhesive surface for the substrate to which it is to be applied exceeding the contact adherence of said masking surface for the transparent portion of said self-supporting film.

39. A composite for construction of a tamperproof label which comprises:

- a. a self-supporting film at least a portion of which is transparent and adapted to accept imprinting;
- b. a transparent masking surface in adhesive contact with part of the transparent portion of said self-supporting film; said masking surface adapted to accept imprinting; and
- c. an adhesive layer having a first adhesive surface adapted for contact with the transparent portion of said self-supporting film and said masking surface; the adhesion of said first adhesive surface for at least one printable visual indicia exceeding the adhesivity of the printable indicia for the transparent portion of said self-supporting film and a second adhesive surface for contact to a substrate, the adhesion of said second adhesive surface for the substrate to which it is to be applied exceeding the adhesivity of the printable indicia for the transparent portion of said film.

40. A composite for construction of a tamperproof label which comprises:

- a. a self-supporting film at least a portion of which is transparent and adapted to accept imprinting;

- b. a transparent masking surface in adhesive contact with part of the transparent portion of said self-supporting film; said masking surface adapted to accept imprinting; and
- c. an adhesive layer having a first adhesive surface adapted for contact with the transparent portion of said self-supporting film and said masking surface; the adhesion of said first adhesive surface for at least one printable visual indicia exceeding the adhesivity of the printable indicia for the transparent portion of said masking surface and a 10 second adhesive surface for contact to a substrate the adhesion of said second adhesive surface for the substrate to which it is to be applied exceeding the adhesivity of the printable indicia for said masking surface.

41. A composite for construction of a tamperproof label 15 which comprises:

- a. a self-supporting film at least a portion of which is trans-

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- parent and adapted to accept imprinting;
- b. a self-supporting masking surface adapted to be applied over a part of the transparent portion of said self-supporting film; and
- c. an adhesive layer having a first adhesive surface adapted for contact with the transparent portion of said self-supporting film and said masking surface, the adhesivity of said first adhesive surface for a visual indicia printable on the transparent portion of said self-supporting film exceeding the adhesivity of said visual indicia for said self-supporting film and a second adhesive surface adapted for adhesive contact with a substrate, the adhesion of said second adhesive surface to which it is to be applied exceeding the adhesivity of said visual indicia for the transparent portion of said self-supporting film.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTIONPatent No. 3,631,617Dated Jan. 4, 1972Inventor(s) John A. Pekko

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Col. 1, line 29, change "thereby" to --theory--

line 71, after "indicia", insert --as well as under-  
printed visual indicia.--

line 71, change "basis" to --basic--

Col. 2, line 17, change "of" to --for--

line 26, change "basis" to --basic--

line 44, after "substrate", eliminate ". Any" and  
insert --any--

line 61, change "Portion" to --Portions--

line 64, after "layer", insert --14--

line 73, after "acetate," insert --polyvinyl chloride--

Col. 3, line 54, change "poorer" to --poor--

line 57, after "12", insert --is removed with film 10  
and the portion of the imprinted visual indicia  
unprotected by masking surface 12--

line 69, change "contact" to --the--

Col. 4, line 62, after "is", insert --preferably, uniform--

line 53, change "fore" to --for--

Col. 7, line 3, change "as claim" to --as claimed in--

line 32, change "overlayer" to --overlay--

Col. 9, line 56, change "a" to --an--

Col. 10, line 40, after "transparent", insert --portion--

Col. 12, line 26, after "surface", remove "for contact with  
said printable overlayer and said second masking  
surface"

Signed and sealed this 9th day of January 1973.

(SEAL)

Attest:

EDWARD M. FLETCHER, JR.  
Attesting Officer

ROBERT GOTTSCHALK  
Commissioner of Patents