Oct. 11, 1932. E. HENTSCHEL 1,882,593

TRANSFER PICTURE AND PROCESS FOR ITS MANUFACTURE

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Fig. 1.

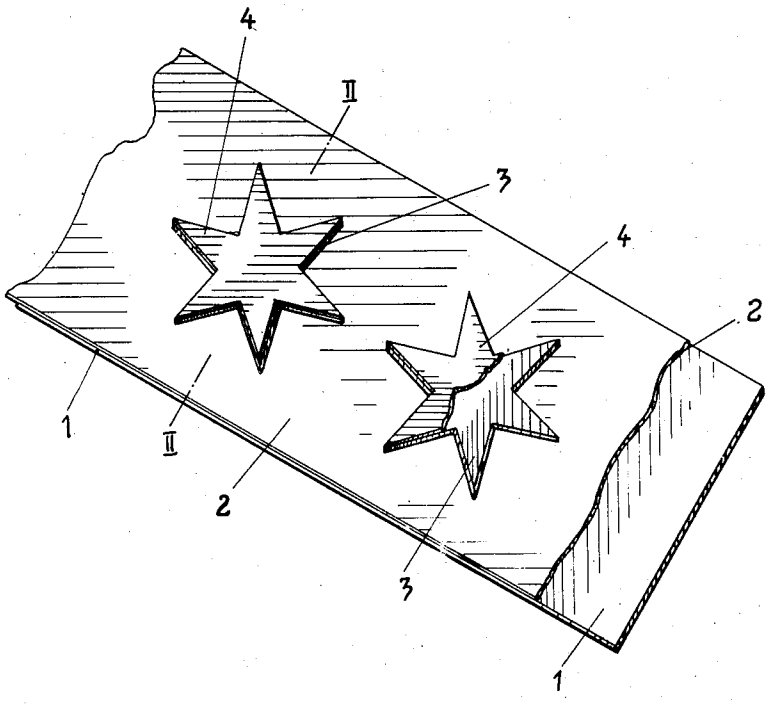
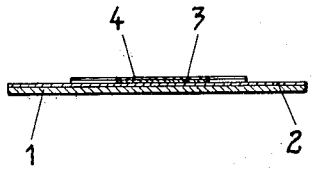


Fig. 2.



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TRANSFER PICTURE AND PROCESS FOR ITS MANUFACTURE

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The object of the invention is to provide transfer pictures, which are particularly suitable for transferring trade marks and other symbols to textile goods of all kinds, e. g. stockings, and also to leather, rubber and the like.

Transfer pictures for this purpose have already been used in which the picture is printed by means of varnish on to so-called reversing paper and provided with a coating made adhesive by heat. These transfer pictures have to be moistened when used, because the reversing paper will only come away from the picture printed on it when in a moist condition. After moistening the pictures are transferred to the articles to which they are to be applied by pressure with a hot flat iron. Their disadvantage is that the watersoluble film of the reversing paper produces spots on the goods to which the transfer pictures are applied. The moistening of the pictures is also too troublesome.

Finally, prints are also known, which can be ironed off by dry heat on to fabrics or leather. In these paint or bronze floats in a resinous composition which acts as a binding material which can be used for printing, and which melts when the transfer is ironed on and thereby transfers the bronze or paint to the goods to be stamped. The pulls or impressions produced with prints of this kind do not however possess the desired sharpness of outline in appearance and the bronze has no gloss on the fabrics because it soaks into it too much.

Transfer sheets are also known in which an infusible film of paint or bronze is so combined with a layer of paper that between the paper and the film of paint a film of wax and over the film of paint a coating rendered adhesive bv heat is applied. In transfer sheets of this kind the film of paint can be dissolved by dry heat from off the layer of paper and attached to an article. In order however to produce pictures with accurate outlines by means of such transfer sheets, these latter must be used with heated embossing stamps. The disadvantage of this when embossing on fabrics is that the sharp embossing stamp easily cuts through delicate fabrics. Furthermore, there is a great deal of waste in the case of these transfer sheets as only the picture is stamped out of the whole surface of the sheet and this makes the use of such transfer sheets expensive.

Transfer pictures are also known which are detached merely by dry heat from the paper backing or foundation and stuck to the article to be ornamented. In these transfer pictures the surface of the paper is first rendered impermeable and then provided with a coating or layer of wax onto which the picture is printed by flat printing, that is to say by lithographic or offset printing, and a coating capable of being made adhesive by heat is finally applied. As this flat printing is based upon the fact that those places of the printing form which take on the ink and then print it off again onto the paper are rendered sensitive to grease, the printing ink must be greasy. This grease in the printing ink is obtained in the usual way by mixing varnish with the ink. For the production of the dry transfer pictures here in question the grease contained in the printing ink has the undesirable result that wax dissolves in the greasy varnish whereby the varnish picture film is more or less brittle. The brittle picture film can only be drawn off with difficulty and on fabrics in particular does not adhere with sufficient durability.

In the subject matter of the invention the finished picture which consists of a composition which does not melt under the heat to be used, is detached by dry heat only from the paper backing or foundation and at the same time attached to the article to be ornamented or stamped. The detachment of the pictures is effected therefore in the simplest manner by means of a flat iron or other simple device and so rapidly that the claims of a cheap method of working are fully met. In the method the picture is laid on the goods to be stamped in a smooth layer, which particularly if the picture be produced with bronze, has a high gloss.

In the transfer pictures according to the invention the picture to be transferred consists of a film which does not melt at the heat usual when ironing off and is printed upon

a paper backing or foundation which by saturation with or by the application of a coating of wax, grease, oil or similar substances repels the picture by dry heat while the picture on its other side is rendered adhesive under the action of dry heat. This rendering adhesive of the picture may be achieved in two ways. Either the picture may be composed of a composition which does not melt at the temperature usual when ironing off but becomes adhesive, for which purpose mainly difficultly fusible resins may be employed, the melting point of which is sufficiently remote from the softening, or the picture may be composed of a composition which is unchangeable at the usual heat and be provided within its periphery in the well known way with a coating of a substance which becomes adhesive on the application of dry heat e. g. resin. In the latter case the picture may consist of any filmforming substance which is durable at the heat employed. Cellulose esters have been found to be particularly suitable for this purpose. These substances form a particularly tough and durable picture film, which without requiring any skill, can be transferred in a satisfactory manner, and if the picture be produced with bronze, possess a high gloss.

The paint or bronze may either be applied to the picture layer or be previously mixed with the composition which forms the layer. The formation of the picture film into the desired picture is preferably effected by printing the picture with a liquid, filmforming composition directly upon the prepared backing or foundation.

An example of the manner in which the invention may be carried out is as follows:

Paper is coated on one side with a thin coating of wax. On this coating of wax are printed the pictures, in reverse, by means of a collodion solution, which has paint or bronze mixed with it, and after this print is dry the pictures are printed over with a solution of a readily adhesive resin.

Such a constructional example is shown in perspective in Figure 1 of the accompanying drawing and in Figure 2 in transverse section on the line II—II of Figure 1.

1 is the paper backing or foundation, 2 the thin coating of wax on the backing 1, 3 the picture composed of a collodion solution containing bronze, and 4 the coating of readily adhesive resin printed on to the picture 3.

The term picture or picture film does not means that the invention is to be used only for pictorial representations, on the contrary scripts and also any other symbols are meant by it.

The collodion solution containing the coloring bronze may consist of the following composition. One part by weight of used photographic film which has been cleaned from the gelatine layer is dissolved in ten parts by weight of acetone. Before the printing, two and one half parts by weight of bronze powder is mixed into the solution. Since the dissolving medium acetone evaporates very quickly, the cellulose solution must be preserved in an air-tight container. Furthermore the cellulose ester paint formed by the mixture of the bronze or a similar coloring with the solution must be printed quickly.

The adhesive coating, designated by numeral 4, may be formed by one part of resin by weight dissolved in two parts of spirits. This solution must also be preserved in an air-tight casing and likewise must be applied quickly.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An article for the transfer of a design comprising a paper backing, a thin layer of meltable wax thereupon, a printed design comprising a cellulosic base upon said layer of wax, and a layer of heat responsive adhesive material upon said design.

2. The method of manufacture of transfer designs which comprises the covering of a backing with a thin layer of wax, printing the design upon said layer of wax with a solution comprising a cellulosic substance dissolved in a volatile solvent, and covering said design with an adhesive coating.

In testimony whereof I affix my signature.

ERICH HENTSCHEL.