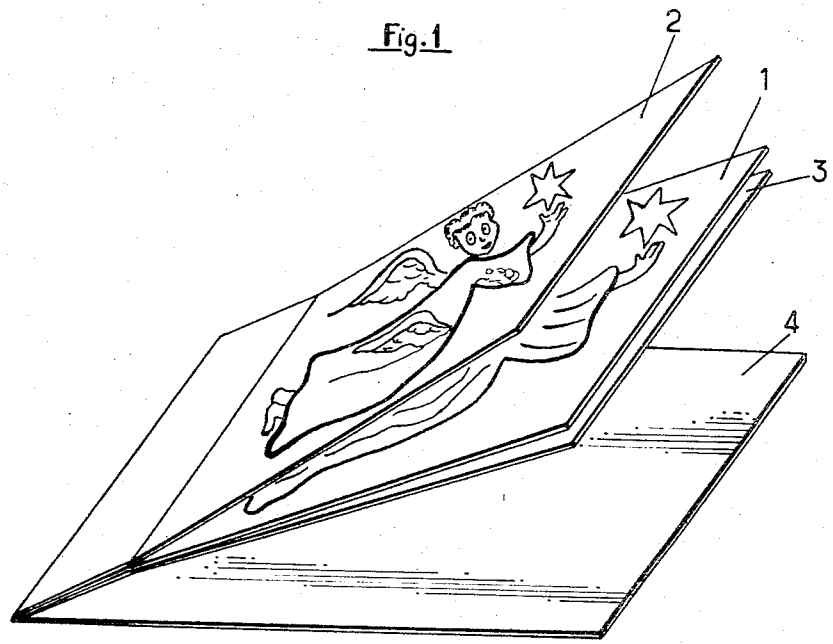
Sept. 5, 1967 A. J. FOURNIER 3,340,120

FABRICATING DECORATIVE ARTICLES

Filed Sept. 30, 1963 4 Sheets-Sheet 1

Fig.1



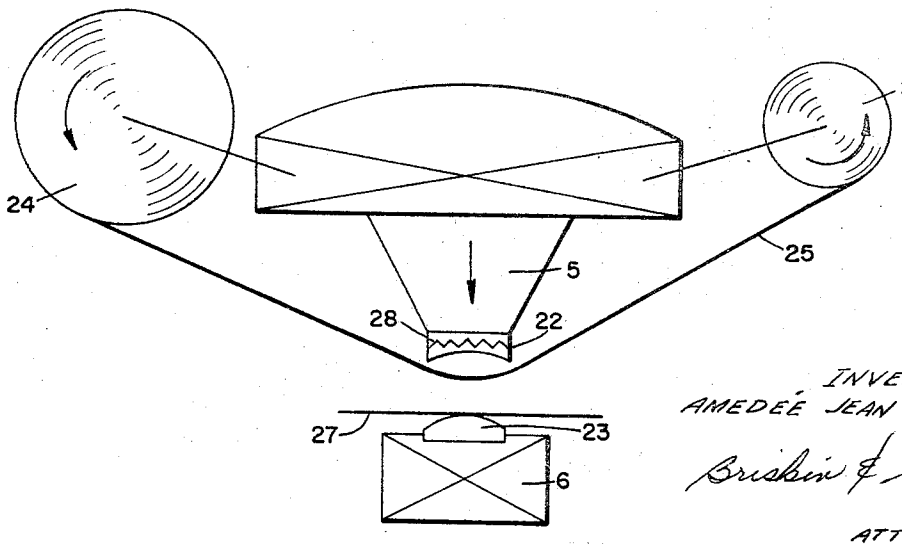


Fig.4

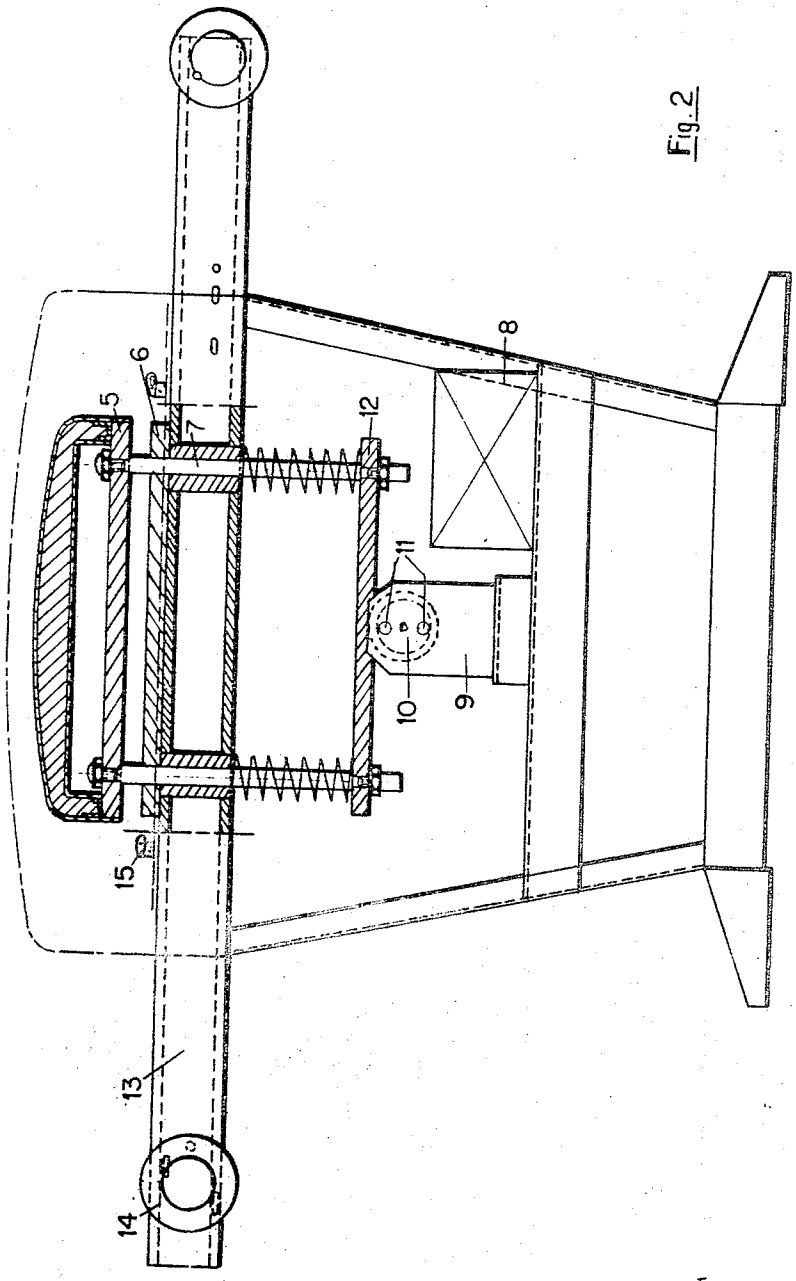
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FABRICATING DECORATIVE ARTICLES

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Fig. 2



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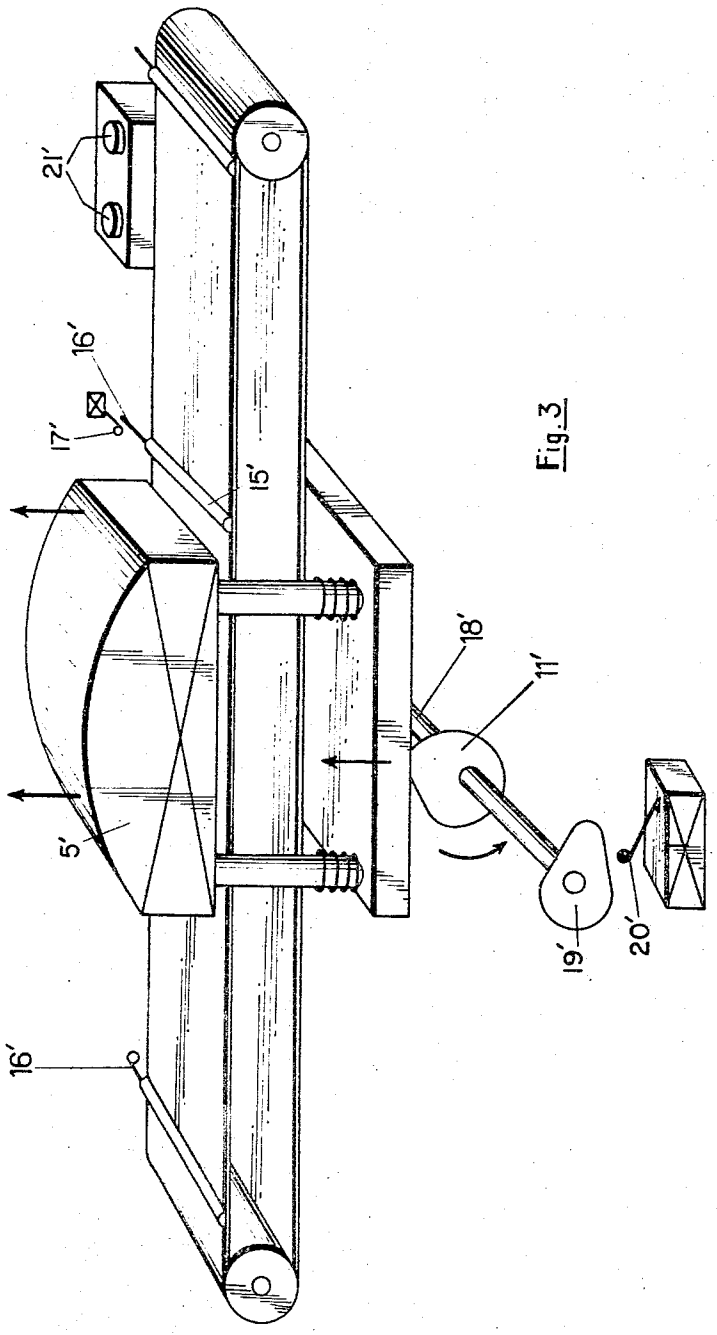


Fig. 3

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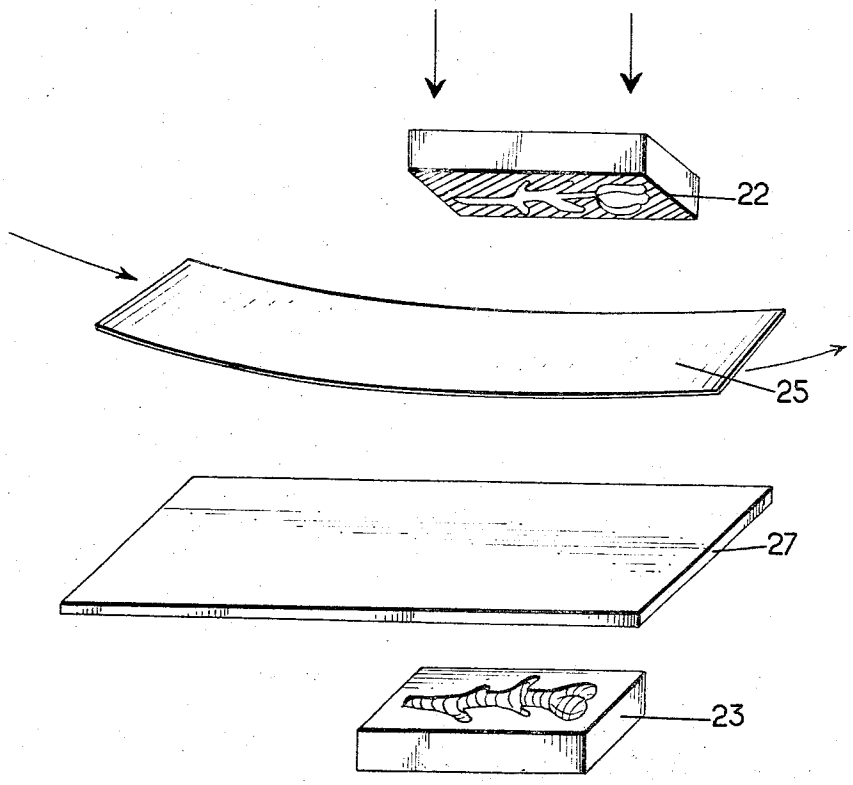


Fig. 5

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3,340,120

FABRICATING DECORATIVE ARTICLES

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1 Claim. (Cl. 156—220)

One of the aims of this invention is to produce a paper or cardboard article, such as a box, carton, box wrap, display poster, catalogs, and books, with a cloth design, such as silk, rayon, nylon, suede, etc., which is embossed into the card or paper in a simple way and which has a perfect appearance.

Another aim of this invention is to produce an embossed design which would give a satin or silky look to the design due to the fact that satin, silk, nylon, etc., is introduced between two sheets of paper or cardboard and embossed together to give the desired appearance.

This invention also covers characteristics and their varied possible combinations which are set forth hereinafter.

An article conforming to the invention is shown as a non-limiting example on the enclosed drawings, as follows:

FIG. 1 is a perspective view of an assembly of sheets of material used in forming a decorative article, in accordance with the concepts of the present invention;

FIG. 2 is a side elevational view of a mechanism adapted to be employed in producing a decorative article;

FIG. 3 is a perspective schematic diagram of a mechanism showing in particular details of the cams which enable the mechanism to function;

FIG. 4 is a schematic diagram of a modified mechanism used in obtaning the engraved and decorative article; and

FIG. 5 is a schematic diagram of the assemblage used in forming a decorative article in accordance with the concept of the present invention.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, in FIG. 1 there is shown a card with two flaps including a rear flap 4. The upper flap has a cut-out shape of a design through which can be seen a textile which is placed between two sheets of paper or cardboard. This cut-out design is completely open on the sheet.

According to this invention, the process consists in laminating together, in a single operation, textile sheet 1, showing through the cut-out of the thin cardboard sheet 2 and second part of said cardboard sheet 2.

With this process it is possible to laminate in the usual manner the textile sheet 1 and the cardboard sheet 2, between a plate bearing the embossed design and a hollowed out counterpart.

It is also possible to make, at the same time, on hollowed out cardboard sheet 2, forming the cover, varied impressions with appropriated inks or compositions, transparent or opaque, even using metallic powders as pigments for metallic printings.

It will also be possible, of course, to use the process of the sheet to realize these printings.

Another way of using the invention: the textile sheet is affixed, either partially or completely, to a cardboard sheet.

The process then consists to stamp in one operation, cardboard 3 forming the back part, textile sheet 1 and die cut cardboard sheet 2 which is the cover.

The sheet of cardboard 3 forming the back part permits to obtain very deep embossed effects without distorting the texture of the material or spraining its threads.

Products obtained through this process have a very neat appearance and are able to receive one or several printings so as to obtain articles with mono- or polychrome decorations with a sure artistic effect.

This process can be used with different and varied materials such as linen, taffeta, satin, velvet, foil, leather, etc., made of any kind of other natural, synthetic or mixed material.

As shown on drawing 2, the apparatus consists of a mobile plate 5 placed on a fixed plate 6 with four crossbars 7.

Mobile plate 5 has an inner resistance that can bring said plate to desired heat to insure thermo-soldering between the different thicknesses, i.e., of paper or textiles to assemble.

Motor 8, with the help of reducer 9, drives disc 10 which has two eccentric axles 11 or cams in contact with plate 12, stabilizing crossbars 7; on these crossbar bodies, and between plate 12 and fixed plate 6, compressible springs are fixed, easing the pressure between the fixed plate 6 and mobile plate 5, when disc 10 effects a half turn.

In order to pull along the different elements to be thermo-soldered, a conveyor belt 13, joined at each of its extremities on two axles 14 is provided with pincers 15 to hold, maintain and to place the elements to be thermo-soldered under mobile plate 5.

When the elements put in one of the pincers 15 have crossed the area included between mobile plate 5 and fixed plate 6, a micro-contact cuts the circuit on the conveyor 13, stopping it and, at the same time, running the motor pulling the commanding apparatus; this has the effect of lowering mobile plate 5 previously heated to the chosen degree and thermo-soldering the different elements placed between said mobile plate and fixed plate; at that time a new pincer is opened on the conveyor in front of the ensemble of plate; it is then only necessary to place a new series of elements to be thermo-soldered and, by simple pressure on an electric contact, pincer 15 closes and the same electric apparatus operates motor 8, activating the cam and raising mobile plate 5.

At this time the new ensemble to be thermo-soldered is pulled in the place of the preceding one and disengaged automatically by the opening of the pincer.

This apparatus presents numerous advantages. Among others: it allows the thermo-soldering of the different elements at the same temperature.

Another way of realization, as shown in drawing 3: pincers have been replaced by simple pins, transversal by comparison to the longitudinal axle of the conveyor, pulling the ensembles to be thermo-soldered.

One or the other end of the transversal pin 15′ is provided with finger 16′ causing the unlatching of catch 17′ as it moves on, bringing to a stop the conveyor and operating axle 18′ provided at its end with cam 11′, this cam helping the pressure on plate 5′ with its resistances, pressure which is exerted on the ensemble to be thermo-soldered.

When cam has been around once, plate 5′ comes back to its initial position.

Also placed on axle 18′ is a second cam 19′ pulling the commanding cam of the heated mobile plate 5′. The operating part of this cam is unwedged as regards the working part of the pulling cam of mobile plate; therefore when mobile plate has taken its high position again, this second cam activates contact 20′ which operates the conveyor, rejecting the thermo-soldered elements.

When the operator will have placed another element to be thermo-soldered on the conveyor, pressure on interrupters 21′ placed on the sides of the machine will cause the projection on the conveyor and operation of the apparatus described above.

This apparatus avoids frequent handlings of the element to be thermo-soldered as well as all unnecessary wearing out.

Another mode of utilization: the mobile plate and the fixed plate can be adapted with embossed engravings on one of the trays and hallowed out engravings on the other; this will permit printing of a decorative design on the product while it is being thermo-soldered.

Another way of using the machine: as shown on drawing **4**, the apparatus is used with a press on which is placed on the upper part and on the mobile plate, a matrix **22** presenting a hollowed out design to be printed.

On fixed plate **6**, on the other hand, is placed a matrix **23**, embossed with the design to be printed and serving as counterpart to the one above.

On the frame of the machine is placed a roll **24** made of plastified material **25**. As the plate rises, the tetxile is pulled to a certain length corresponding to the surface of the design to be printed.

A second bobbin **26**, pulling along the same piece of material, recovers the said piece of textile after the design has been cut.

At the level of the matrixes a sheet of cardboard **27** is placed where the textile cutouts will come to fix themselves. The upper matrix is heated in **28**, allowing the heat seaming of the textile, to the cardboard back cover (see drawings 1 and 2).

Moreover, the edges of the upper matrix are sharp which insures the cutting out of the design as soon as thermo-soldering is achieved on the cardboard.

This apparatus presents numerous advantages: It allows a high speed in execution for the realization of embossed

decorative designs to be made textile, it being satin, silk or any other kind.

It is understood that the invention is not limited to the examples mentioned above. It will be possible to provide other ways and forms of realization without getting out of the context of the invention.

I claim:

A process of fabrication of decorative articles comprising the steps of assembling in layers a cardboard cover sheet, a textile sheet and a lower cardboard sheet, and then simultaneously die cutting said cardboard cover sheet, said textile sheet and said lower cardboard sheet to a predetermined size while die cutting a design in said cover sheet and embossing said textile sheet and said lower cardboard sheet and removing die cut material from said cover sheet, and heat seaming said textile sheet to said lower cardboard sheet and said cover sheet to obtain a united article having an embossed design on said textile sheet visible through the die cut in said cover sheet.

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