

(No Model.)

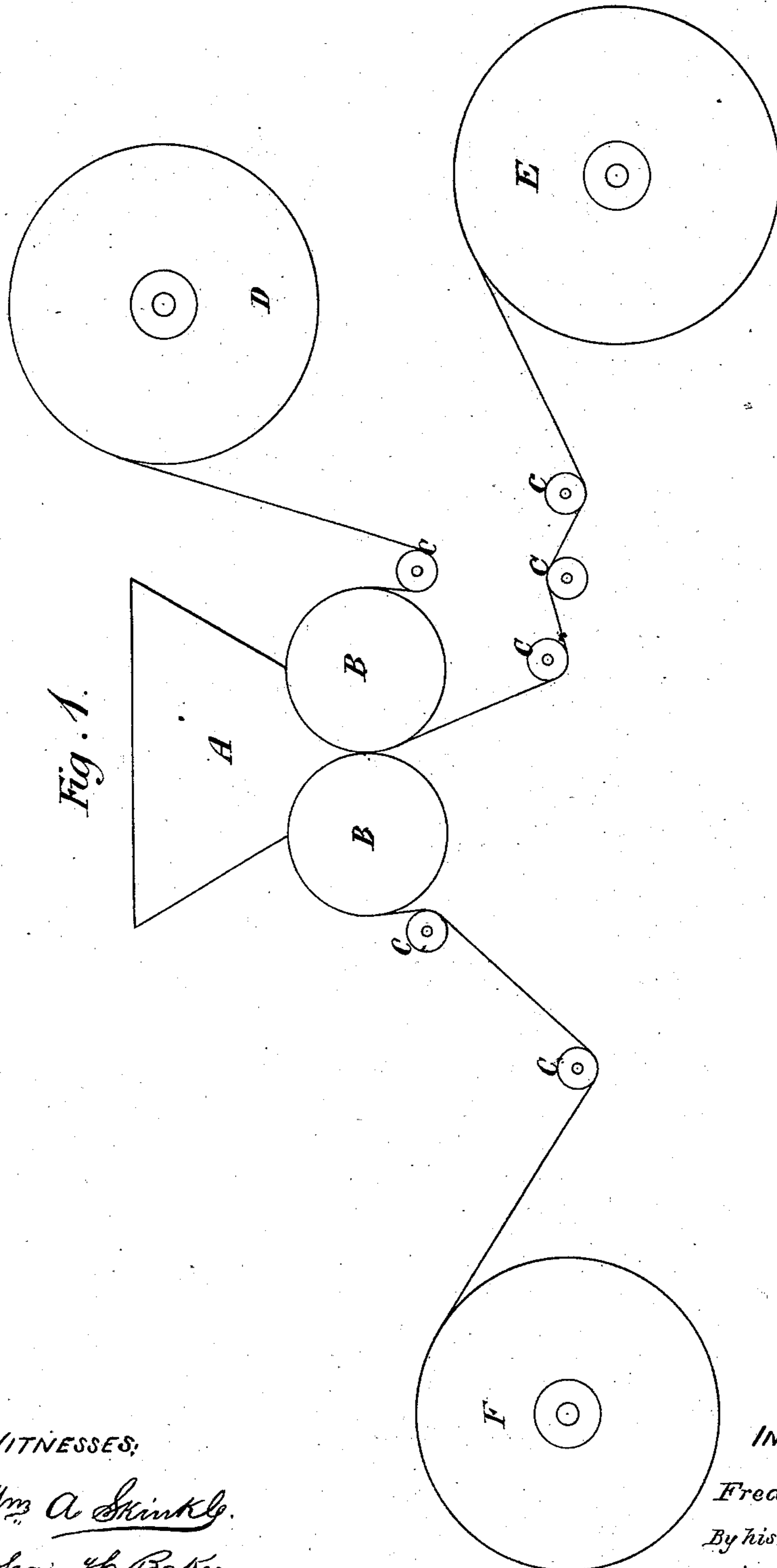
2 Sheets—Sheet 1.

F. WALTON.

Manufacture of Floor Cloths and Fabrics Suitable for  
Wall Hangings or Decorations and for other Uses.

No. 231,944.

Patented Sept. 7, 1880.



WITNESSES:

*Wm. A. Shinkle*

*Chas. H. Baker*

INVENTOR:

*Frederick Walton*

*By his Attorneys*

*Baldwin, Hopkins & Ryton*

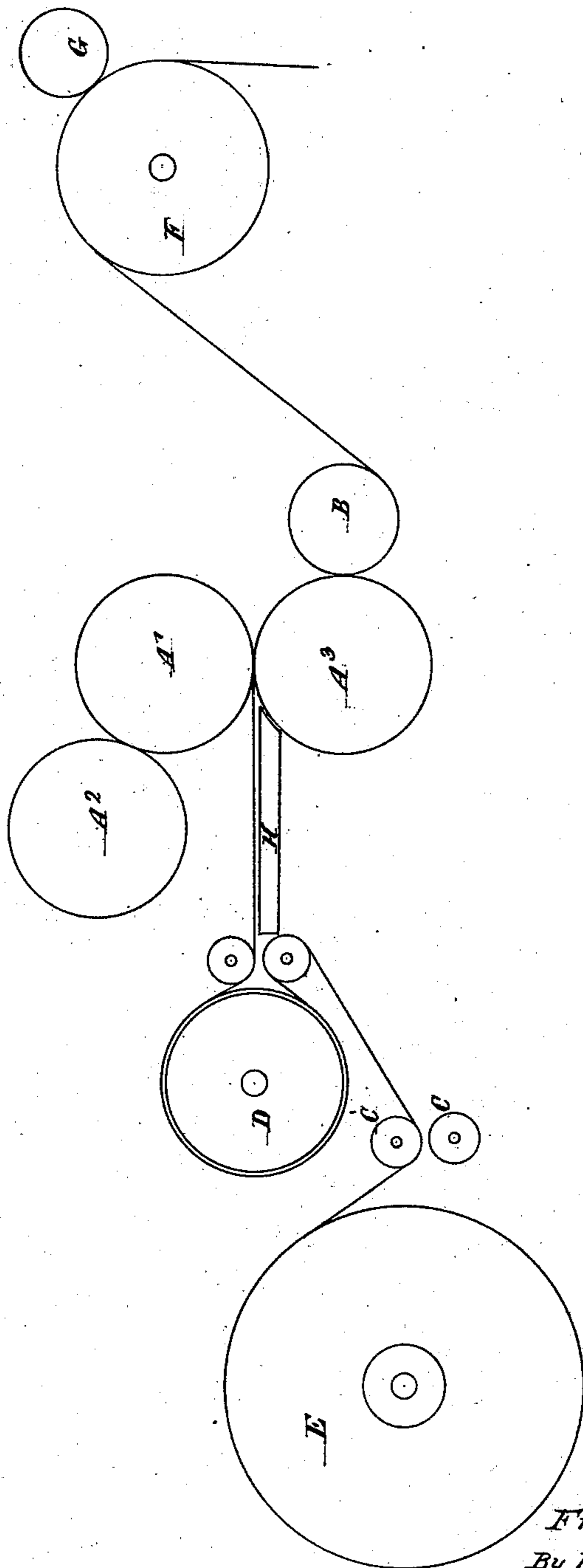
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Fig. 2.



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# UNITED STATES PATENT OFFICE.

FREDERICK WALTON, OF TWICKENHAM, ENGLAND.

MANUFACTURE OF FLOOR-CLOTHS AND FABRICS SUITABLE FOR WALL HANGINGS OR DECORATIONS, AND FOR OTHER USES.

SPECIFICATION forming part of Letters Patent No. 231,944, dated September 7, 1880.

Application filed August 9, 1880. (No model.) Patented in England December 13, 1879.

*To all whom it may concern:*

Be it known that I, FREDERICK WALTON, a subject of the Queen of Great Britain, residing at Twickenham, in the county of Middlesex, England, have invented certain new and useful Improvements in the Manufacture of Floor-Cloths and Fabrics suitable for Wall Hangings or Decorations, and for other uses, (for which I have received Letters Patent in England, No. 5,118, dated December 13, 1879;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object improvements in the manufacture of floor-cloths and fabrics suitable for wall hangings or decorations, and for other uses.

In the manufacture of fabrics of this nature from compositions of oxidized or solidified oil some difficulty is now experienced from the liability in such fabrics to undergo changes of form sufficient to derange the fitting from one width to another of any pattern or device with which the fabric may be ornamented by printing or embossing, as the case may be.

As at present manufactured such fabrics have usually a back consisting of a loosely-woven fabric of jute or cotton, which opposes a resistance to extension in two directions, but permits, and perhaps aids, in producing other changes of form, besides which, backings of this sort are rough and unsightly.

According to this invention I produce such fabrics with a back consisting of a woven fabric combined with paper by means of an oxidized-oil cement.

I employ a pair of rollers revolving together, and I lead both the woven fabric and the continuous paper between them, one over one roller, the other over the other roller. In the trough-like space between the paper and fabric, as they come together up to the nip of the rollers, the cementing material is placed. This consists of oxidized oil, color, gums, and resin, together with turpentine to soften the mixture. The rollers are heated, and as the combined sheet leaves them the turpentine evaporates and the cement sets at once.

I apply the oxidized or solidified oil composition, which forms the body of the floor cloth or fabric, to the compound backing in the following manner, which admits of a lighter backing being employed than the method of spreading now in use. I cause the body composition to be rolled out into a sheet between two rollers revolving at somewhat different speeds, and one of which I keep hot and the other cold. The sheet, as it is produced, adheres to the cool roller, which is driven at the higher velocity. As it passes round on the face of this roller it meets another roller, around which the compound backing, prepared as already described, is led, and the composition, being thus pressed against the backing, adheres to it firmly and leaves the surface of the roller.

If, as in the case of a fabric for wall decoration, an embossed pattern is to be produced, a roller is employed with the pattern upon it, and the sheet of composition is molded by the pattern-surface. The paper surface of the backing can be afterward painted, to give it a fine surface and to render it water-proof.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

In the drawings, Figure 1 is a section of the machine which I employ for the purpose of preparing the combined backing material.

BB are a pair of steam-heated rollers. D is a reel on which a continuous cloth is wound, and F is another reel holding continuous paper. The cloth and the paper are led from these reels beneath guide-rollers C and over the rollers B B, the cloth passing over one roller B and the paper over the other.

A is a hopper standing between the rollers B B, and in this hopper the composition which I employ to combine the cloth with the paper is placed. The cloth, the paper, and the composition passing together between the rollers B B, become combined into one compound fabric, which, after passing under and over other guide-rollers C, is wound up upon the reel F. This reel is driven by a strap which is able to slip upon its pulley, or in any equivalent manner the reel F is caused to wind

up the combined fabric delivered by the rollers B B and keep it tight, but without exposing it to a strain sufficient to risk the fracture of the fabric.

5 The composition placed in the hopper A should consist of the following ingredients:

Cement.....	40	parts
Ocher.....	55	"
Red lead.....	3	"
10 Resin.....	2	"
Paraffine-wax.....	2	"
	102	

15 The cement above referred to is composed as follows:

	cwt.	qrs.	lbs.
Oxidized oil.....	8	0	0
Resin.....	3	2	2
20 New Zealand gum.....	0	3	23

The composition is rendered sufficiently soft or fluid to work by the addition of turpentine. The turpentine for the most part evaporates as soon as the compound fabric leaves the rollers B B, and the composition sets at once.

25 The woven fabric which I employ in making the backing for floor-cloth may be of cotton, coarse and somewhat openly woven, and the paper may be a stout and tough brown paper. For composition fabrics of a lighter nature, as for wall-decoration and the like, a backing composed of a finer cloth and lighter paper is used by preference.

35 Fig. 2 of the drawings represents a section of the machine which I employ for the purpose of applying to the compound backing-fabric made as above described, the composition which forms the body of the floor cloth or fabric, and which composition may be similar to that now employed to form the body of linoleum or oxidized-oil fabrics or like fabrics.

40 E is a reel on which the compound backing-fabric is brought to the machine. It is drawn off from this reel and passed by guide-rollers C C to the drum D, which is of wood covered with wire card, and there is a brake upon the axis of the drum, which can be adjusted to offer a sufficient resistance to the forward motion of the backing-fabric to keep it tightly strained.

50 The compound fabric passes, with the woven fabric uppermost, along the steam-heated table H. The backing-fabric meets the body composition already rolled out into a sheet on the surface of the roller A'. Another roller, A<sup>2</sup>, revolves against the roller A', and the body composition is supplied in a plastic state between these two rollers.

60 The rollers A' and A<sup>2</sup> are both heated by steam admitted within them, but the quantity of steam is so regulated that the roller A<sup>2</sup> shall be always considerably hotter than the roller A', while the latter roller is driven at a higher velocity, in the proportion of, say, one to two.

The body composition, in passing between the rollers A' A<sup>2</sup>, is formed into a sheet, which 65 adheres to the surface of the roller A', and is carried round by it and applied to the surface of the backing-fabric as this passes between the rollers A' and A<sup>3</sup>. The third roller, A<sup>3</sup>, is also steam-heated, and the nip of the 70 rollers A' and A<sup>3</sup> causes the body-fabric to adhere firmly to the backing.

If the fabric in process of manufacture is to be smooth on the surface, the small roller B is not employed, but the fabric passes at once 75 over the drum F. This drum is clothed with wire cards, and it is driven at the proper velocity for carrying the fabric forward through the machine.

G is a pressing-roller, to insure that the 80 cards on the drum F shall obtain a sufficient hold upon the fabric.

The roller B is employed when it is desired that the face of the fabric shall have an embossed or raised pattern upon it to render it 85 suitable for wall-decoration and the like. The roller has a suitably-engraved metal face, and it is kept very hot by means of high-pressure steam.

The roller B is set up toward the roller A<sup>3</sup> 90 sufficiently close to cause a slight accumulation or banking up of the composition behind the nip of the rollers to insure the hollows of the roller B being completely filled.

After the floor cloth or fabric leaves the 95 machine the under surface can be painted over the paper to prevent it absorbing moisture and to give it a more slightly appearance.

Having thus described the nature of my said invention, and the manner of performing the 100 same, I would have it understood that I claim—

1. The manufacture of floor-cloths, wall-hangings, and like composition fabrics with a compound backing of paper and a woven cloth, 105 substantially as described.

2. The means of producing the compound backing of paper and woven cloth by passing the paper and the cloth together between rollers, and supplying between them the composition of oxidized oil, volatile solvent, and 110 other materials, substantially as described.

3. The apparatus for applying the body composition to the backing-fabric, the composition being reduced to a sheet by passing 115 between rollers A' and A<sup>2</sup>, and being then carried on the surface of the roller A' and applied to the backing as the same passes between the roller A' and the roller A<sup>3</sup>, substantially as described in respect to Fig. 2 of the drawings.

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Witnesses:

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