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COPYING MEANS AND PROCESS FOR MANUFACTURING SAME

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Fig. 1

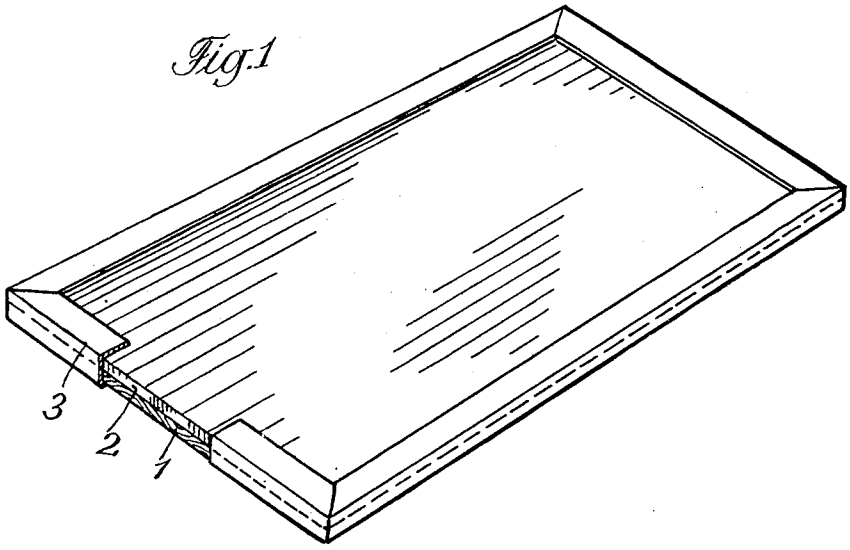
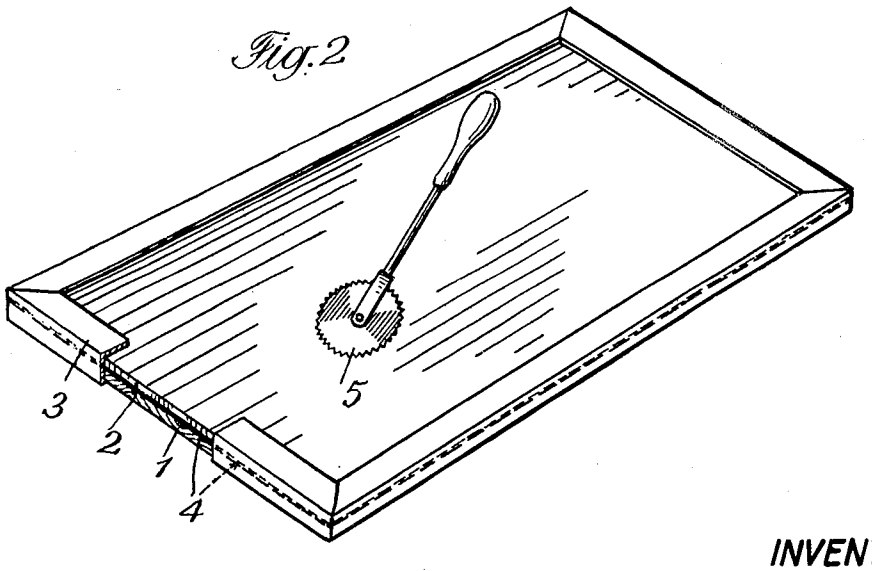


Fig. 2



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COPYING MEANS AND PROCESS FOR MANUFACTURING SAME

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12 Claims. (Cl. 117—36)

My present invention relates to a copying means as used, in particular, by dressmakers and tailors.

For copying certain lines, for example the contour of a dress from one side of a double cloth layer onto the other side, it is common practice to apply so-called stitch layers, i. e. to stitch together the two cloth portions on the said line by loose thread loops, then to draw apart the said portions in accordance with the size of the said loops and to sever the loops between the said portions. The thread elements remaining on both sides of the double cloth layer therefore mark exactly the desired contour thereon.

As, however, considerable time is consumed in this kind of marking, I have provided a copying means which permits said copying operation to be done without applying any stitches. For this purpose, my present copying means comprises a copying plate having a marking coat which serves for marking, on a line to be copied, the underside of the said double cloth layer lying on said coat, when the dressmaker exerts a pressure on the upper side of said layer by means of a copying tool.

In accordance with the process disclosed in my present invention, the copying means is made by applying, on at least one side of a base, a mixture to form a marking layer, and to dry the same.

A pricking wheel suitably is used as copying tool. The base may be a plate or a flexible material such as paper or cardboard.

In order to ensure a positive bond of the marking layer on the copying plate, a bonding layer may be provided between the copying plate and marking layer, additionally to the said structure of the copying means.

The said coat suitably is a spreadable composition of various components, applied to said copying plate.

The said bonding layer suitably is composed of a first layer of bone glue and a second layer of a mixture of equal parts of zinc oxide and gypsum.

My invention is more fully explained with the aid of the accompanying drawing, in which:

Fig. 1 shows a first, and

Fig. 2 a second example.

The copying plate 1 in Fig. 1, which, for example, may be made of wood, carries a marking coat 2 and is bordered on all sides by a linen strip 3 which covers the edge portions of coat 2. The latter, for example, may be applied to a quarter-inch plywood plate, and suitably is white when working with dyed cloth, but may be colored when working with white cloth.

In order to ensure positive results with my copying means disclosed, the coat is required to mark well also when operating with relatively little pressure or with thick cloth, without, however, crumbling when copying by means of the copying wheel 5. The layer shall not smudge, and the marking caused thereby, i. e. the copying line produced on the under side of the cloth, must be removable from the latter by slight rubbing. The layer further has to permit repeated copying without wearing off too soon. In order to satisfy these requirements, the coat

suitably is made up of a mixture having the following components:

20 grs. linseed-oil emulsion (ammoniacal),
10 grs. titanium white,
30 grs. kaolin,
40 grs. zincoxide, and
20 drops of a siccative, adding water until the mixture is spreadable.

After the plate 1 has been wiped with turpentine oil, the white layer of said composition is applied to the plate upper side by brush. Such coating is repeated twice after the previous coat has dried, whereupon the layer after final drying is rubbed down with a slight amount of petroleum jelly, such as white "Vaseline."

The whole then is bordered by the linen strip 3, and the copying plate is ready for use. Tests have shown that the copying plate disclosed and coated with said composition, satisfies the above mentioned requirements.

In the example shown in Fig. 2, a bonding layer 4 is provided between plate 1 and coat 2. The copying means is made as follows:

The plate 1 first is wiped with turpentine oil and then dried. A first coat of the bonding layer 4 is then applied in form of a hot solution of bone glue to the top-side of pate 1, whereupon a coat of a mixture consisting of equal parts of zinc oxide and gypsum is applied to provide a second coat of the bonding layer 4. The thus prepared plate is stored until the layer 4 is perfectly dry. As in the first example described, the white coat of said composition then is applied to the bonding layer 4, by brush in several runs, whereupon the coat after final drying is rubbed off with some petroleum jelly, such as white "Vaseline." The whole then is bordered, as said above, by linen strips 3, whereupon the copying plate is ready for use.

The bonding layer 4 described ensures a positive bond of the coat 2 on the plate 1 so as to prevent the coat from breaking off and, thus, the copying means from becoming damaged.

The coat and bonding layer, however, may be of a composition different from the one described.

When using the copying means disclosed, the double sheet of cloth is put on the coat 2 on plate 1. The cloth by means of a conventional pricking wheel 4, then is operated on either directly along the pattern put on the cloth upper side or on a line marked, e. g. by means of a chalk, by means of said pattern on the cloth upper side. Owing to the action of the copying wheel on the coat material, the cloth underside is marked accordingly.

The copying plate disclosed naturally may be made in various sizes. The copying means disclosed permits to mark thin as well as thick cloth.

When the base is made of paper or cardboard, the marking layer to be applied thereto has to be different from the one described above, since a flexible base requires a different type of layer than a rigid plate. A marking layer suitable for flexible bases is a mixture of the following components: 40 g. zincoxide, 50 g. titanium white, 30 g. kaolin, 100 cc. water, 75 g. turpentine, 10 drops of glycerine, and 10 g. curd soap dissolved in 100 cc. water. The paper, without any preceding treatment with turpentine oil, is steeped in said mixture and well dried, whereupon the copying means is ready for use. The paper may be steeped with the said mixture on one or on both sides. Flexible relatively thin bases of paper and cardboard, treated in the manner described, may be inserted between single cloth layers. Such latter arrangement is of advantage when the base on both sides is provided with a copying coat.

In a further process according to my present invention, the base first is rubbed down on one side with

turpentine oil and dried, an aqueous solution of glue and a prime coat are then applied to said side, whereupon the base is dried again. An intermediary layer formed of a mixture of various components is applied to said prime coat and dried. A spreadable mass then is applied to the intermediary layer to form the marking layer, such application being repeated at least twice after each drying. The dried layer finally is treated with a fixing means, dried again, and rubbed off with a cover or body means.

A suitable base is a stiff plate, for example of wood or plastic.

The aqueous solution of glue suitably is applied hot, and the mixture for the subsequent prime coat suitably consists of 100 g. zincoxide and 100 g. gypsum, to which water is added until the mixture becomes spreadable; the glue and prime coat together form a bonding layer. The intermediary layer suitably is composed of the following components: 300 g. marking-layer mixture, 1 teaspoonful (in the order of 5 cc.) of latex and an equal amount of aqueous ammonia solution.

The spreadable mass used for forming the marking-layer suitably comprises 400 g. zincoxide, 100 g. titanium dioxide, 300 g. kaolin, 200 g. ammoniacal linseed-oil emulsion, 180 drops siccative, 1 liter water and 100 drops glycerol.

The fixing means may be a mixture of equal parts of "Vaseline" and "Vaseline" oil.

The said cover means preferably comprises the following components: 40 g. zincoxide, 50 g. titanium dioxide, 30 g. kaolin, 100 cc. water, 75 g. turpentine, 10 drops glycerol, and 25 g. curd soap dissolved in 100 cc. water.

The process described last for producing the copying means may be carried out as follows: the base is a plywood board, e. g. of poplar wood. The board on the side to be treated is rubbed down with turpentine oil and dried. The said side then is coated with a hot aqueous solution (e. g. bone glue) and coated at once with the prime coat of said composition. The bonding layer thus formed is dried for approximately one day. The dry, primed board then is coated with the intermediary layer of said composition, and the whole is dried during a day or so. Then the three coats of marking-layer of said composition are singly dried during at least one day. The dry marking later then is treated with the fixing means which consists of equal parts of "Vaseline" and "Vaseline" oil and dried again for a day or so. The board side treated in the manner described then is rubbed down, by means of a wadding pad, with the cover means of said composition and the whole is then finally dried. The dry plate then is bordered with a border strip and, thus, is ready for use.

The cover means on one hand serves for improving and intensifying the color delivery in copying and, on the other hand, may be used as regenerative means for used boards so as to materially lengthen the useful life of a board.

The bases described may be made in any practical sizes. Thin, as well as thick cloth may be marked thereby; in the latter case only the pressure applied to the pricking wheel is somewhat greater.

Copying by means of the copying bases described is not only more simple than the application of thread stitch layers, but also affords a substantial saving of working time, a fact which for example may contribute to lowering the costs of suits and dresses to be made.

What I claim as new and desire to secure by Letters Patent, is:

1. A process of manufacturing copying means, which comprises the steps of rubbing down one side of a porous base with turpentine, drying the same, applying a coat of aqueous glue solution to said side, applying a priming coat comprising a pigment, hydrous calcium sulphate and water to said side, drying the whole, applying an intermediary layer including latex and aqueous ammonia solution to said priming coat, drying the intermediary layer, applying a spreadable mixture of pigment, oil and a drier to the intermediary layer to form the marking layer, repeating such last-mentioned application a number of times after the preceding application has dried, treating the dry marking layer with a fixing agent petroleum jelly and petroleum jelly oil, drying again, and rubbing down the marking layer with a covering agent comprising pigments, water, turpentine, glycerol and soap.

2. A copying means comprising a porous copying base of paper having upper and lower substantially plane surfaces, and a coating only on said upper surface forming a marking layer, said coating comprising a mixture of the following components: 40 g. zinc oxide, 50 g. titanium dioxide, 30 g. kaolin, 100 cc. water, 75 g. of turpentine, 10 drops glycerol, and 25 g. curd soap dissolved in 100 cc. water, said coating being adapted to mark the under side of a piece of cloth when the cloth is pressed against said surface by a copying tool.

3. The copying means set forth in claim 2 wherein said copying means further comprises a bonding layer including a pigment and hydrous calcium sulphate provided between said copying base and said marking layer.

4. The copying means set forth in claim 3 wherein said bonding layer comprises a first layer sticking to said base and consisting of bone glue and a second layer consisting of a mixture of equal parts zinc oxide and gypsum.

5. A copying means comprising a porous member having upper and lower substantially plane surfaces, and a coating on said upper surface only, said surface comprising a copying surface, said coating comprising a coat of aqueous glue solution adjacent said surface, a priming coat comprising a mixture of zine oxide, gypsum and water on top of said first mentioned coat, an intermediary layer coat comprising a mixture of a marking layer composition, latex, and aqeuous ammonia solution on top of said priming coat, and a marking mixture coat comprising a mixture of zinc oxide, titanium dioxide, kaolin, ammoniacal linseed-oil emulsion, siccative, water and glycerol on top of said intermediary layer coat, said coating being adapted to mark the underside of a piece of cloth when the cloth is pressed against said surface by a copying tool.

6. The copying means set forth in claim 5 wherein said priming coat comprises a mixture of the following components: 100 g. zinc oxide, 100 g. gypsum, and water.

7. The copying means set forth in claim 5 wherein said intermediary layer coat comprises a mixture of the following components: 300 g. of a marking layer composition, 5 cc. latex, and 5 cc. aqueous ammonia solution.

8. The copying means set forth in claim 5 wherein said marking mixture coat comprises a mixture of the following components: 400 g. zinc oxide, 100 g. titanium dioxide, 300 g. kaolin, 200 g. ammoniacal linseed-oil emulsion, 180 drops siccative, 1000 cc. water, and 100 drops glycerol.

9. The copying means set forth in claim 5 wherein the exposed surface of said marking mixture coat has been treated with a mixture of equal parts of petroleum jelly and petroleum jelly oil.

10. The copying means set forth in claim 9 wherein the exposed surface of said marking mixture coat has been treated with a mixture of the following components: 40 g. zinc oxide, 50 g. titanium dioxide, 30 g. kaolin, 100 cc. water, 75 g. turpentine, 10 drops glycerol, and 25 g. curd soap dissolved in 100 cc. water.

11. The process of manufacturing a copying means comprising the steps of wiping one side of a porous base with turpentine oil, drying said side, coating said side with a mixture comprising zinc oxide, titanium dioxide and kaolin pigments, drying said coating, and rubbing said coating with petroleum jelly.

12. The process of manufacturing a copying means comprising the steps of wiping one side of a porous base with turpentine oil, coating said side with a solution of bone glue, coating said side with a mixture of zinc oxide and gypsum, drying the layer comprising the two said coatings, coating said side with a mixture comprising zinc oxide, titanium dioxide and kaolin pigments, drying said last mentioned coating, and rubbing said last mentioned coating with petroleum jelly.

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