No. 704,627. Patented July 15, 1902.

W. E. GARD.

APPARATUS FOR DECORATING SURFACES.

(Application filed Oct. 4, 1901.)

(No Model.) 2 Sheets—Sheet 1.

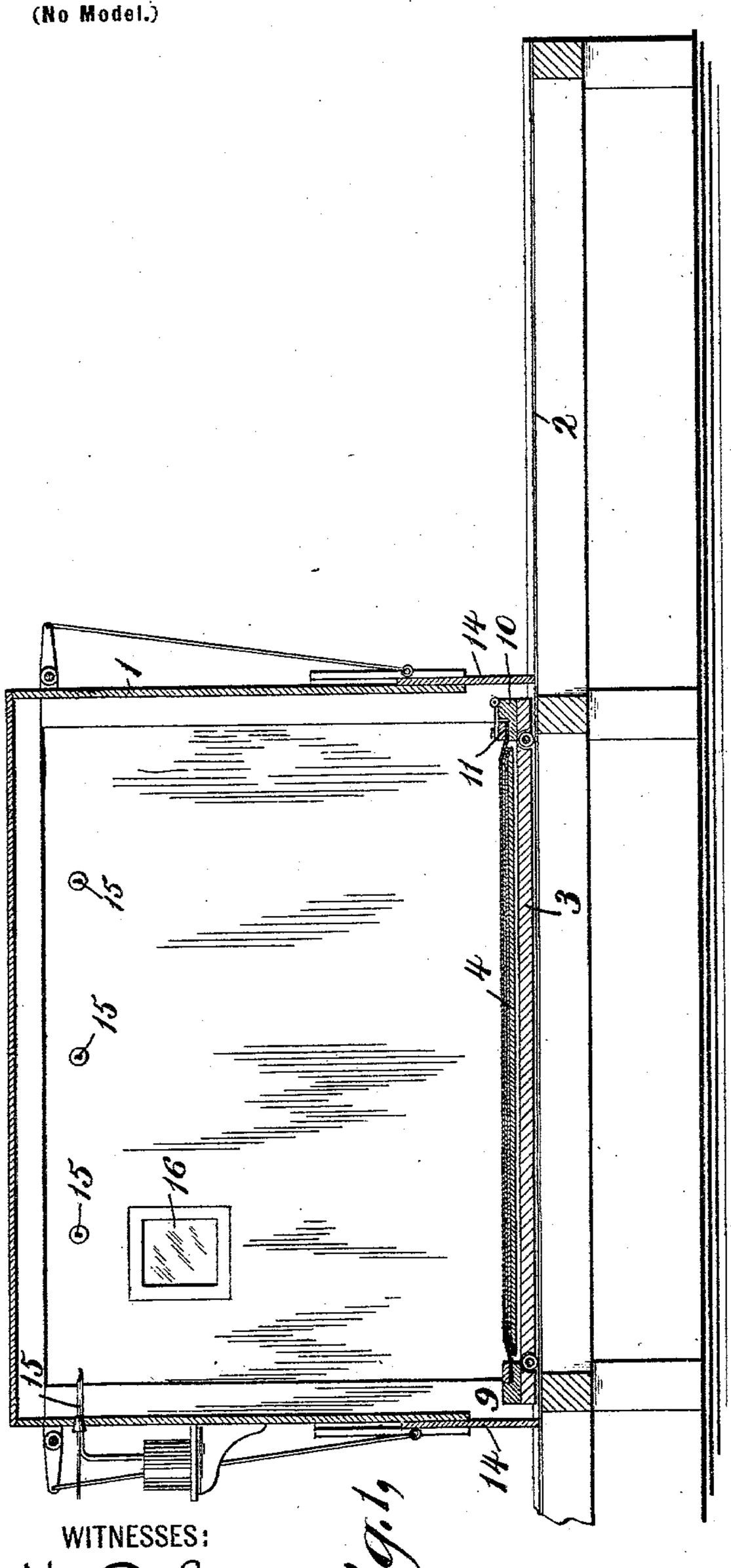

Fig. 1.

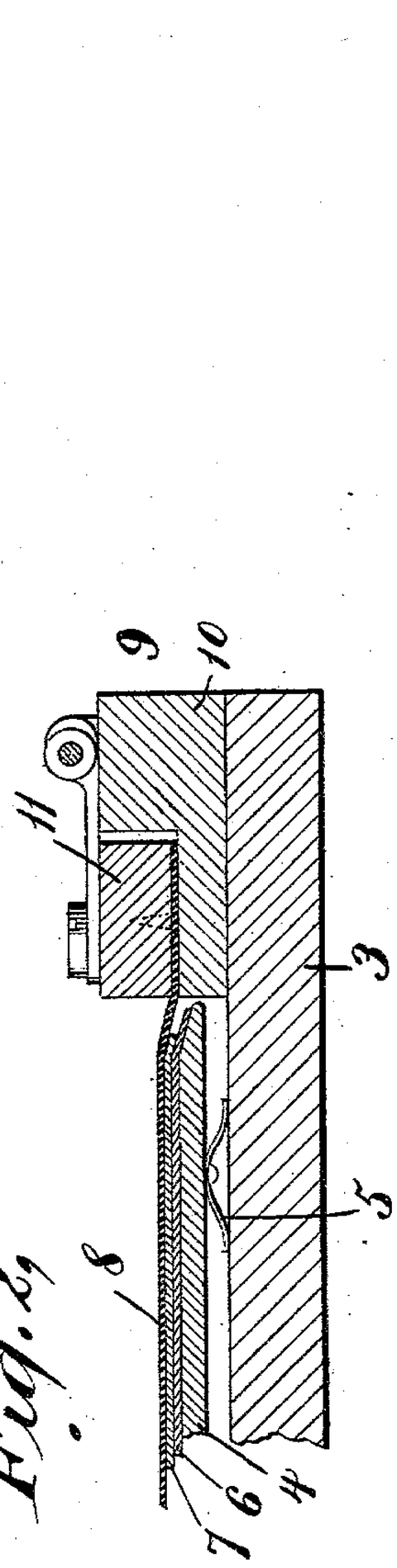

Fig. 2.

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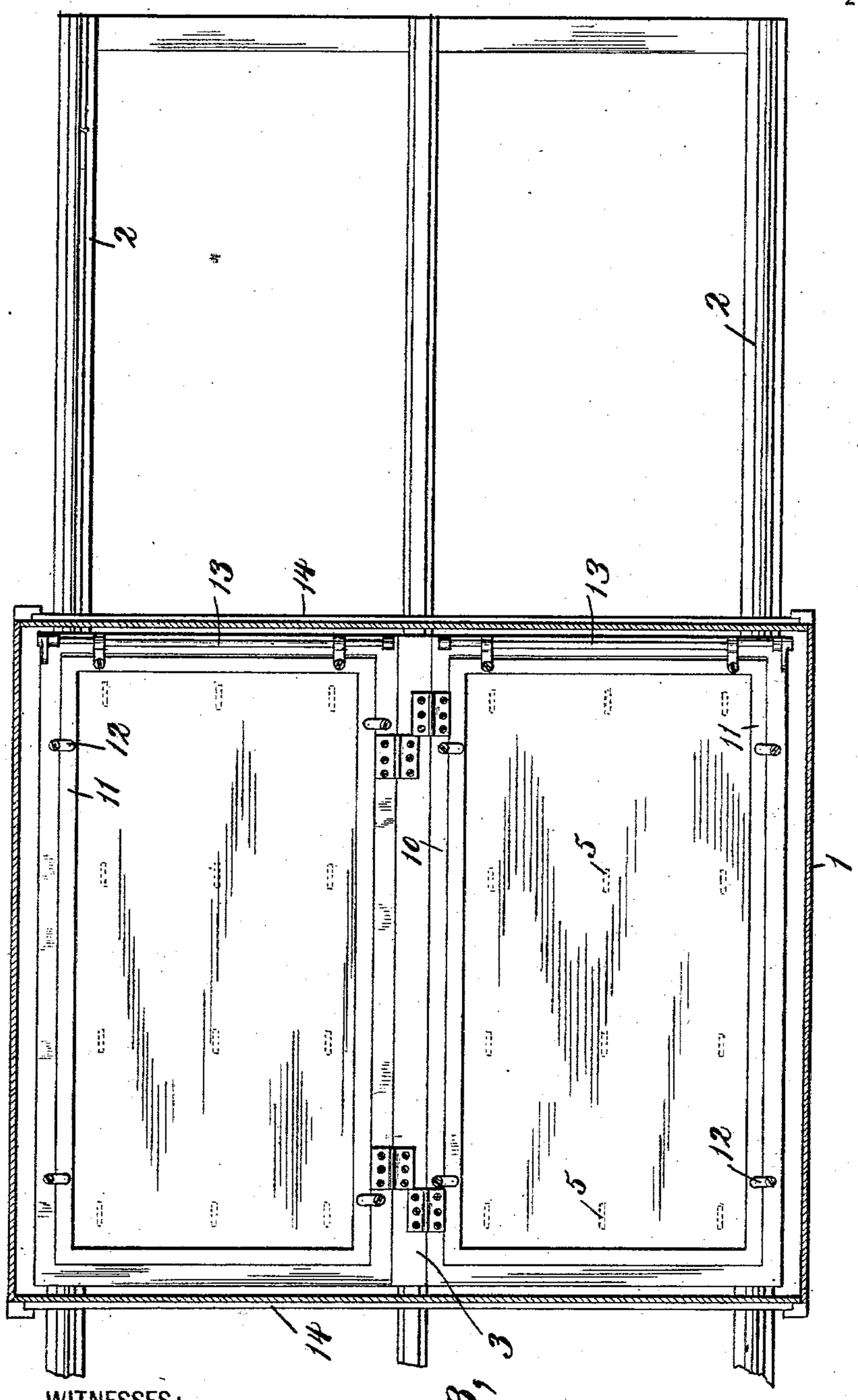

Fig. 1.

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UNITED STATES PATENT OFFICE.

WILLIAM E. GARD, OF NEW YORK, N. Y., ASSIGNOR TO COLUMBIA SHADE CLOTH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

APPARATUS FOR DECORATING SURFACES.

SPECIFICATION forming part of Letters Patent No. 704,627, dated July 15, 1902.

Application filed October 4, 1901. Serial No. 77,544. (No model)

To all whom it may concern:

Be it known that I, WILLIAM E. GARD, a citizen of the United States, residing at New York, in the county and State of New York, have invented a certain new and useful Apparatus for Decorating Surfaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in apparatus for decorating surfaces by the use of stencil and the like, and is particularly adapted for use in connection with the process for decorating surfaces set forth in an application for Letters Patent of the United States filed by me on October 2, 1901, Serial No. 77,326.

My invention consists in the provision of means for shifting slightly a stencil relatively to the surface to be decorated after one imprint has been made thereon, in the means employed for insuring contact between the stencil and the surface to be decorated at all points, in the employment of a spring-supported bed upon which to lay the object to be decorated, and, generally, in the novel features of combination, construction, and arrangement hereinafter pointed out in the claims.

The objects of my invention are to facilitate the carrying out of the process set forth in my said other application, to provide means whereby the stencil may be shifted readily, to insure contact of the stencil with the surface to be decorated at all points, and, generally, to make the apparatus simple, reliable, and inexpensive.

In the accompanying drawings I have illustrated one form of apparatus embodying my invention.

In the drawings, Figure 1 is a vertical section of the apparatus; Fig. 2, a detail section of the bed and associated parts on a larger scale; and Fig. 3 is a top view of the apparatus, the walls of the spraying-chamber being sectioned horizontally.

In the drawings numeral 1 designates a spraying-chamber, and 2 ways upon which may slide a carriage 3, carrying a bed 4, upon which the object to be decorated may be placed. The ways 2 project from the sides of the chamber 1, so that two carriages 3 may be used in alternation.

The machine illustrated in the drawings is particularly adapted for the treatment of shade-cloth and other fabric and flexible material. The stencil employed for the treatment of shade-cloth is usually flexible and is often a piece of lace, such as a lace curtain or the like. In order to insure thorough contact of the stencil with the surface to be decorated at all points, the bed 4 is spring-supported from the carriage 3 by means of springs 5, such as are shown in Fig. 2. The bed 4 consists of a thin board platform and may be covered with a layer or layers of felt 6, over which may be laid the object to be decorated. (Indicated in Fig. 2 by the numeral 7.) 8 in said figure designates the stencil. The stencil is held down upon the surface to be decorated by a skeleton frame 9, binding the stencil at the ends and sides. The said frame is in two parts or sections, one within the other and adapted to have some slight longitudinal, lateral, or both longitudinal and lateral movement with respect thereto. The outer frame 10 is hinged to the bed by hinges 17. The inner frame 11 rests upon a ledge of the outer frame 10. Strips 12 prevent said inner frame from being displaced, while permitting some relative movement thereof. The movement of frame 11 with respect to frame 10 is effected by means of eccentrics mounted upon an eccentric-shaft 13, the straps of said eccentrics being connected with the inner frame 11. In the drawings the inner frame 11 is shown as adapted to be moved in but one direction with respect to frame 10; but it is obvious that if lateral as well as longitudinal movement be desired means similar to the eccentrics and shaft 13 may be provided for that purpose and that by a combination of longitudinal and lateral movement any desired relative movement of the stencil may be obtained. The stencil is preferably attached to the frame 11. Thumb-tacks may be used for this purpose. When the frame 9 is down, it rests upon the carriage 3, inclosing spring-bed 4. The frame is there-

fore supported independent of the stencil-sheet, the tension of which is determined by the stiffness of the springs supporting the bed 4 and by the number of layers of felt 6 placed upon said bed.

Doors 14 14 are provided, which normally close the openings through which the carriage or carriages 3 enter and leave the chamber 1.

Sprayers or atomizers 15 of well-known construction are provided for spraying the paint or other coloring-matter into the chamber 1. The progress of the operation may be watched through the window 16.

The carriage shown in Fig. 1 is adapted to receive two sheets or other objects to be decorated at one time. Carriages may be constructed which are adapted to receive a greater or less number of objects to be decorated.

The manner of use of the machine is as follows: The sheets or other objects to be decorated are placed upon the carriage 3 while the latter is outside of the chamber 1, the skeleton frame 9 being raised to permit placing the articles to be decorated upon the beds 4. The stencils if not already secured to the inner movable portions 11 of the frames 9 are secured thereto, and then said frames are lowered, bringing the stencils into contact with the objects to be decorated. The frames 9 hold the stencils down firmly, and the springs 5 insure thorough contact of the surfaces to be decorated with such stencils by pressing the beds 4 upward. The carriage 3 is then moved into the chamber 1, the proper door 14 being opened temporarily for that purpose, and the paint or other coloring-matter is sprayed into the chamber 1 by means of atomizers 15. The mist or cloud of coloring-matter thus produced within said chamber falling by gravity passes through the interstices or openings of the stencil, and so imprints upon the surface to be decorated the pattern of the stencil. After this treatment has continued for a sufficient length of time the spraying is stopped, the carriage removed from the chamber 1, the frame 9 raised, and the stencil moved slightly to one side by means of the eccentric-shaft 13, and then the frame is lowered again, the carriage is again moved into the chamber 1, and the spraying of paint or coloring-matter is recommenced. The paint or coloring-matter used in this second treatment is ordinarily of a different and darker hue than that employed during the first treatment. When this second treatment has continued for a sufficient length of time, the spraying is again stopped, the carriage removed from the chamber 1, the frame 9 raised, and the decorated object removed from the bed 4 and allowed to dry. While one carriage is being emptied and filled another carriage previously filled may be run into the chamber 1 from the opposite side and the surface therein treated as above described.

I do not limit myself to the particular details of construction of the apparatus herein illustrated. It is obvious that said apparatus is susceptible of many modifications in construction and arrangement of the parts.

Having thus completely described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a decorating apparatus, the combination with a support having a yielding bed adapted to receive an object to be decorated, of a hinged pattern-frame which when in place on said support surrounds said yielding bed, said frame having a surface to which a flexible pattern may be secured, and which is below the face of an object on said bed when the frame is in place.

2. In a decorating apparatus, the combination with a support having a yielding bed adapted to receive an object to be decorated, of a hinged pattern-frame which when in place on said support surrounds said yielding bed, said frame having a section which is movable with respect to said frame and support and to which a pattern may be secured.

3. In a decorating apparatus, the combination, with a support for an object to be decorated, of a pattern-frame having a movable part to which a pattern may be secured, and eccentric mechanism for moving said part and the pattern carried thereby, relatively to the object to be decorated, for the purpose specified.

4. In a decorating apparatus, the combination with a yielding support for an object to be decorated, of a pattern-frame surrounding said support, and having a surface to which a flexible pattern may be secured, said surface being below the face of an object upon said support, when the frame is in place, whereby the pattern is held in contact with said object, and means for shifting a pattern carried by said frame.

5. In a decorating apparatus, the combination with a yielding support for an object to be decorated, of a pattern-frame surrounding said support and having a secondary frame movable with respect thereto in the plane of said frames, said secondary frame adapted to receive a flexible pattern and to hold the edges thereof below the face of an object on said support, whereby the pattern is held in contact with said object.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM E. GARD

Witnesses:
A. H. PERLES,
M. M. CONOVER.