

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

0 498 078 A1

(12)

EUROPEAN PATENT APPLICATION(21) Application number: **91122337.8**(51) Int. Cl.⁵: **B65D 75/02**(22) Date of filing: **01.01.92**(30) Priority: **04.01.91 GB 9100162**(43) Date of publication of application:
12.08.92 Bulletin 92/33(84) Designated Contracting States:
**AT BE CH DE DK ES FR GB GR IT LI LU MC
NL PT SE**(71) Applicant: **THE STANLEY WORKS LIMITED**
1000 Stanley Drive, P.O. Box 7000
New Britain Connecticut 06050(US)(72) Inventor: **Stone, Henry Stephen Neil**
Wellington Road
West Yorkshire Leeds LS 12 1DU(GB)(74) Representative: **Denmark, James**
Bailey, Walsh & Co. 5 York Place
Leeds LS1 2SD Yorkshire(GB)(54) **A method for packaging decorating articles.**

(57) The invention of this patent application relates to the packaging of decorating articles. Typically said articles are packaged in plastics packaging which is required to be fitted to the articles by hand or, when performed automatically, the finished package is undesirably bulky. The method of packaging of the invention allows a plurality of articles to be packaged at one time and is an automatic process. The finished package is designed such that only the head portion of the articles are packaged with the handle portion projecting from the packaging. Furthermore the dimension of the packaging is close to the dimension of the article which is trapped therein. Additionally there may also be incorporated into the package a backing layer or printed advertising material to enhance the appearance of the article to the consumer.

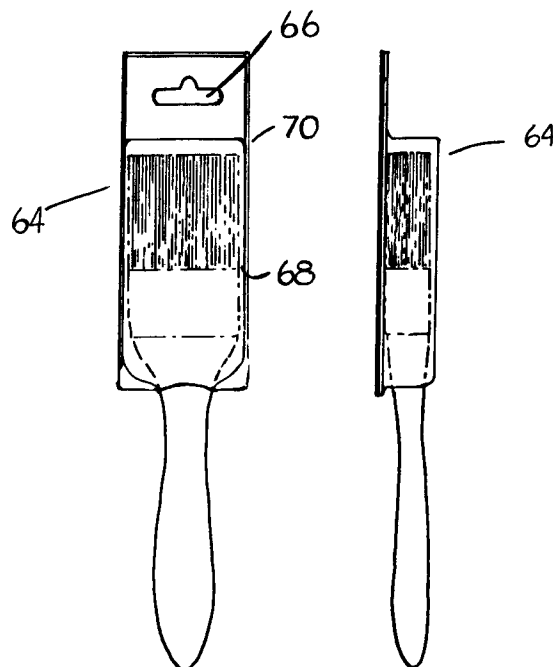


Figure 6

Figure 7

EP 0 498 078 A1

This invention relates to the packaging of articles, which comprise head portions and handle portions, of which the head portions typically require protection to prevent damage thereof prior to the articles being purchased or used. One particular type of articles to which the invention relates are articles for decorating, and typically although not exclusively to brushes. The invention relates to the method of packaging said articles in plastics material, and in particular relates to an improvement in the way in which the said plastics packaging is provided and also to the method by which the packaging of the brush is performed. The packaging of said brushes serves to protect the bristles of the brush from damage, prior to sale; to enhance the appearance of the brush to the prospective purchaser and allows information and advertising labels to be placed in or on the package.

Although this patent discusses the issues specifically relating to the packaging of brushes it should be understood that the patent relates to the use of this method of packaging in relation to other decorating sundries and in particular with regard to other paint applicators such as rollers and pads where the application heads require protection.

Paint applicators and in particular brushes are generally required to be at least partially packaged to protect the bristles of the brush head from damage during transit and subsequent inspection by potential purchasers. It has been found that if said bristles are not packaged they are prone to become splayed such that when the applicator is used, the painted finish is substandard. It is therefore desirable, as it is with any decorating sundry, that the head portion be protected by packaging whilst allowing said head to be viewable by the potential purchaser. It is furthermore preferable that said heads and, in particular, brush heads are kept in a closely fitting package, such that said bristles are kept in a tight formation as desired.

At present there are a plurality of methods by which brushes may be packaged. One of the most common methods involves the placement of a brush within a plastic wallet. Said plastic wallet is of a rigid preformed construction with a flap, which, once said brush is in location, is folded and adhered to the remainder of the wallet to maintain said brush in position, and close the wallet. This method is widely used and is at present performed manually. The manual packing of said brushes is time consuming and a typical production rate using this method is eight brushes packed per minute. In addition, the use of manual labour to package said brushes increases the possibility of damage to the bristles during packing as the packer attempts to manipulate the brush such that it fits within the plastic wallet.

There are also several automatic methods

available and one such method involves the sealing of the whole brush within plastic sheeting to form a sealed plastic wallet. Due to the nature of the sealing mechanism and the plastic sheeting from which it is formed, the wallet is required to be considerably larger than the brush itself leading to excessive use of the packaging material. In addition the finished size of this packaging prohibits the use of this method.

It is regarded as a disadvantage of all the packaging methods currently in use that the overall size of the packaging, once complete, is too large. In order to comply with the demands of the retailers of the said articles it is desired that the dimension of the packaging should be as close to the size of the packaged article as possible. It is also desired that the packaging should prevent damage to the shape and condition of the packaged article and in respect to brushes in particular, the bristles of the brush. Additionally it is an ever present objective to allow the production rate of packaging to increase.

The aim of the present invention is to provide and utilise a packaging method which is specifically suitable for the packaging of said articles and in particular paint applicators such that at least the heads of the applicators can be kept in a secured, protective package and said package does not detract from the appeal of the product.

The present invention relates to a method of packaging decorating articles, or part of said articles, in a plastics packaging material wherein said decorating articles are placed respectively in a plurality of side by side plastic cavities formed in a sheet material base of the packaging and located therein; said articles being covered by and sealed to a sheet material top, to trap the articles in the packaging.

Preferably said sheet material base of the packaging will have formed therein a multiplicity of moulded cavities such that said sheet material base will allow a plurality of said articles to be placed in position and sealed therein by application of the sheet material top.

Preferably the head portions of the articles are trapped by the packaging, whilst the handle portions project therefrom.

Preferably the top is flat sheet material of sealable synthetic plastics.

Preferably said plurality of cavities will be formed in a side by side configuration in the sheet material base.

Preferably shaping of said cavities will be such as to ensure that they closely follow the outline of the article to be placed therein.

A method of packaging characterised in that the shape of said cavities prevents the packaged articles from being released from the package with-

out destruction of said package.

The machine tooling to be used will be designed for the specific purpose of packaging the decorating articles in question to ensure that the excess material of the package protruding from the sides of the article is kept to a minimum.

Said sheet material top will typically be sealed to the sheet material base of the package at the interfaces of the areas between the cavities formed in the sheet material base.

Typically two seals will be formed at each interface and in the area defined between the two seals, a cutting action will be performed to separate the packaging into individual packages with at least one said article located in each.

Preferably said seals in the packaging will be formed by R/F Welding wherein there is provided specially designed tooling which, when applied, to the plastic sheeting will cause a seal to be formed between the first and second parts of the packaging.

A method of packaging is typically characterised in that there is provided machine tool jigs in which the sheet material base is placed.

A further method of packaging is typically characterised in that the machine tool jig is driveably moveable, with articles placed in said cavities, to be presented to have sheet material top laid thereon.

A method of packaging characterised in that there is trapped within the sealed package, in addition to article, an inner sheet which is sealed within the package.

In one embodiment, in addition to placing the article in the formed cavity there will be provision for a card or similar advertising leaflet to also be placed in the cavity in conjunction with to the article sealed within the package.

An inner sheet is one embodiment characterised in that said inner sheet is in the form of a coloured vinyl which serves as a backing to the article.

A further method of packaging involves the further step in that there is provided external to the sheet material top an external vinyl layer.

Typically the packaging method so described may also be used to package a plurality of said decorating articles in one package such that the packaging process so described may be used to trap a number of articles within one final package.

The method of packaging articles can in one embodiment involve the step wherein there is provided in the cavities of the sheet material base, location means to locate said articles respectively therein, said articles having been placed in the cavities.

The location means can be in the form of indents which locate with the clamping section of

the head portions and handle portions of the articles.

Typically this invention relates to the packaging of a brush, or part of a brush, by a plastic material, the method for which involves a plurality of side by side brush cavities formed in a sheet material base in which the said brushes are placed and then overlaid with a sheet material top and welded therein with the shaping of the said cavities and machine tooling designed for the packaging of the said brushes.

The use of the Blister Packaging method requires specialised tooling to be developed for brushes. However, the tooling should be capable of use on existing Blister Packaging Machines and using a form of R/F Welding to seal the package. In addition to the tooling, the cavities within the sheet material are required to be formed to allow the brushes, or part of same, to fit therein and, due to the requirements for the blister packs to be as small as possible in relation to the brush to be packaged, the cavities will be designed such as to closely fit the brush. The method of manufacture shall be repetitive through the Machine with the first plurality of side by side cavities followed by a second plurality, third plurality and continuing in this manner.

The method of packaging will now be described with reference to the following diagrammatic drawings and in relation to one embodiment of the packaging wherein:

Figure 1 shows the form of a brush, in elevation, to be packaged;

Figure 2 shows a side view of the brush in Figure 1;

Figure 3 shows a plan view of the sheet material with cavities;

Figure 4 shows an elevation of the sheet material with cavities;

Figure 4 shows a schematic representation of the Packaging process;

Figure 5 shows an elevation of the finished Packaged brush; and

Figure 6 shows a side view of the finished Packaged brush.

As can be seen from Figures 1 and 2 in this embodiment the decorating article to be packaged is a brush 10 which is of a rectangular headed form 12. The brush 10 comprises a brush handle 14 and a brush head 12 which is formed of bristles 16 and a brush clamp 18 which attaches the handle 14 to the head 12. It is only the brush head portion 12 which, in this case, is required to be packaged.

Figures 3 and 4 show sheet material of the sheet material base part 20. The said sheet material 20 includes a cavity 22 which is shaped such that the brush head 12 can fit therein. The cavity 22 is repeated a plurality of times 24, each of the

same dimensions. The narrowed section 26 is shaped such as to locate the sheet material cavity 22 around the narrow top 27 of the handle 14, hence ensuring that the finished pack shall not slip off the brush. There is shown in one cavity the provision of friction locations means 23 which serve to further maintain the brush in portion in said cavity. These may be repeated in each cavity as require. The spaces 28 and 30 around the said cavities are provided such that the welding and cutting operations may be performed thereon. The brush heads 12 are placed into the cavities 24 in the direction of arrow 34. The said brush heads shall be easily placeable in the cavities 24. The side walls 36 of the cavities 24 are designed to minimise the overall width of the finished blister pack.

Figure 5 gives a schematic representation of the Blister Packaging process. The brushes 10 are firstly placed in position following arrows 34 into the cavities 24 of the sheet material 20. Once the brushes 10 are in position the said sheet material with cavities is placed as in arrow 38 into the machine tool jig 42 shown in section through the cavity section. This machine tool jig is formed so as to accurately locate the sheet material 20 and cavities 24. The said jig forms seats with the said sheet material at 40 and is repeated for each cavity. Additionally an inner sheet 67 may be placed on top of the jig 42 once the brushes are in located position.

The jig 42, sheet material 20, cavities 24 and brushes 10 and hereby jointly represented by the numeral 43, are presented, 44, for the sheet material top 46 application, the sheet material (46) in this case in the form of a continuous roll 48 however in another embodiment (not shown) the said film may be in precut sheets. The sheet material top, 46, is placed on the top of the jig 43 and in contact with the sheet material 20 at the areas 49 shown. The next stage is for the jig 43 with sheet material top 46 and represented by the numeral 52 to be presented, 50, for the welding and cutting operations in which the sheet material top is welded to the sheeting material 20 at predesignated points. The welding and cutting head 54 is forced down, 56, onto the jig 52. The sheet material top 46 is first welded to the said sheet material 20 by means of welding faces 58 and 60 which are placed so as to weld in the spaces so previously described as 28 and 30. The said sheet material is then cut into individual blister packs by means of cutters 62. The welded and cut blister packs can then be removed from the jig (not shown).

Figures 6 and 7 show the finished blister pack 64 and trapped brush head 12 with handle 14 remaining unpacked. A hole 66 has also been punched in the said pack to provide for hanging

the pack on display. It can be seen that this form of packaging requires only a small gap 68 to be left between the brush and the package, with the weld seal 70 close to the size of the brush and at the rear of the brush when on display.

The use of this method of packaging brushes reduces by a considerable amount the overall size of the packaged brush and therefore meets the requirements of the retailers of the said brushes.

The packaging additionally provides an enhanced visual appearance of the goods which is desirable to the manufacturer in the competitive trade in which they are involved. In addition this package serves to increase the protection provided for the bristles of the brush and is of such a form as to keep the bristles in the required shape.

The production rate for the packaged brush is improved from approximately eight packaged brushes per minute to sixty brushes per minute which represents a substantial increase in productivity at what was previously a bottleneck area of the production process. Additionally the manpower required to operate this new packaging process is reduced from forty persons to twelve persons, a reduction of seventy per cent.

Claims

1. A method of packaging articles, or part of said articles, in a plastics packaging material characterised in that said decorating articles are placed respectively in a plurality of side by side plastic cavities (22) formed in a sheet material base (20) of the packaging; said articles being covered by, and said sheet material base sealed to, a sheet material top (46) of the packaging to trap the articles in the packaging.
2. A method of packaging as in Claim 1 characterised in that the said sheet material base (20) has formed therein a multiplicity of moulded cavities (22) such that said sheet material base (20) will allow a plurality of said articles (10) to be placed in position and sealed therein by application of the sheet material top (46).
3. A method of packaging as in any of the preceding claims characterised in that the head portion (12) of the articles (10) are trapped in the packaging whilst the handle portion (14) projects therefrom.
4. A method of packaging as in any of the preceding claims characterised in that the sheet material top (46) is a sealable synthetic plastic.
5. A method of packaging as in any of the preceding claims characterised in that there is a

plurality (24) of cavities (22) formed in a side by side configuration in the sheet material base (20).

6. A method of packaging as in any of the preceding claims characterised in that the shape of said cavities (22) prevents the packaged articles (10) from being released from the package without destruction of said package. 5
7. A method of packaging as in any of the preceding claims characterised in that said cavities (22) are formed such that they follow the outline of the article (10) to be placed therein. 10
8. A packaging method as in any of the preceding claims characterised in that the sheet material top (46) is sealed to the sheet material base (20) at the interfaces of the top (46) and base (20) at spaces (28) and (30). 15
9. A packaging method as in Claim 8 characterised in that two seals are formed in said interface space (28), and in the area defined between the two seals a cutting action is performed to separate the packaging into individual packages with at least one said article (10) located in each. 20
10. A method of packaging as in any of the preceding claims characterised in that said seals will be formed by R/F Welding such that there is provided specially designed tooling (58) (60) which causes a seal to be formed and hence trap the article in the said cavity (22). 25
11. A method of packaging as in Claim 9 characterised in that there is provided machine tool jigs (42) (43) in which the sheet material base (20) is placed. 30
12. A method of packaging as in Claim 9 and 10 characterised in that the machine tool jig (42) is driveably moveable (44), with articles placed in said cavities (20), to be presented to have sheet material top (46) laid thereon. 35
13. A method of packaging as in any of the preceding claims characterised in that there is trapped within the sealed package, in addition to article (10), an inner sheet (67) which is sealed within the package. 40
14. An inner sheet (67) as in Claim 12 characterised in that said inner sheet is in the form of a card or label upon which there may be printed matter. 45

15. An inner sheet (67) as in Claim 12 characterised in that said inner sheet is in the form of a coloured vinyl which serves as a backing to the article (10).

16. A method of packaging as in any of the preceding claims characterised in that there is provided external to the sheet material top (46) an external vinyl layer.

17. A method of packaging articles as in any of the preceding claims characterised in that there is a plurality of articles (10) packaged in one package, and held in trapped location therein between the sheet material base (20) and sheet material top (46).

18. A method of packaging articles as in any of the preceding claims characterised in that there is provided in the cavities (22) of the sheet material base (20), location means (23) to locate said articles respectively therein, said articles having been placed in the cavities (22).

19. A location means (23) as in claim 17 characterised in that said location means are in the form of indents which locate with the clamping section (18) of the head portions (12) and handle portions (14) of the articles (10).

20. An article as packaged by the method of the preceding claims characterised in that said article is a paintbrush.

21. A method of packaging a brush, or part of a brush, by a plastics material, a plurality of cavities (22) formed side by side in a sheet material base (20) in which said brushes are placed and overlaid with a sheet material top (46) and trapped therein with the shaping of said cavities (22) preventing release of said brushes.

22. A method of packaging decorating articles as hereinbefore described in the accompanying description and figures.

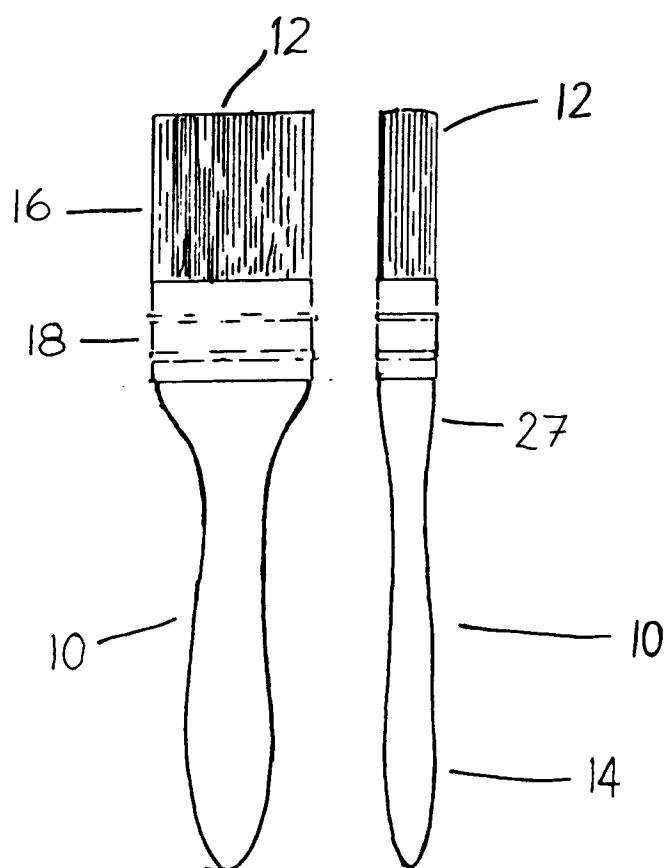


Figure 1

Figure 2

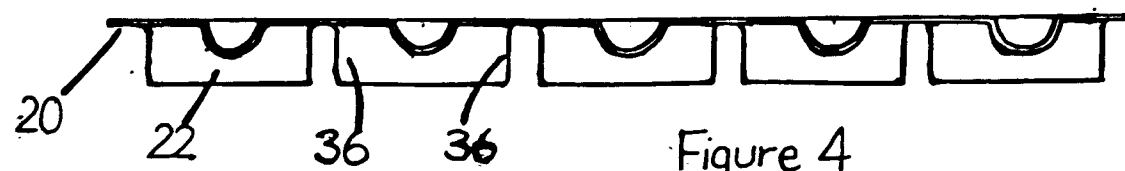
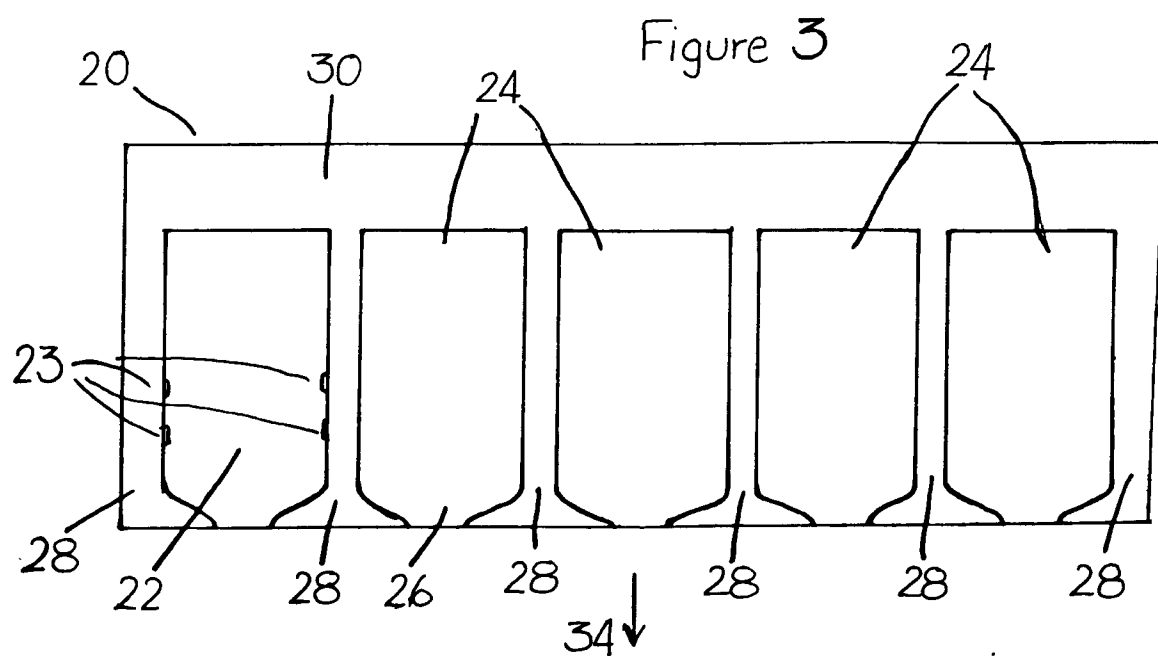
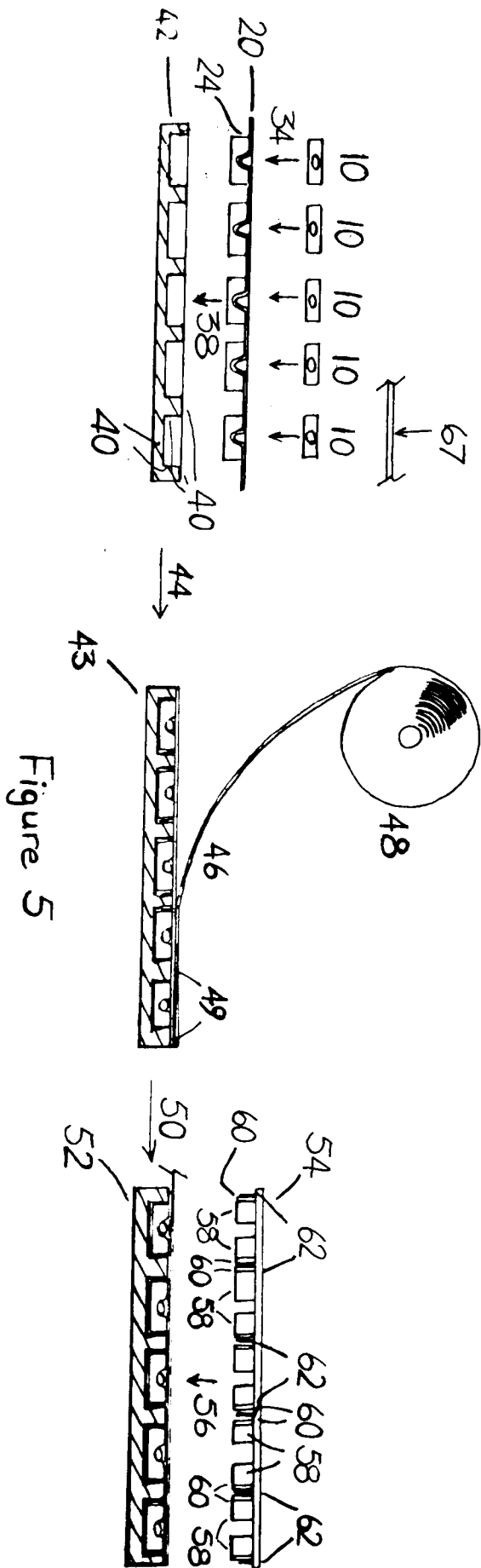


Figure 4



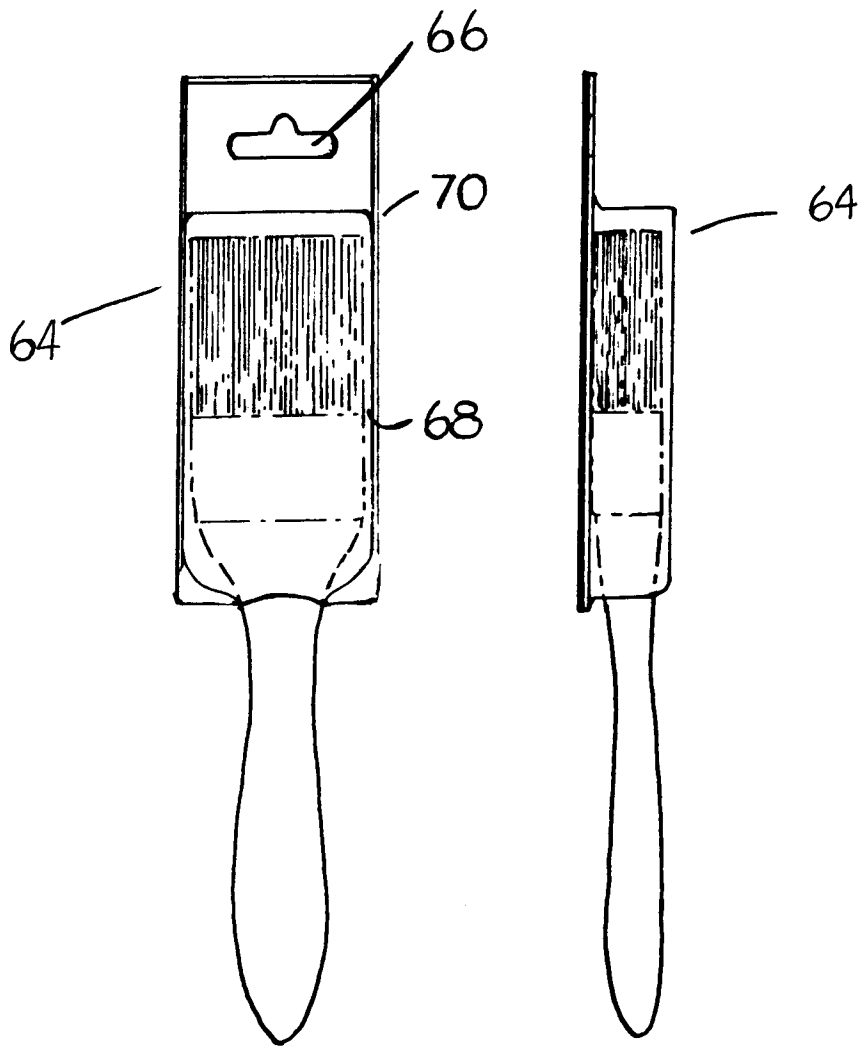


Figure 6

Figure 7



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 91 12 2337

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-3 419 132 (O CONNELL) * column 2, line 9 - column 3, line 20; figures 1-3 * ---	1-3, 6-8, 18, 20	B65D75/02
A	FR-A-2 154 253 (PHILIPS) * page 3, line 5 - page 4, line 37; figures 1-7 * ---	1-8, 11, 12, 17-19	
A	FR-A-2 481 670 (ERCA) * claim 1; figures 1-3 * -----	1-8, 11-19	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B65D B65B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07 MAY 1992	Examiner VANTOMME M. A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			