A. F. BUCHANAN.

Apparatus for the Manufacture of Oil-Cloth.

No. 207,491. Patented Aug. 27, 1878.

Fig. 1.

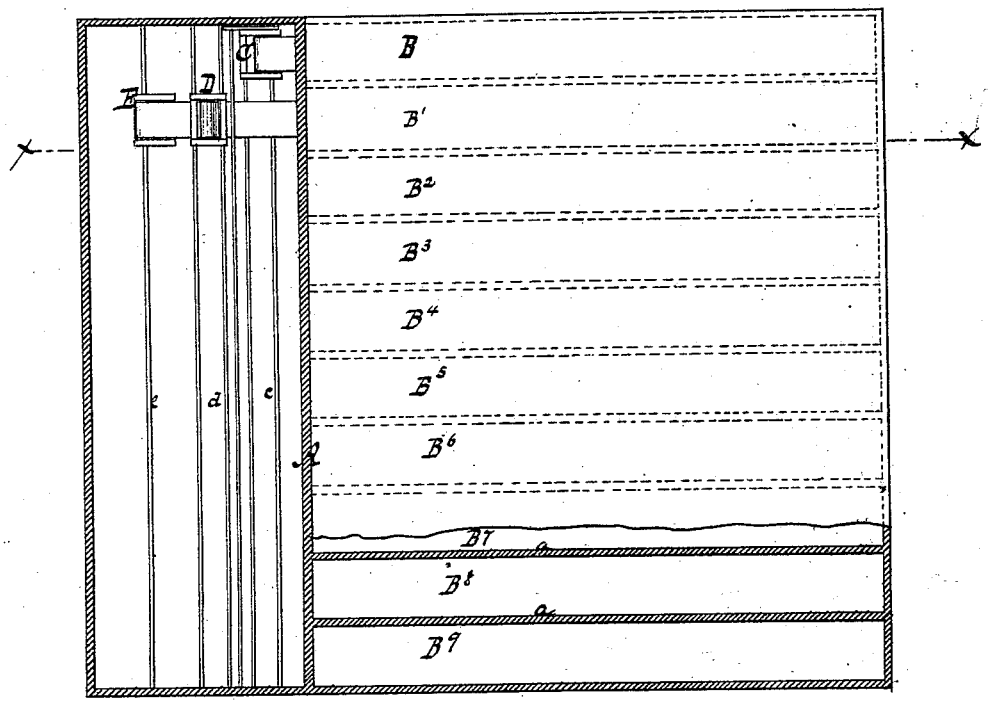
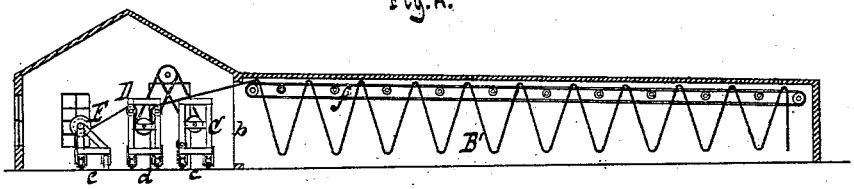


Fig. 2.



Witnesses

Otto Hufeland

Hugo Bruggmann

Inventor:

Alexander F. Buchanan.

by

Van Santvoord & Hauff

his attys.

UNITED STATES PATENT OFFICE.

ALEXANDER F. BUCHANAN, OF MONTROSE, NEW YORK.

IMPROVEMENT IN APPARATUS FOR THE MANUFACTURE OF OIL-CLOTH.

Specification forming part of Letters Patent No. **207,491**, dated August 27, 1878; application filed March 28, 1878.

To all whom it may concern:

Be it known that I, ALEXANDER F. BUCHANAN, of Montrose, in the county of Westchester and State of New York, have invented a new and Improved Apparatus for the Manufacture of Oil-Cloth, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional plan or top view. Fig. 2 is a vertical section in the plane *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a series of drying-compartments, of a cloth-roller, a mill, and a rubber, the frames of which are provided with wheels, which run on tracks extending in front of the doors which lead into the several drying-compartments, so that by moving the cloth-roller, the mill, and the rubber opposite the several drying-compartments in the proper order the operation of coating the cloth by means of the mill and introducing the same into one of the drying-compartments, can be carried on, while the coated material, after having been dried in one of the other compartments, is being drawn out, passed through the rubber, and taken up by the cloth-roller ready to receive a fresh coat, and the operations of coating, drying, and rubbing the cloth can be carried on without interruption.

In the drawing, the letter A designates a large room, which is divided by a series of partitions, *a*, into a number of compartments, B B^1 B^2 B^3, &c. Each of these compartments is provided with a door, *b*, which can be easily opened and closed; and in front of the several doors are three tracks, *c d e*, on which moves the mill C, the rubber D, and the cloth-roller E, the frames of these several devices being provided with wheels, which fit the tracks. The mill C is a machine, of well-known construction, which serves to coat the muslin, or other material used in the manufacture of oil-cloth, with a compound of oil and clay, or with any other compound generally employed for this purpose. The rubber D is a machine of well-known construction, such as generally used for grinding off the coated surface of the muslin or other material after the same has been dried; and the cloth-roller E is a roller mounted in a suitable frame, provided with wheels, which fit the track *e*, and on it is wound the muslin or other material.

The compartments B B^1 B^2, &c., are heated by steam or other means, and each of them is provided with endless carrying ropes or chains *f*, similar to those used in manufactories of paper-hangings and other articles for hanging up the material in a zigzag form, as shown in Fig. 2. The transverse slats used in connection with the endless carrying-ropes, and the manner of introducing said slats, are well-known devices, and need no description in this application for a patent.

At the beginning the cloth-roller E, which is filled with muslin or other material to be coated, is moved opposite to or in line with the compartment B, the mill C is moved between said roller and the door of this compartment, the door being opened, and the material contained on the roller E is drawn through the mill, and hung up in the compartment B. In passing through the mill the material is supplied on one side with the required coat of oil and clay or other suitable compound. After all the material contained on the roller E has been passed through the mill and hung up in the compartment B, the door of this compartment is closed, the mill C is moved opposite the door of the second compartment, and this compartment is filled the same as the first, and so on, the same mill being used in coating the material as it passes from the cloth-roller into either of the compartments. After the material in the first compartment has become sufficiently dry, an empty cloth-roller is brought opposite to the door of this compartment, the rubber D is moved between this cloth-roller and the door, which is then opened, and the material contained in the compartment B is drawn out through the rubber onto the roller E. As the material is being drawn through the rubber its coated surface is exposed to the action of one or more grinding-cylinders, for the purpose of rendering said surface smooth and even. When this has been accomplished the material is ready for a second coat, which is applied in the same manner as the first coat, and the operations of coating the material, drying the same, and

rubbing its coated surface can be carried on without interruption with the use of only one mill and one rubber.

Furthermore, by placing the cloth-roller E on a frame with wheels, I am enabled to move the same easily from one compartment to the other, and I am enabled to coat pieces of muslin of several hundred yards in length without difficulty.

My apparatus is intended, particularly, for the manufacture of oil-cloth for table-covers and other articles of a similar nature.

If desired, the cloth-roller, the mill, and the rubber may be simply placed on a truck or on wheels, so that they can be moved on the bare floor, without using special tracks for this purpose.

In the manufacture of oil-cloth as usually carried on, a single drying-compartment is used, and opposite to this compartment is placed the mill, so that the freshly-coated material can be passed directly into the drying-compartment. After the material has dried, it is taken out of the drying-compartment by means of a roller, which is carried to the rubbing-machine, the material is rubbed, again wound on the roller, carried back to the mill, supplied with a fresh coat, and again passed into the drying-compartment. While the material is being dried the operation is at a standstill, and much time is also lost in carrying the material from one machine to the other.

In following my method the several machines are caused to follow the material, and by the employment of a series of heating-compartments all interruption of the process is avoided.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in an apparatus for manufacturing oil-cloth, of a series of compartments, B B^1 B^2 B^3, &c., tracks *c d*, and a mill, C, rubber D, and cloth-roller E, all adapted to operate substantially as described.

2. The combination, in an apparatus for manufacturing oil-cloth, of a series of compartments, B B^1 B^2 B^3, &c., and a rubber, D, adapted to be moved from one compartment to the other, and to take the material directly from either of said compartments, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of March, 1878.

A. F. BUCHANAN.

Witnesses:
JABEZ BURNS,
W. HAUFF.