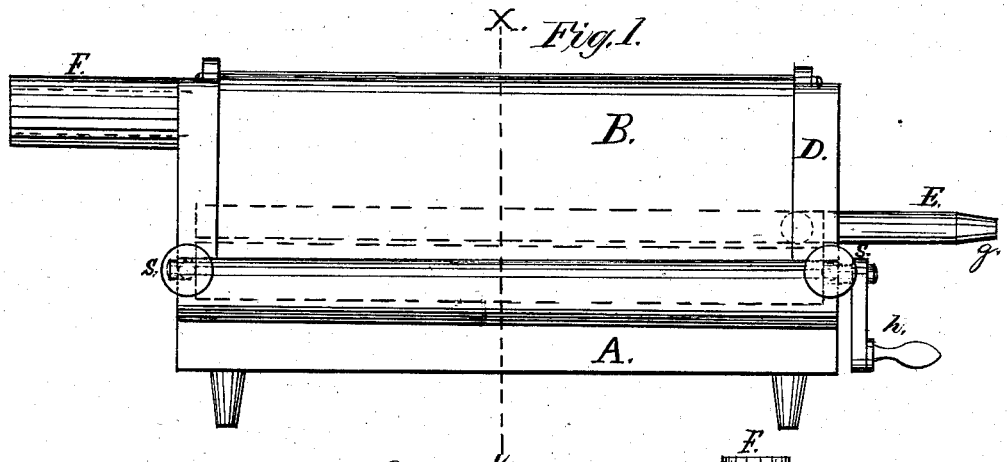
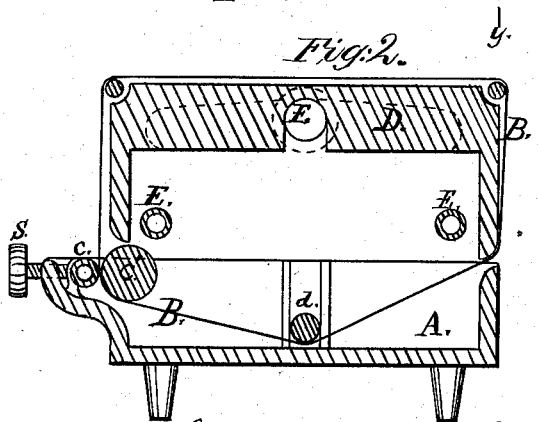
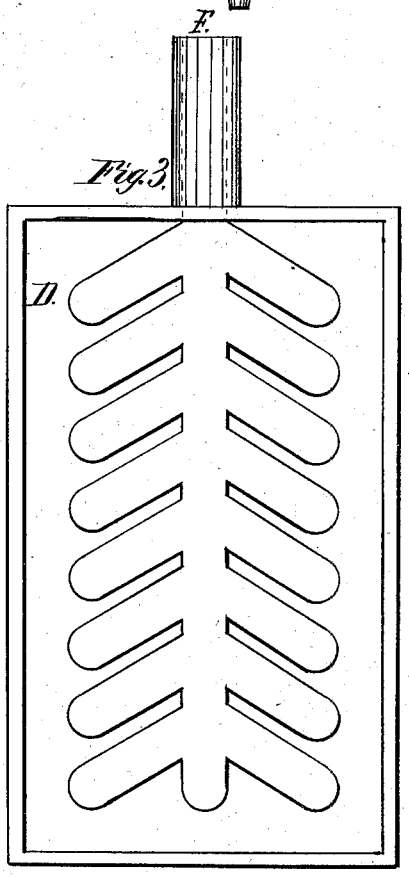
J. SHINN.

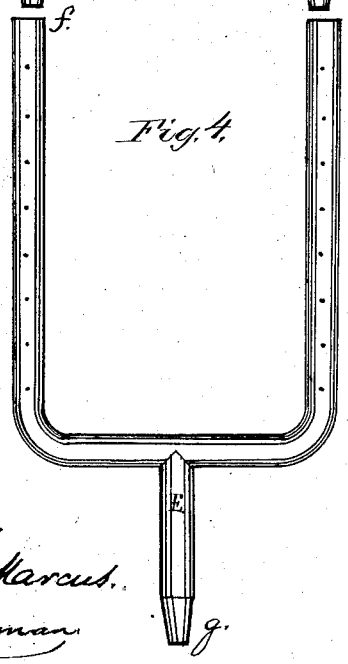
Cloth-Steaming Machine.

No. 164,697. Patented June 22, 1875.









Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN SHINN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, GEORGE W. LEHMAN, WILLIAM N. MARCUS, AND DUDLEY H. BRADLEE, OF SAME PLACE.

IMPROVEMENT IN CLOTH-STEAMING MACHINES.

Specification forming part of Letters Patent No. **164,697**, dated June 22, 1875; application filed April 27, 1875.

To all whom it may concern:

Be it known that I, JOHN SHINN, of Philadelphia and State of Pennsylvania, have invented a Machine, called a Steaming-Iron, for Steaming and Renovating Velvets, Crapes, Silks, &c., of which the following is a specification:

The object of my invention is to construct a machine which may be heated by gas, and having a cloth which may be wet or dampened without wetting the hands, and which may be useful to milliners and others to renovate velvets, crapes, silk ribbons, and other fabrics, which is done by exposing the material to a vapor of steam, which will expel the dust, brighten the color, and, where desired, put a sizing or stiffening in the goods; and on pile fabrics it will raise the pile, which may be pressed down; and on furs the hot vapor of steam will kill the germ of moths which may be in the same. The furs may be impregnated with a vapor containing camphor or other compounds for the purpose for which camphor is used to pack with furs.

My invention consists in a tank for holding the water, renovating liquid or compound; an endless strip of muslin; a pair of pressure or wringing rollers, one of which should be covered with gum; a cover for the tank, the cover of which contains a thick body of metal corrugated on the under side and serves as a heating-iron to heat the wet cloth from which generates the vapor of steam; a tubular smoothing-iron; and a perforated pipe under the corrugated surface of the heating-iron for introducing the gas to produce the heat.

In describing my invention reference will be had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view. Fig. 2 is a cross-section through line *x y*, Fig. 1. Fig. 3 is a plan of the corrugated roof of the heating-iron. Fig. 4 is a view of the pipe for introducing gas under the corrugated roof.

Similar letters in the drawing refer to like parts, and is constructed as follows:

A is the tank, and should be made of iron and galvanized to prevent rust. D is the heating-iron, and is cast with a thick top and corrugated surface on the under part, and to which is also cast the hollow tubular iron F. These parts should be made of cast-iron, and should be ground and polished on all the outer parts, and should be provided with a small roller on each top edge, as is shown in section, Fig. 2. Fig. 3 shows the corrugated bed, the corrugated channels connecting with the core or opening of the tube F, which serves as a draft to aid the combustion of the gas, and the heat escaping through the tube will heat it. The corrugated surface and the thick body of metal in the top of the heating-iron will aid in retaining the heat, and after once heated will retain the heat for some time. *c c'* are two rollers made of iron. *c* is covered with gum. The other should be finely fluted; but this is not necessary, as both may be covered with gum. *h*, Fig. 1, is a crank, which is fastened to one end of the roller *c'*. *s s* are two adjusting-screws with milled heads, and are screwed into a part of the tank A, the points pressing against caps on the ends of the roller *c*. B is an endless cloth which passes over the rollers on the edges of the heating-iron and through an opening in the side formed at the joint where the top sets on the tank. This cloth is weighed down in the water in the tank by the roller *d*, Fig. 2. After leaving the water it passes between the rollers *c c'*, as shown in Fig. 2. The small rollers on the edges are to prevent the cloth from sticking to the sides and top when wet, which it is liable to do without the rollers. E is the pipe by which gas is introduced into the chamber under the corrugated roof, and should be made of what is called one-eighth gas-pipe, and the ends *f f* should be plugged, and on the top are fine holes, represented by the dots in Fig. 4, drilled in the pipe. To the part *g* a piece of rubber gas-hose is attached, the opposite end being connected to the gas-fixture furnishing the supply of gas.

The operation is as follows: Water or other liquid is placed in the tank A. Gas being introduced under the corrugated bed D, and lighted, will, in the course of five or ten minutes, heat the top of the iron, and, by turning the crank *h*,

the cloth B will be drawn through the liquid in the tank and through the rollers, and the rollers *c c'* will expel the surplus water, which will pass down into the tank again. As the damp cloth B is drawn over the hot bed the water evaporates out of the cloth, and in this manner a continuous cloud of steam will arise from the wet cloth. The crape, velvet, or other fabrics to be cleaned are placed on top of the cloth B, and the vapor of steam will rise through it and expel the dust, and with the aid of a fine brush the pile of velvet may be thoroughly cleaned, and any part of the pile which may be down will be raised up by the action of the steam and brush; and, while moist by the steam, if it be silk ribbons, the creases may be removed by drawing them across the hot tubular iron F. This will also help to stiffen or size the ribbon; but when silk ribbon is operated upon care should be taken to have a piece of paper between the iron and ribbon, or it will mark and glaze the silk ribbon, but with velvet ribbon the paper is not required. And the action of the steam on crapes which have become soiled with dust, or lost their elasticity, will restore them to their original crimpy appearance and make them look almost equal to new. When it is desired to add a size to the article, starch or other matter may be mixed with the water. This arrangement may also be used to steam furs. The hot vapor, penetrating the fur, will kill any germ that may get in it, and a solution of gum camphor may be used in the tank, and the vapor will thoroughly impregnate the fur or cloth with the camphor, which will be a saving over the old method of packing away furs in camphor.

The size, form, and method of construction may be varied to suit various purposes; but

What I claim is—

1. A steaming apparatus, combined of the following parts: a tank, A, endless cloth B, and heating-bed D, as above described.

2. In combination with endless cloth B and tank A, the wringing-rollers *c c'*, as and for the above-described purposes.

3. The combination of the pipe E, corrugated bed D, and tubular smoothing-iron F, as described, and for the above purpose.

JOHN SHINN.

Witnesses:

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