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A4A AWB AWB1 AWB3
A4G G1
U1S S1772 S1787 S2299

(56) Documents Cited
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ONLINE:WPI,CLAIMS

(54) Gold decorative/Gift item

(57) A decorative or gift item (10) comprising a body (11),(111) and a gold wafer (12),(112) of a thickness between 0.015mm and 0.02mm affixed onto the body (11),(111) means of a transparent resin coating (14),(114). The resin coating (14) may cover the whole item (10). The gold wafer may be laminated between two thin transparent plastics sheets (13, 113).

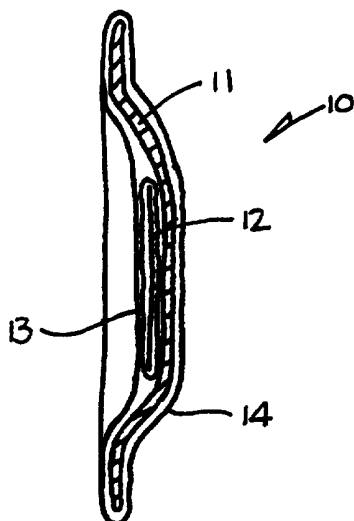


FIG. 1

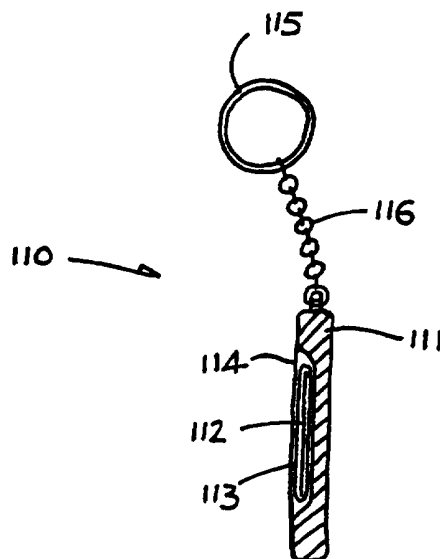


FIG. 2

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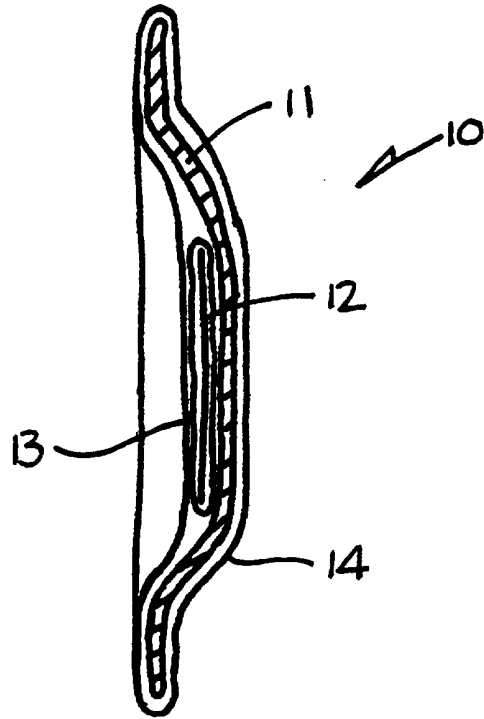


FIG. 1

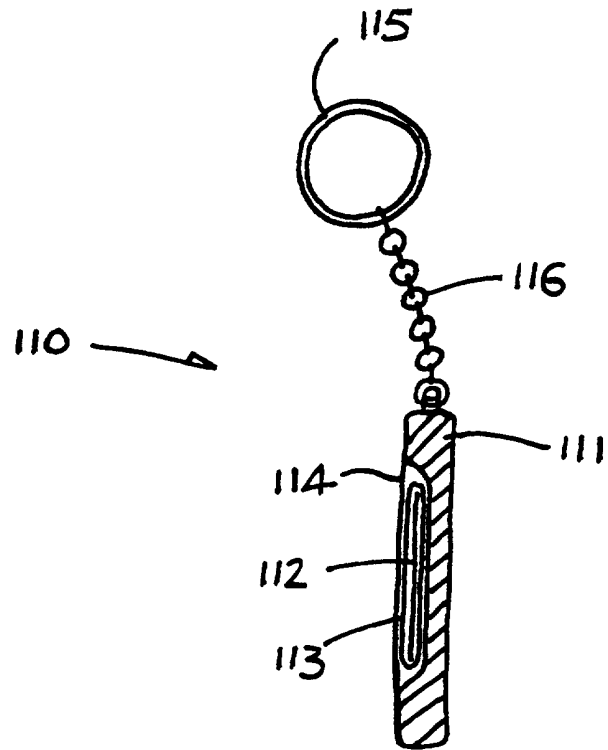


FIG. 2

GOLD DECORATIVE/GIFT ITEM

The present invention relates to a decorative or gift item of gold.

5 According to the invention, there is provided a decorative or gift item of gold, which comprises a body and a gold wafer affixed onto the body by means of a transparent resin coating.

In a preferred embodiment, the gold wafer has a thickness substantially in the range from 0.015mm to 0.02mm.

10 Preferably, the gold wafer is formed by melting solid gold at a temperature substantially in the range from 1200°C to 1500°C and allowing the molten gold to solidify to form a gold plate and then rolling the gold plate to an appropriate thickness.

15 For convenient handling, the gold wafer is in itself reinforced by plastic lamination.

It is preferred that the laminated gold wafer is printed with a pattern by a transfer printing method.

20 More preferably, the pattern is protected by a layer of heat-resistant material prior to the application of the transparent resin coating.

In a preferred embodiment, the transparent resin is applied to cover the whole item.

Preferably, the transparent resin is applied in liquid form, which is then allowed to partially cure under
5 substantially room condition and subsequently allowed to completely cure at a temperature substantially in the range from 80°C to 85°C.

It is preferred that the body is substantially of a metal material and electroplated with a chromium material.

10 In one example, the decorative or gift item of gold is in the form of a plate.

In another example, the decorative or gift item of gold is in the form of a key-holder.

The invention will now be more particularly described, by
15 way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a schematic cross-sectional side view of a first embodiment of a decorative or gift item of gold, in the form of a plate, in accordance with the invention; and

20 Figure 2 is a schematic cross-sectional side view of a second embodiment of a decorative or gift item of gold, in

the form of a key-holder, in accordance with the invention.

Referring firstly to Figure 1 of the drawings, there is shown a first decorative/gift item in the form of a display plate 10 embodying the invention, which plate 10 has a
5 dish-like metal body 11. The body 11 is stamped out from a sheet of copper material to the appropriate size and shape and then electroplated with, for example, chromium to provide the necessary lustre and reflectiveness. Subsequent polishing may be necessary.

10 Pure gold, having a purity of for example 99.99%, can be rolled to have a small thickness for reducing the material cost down to about 1/50 per unit area. The subject plate 10 includes a gold wafer 12 (a thin plate) which is mounted on the electroplated copper body 11 to form the complete
15 decorative/gift item.

In the production of gold decorative and gift items, it is conventional to melt pure (solid) gold nuggets under a temperature of 1000°C, then pour the molten gold into a shallow trough to form a plate upon cooling, and finally
20 roll the gold plate to form a gold wafer. The subject gold wafer 12 is specially thin, having a thickness in the range from 0.015mm to 0.02mm, which is formed by initially melting pure gold nuggets at a temperature above 1000°C, up to 1200°C-1500°C. The molten gold is maintained at the same
25 temperature for an extended period of about 10-20 minutes

for thorough melting such that the resulting gold plate will not easily deform or crack during subsequent rolling. Afterwards, the gold plate is subject to rolling and then to further rolling using a special rolling mill under an
5 extended time of thinning and stretching to form the gold wafer 12. The gold wafer 12 finally undergoes a sand-grinding treatment to have a matt surface.

The gold wafer 12 is cut to an appropriate size and then burnt by naked fire to remove all oily dirt. The gold
10 wafer 12 is subsequently placed and laminated between two heat-resistant 100% transparent plastic sheets 13 using a thermal lamination machine. One-sided lamination is also possible. The plastic sheets 13 should be as thin and yet as strong as possible to reinforce the gold wafer 12, which
15 is in itself cotton-soft thin, for the convenience of subsequent handling and processing. If necessary, the lamination application may be repeated once. As the material to be laminated is gold and in order for the plastic sheets 13 to stick thoroughly with the gold wafer
20 12 for invisibility, higher lamination temperature and slower lamination speed should be used. The laminated gold wafer 12 is then cut to an appropriate shape as required by the design of the decorative/gift item.

The laminated gold wafer 12 is to be printed with a graphic
25 and/or word pattern which may or may not be of pure gold material. According to the decorative/gift item design,

the required pattern is printed using a conventional thermal transfer printing method. Upon completion of the transfer printing, the gold wafer 12 is positioned, for example, by means of double-sided adhesive tape onto the body 11. If the body 11 carrying the printed gold wafer 12 is subsequently subject to a high temperature treatment, the printed pattern will likely be destroyed or otherwise disturbed. For this purpose, a coating of heat-resistant material is applied onto the surface of at least the printed gold wafer 12 in order to protect the colour/lustre and design of the printed pattern.

The subsequent high temperature treatment involves the application of a 100% transparent crystal resin coating 14 over the body 11 for, inter alia, affixing the gold wafer 12 permanently in position. The crystal resin in liquid form is initially applied and then allowed to partially or half dry or cure under natural or room condition. The curing under room condition (temperature and wind) will cause the cured crystal resin coating 14 to have a smooth surface without any defects and air bubbles. After about 12 hours of such natural curing, the plate 10 is then moved into a light-bulb drying chamber which is maintained at a temperature in the range from 80°C to 85°C for the crystal resin to cure completely to have a hardness sufficient to be scratch-proof. The crystal resin coating 14 may be applied again and, preferably, up to totally three times in order to provide the necessary lustre and reflectiveness

and also overall protection against damage as well as colour fading.

Referring now to Figure 2 of the drawings, there is shown a second decorative/gift item in the form of a key-holder 110 embodying the invention, which key-holder 110 has a construction very similar to that of the plate 10 described above, namely comprising a copper body 111 onto which a pure gold wafer 112 reinforced in lamination 113 is affixed by means of a crystal resin coating 114. For the purpose of holding keys, the key-holder 110 includes a golden key ring 115 connected to the body 111 by means of a golden chain 116.

In this decorative/gift item 110, it is important to notice that the transparent resin coating 114 is applied to only a front part of the whole key-holder 110, namely covering the gold wafer 112 and around its periphery to an extent sufficient to fix the gold wafer 112 in position on the body 111.

It is envisaged that the bodies 11 and 111 may be of any other metal or non-metal material such as wood.

Decorative and gift items incorporating pure gold wafers/plates, per se, are known to exist on the market. In these items, the gold wafer/plate is merely sandwiched between rigid transparent plastic plates or held in place

by a rigid transparent plastic plate against a body. With such a construction, the existing items are found not to be aesthetically appealing and elegant and the design thereof is fairly limited.

- 5 The invention has been given by way of example only, and various other modifications of and/or alterations to the described embodiments may be made by persons skilled in the art without departing from the scope of the invention as specified in the appended claims.

CLAIMS

1. A decorative or gift item of gold, comprising a body and a gold wafer affixed onto the body by means of a transparent resin coating.

5 2. A decorative or gift item of gold as claimed in claim 1, wherein the gold wafer has a thickness substantially in the range from 0.015mm to 0.02mm.

10 3. A decorative or gift item of gold as claimed in claim 1 or claim 2, wherein the gold wafer is formed by melting solid gold at a temperature substantially in the range from 1200°C to 1500°C and allowing the molten gold to solidify to form a gold plate and then rolling the gold plate to an appropriate thickness.

15 4. A decorative or gift item of gold as claimed in any one of claims 1 to 3, wherein the gold wafer is in itself reinforced by plastic lamination.

20 5. A decorative or gift item of gold as claimed in any one of the preceding claims, wherein the laminated gold wafer is printed with a pattern by a transfer printing method.

6. A decorative or gift item of gold as claimed in claim 5, wherein the pattern is protected by a layer of heat-

resistant material prior to the application of the transparent resin coating.

5 7. A decorative or gift item of gold as claimed in any one of the preceding claims, wherein the transparent resin is applied to cover the whole item.

10 8. A decorative or gift item of gold as claimed in any one of the preceding claims, wherein the transparent resin is applied in liquid form, which is then allowed to partially cure under substantially room condition and subsequently allowed to completely cure at a temperature substantially in the range from 80°C to 85°C.

15 9. A decorative or gift item of gold as claimed in any one of the preceding claims, wherein the body is substantially of a metal material and electroplated with a chromium material.

10. A decorative or gift item of gold as claimed in any one of the preceding claims, being in the form of a plate.

11. A decorative or gift item of gold as claimed in any one of claims 1 to 9, being in the form of a key-holder.

20 12. A decorative or gift item of gold, substantially as hereinbefore described with reference to Figure 1 or Figure 2 of the accompanying drawings.



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Claims searched: 1 to 12

Examiner: R.J.MIRAMS
Date of search: 19 March 1997

**Patents Act 1977
Search Report under Section 17**

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK CI (Ed.O): A4A (AWB), A4G, B5N, B6G (GCA, GCB, GCC, GCD, GE, GLB, GMB, GMD, GNB), B6J (JB2, JB4, JB7)
Int CI (Ed.6): A44B 15/00, A47G 19/02, B32B 15/08, B44C 1/14, 1/26, 3/02
Other: ONLINE: WPI, CLAIMS

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	US 5,120,589A (Morikawa) whole document	at least 1, 2, 4 and 7
X	US 3,839,129A (Neumann) e.g. figure 1	at least 1 and 2
X	GB 1,132,710A (Gustafs) whole document	at least 1 and 2
X	GB 0,985,583A (Metaglow) whole document	at least 1 and 2

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.