

(No Model.)

W. S. MORTON.

PROCESS OF MAKING DECORATIVE EMBOSSED WORK.

No. 407,603.

Patented July 23, 1889.

Fig. 1.

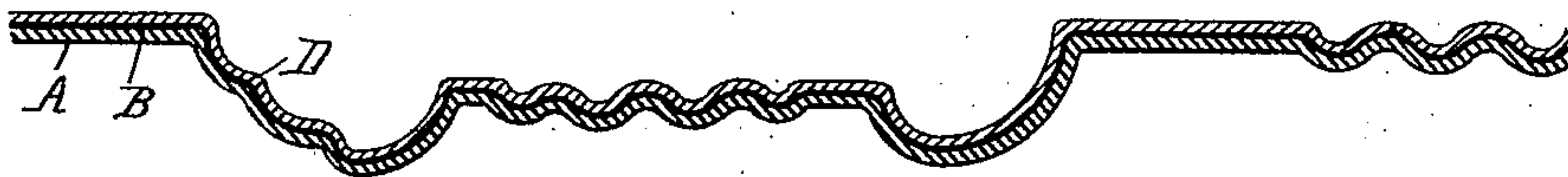


Fig. 2.

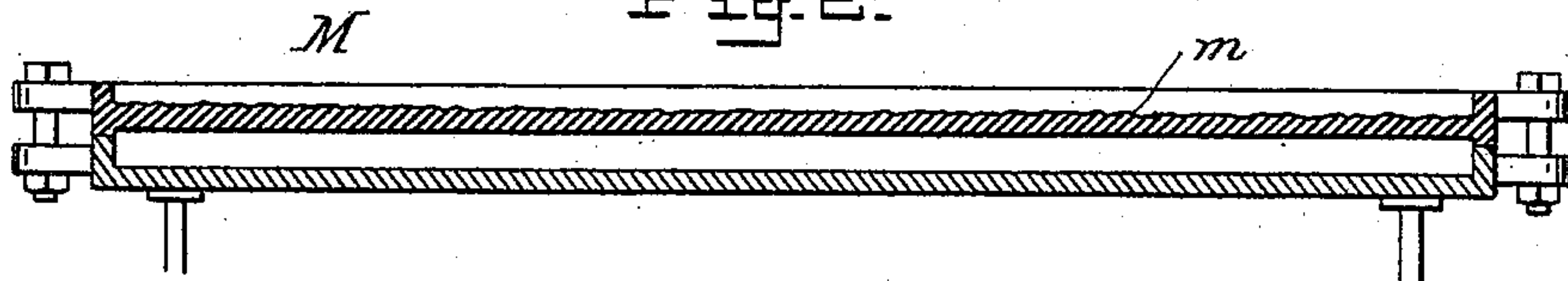
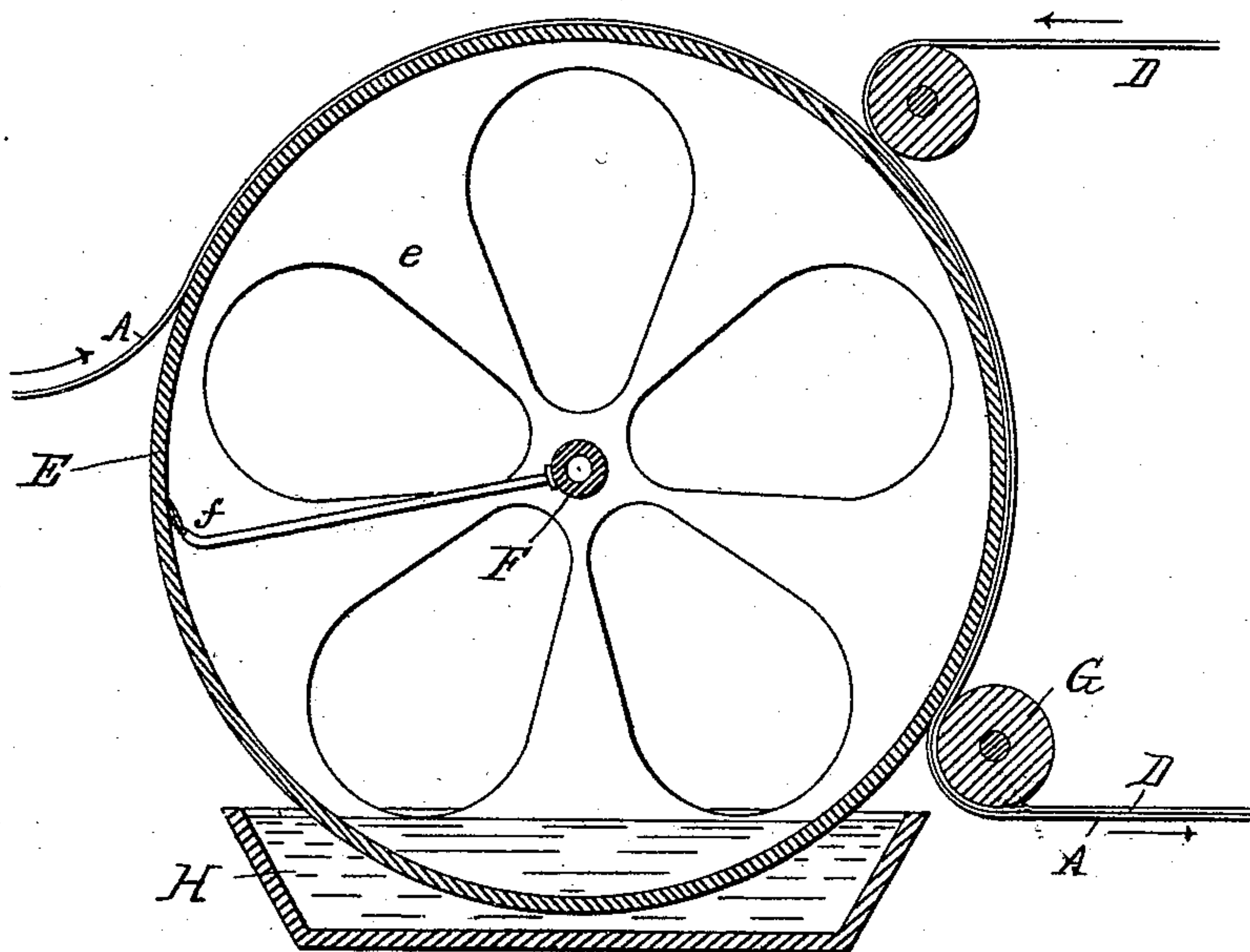


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM SCOTT MORTON, OF EDINBURGH, COUNTY OF MID-LOTHIAN,
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PROCESS OF MAKING DECORATIVE EMBOSSED WORK.

SPECIFICATION forming part of Letters Patent No. 407,603, dated July 23, 1889.

Application filed November 14, 1888. Serial No. 290,836. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCOTT MORTON, a subject of the Queen of Great Britain and Ireland, and a resident of Edinburgh, county of Mid-Lothian, Scotland, have invented an Improved Process of Making Decorative Embossed Work, of which the following is a specification.

My invention consists of an improvement in the process of manufacturing embossed decorative work described in my patent, No. 395,915, dated January 8, 1889; and the main object of my present invention is to improve the said process so as to obtain better results in the decorative work produced.

In carrying out my present invention I may use substantially the same apparatus which is shown and described in my aforesaid application for patent, especially where flat molds are to be used, but where it is desired to produce but slightly-embossed work I may employ a modification of the apparatus, which will be hereinafter referred to.

In the accompanying drawings, Figure 1 is a sectional view of a piece of embossed decorative work produced by my improved process. Fig. 2 is a sectional view, drawn to a smaller scale, of a flat mold, by the aid of which my invention may be carried into effect. Fig. 3 is a sectional view illustrating the device I may employ when my process is applied to the making of this decorative work with not very deep embossing.

In carrying out my invention, the canvas is first softened or prepared by soaking or steeping it in boiling water, and it is subsequently steeped or soaked in sizing preferably hot. The surplus sizing is then squeezed out by any suitable means and to any suitable extent. The softened and sized canvas is then applied to the molding-surface, which, as described in my former application, may be a flat mold to be heated by steam, and such as illustrated in Fig. 2 of the accompanying drawings. This mold M may be made in any suitable manner by casting or otherwise, with the design *m in intaglio* on the surface of the plate so as to produce raised or embossed ornamental work on the canvas. The softened and sized canvas placed onto the mold is then gradually and carefully worked into the

molding intaglio surfaces or cavities either by means of brushes or pads or by means of the fingers, care being taken not to crease, pucker, or otherwise injure the canvas. In order to prevent the puckering or creasing of the canvas, it is preferable to begin this molding near the center of the piece and work outward toward the edges. The sizing, as well as the working, of the canvas into the cavities will cause the shrinkage of the width of the canvas, and for this purpose it is in the first place made considerably wider than the desired pattern or design.

The brushes, pads, or pricker-tools to be used in working the canvas into the cavities of the mold may be worked by hand or by machine, such as described in Letters Patent granted to me February 26, 1884, No. 294,257.

When the canvas has been quite worked or beaten into the design, or while this work is in progress, heat is applied to the back of the mold to stiffen the canvas. For this purpose the mold may be made hollow, as shown in Fig. 2, and steam admitted to the interior thereof; or the mold may be mounted on a steam-box, or be otherwise heated, as found convenient. When the canvas has become dry, and preferably while it still remains on the heated mold, it is coated over on the back with a stiffening composition, which preferably consists of plaster-of-paris, whiting, and paste. Over all there is then pasted a backing or coating of paper, which is also worked or beaten into the intaglio back of the canvas by means of a brush or otherwise. This is done while the canvas is still hot, and preferably while it still remains upon the mold. I prefer in all cases to keep the canvas on the mold until the paper, as well as the canvas and stiffening composition, are thoroughly dry, and I also prefer to keep the heat on the mold from the time the canvas has been gathered into the cavities of the mold and until the whole has been properly dried. The work or impression thus obtained is then removed, completed, and the mold is then cooled with water or other means to prepare it for the next sheet.

On referring to the sectional view, Fig. 1, A indicates the canvas; B, the stiffening composition applied to the back of the canvas, and

D the paper worked into the back of this embossed work.

For making continuous lengths of this embossed decorative material, and where the embossing is not required to be very deep, I may use for its more rapid production a rotating cylinder or drum having upon its periphery the design *in intaglio*. As indicated in Fig. 3, this drum E would be of large diameter and of thin metal carried by spiders *e* at opposite ends and free to be turned in suitable bearings. A central fixed hollow shaft F may be employed to supply gas to a series of fixed radial burners *f*, which throw a line of gas-jets upon the interior of the rim of the drum to gently heat the latter at the desired point just before the layer of moistened and sized canvas A is fed into the drum. In passing onto the exterior of this drum or cylinder, which is turned very slowly, the canvas would be worked into the intaglio mold, and a suitable stiffening composition of the character described could be then applied to the back of the canvas, after which the paper D could be fed onto the back of the canvas and worked into the design and the completed embossed work drawn off from the cylinder at the roller G. The heat of the cylinder should not be so great as to cause the canvas to "set" before time has been allowed for working the canvas into the slight intaglio surfaces. A tank or trough H at the lower side of the drum or cylinder, and with means of circulating water through it may be employed to cool the drum after the molded canvas has left it, in order that it may not be too hot for acting on fresh canvas at the point where the latter comes onto the drum.

I do not claim in this case the embossed decorative work obtained by my above-described process, as that forms the subject of a separate application for a patent filed by me of even date herewith, Serial No. 290,837.

I claim as my invention—

1. The process herein described of manufacturing embossed decorative work, said process consisting in sizing canvas, working it into an intaglio mold, applying heat thereto, and then pasting and working a backing of paper into the back cavities of the embossed canvas.

2. The process herein described of manufacturing embossed decorative work, said process consisting in sizing canvas, working it into an intaglio mold, applying heat thereto, putting a coating of stiffening composition on the back of the molded canvas, and then working a layer of paper into the back cavities of the coated and embossed canvas.

3. The mode herein described of manufacturing embossed decorative work, said mode consisting in sizing canvas, working it into an intaglio mold, applying heat thereto, coating the back of the embossed canvas with a stiffening composition while the canvas is still on the mold under heat, and finally working a layer of paper into the back of the embossed canvas, substantially as specified.

4. The mode herein described of manufacturing embossed decorative work, said mode consisting in sizing canvas, working it into an intaglio mold, applying heat to the latter, coating the back of the embossed canvas with a stiffening composition, and pasting a layer of paper onto the back of the canvas and working it into the cavities in the latter while the canvas remains on the mold under heat, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM SCOTT MORTON.

Witnesses:

EDITH J. GRISWOLD,
S. C. CONNOR.