

[54] WARRANTY PLAQUE

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[58] Field of Search 40/2 R, 2.2, 125 A, 2 B

[56] References Cited

UNITED STATES PATENTS

2,975,538	3/1961	Murfin	40/1.5 X
3,315,386	4/1967	Kest et al.	40/2 R
3,524,271	8/1970	Buske	40/2 R
3,755,935	9/1973	Annenberg	40/2.2

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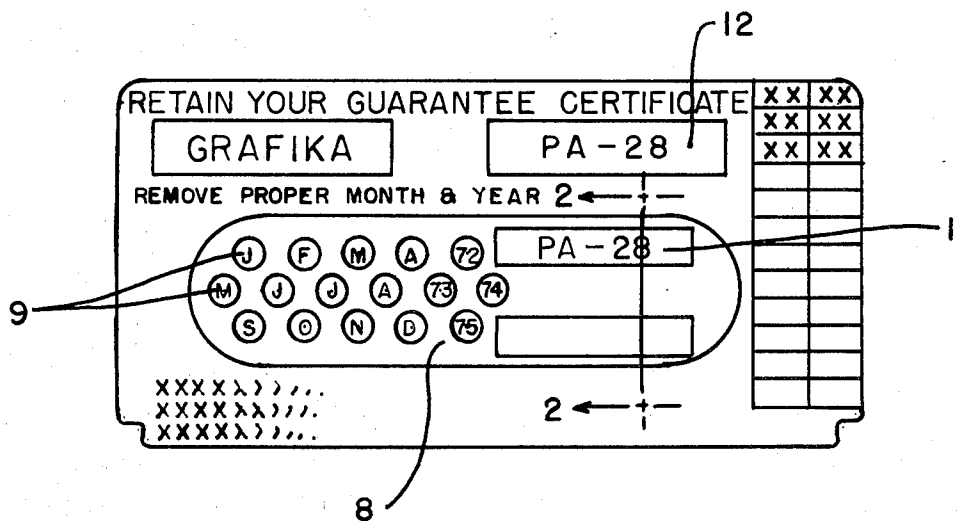
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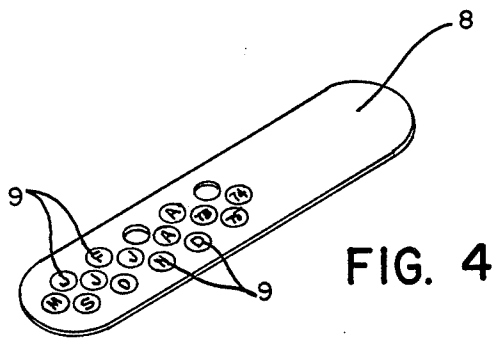
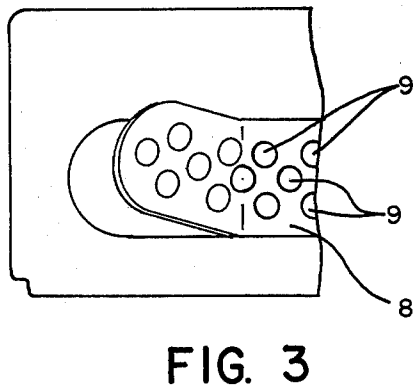
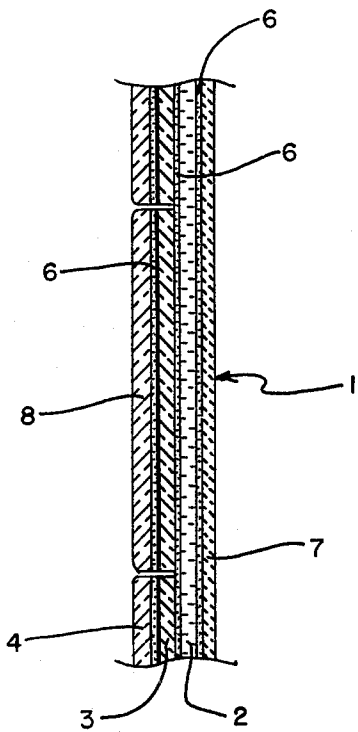
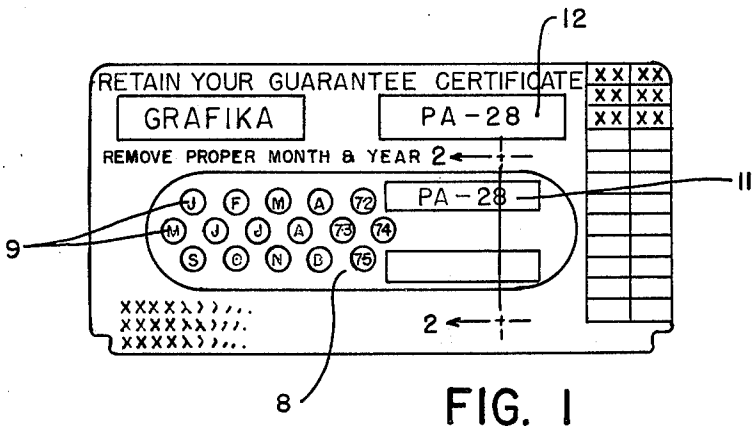
ABSTRACT

Warranty plaques, such as are commonly adhered to batteries, are comprised of a base layer of opaque plastic film carrying a layer of adhesive on its lower surface, an intermediate transparent plastic film adhered to the upper surface of the base layer and carrying printed information on its upper surface, and a cover layer of a transparent plastic film adhered to the upper surface of the intermediate layer. In the preferred construction, the intermediate layer and overlying cover layer may be scored or cut to permit a portion of the intermediate and cover layers to be detached from the base layer for attachment to warranty forms or other records.

The arrangement of the elements of this plaque facilitates adhesion of the plaque to the battery, protects the information contained on the plaque from intentional or environmental alteration or mutilation, and provides a simple means for removing a portion of the plaque for identification purposes.

5 Claims, 4 Drawing Figures





WARRANTY PLAQUE

BACKGROUND OF THE INVENTION

Warranties guaranteeing the service life of certain articles and appliances are becoming increasingly more frequent. The Government, through its regulatory agencies, is looking into practices surrounding the granting of warranties with a view toward protecting the customer from false statements and ensuring that the manufacturer lives up to his guarantee. The automobile battery industry is representative of this and the Government is insisting that these batteries be identified by the manufacturer so that the purchaser can return for credit a battery that fails within the warranty period.

Various means have heretofore been employed by manufacturers for recording dates on batteries. Sometimes this information was imprinted on the battery case, either by molding or by branding, and sometimes it was stamped on the battery connectors. The new thin-walled plastic battery casings, as distinguished from the old comparatively thick rubber casings, do not lend themselves to casting identification material into the side wall nor to the application of identification by branding. It is for these reasons that the utilization of a plaque which is adhesively adhered to the battery is becoming more prevalent. These plaques generally contain printed information variously as to the manufacturer of the battery, the lot number, the serial number, etc. Additionally, these plaques provide means for identifying the date of sale and the period from which the warranty begins to run. In the most usual configuration, small discs are provided that may be removed from the battery plaque to indicate the month and year of sale.

While the invention is not intended to be so limited, it is discussed primarily with respect to warranty plaques for batteries since this is perhaps the most prevalent use of warranty plaques and also since its requirements are the most demanding. In order for a battery plaque to be effective, it is obvious that it must be capable of adhering to a battery case for at least the length of the guarantee, which in some instances is 5 years or more. Second, the printed material must be permanent in nature so that it cannot be altered or mutilated either intentionally or by the environment to which it is exposed. Lastly, there must be some method to prevent the appropriation of warranty plaques from relatively new batteries and applying them to batteries that have failed and so defraud the manufacturer. For this reason, it is common practice to make the battery plaque with a detachable portion on which there is printed identifying serial numbers corresponding to those carried on the main body of the plaque. At the time of sale, the detachable portion is removed, the date of sale encoded on either or both of the body portions and severable portions, and the detached portion may then be secured to a warranty form or other record that is preserved for safekeeping by either the owner or seller of the battery. This will discourage the theft of the body portion of the plaque attached to the battery since it will be of no value unless it can be matched with the portion that was detached at the time of sale.

It is known in the prior patent art that plaques bearing printed information made by laminating several layers of plastic film together are suitable for attachment to battery cases. This, for example, is shown in Appli-

cant's prior U.S. Pat. No. 3,494,056, but the construction of the plaque described therein does not meet the requirements for a warranty plaque that has detachable portions.

U.S. Pat. No. 3,315,386 is closely related since it discloses a warranty plaque for attachment to batteries to serve the same function as the instant invention. The warranty plaque described in this patent is simply a single sheet of plastic upon which information is printed on one side and a pressure-sensitive adhesive is applied to the other side. To permit handling and storage, a release paper is placed over the adhesive. A central detachable section is provided by die cutting entirely through the plastic film and release paper. It is necessary, in this construction, to die cut through the release paper so that it can be removed in two separate operations. Thus, when the plaque is affixed to the battery, only the main body portion of the release paper is left in place so that the severable section of the plaque does not adhere to the battery, thus permitting it to be detached at a later time. When the severable section is later removed, along with its backing release paper, it can be understood that the surface of the battery will be exposed in the region previously occupied by the severable portion and that a shallow well will be formed at this point having a depth equal to the thickness of the plaque. This well forms a point for the accumulation of liquids, such as battery acid, that can contribute to loss of adhesion between the plaque and the battery and a deterioration of the printing on the face of the battery plaque. Also, since the printing on the face of the plaque is unprotected, it is subject to alteration or mutilation.

SUMMARY OF THE INVENTION

Accordingly, it is an object of this invention to provide a battery plaque that has a detachable portion into which information relating to the sale of an article of manufacture may be enclosed.

It is another object of this invention to provide a battery plaque that may not be altered and that is protected from alteration or mutilation, either intentionally or by environmental conditions of use.

These and other objects of this invention are achieved by assembling a laminated structure of at least three separate plastic films including a base layer, an intermediate layer, and a cover layer. (it should be noted that throughout this specification and the appended claims, the terms "lower" and "upper" take as their point of reference the base layer and cover layer respectively.) The base layer is opaque, carrying a coating of an adhesive on its lower surface; the intermediate layer is transparent, is printed on its upper surface with the desired information, and its lower surface is adhered to the upper surface of the base layer; and the cover layer is transparent and adhered to the upper surface of the intermediate layer.

The base layer is pigmented to provide color and opacity. For example, it may be convenient to use a common filler, such as titanium dioxide, which will color the base layer white and cause it to be opaque.

The intermediate layer is made from transparent plastic film and is printed over its upper surface with the desired guarantee information. The printing on the upper surface of the intermediate layer is of a color that will clearly contrast with that of the base layer. For example, if the base layer is white, the intermediate layer

may be printed in black. Due to the transparency of the intermediate layer, the background color of the base layer will show through the intermediate layer at all those portions of the intermediate layer where it has not been printed, thus making the printed information readily visible. Note that the printing in the intermediate layer may be in either positive or negative form.

The cover layer is adhered to the upper surface of the intermediate layer after the intermediate layer has been printed. To complete the structure, a release paper is placed over the adhesive on the lower surface of the base layer to protect the plaque in handling and storage. The release paper is removed when the plaque is adhered to the battery.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in plan of a plaque incorporating the instant invention;

FIG. 2 is a sectional view on an enlarged scale taken along 2—2 of FIG. 1;

FIG. 3 is a view corresponding to a portion of FIG. 1, but on an enlarged scale, illustrating the removal of the severable section of the plaque; and

FIG. 4 is a perspective view of the severable section as removed from the plaque.

Referring to FIGS. 1 and 2, there is generally shown a plaque 1 made in accordance with this invention. The plaque 1 essentially is comprised of at least three layers of plastic film laminated to each other. These layers include a base layer 2 that is suitably pigmented to provide opacity, an intermediate layer 3 that is transparent, and a cover layer 4 that is also transparent. All three layers are held positioned relative to each other by interposed layers of adhesive 6. The base layer 2 also carries a film of adhesive on its back side which is protected in handling and storage by a release paper 7. In the preferred practice of this invention, all of the adhesive layers 6—6 are of the pressure-sensitive permanent tack type.

A central detachable portion 8 of the plaque is formed by die cutting through the cover layer 4 and the underlying intermediate layer 3. This permits removal of the central portion 8 from the plaque so that it may be attached to other records. A sufficient portion of pressure-sensitive adhesive between intermediate layer 3 and base layer 2 will remain on the lower surface of the detachable portion 8 so that it may be securely mounted as in a guarantee book.

The detachable portion 8 itself contains a number of die cut portions that may be selectively removed by punching them out. These portions, here shown as round discs, may carry coded intelligence relating to the month and year that the battery was purchased. Other portions of the detachable section 8 may be imprinted with the battery serial number so that at a later date the serial number 11 on the detachable portion 8 may be matched with the serial number 12 that will remain affixed to the battery.

Due to the fact that detachable portion 8 is formed only from the intermediate layer 3 and the cover layer 4, the base layer 2 will remain after the detachable section 8 has been removed. This presents certain advantages, one of them being that a comparatively deep well having a height equal to the thickness of the battery plaque is avoided. A deep well is not desired as it forms a point for the accumulation of liquids such as battery acid. Also, since the well does not go through to the

lower surface of the plaque, liquids such as battery acids cannot attack the adhesive layer at the interface between the battery plaque and the surface of the battery.

After the detachable portion 8 has been removed from the battery plaque, it is possible to mark the upper surface of the base 2 where the detachable portion 8 has been removed. For example, if desired, the signature of the buyer can be written onto the base layer 2 at this point.

As mentioned above, it is the upper surface of the intermediate layer 3 upon which the printing is placed. The reason for putting the printing on the upper rather than the lower surface is that it protects the plaque from alteration as, for example, when the detachable portion 8 is removed from the battery plaque. Rather than being exposed by being on the lower surface of the intermediate layer 3, the printing is protected from defacement by the cover layer 4.

The plastic films used in the practice of this invention are made from any of a number of commonly available materials. For example, plastic film can be made from polyethylene, polypropylene, polystyrene and polyesters, just to name a few. There is nothing critical in selecting a proper plastic film, provided, of course, that it is stable in the environment in which it is to be used (in the case of a battery plaque, resistant to strong acids) and that at least the intermediate and cover layers are transparent. The thickness of the several layers is not critical, provided that at least the base layer and intermediate layer have sufficient thickness to provide the necessary sturdiness to resist the abuses encountered in use. As an example (not by way of limitation), each of these layers usefully may be in a range of from about 2 to about 5 mils.

On the other hand, since the function of the cover layer is only to protect the printing on the upper surface of the intermediate layer, it can be relatively thin, as in the range of from about 0.5 to about 1 mil.

The preferred adhesives for use in this invention are those of the pressure-sensitive type, which are well known to those skilled in the art. These adhesives generally contain one or more elastomers, resins and softening agents, and, to give them permanent tack, the resin component is usually a nonreactive, permanently thermoplastic material that is compatible with elastomers, such as longchained petroleum hydrocarbon resins. The softening agent may be either a petroleum oil or a petroleum-based liquid polymer that is compatible with the elastomers and the resin to impart softness, flexibility and tackiness.

Release papers, such as are here used to protect the lower surface of the base layer during handling and storage, are well known. These papers are treated with a material, such as a silicone resin, to prevent absorption of the mobile components of the pressure-sensitive adhesive into the paper and also to provide a surface to which the pressure-sensitive adhesive cannot adhere.

I claim:

1. A warranty plaque comprising a base layer, an intermediate layer and a cover layer;
 - the base layer comprising an opaque plastic film having a pressure-sensitive adhesive on its lower surface;
 - the intermediate layer being comprised of a transparent plastic film having its lower surface adhered to

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the upper surface of the base layer and carrying printed intelligence on its upper surface;
the upper layer being a protective transparent plastic film adhered to the upper surface of the intermediate layer; and
a central portion of the intermediate layer and a corresponding central portion of the overlying cover layer bearing die cut lines that permit detachment of the central portion of the intermediate layer and the corresponding central portion of the overlying cover layer from the base layer and the surrounding portions of the intermediate and the upper layers.

2. A warranty plaque according to claim 1 wherein the detachable portions include removable sections that may be punched out for purposes of coding in intelligence.

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3. A warranty plaque according to claim 1 wherein the several layers are adhered to each other by means of a pressure-sensitive adhesive.

4. A warranty plaque according to claim 1 wherein, at time of manufacture, the pressure-sensitive adhesive on the lower portion of the base layer is protected with a release paper.

5. A warranty plaque according to claim 1 wherein the detachable central portions of the intermediate layer and the overlying cover layer are provided with die cut regions that may be removed from the central portions of the intermediate and overlying cover layers to provide for encoding intelligence by the removal of these regions from the intermediate and overlying layers.

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