

(No Model.)

W. S. MORTON.

MACHINE FOR EMBOSSING AND BACKING WALL DECORATING MATERIALS.

No. 294,257.

Patented Feb. 26, 1884.

FIG. 2.

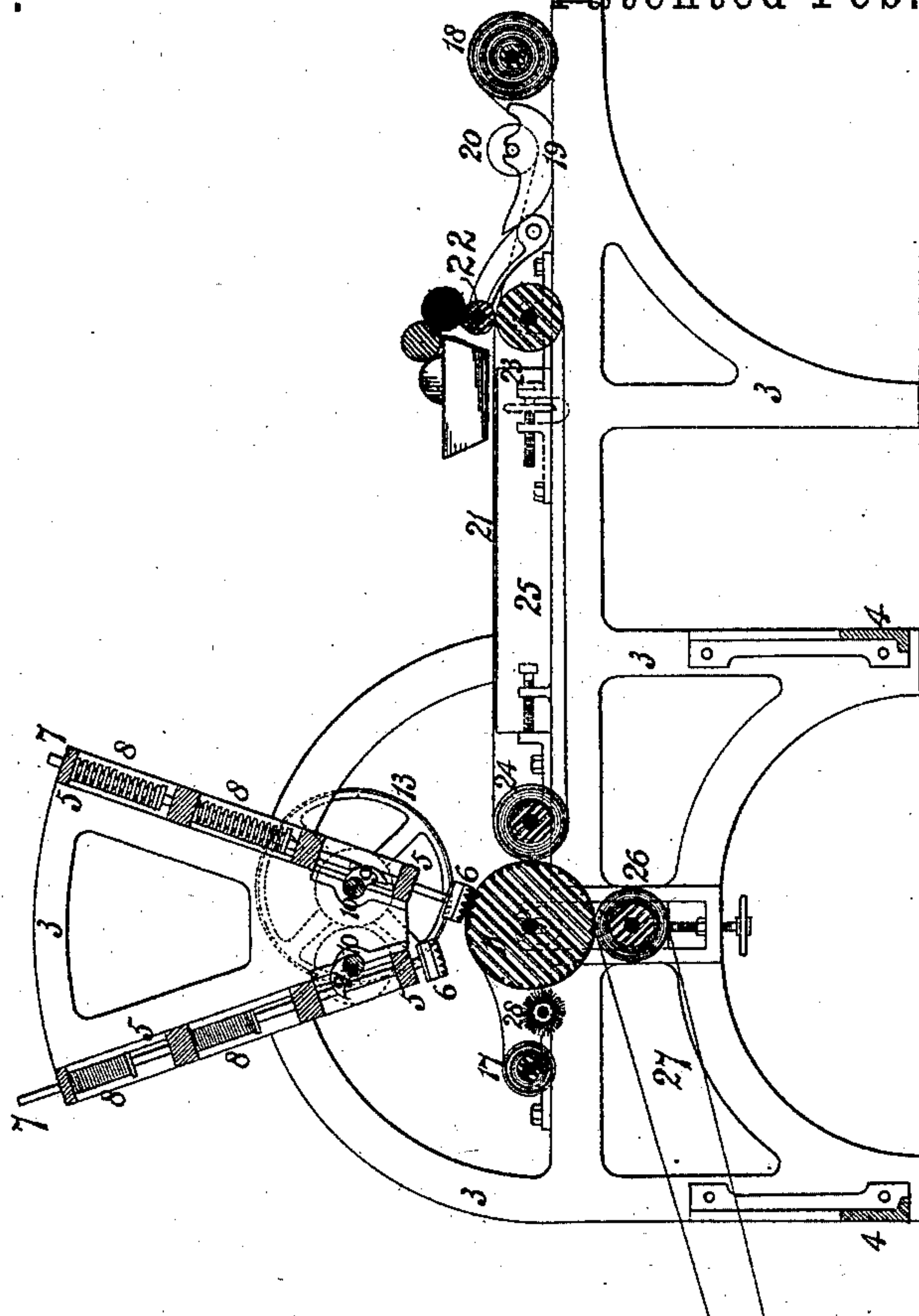
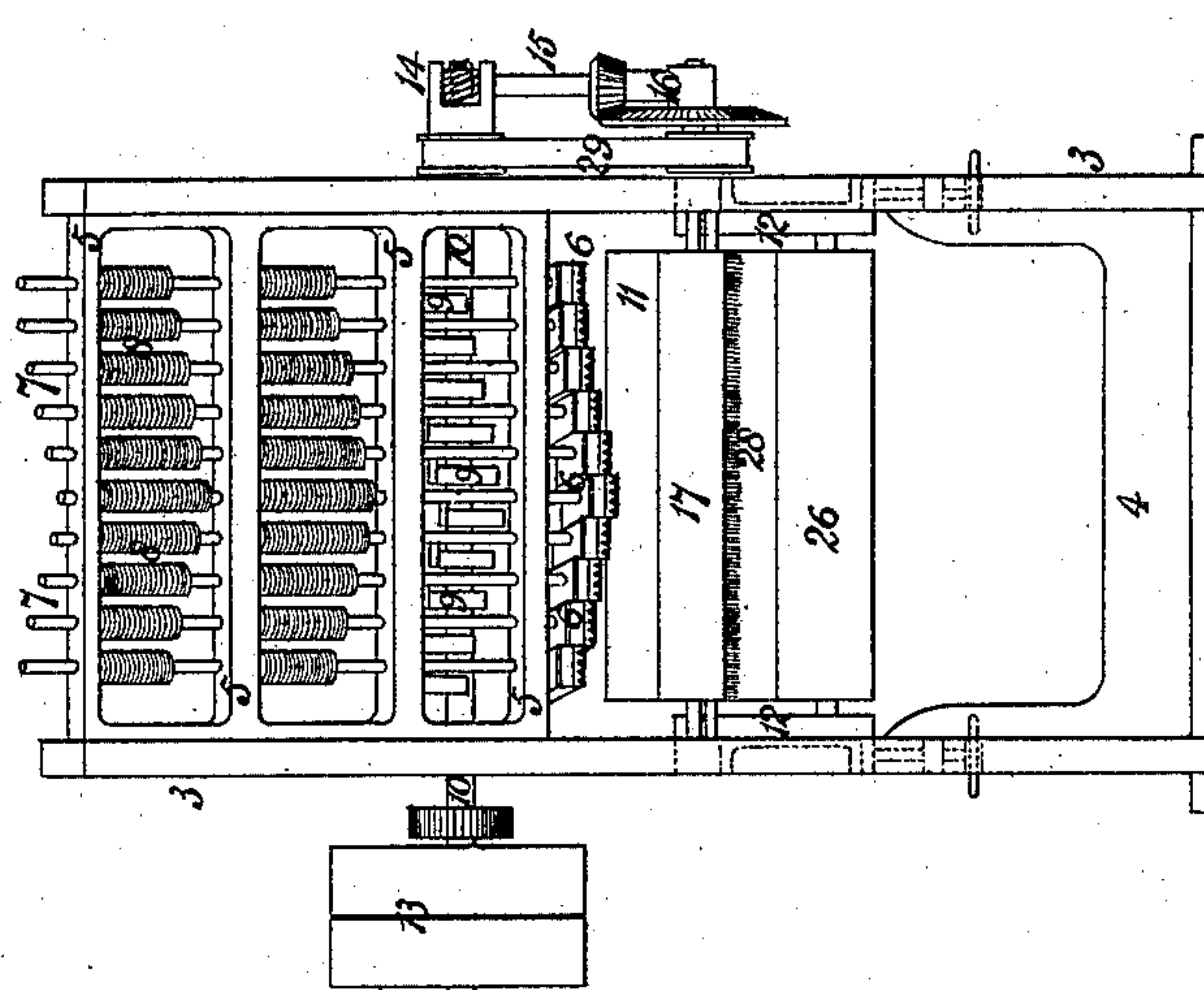


FIG. 1.



Witnesses:
James F. Johnson
Hamilton D. Turner.

Inventor,
William S. Morton
by his Attorneys
Howson & Sons

UNITED STATES PATENT OFFICE.

WILLIAM SCOTT MORTON, OF EDINBURGH, COUNTY OF MID-LOTHIAN,
SCOTLAND.

MACHINE FOR EMBOSSING AND BACKING WALL-DECORATING MATERIALS.

SPECIFICATION forming part of Letters Patent No. 294,257, dated February 26, 1884.

Application filed June 18, 1883. (No model.) Patented in England May 23, 1882, No. 2,420, and in France November 23, 1882, No. 152,258.

To all whom it may concern:

Be it known that I, WILLIAM SCOTT MORTON, a subject of the Queen of Great Britain and Ireland, residing at Edinburgh, in the
5 county of Mid-Lothian, Scotland, have invented an Improved Embossing and Backing Machine for Wall - Decorating Materials, (for which I have obtained the following patents: Great Britain, dated May 23, 1882, No. 2,420;
10 France, dated November 23, 1882, No. 152,258,) of which the following is a specification.

My invention has for its object the manufacture, in improved modes and by means of improved apparatus, of a material for covering
15 and decorating wall and other surfaces. This material has for its principal constituent a woven fabric or canvas; but leather or paper or other sheet material may be employed instead of the canvas. The canvas is first saturated with size applied in a heated condition,
20 and when the size has set, but while it is still in a moist or soft state, the sized canvas is wound loosely on a roller, on which it is placed in the machine. From the roller the canvas is
25 passed round a modeling cylinder or roller, by means of which, aided by a number of stampers, ornamental devices are embossed upon it. A backing of paper or other suitable material is next applied, and the modeled canvas is
30 finally delivered from the machine. The ornamental devices are formed in intaglio on the surface of the cylinder, and provision is made in the machine for receiving cylinders of different sizes to suit patterns having different
35 lengths of repeat.

Figure 1 on the accompanying sheet of drawings is an end elevation of the machine, and Fig. 2 is a longitudinal vertical section. In these figures the same reference-numerals are
40 used to mark the same or like parts wherever they are repeated.

The framing consists of two parallel vertical side frames, 3, which are connected by transverse frame-pieces 4 at the lower part, and by
45 two inclined frames, 5, at the upper part, and these inclined frames 5 carry a number of stampers, 6, which are formed with heavy bottom ends faced with toothed rubber or with other suitable material and fixed on rods 7,

guided in eyes formed in the cross-bars of the
frames 5. The stampers 6 are pressed down-
ward by springs 8, and are raised in rotation by
cams 9 on two transverse shafts, 10, which are
geared together, the cams acting on pins fixed
in the stamper-rods 7. The stampers 6 are
55 shaped with inclined sides, so as not to form ridges along the fabric, and they move in directions converging to the center of the embossing-cylinder 11. This embossing-cylinder, which
may have a surface of metal or other suitable
60 material, has the intended ornamental devices formed on it in intaglio, in order to produce the devices in relieve on the canvas, the face of the canvas intended to be the front being
that which is in contact with the embossing-
65 cylinder 11 when passing through the machine. The embossing-cylinder 11 is carried in bearings 12, which are adjustable vertically in guides in the side frames, 3, to allow of cylinders of different sizes being properly placed in
70 the machine. One of the cam-shafts 10 is used as the first-motion shaft of the machine, and has on it fast and loose pulleys 13, for a driving-belt, and the embossing-cylinder 11 is driven
75 from one of the cam-shafts 10 by means of a worm, 14, thereon, gearing with a worm-wheel on a short vertical shaft, 15, which is geared by a bevel pinion and wheel, 16, to the shaft of the cylinder 11.

The canvas, having been prepared as herein-
80 before described, and placed on a roller, 17, at the entering side of the machine, passes thence round the embossing-cylinder 11. The canvas or material is first forced into the intaglio cavities of the embossing-cylinder 11 by the stamp-
85 ers 6, and then passes on to receive a backing of paper, which is applied to the surface which is then outward. The backing-paper is drawn off a drum or roller, 18, and is first passed
90 through a trough, 19, containing water, which may be heated by steam to soften the paper, which is depressed into the water by passing under a loose roller, 20. The paper is next led
into the machine by an endless blanket, 21,
95 which carries it between a pair of rollers, 22, 23, the upper one, 22, supplying paste to the surface of the paper which goes into contact with the embossed canvas. The blanket 21 is

distended by the lower, 23, of the two rollers last mentioned, and by another roller, 24, which last is pressed toward the embossing-cylinder 11, and the blanket carries the pasted paper 5 between the roller 24 and the embossed canvas, and causes it to adhere to the latter. A box or chest, 25, to which steam is admitted, is placed within the endless blanket 21, for the purpose of heating the pasted paper and removing superfluous moisture. The roller 24, which 10 presses the blanket with the pasted paper toward the embossing-cylinder is covered with rubber or other suitable material, which may be formed with a toothed surface to press the paper well into the embossed parts of the canvas. After the modeled canvas has thus received its backing-paper, it passes between another roller, 26, and the cylinder 11, this roller 26 carrying one end loop of an endless cloth 20 or apron, 27, upon which the modeled canvas is delivered from the machine, and this roller 26 may also be covered with rubber and serve to press the paper still more closely to the modeled canvas. A rotating brush, 28, driven 25 by means of pulleys and a belt, 29, from one of the cam-shafts 10, is placed so as to act on the embossing-cylinder 11, between the position at which the canvas enters upon it and that at which it leaves it, for the purpose of cleansing the cylinder from paste, size, or fluff 30 left upon it by the canvas. After leaving the machine, the modeled canvas is hung up to dry, and is finally completed by painting, which may be done either before or after the mate-

rial is fixed on the wall or other surface which it is intended to decorate. 35

When the modeled canvas or similar material is to be applied to walls or surfaces which are liable to be damp, a backing of tinfoil is put on it, either instead of or in addition to the paper backing. 40

It is an important advantage of my machine and modeling process that the embossing of woven fabrics or leather or paper or other material is effected without puckering or creasing, but so as to retain for artistic effect the texture of the material embossed. 45

I claim, in the machine for embossing and backing wall-decorating materials—

1. An embossing-cylinder, 11, combined with stampers 6, which are lifted by rotating cams 9, and are made by springs 8 to press the material into the intaglio parts of the cylinder, substantially as set forth. 50

2. In combination with the embossing-cylinder 11 and the stampers 6 and their actuating mechanism, apparatus, substantially as described, for moistening, pasting, warming, and applying backing-paper, substantially as set forth. 55 60

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

WILLIAM SCOTT MORTON.

Witnesses:

ROBERT K. MITCHELL,
ALEXR. BLACK.