(No Model.)

# J. A. McCLELLAND.

## PROCESS OF VENEERING OR COVERING ARTICLES WITH PYROXYLINE COMPOUNDS, &c.

No. 271,494. Patented Jan. 30, 1883.

Fig 1.

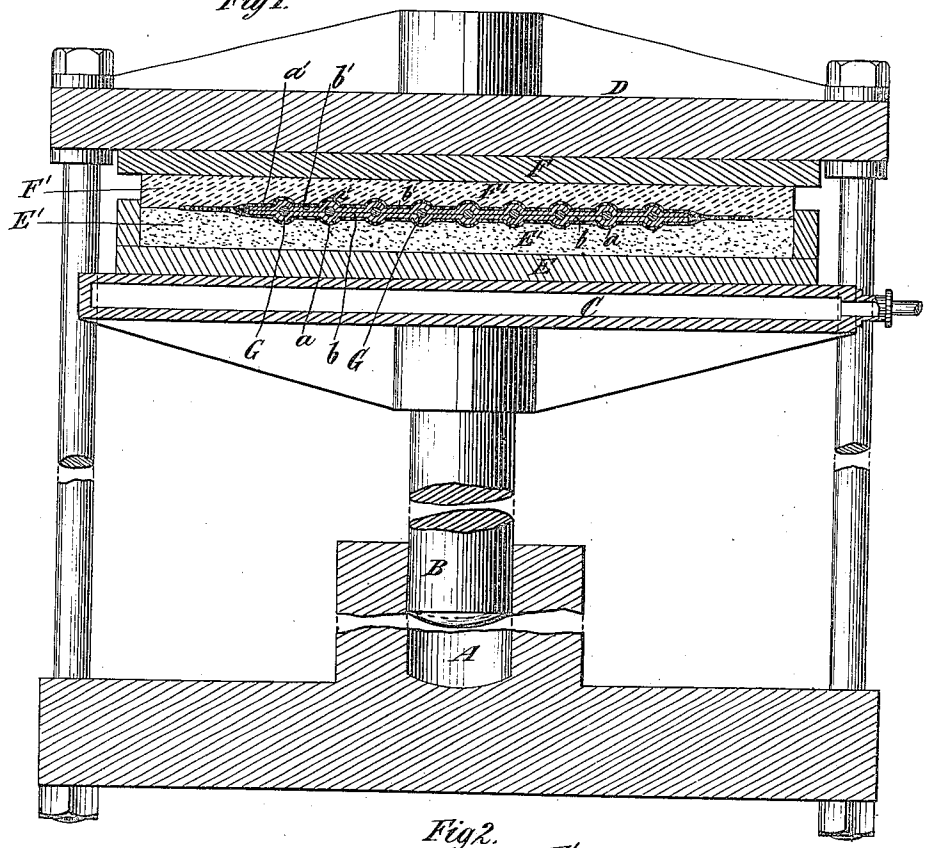



Fig 2.

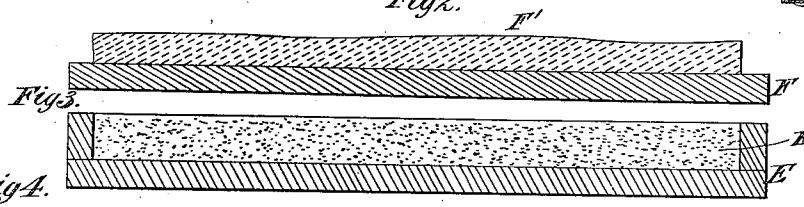
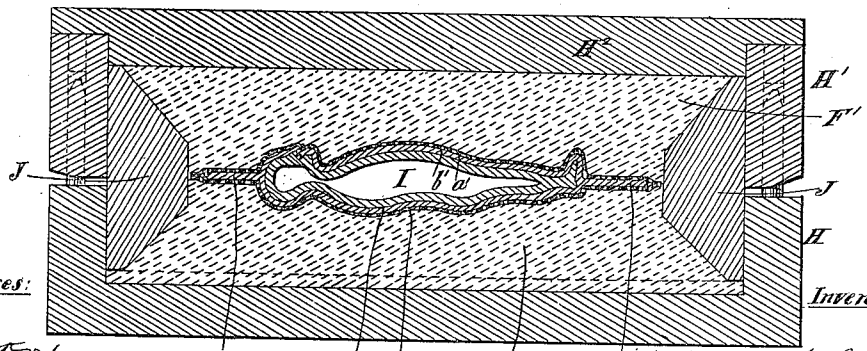



Fig 3.

Fig 4.




Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN A. McCLELLAND, OF LOUISVILLE, KENTUCKY.

## PROCESS OF VENEERING OR COVERING ARTICLES WITH PYROXYLINE COMPOUNDS, &c.

SPECIFICATION forming part of Letters Patent No. 271,494, dated January 30, 1883.

Application filed October 5, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. McCLELLAND, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Process of Veneering or Covering Articles with Pyroxyline Compounds, &c., of which the following is a specification.

My invention may be employed in veneering or covering a great variety of articles with any plastic material or compound which may be formed into sheets, and which, by becoming dried after it is applied, or by being subsequently treated, will become hardened; but the invention is more particularly intended for use in veneering or covering articles with the materials known as "pyroxyline" compounds or "xyloidine," produced by treating vegetable fiber with acid. The pyroxyline compound or other plastic material to be used I form into sheets; and the invention consists in applying a sheet or sheets of the material to the article to be veneered or covered, in inclosing or surrounding the whole in mobile or yielding material, and in subjecting the mobile or yielding material to pressure to force the sheet or sheets upon the article and produce an intimate contact of the plastic material with the entire surface to be covered. Where the article is to be veneered over its entire surface or enveloped in the plastic material it is placed between two sheets thereof; but where the plastic material is to be applied to only a part of the surface of the article, one sheet only is applied. The mobile or yielding material which I employ may be sand, putty made with a non-siccative oil, or any other material which by pressure may be made to conform to the shape of the article to be veneered or covered. Where the article or piece to be covered is flat and of comparatively large area—such, for instance, as a piece of wire cloth or gauze—it and the sheet or sheets of plastic material applied to one or both sides of it may be placed on a bed of sand or other mobile or yielding material contained in a box or frame. A piece of board or a plate covered on the under side with putty or other material may be placed over them, and the whole is placed in a hydraulic or other press and subjected to pressure sufficient to produce a perfect union of the sheet or sheets with the wire cloth or gauze. Where the article to be veneered or covered is of a round or comparatively bulky nature—such, for instance, as a doll—it and the sheets of plastic material may be placed, surrounded by sand or other mobile or yielding material, in a two-part box or flask and subjected to pressure.

In the accompanying drawings I have illustrated the apparatus which I may employ for veneering or covering articles of both the kinds above described.

Figure 1 represents a sectional elevation of a hydraulic press and an apparatus suitable for veneering or covering a piece of wire cloth or gauze or other flat article of comparatively large area and little thickness. Fig. 2 represents a section of a board or plate with putty applied, the same being shown in an inverted position. Fig. 3 represents a similar section of a box or frame containing sand or other mobile or yielding material; and Fig. 4 represents a sectional view of a two-part box or flask illustrating the method of veneering or covering a doll or other article of comparatively bulky form.

Similar letters of reference designate corresponding parts in all the figures.

If pyroxyline is employed as a veneering or covering material, I prefer to use it in a green state, as it will then require no artificial application of heat to cause it to adhere firmly to the article to be veneered. The pyroxyline is commonly made in the form of large blocks or masses, and sheets or veneers of the required thickness are cut or shaved therefrom, in which condition it is what is known as "green" pyroxyline.

Referring first to Figs. 1, 2, and 3, A designates the cylinder, B the ram, C the platen, and D the head, of a hydraulic press of ordinary construction.

E designates a box or frame, in which is placed live sand or other mobile or yielding material to form a bed, E′, for the article to be covered.

F designates a board or plate, and F′ a layer of putty or composition applied to one surface thereof. The putty or composition may be made of any substance of such mobile or yielding nature that it will conform to the shape of the article to be veneered or covered, and if

putty is used it may be rolled or spread out on the board or plate, as shown in Fig. 2, and the board or plate then inverted. Felt or other soft material may be used instead of putty.

G designates a piece of wire cloth or netting which it is desired to veneer or cover with the pyroxyline on one or both sides; and in applying the veneer or covering I proceed as follows: If the wire-cloth is to be veneered or covered with the pyroxyline on both sides, I first place on the bed of sand E′ a piece of paper, foil, or other material, *a*, over which is placed a sheet of pyroxyline, *b*, the object of the paper or foil being to prevent the sand from adhering to the pyroxyline. If the wire is to be veneered or covered only on one side, I place on the sand a piece of cloth or other fabric instead of the paper or foil and pyroxyline. The wire netting or cloth G is then placed on the sheet of pyroxyline *b*, or on the cloth if the latter is used, and over it is placed a sheet of pyroxyline, *b′*, and over the pyroxyline is placed a sheet of paper, foil, or other material, *a′*, to prevent the putty from adhering to the pyroxyline. The board F is then inverted and placed above the box E, as shown in Fig. 1, and the whole is placed on the platen C of the press and subjected to pressure. This pressure is imparted through the putty and sand to the sheet or sheets of pyroxyline and the cloth, if the latter be used, and they are caused to adhere closely at all points to the wire, and the upper sheet of pyroxyline is forced into the interstices of the wire cloth or netting, and is caused to adhere firmly to the opposite sheet of pyroxyline or the sheet of cloth, which is at the same time forced upward into the interstices. If the pyroxyline is used in a green state, no heat is required; but if used in a dry state the platen C of the press may be made hollow, as shown, and heated by steam in a well-known manner. If the platen is heated, the sand E′ is very desirable, as it is a heat-retaining material. After the pressure is removed the paper, foil, or other material is stripped off the pyroxyline, and I thus produce a fabric coated or veneered on one or both sides with pyroxyline. If cloth or canvas is used to cover one side of the wire cloth or netting, it may be previously treated with alum, sulphate of iron, tungstate of soda, or other fireproofing material to render it fireproof.

Referring now to Fig. 4, H H′ designate the lower and upper parts of a two-part box or flask for veneering or covering a core to form a doll or other article of rounded or compact form. In applying my invention to this purpose I first place in the lower part, H, of the box or flask a bed, E′, of sand, putty, or other mobile material, on which is placed paper, foil, or other material, *a*, and over the latter is placed a sheet of pyroxyline, *b*. On the pyroxyline I place the core I, which is of the shape desired for the finished article, but slightly smaller in size, and above the core I place a second sheet of pyroxyline, *b′*, and paper, foil, or other material, *a′*. The upper part, H′, of the box or flask may have a removable cover or top, $H^2$, as here shown, or the said cover or top may be fast on the box.

J designates a concentrating-frame, which is of a size to fit easily in the box or flask H H′, and which is beveled on the upper and lower edges. If the top $H^2$ is not removable, I place the concentrating-frame J on the sand which has been placed in the lower part, H, of the box or flask, and fill in sand F′ above the upper piece, *a′*, of paper or foil, after which the upper part, H′, is placed over the concentrating-frame and pressure is applied. If the said top $H^2$ is removable, the upper part, H′, is placed on the lower part, H, the cover is removed, and sand or putty F′ is filled in, after which the concentrating-frame J is placed on the sand or putty, the top $H^2$ is placed over said frame, and pressure is applied. As the concentrating-frame J is forced down its beveled edges tend to force the sand or putty inward away from the sides of the box or flask around the article, and to produce a lateral pressure as well as an upward and downward pressure thereon, and thereby the sand is compacted firmly around the article on all sides, and the sheets of pyroxyline *b b′* are caused to adhere firmly to the entire surface of the core I. The marginal portions of the sheets of pyroxyline are pressed together and caused to adhere, thus forming a fin or rib, *c*, around the article, which may be cut off, if desired. Inasmuch as the pressure imparted through the sand or other mobile or yielding material is very uniformly distributed, the process is particularly advantageous for veneering or covering fragile articles of very irregular forms.

In lieu of pyroxyline other materials or substances of a plastic nature may be used.

The construction of the two-part box or flask with its concentrating-frame forms no part of this invention, neither does the fabric produced by my process, but both are made the subject of other applications for Letters Patent.

Although my invention is only here shown as applied to fabrics and dolls, it may be employed in covering or veneering handles for various articles, and in covering corset-steels and other articles.

Where a number of small articles are to be veneered they may be placed at suitable distances apart between two large sheets of pyroxyline or other material of a plastic nature and subjected to pressure at one operation, and the said material may be afterward severed in lines between the said articles, leaving each covered on both sides and both edges.

For veneering some articles which require to be veneered on one side only, the veneering box or flask may have a solid bearing for the side of the article which is not required to be veneered.

What I claim as my invention, and desire to secure by Letters Patent, is—

The process of veneering or covering arti-

cles of various forms with material of a plastic nature, consisting in applying a sheet or sheets of plastic material to the article, inclosing or surrounding the said article and said sheet or sheets by mobile or yielding material, and subjecting the mobile or yielding material to pressure, to force the plastic material upon the surface of the article, substantially as herein described.

J. A. McCLELLAND.

Witnesses:
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M. S. THOMPSON.