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MESSAGE TRANSMITTING MEANS

Filed March 22, 1960

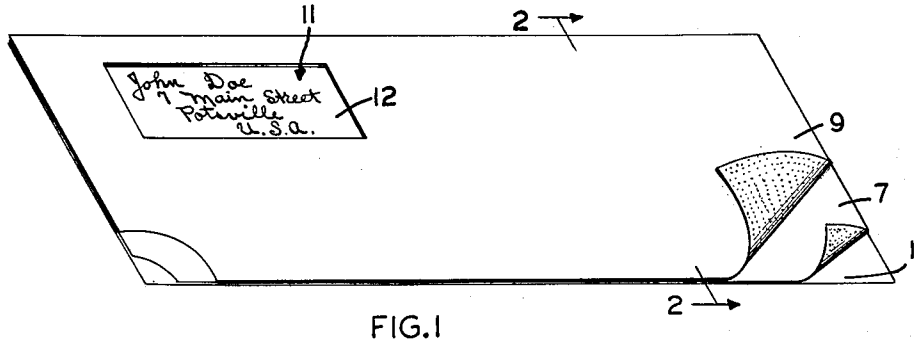


FIG.1

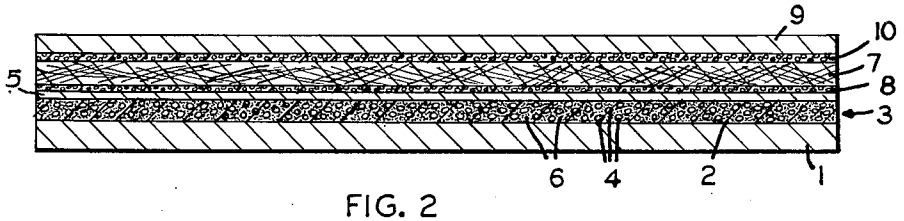


FIG. 2

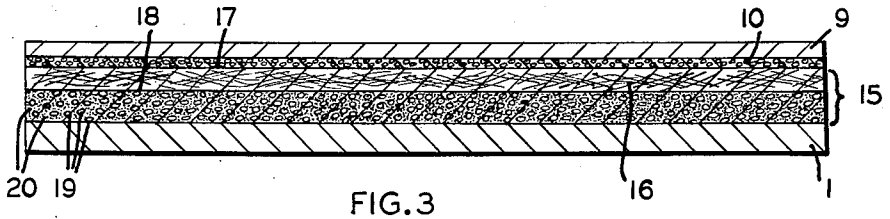


FIG. 3

INVENTOR.

DAVID WOLF

BY

Ezekiel Wolf, Wolf & Greenfield

ATTORNEYS

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MESSAGE TRANSMITTING MEANS

David Wolf, Dorchester, Mass.
(68 Devonshire St., Boston 9, Mass.)

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The present invention relates to a message transmitting means and more particularly to a device particularly designed to transmit written messages in confidence.

The present invention provides a lamination of webs which permit the inscription on a base sheet of a concealed message and exposed intended destination by suitable means such as typing or writing.

In the preferred embodiment of the invention a base web is covered with a strippable imprint transmitting or carbon layer having an aperture formed in it exposing a portion of the base sheet. This carbon layer is covered by a concealing layer or cover and a writing layer or cover, each substantially and preferably identical in outline with the carbon layer and arranged respectively as contiguous successive laminations over it.

A message typed or written on the writing cover will be reproduced by the carbon layer on the base sheet but not on the concealing cover. The address or intended destination may be written directly on the base sheet through the aligned apertures in the various laminations. After preparation of the message, the writing cover may be stripped from the concealing sheet and either discarded or retained as a duplicate original of the message being transmitted. The base sheet bearing the message concealed by the concealing cover and the exposed address may then be transmitted in confidence by mail or otherwise. Upon receipt by the addressee the concealing cover may be stripped revealing the desired message.

This invention is particularly useful in preparation and transmission of many business forms including for example checks, receipts, vouchers, sales orders, purchase orders and acknowledgements. It has particular utility in offices or businesses of limited size where such documents are usually individually prepared by secretaries or clerks in writing or by typewriter.

These and other objects and advantages will be more clearly understood when considered in connection with the accompanying drawings in which:

FIG. 1 is a top plan view of a preferred form of the invention, and,

FIG. 2 is a cross sectional schematic view taken along the line 2—2 of FIGURE 1, and,

FIG. 3 is a cross section of a modification taken along a line substantially the same as FIG. 2.

The base sheet 1, preferably rectangular in shape, is formed with an upper surface 2 adapted to have inscribed upon it any desired message through a carbon paper layer.

The sheet is preferably a good quality bond paper or thin cardboard. The surface 2 is preferably a smooth calender sized surface.

Positioned in facing relation with the surface 2 of sheet 1 is an imprint transmitting sheet 3 such as a carbon sheet. This carbon sheet is an integral sheet 5 having one surface coated with carbon granules 6. The carbon sheet is strippably secured to the smooth glazed surface of the base sheet by minute discrete particles of cementitious material homogeneously dispersed over the surface of or throughout the carbon granules. The cementitious coating should not be so heavy as to occlude or substantially impair the impression of the carbon granules, when the lamination is imprinted, onto the base sheet. Thus it is preferable that the cementitious particles have an average diameter substantially less than the minimum width of the line thickness of the imprinted material. Nor should the cementitious material be so highly dispersed as to permit inadvertent delamination of the imprint transmitting sheet 3 from the base sheet.

The cementitious particles 4 may comprise any cement which can fulfill the aforesaid requirements and may for example comprise a latex cement.

If desired the cementitious material may be discretely deposited upon the base sheet 1 prior to the application of the imprint transmitting surface. In such a modification the latex will be dispersed only on the surface of the carbon granular layer. When an impression is applied to the imprint transmitting sheet the carbon granules may have a tendency to force their way through the more flowable cementitious material to deposit an impression on the base sheet.

Positioned over in facing relation and preferably fully contiguous with the imprint transmitting layer is a concealing layer 7. This concealing layer 7 may be permanently or strippably secured to the imprint transmitting layer by a suitable cement layer 8.

If the concealing layer 7 is to be delaminatable from the imprint transmitting layer 3 a latex cement such as previously described may be used.

The concealing layer 7 is preferably formed of a loosely matted fibrous unsized uncalendered opaque cellulosic web. Such layer 7 which should have the consistency of a heavy tissue paper should also have rough resilient fibrous surfaces.

A writing cover 9 preferably formed of a non resilient sized calendered densely matted web is strippably secured to the concealing cover 7 by a homogeneously dispersed layer of cementitious material 10 such as a latex cement.

An aperture 11 is formed through the successive layers 3, 7, 8, 9 and 10, exposing an area 12 on the surface 2 of the base sheet 1. This area 12 may be either spaced entirely from the outer edge of the base sheet 1 or may be contiguous with one or more edges of the base sheet 1.

In a modification of the invention illustrated in FIG. 3 the base sheet 1, writing cover 9 and cementitious material 10 conform with the previously described materials having like numbers. In this modification, however, the concealing cover and imprint transmitting layer are integrally formed in the concealing cover 15. This cover is formed with a continuous backing web 16 formed preferably of a relatively opaque cellulosic web having its upper surface 17 roughly calendered or irregular in pattern. This surface may also have a fibrous nap if desired. The lower surface 18 is uniformly coated with a strippable adhesive material such as latex 19. Dispersed over this latex is a layer 20 of discrete very finely divided carbon particles. The latex layer secures the backing web 16 to the base sheet 1. The relative size of the carbon granules and the density of their dispersion should be selected so as to permit a uniform reproduction of impressions on the base sheet while at the same time the concealing cover or layer is strippably secured to the base sheet without likelihood of inadvertent delamination.

An experimental model of this modification may be formed from readily available materials. The base sheet 1 may be formed of a good quality smoothly calendered typewriting bond paper. The concealing cover may be formed of a brown masking tape commonly used by draftsmen and the like. This tape has an irregular surface. The other surface is substantially uniformly coated with a nonpermanent adhesive. Carbon particles or granules should be coated onto this adhesive material in a discrete layer. This may be done by laying a conventional carbon paper in facing relation with the masking tape. The carbon surface should be pressed onto the adhesive surface with uniform coating of carbon particles onto the masking tape. The carbon bearing masking tape

is then pressed onto the bond paper. Sufficient non carbon coated areas on the adhesive surface of the tape should remain so as to permit the strippable securing of the masking tape to the base sheet.

The writing cover may be formed of a smooth opaque plastic tape having a single adhesive surface. This adhesive surface is secured to the irregular surface of the masking tape. Such a tape is made by Minnesota Mining and Manufacturing Co. under the trade name "Scotch Brand."

It is preferable to have the writing cover relatively smooth and densely formed so as to receive a clear typewritten impression. The concealing layer should have a rough surface and a fibrous resilient mass. This will satisfactorily conceal impressions made by the type through the writing cover.

A further modification of this invention contemplates the utilization of a unitary carbon and writing paper wherein the reproducing material is formed as a non visible integer of the paper. Upon application of pressure to the paper, a visible impression is made, such material is currently marketed by the National Cash Register Company.

In this arrangement the pressure sensitive paper having surface on which the impression appears on application of pressure is covered with a concealing cover and writing cover by strippable means in a manner as previously described.

What is claimed is:

1. A message transmitting means comprising a lamination including a base sheet having a surface adapted to receive a visible message imprint, an imprint transmitting layer adjacent said base sheet adapted to be used to imprint a message on said surface, a concealing cover adjacent and covering said imprint transmitting layer and having resilient fibrous surfaces for concealing impressions made thereon, a writing cover adjacent and covering said concealing cover on which impressions may be made for transfer through said concealing cover onto said imprint transmitting layer, and means strippably securing said laminates to each adjacent laminate.

2. A device as set forth in claim 1 having means forming aligned apertures in said imprint transmitting layer, said concealing cover and said writing cover.

3. A device as set forth in claim 2 wherein said means strippably securing said cover means, and said means strippably securing said writing cover to said concealing cover comprises a coating of cementitious materials.

4. A device as set forth in claim 1 wherein said imprint transmitting layer comprises a layer of pressure responsive visible imprinting material with said material covering said surface.

5. A device as set forth in claim 1 wherein said concealing cover comprises a fibrous opaque uncalendered web.

6. A device as set forth in claim 1 wherein said concealing cover comprises a fibrous resilient opaque uncalendered web and said writing cover comprises a nonresilient sized calendered web.

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