

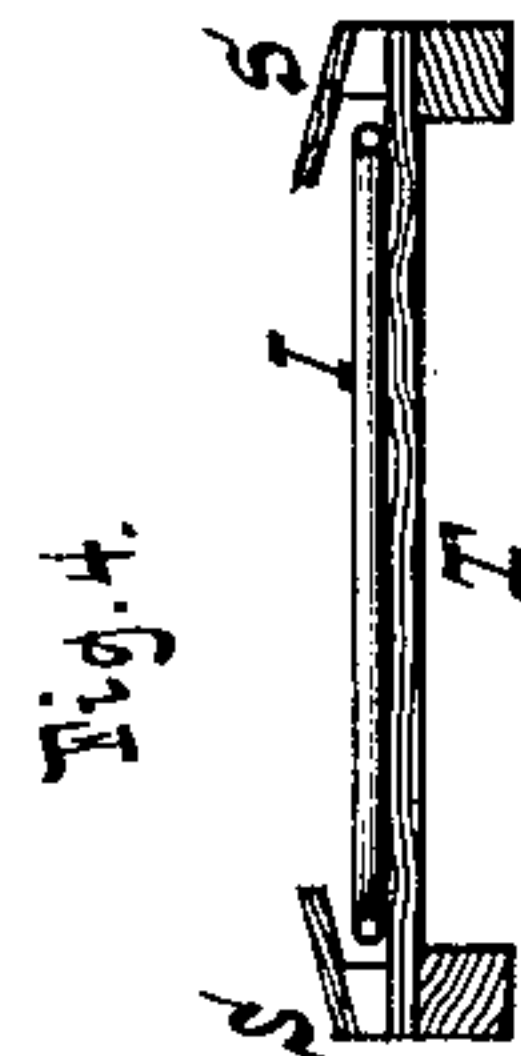
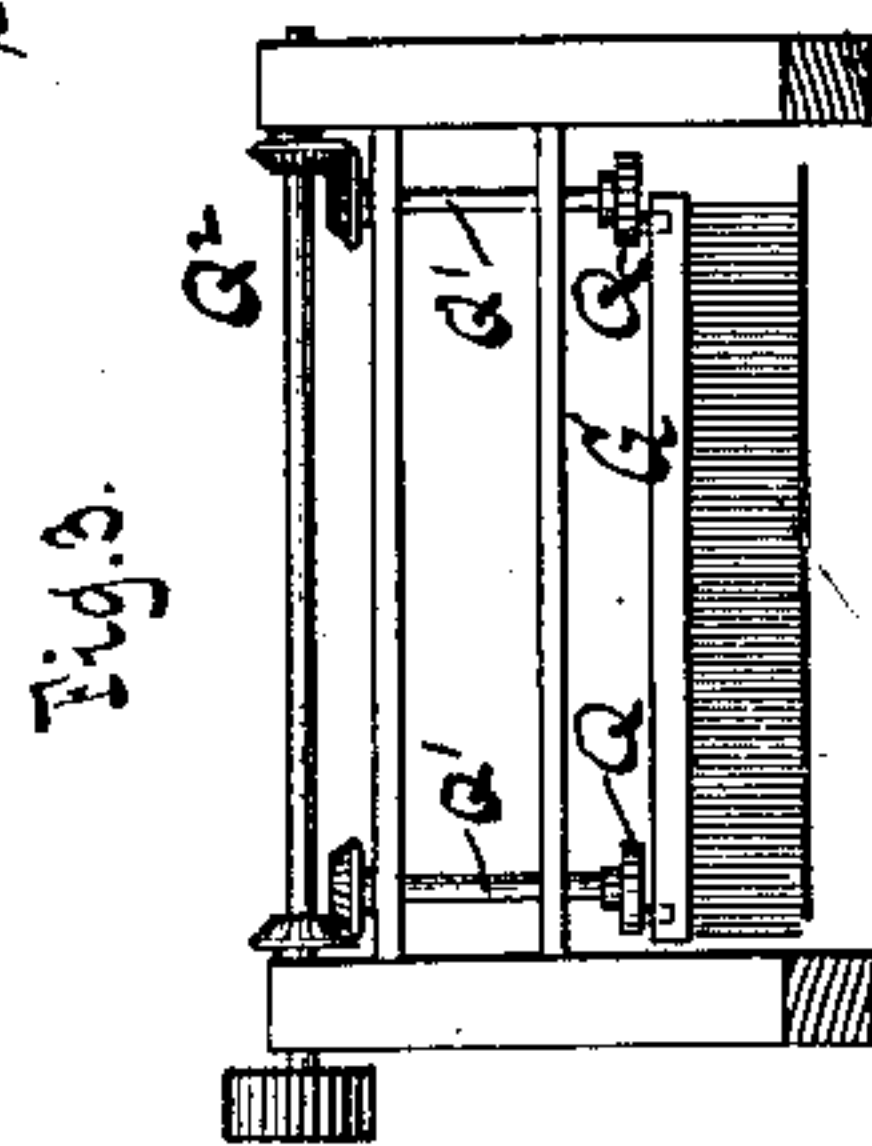
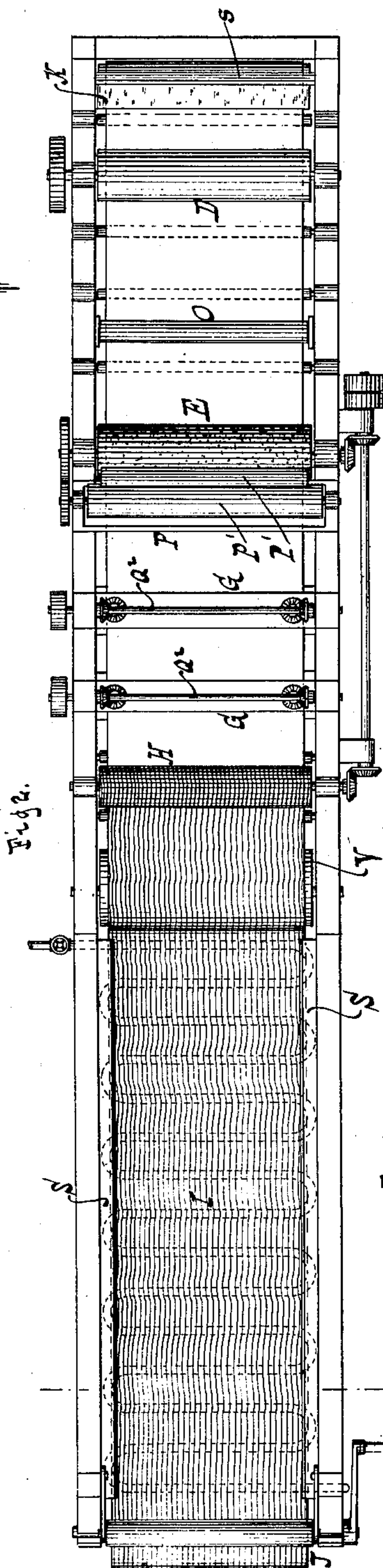
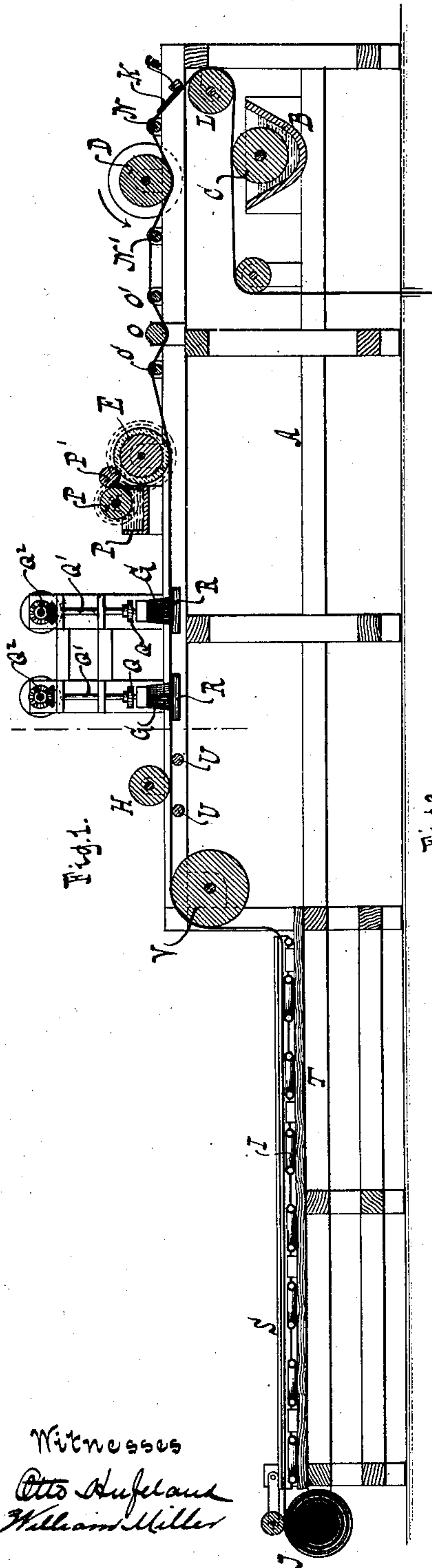
(No Model.)

A. F. BUCHANAN.

MACHINE FOR DECORATING OIL CLOTH.

No. 299,732.

Patented June 3, 1884.



Witnesses  
Otto Hufeland  
William Miller

Inventor  
Alexander F. Buchanan  
by Van Santvoord & Hunt  
his attys



# UNITED STATES PATENT OFFICE.

ALEXANDER F. BUCHANAN, OF MONTROSE, NEW YORK.

## MACHINE FOR DECORATING OIL-CLOTH.

SPECIFICATION forming part of Letters Patent No. 299,732, dated June 3, 1884.

Application filed February 14, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER F. BUCHANAN, a citizen of the United States, residing at Montrose, Westchester county, New York, have invented new and useful Improvements in Machines for Decorating Oil-Cloth, of which the following is a specification.

My invention relates to machines for grain-  
ing, marbling, or otherwise decorating oil-  
cloth, and especially cloth which has received  
one or more "daub coats," so called, of oil-  
color. In the process of decorating such cloth  
a ground-color of distemper or oil is put on it,  
over the daub coats, when the last of such coats  
has thoroughly dried, this color being "rubbed  
in" to diffuse the particles into which it has  
a tendency to separate, due to the presence of  
the oil of the daub coats. Then, while the  
ground-color is in a wet state, the desired or-  
namentation is produced, either by displacing  
the ground-color or by blending therewith and  
with each other a series of colors of different  
shades, and subsequently displacing the whole.  
The color or colors are then dried and the fin-  
ishing-coat of oil and varnish being now put  
on the cloth is ready for use.

Heretofore the operation of putting on and  
rubbing in the ground-color, and of ornament-  
ing, whether by displacing the ground-color  
or blending and displacing additional colors,  
have been performed by hand, the cloth being  
left stationary while successive portions of it  
are under treatment; and the object of my in-  
vention is to furnish a mechanical means  
whereby such operations may be performed  
in the proper order without intermission, the  
result being a saving of time and labor and  
the production of an article of superior qual-  
ity. This object I have accomplished by the  
novel combinations of parts hereinafter de-  
scribed, and illustrated in the accompanying  
drawings, in which—

Figure 1 is a longitudinal section of my ma-  
chine. Fig. 2 is a plan or top view thereof.  
Figs. 3 and 4 are detail views of parts.

Similar letters indicate corresponding parts.  
The letter A designates the machine-frame,  
supporting a trough, B, which contains what  
I have termed the "ground-color," and in  
which is mounted a roller, C, for applying  
such color to the oil-cloth. D indicates a roll-  
er for rubbing in the ground-color; E, a roll-

er for applying to the oil-cloth what I have  
termed the "top color;" G G, blending-brushes;  
H, a pattern-roller, and I a steam-coil forming  
a drier.

In the example shown the ground-color  
roller C is plain; but, if desirable, it may be  
grooved to apply the ground-color in stripes;  
and in that case two or more such rollers may  
be used for producing stripes of different col-  
ors.

The web of oil-cloth is conducted through  
the machine in proper relation to the several  
parts, and is wound on a spindle, J, whence it  
receives a continuous motion.

Intermediate of the ground-color roller C  
and rubbing-in roller D, or at any other suit-  
able point, is arranged a wiper, K, which acts  
on the face of the traveling web, to remove any  
cotton or other fibers which may have ad-  
hered to such face by its contact with the back  
of the web, this wiper being a strip of flannel  
or other suitable material attached to a cross-  
piece, O, on the machine-frame. For present-  
ing the web to the wiper K it is conducted  
over rollers L N, one of which, together with  
a second roller, N', also serves to support the  
web under the rubbing-in roller D. The op-  
eration of the rubbing-in roller D is to exert  
a friction on the face of the web; and to this  
end it should be coated with emery or other  
similar substance, and geared to receive a rapid  
motion in an opposite direction to the move-  
ment of the web. It will be noticed that the  
wiper K also has a tendency to rub in the  
ground-color, and consequently it is a useful  
adjunct to the rubbing-in roller. After the  
web leaves the rubbing-in roller D it is ex-  
posed to the action of a spreader, O, whereby  
the ground-color upon the web is disposed in  
an even layer, this spreader being a cross-bar  
on the machine-frame, and the web being sup-  
ported under it by means of rollers O' O'.  
The web now passes under the top-color roller  
E, which is supplied with the desired color from  
a trough, P, by means of feed-rollers P', and  
which is constructed to apply the color in an  
irregular pattern, as in spots, or in a defined  
pattern, as in imitation of wood-graining.

If desirable, two or more top-color rollers  
may be used for applying different colors,  
which may be subsequently blended; and, if  
desirable, one of the color-feed rollers P' may



be mounted in adjustable bearings, to permit of regulating the amount of color thereby. The blending-brushes G G act on the web at a point next to the top-color roller E, and are arranged according to the nature of the ornamentation to be produced—as, for example, for blending different colors, these brushes should receive an oscillating motion in a horizontal plane, while for blending a graining color they should receive a rotary motion on a horizontal axis, which may be at a right angle to the course of the web, or at an oblique angle thereto. Said oscillating motion of the blending-brushes may be produced by connecting thereto cranks Q on the lower ends of vertical shafts Q', to which a revolving motion is imparted from horizontal shafts Q'', to which they are geared; and, to support the web under the blending-brushes, beds R are arranged opposite thereto in a downward direction, these beds being preferably made adjustable to permit of varying the pressure of the brushes. It is evident that one of the blending-brushes G G may be omitted.

The pattern-roller H is used for displacing the color or colors on the web, as in veins at a point next to the blending-brushes; or it may also apply a color to the web; and in some cases, as when the top-color roller E is used for printing a defined pattern, this pattern-roller may be omitted. Rollers U U serve to support the web under the pattern-roller. The web, having now been ornamented in the desired manner, passes over a roller, V, to the steam-coil I, which is arranged in a horizontal plane; and in order to dry the web on the edges uniformly with the body thereof, deflectors S (see Fig. 4) are arranged to overlap such edges, these deflectors being fixed to a bed, T, which supports the steam-coil. By the position of the steam-coil I the color or colors on the web are not liable to run into each other, as when the web is held vertically to dry.

I am aware that in coating paper with wax the latter has been applied by felt pads, which also act to rub the wax into the paper; also, that in ornamenting paper dry colors have been deposited on paper having a coat of adhesive substance, the dry colors being distributed by brushes, then blended by a revolving brush, and, finally, pressed upon the paper by pressure-rollers; but such, however, do not constitute my invention, and are not here claimed.

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

1. The process of decorating oil-cloth which consists in first applying the ground-color, then rubbing said color into the fabric, then applying the top color, then blending the surface color, and, finally, drying the colored web, all substantially as set forth.

2. In a machine for decorating oil-cloth, the combination of the trough B for containing

the ground-color, the rotating roller C for delivering the ground-color to the oil-cloth, and the revolving roller D for rubbing the ground-color into the oil-cloth, substantially as described.

3. In a machine for decorating oil-cloth, the combination of a trough, B, for containing the ground-color, the roller C for delivering the ground-color to the oil-cloth, the wiper K for removing foreign matter, and tending to rub in the ground-color, and the rotating roller D for rubbing in the ground-color, said wiper being arranged intermediate the roller for applying the ground-color, and the roller for rubbing in such color, substantially as described.

4. In a machine for decorating oil-cloth, the combination of a trough, B, for containing the ground-color, the roller C for delivering the ground-color to the oil-cloth, the revolving roller D for rubbing in the ground-color, the roller E for applying the top color, and the spreader O for spreading the ground-color prior to the application of the top color, substantially as described.

5. The combination, substantially as hereinbefore described, of the ground-color roller, the rubbing-in roller, and the top-color roller or rollers.

6. The combination, substantially as hereinbefore described, of the ground-color roller, the rubbing-in roller, and the pattern-roller.

7. The combination, substantially as hereinbefore described, of the ground-color roller, the rubbing-in roller, the top-color roller or rollers, and the pattern-roller.

8. The combination, substantially as hereinbefore described, of the ground-color roller, the rubbing-in roller, the top-color roller or rollers, and the blending-brushes.

9. The combination, substantially as hereinbefore described, of the ground-color roller, the rubbing-in roller, the top-color roller or rollers, the blending-brushes, and the pattern-roller.

10. The combination, substantially as hereinbefore described, with suitable coloring devices, of the steam-coil arranged in a horizontal plane to receive the cloth as it leaves the coloring devices.

11. The combination, substantially as hereinbefore described, with suitable coloring devices, of the steam-coil arranged in a horizontal plane, to receive the cloth as it leaves the coloring devices, and the deflectors arranged to overlap the edges of the cloth upon the coil.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ALEXANDER F. BUCHANAN. [L. S.]

Witnesses:

W. HAUFF,  
CHAS. WAHLERS.