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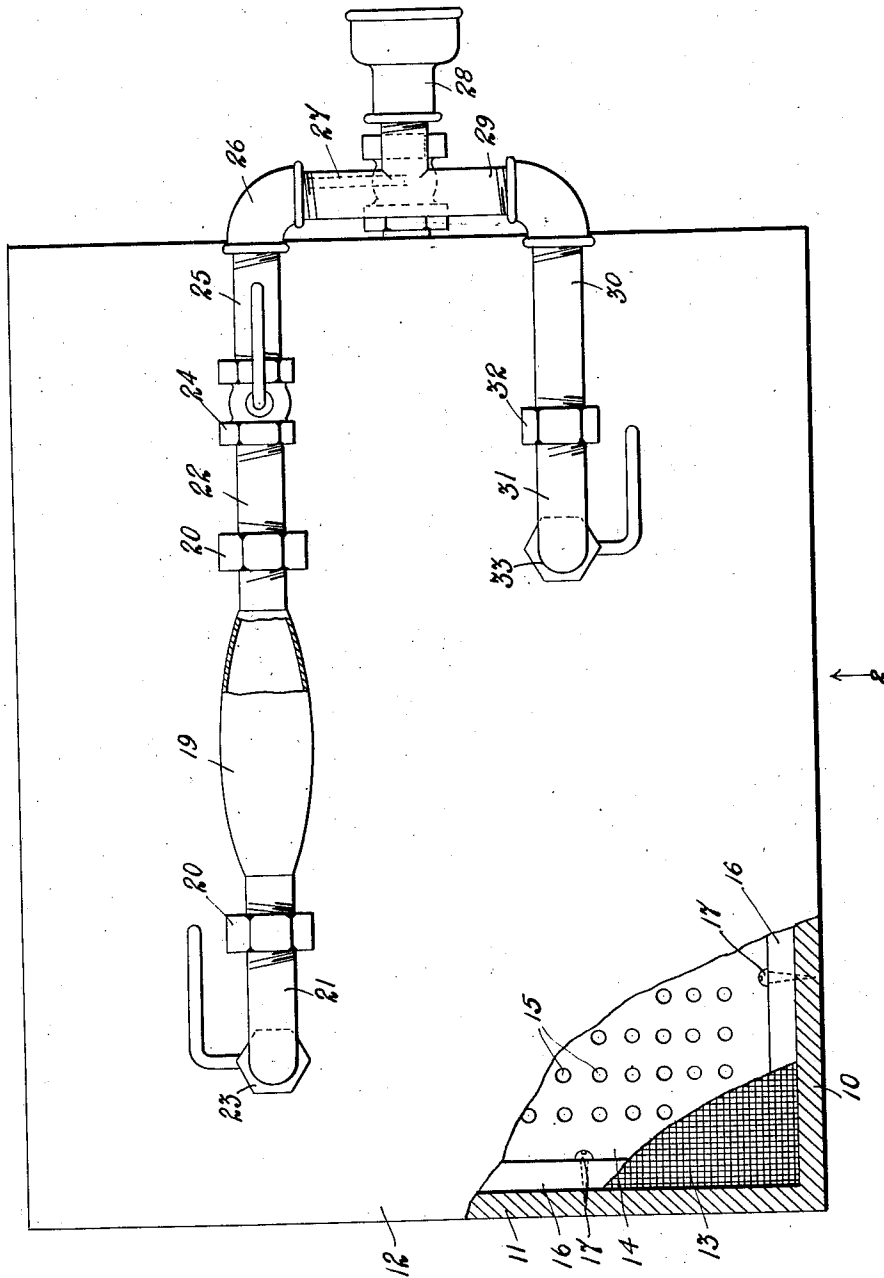
L. BERNARDO

1,894,530

MARKING MACHINE

Filed Nov. 24, 1931

2 Sheets-Sheet 1



WITNESS:

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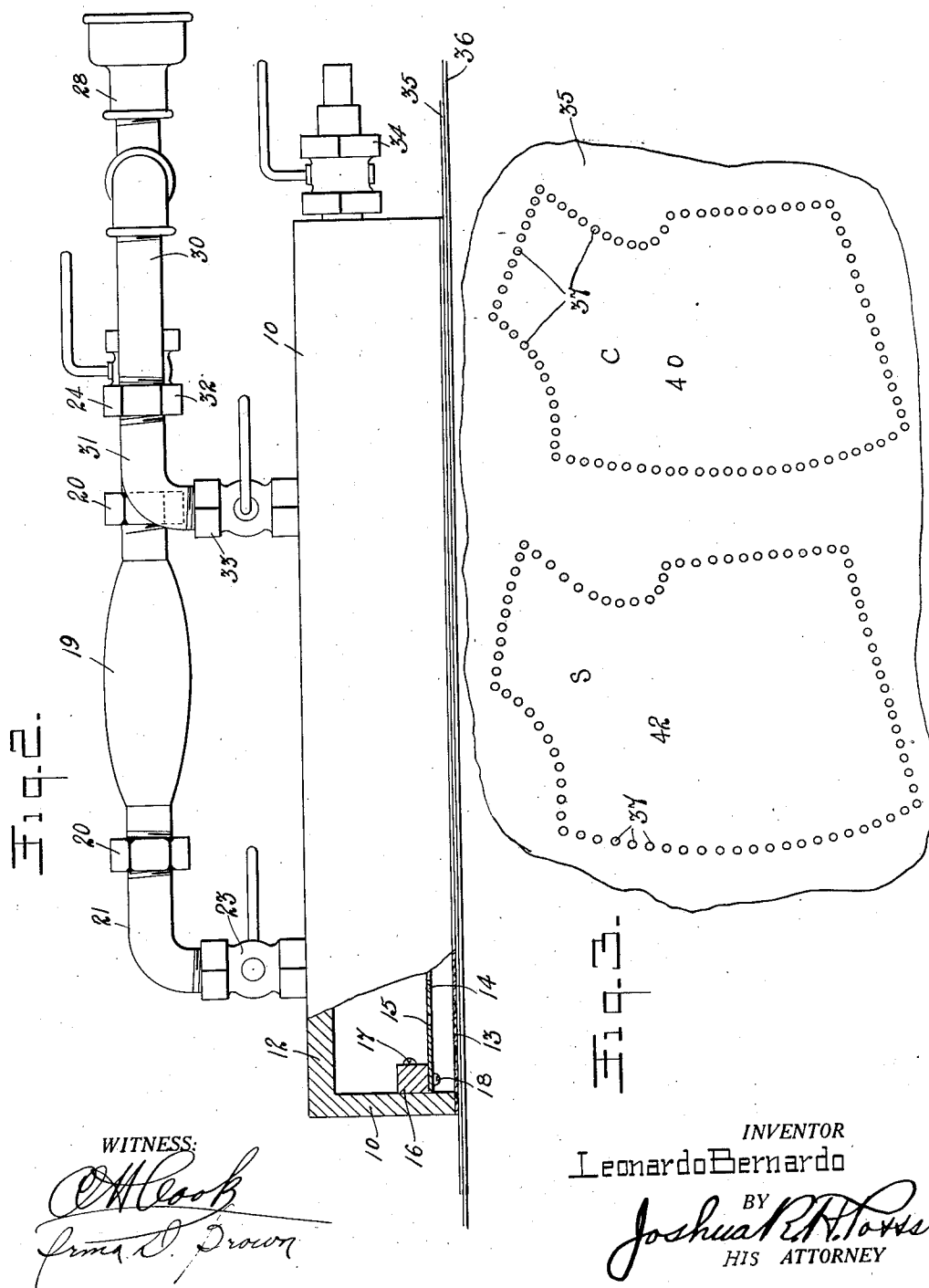
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UNITED STATES PATENT OFFICE

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MARKING MACHINE

Application filed November 24, 1931. Serial No. 576,967.

This invention relates to marking machines, and has for an object to provide a machine adapted to force powdered material through a perforated pattern onto an underlying fabric in an improved manner.

A further object of the invention is to provide a powdering machine, comprising a housing with a foraminous sheet of material, with means for injecting powdered marking material into the housing and maintain air pressure within the housing to force the powdered material through the foraminous sheet and through an underlying perforated pattern.

A further object of the invention is to provide a marking machine having a housing covered by a foraminous sheet, with a powder injecting organization connected with the housing, and a distributor within the housing, and means to maintain air pressure within the housing for the purpose of forcing the powdered material through the distributor, through the foraminous sheet, and through an underlying perforated pattern.

The invention therefore comprises a housing entirely closed by a foraminous sheet on one side, with a distributor disposed within the housing spaced from the foraminous sheet adapted to distribute powder over the surface of the sheet, a powder container in communication with the housing, means to introduce air under pressure into the powder container to discharge into the housing, and other means for maintaining auxiliary air pressure within the housing after the introduction of powder has been discontinued.

The drawings illustrate an embodiment of the invention, and the views therein are as follows:

Figure 1 is a top plan view of the device, parts being broken away to show interior construction,

Figure 2 is a view of the device in edge elevation, as indicated by arrow 2 at Figure 1, and

Figure 3 is a plan view of the type of perforated patterns with which the device is adapted to operate.

Like characters of reference indicate cor-

responding parts throughout the several views.

The improved marking machine, which forms the subject matter of this application, comprises a housing made up of side walls 10, end walls 11, and a top 12. These walls may be of any material and constructed in any approved manner. The side of the housing opposite the top is completed by a foraminous sheet 13. This foraminous sheet may be of any material of fine mesh, such for instance, as cloth fabric, wire fabric, perforated material, or the like. The only restriction relative to this foraminous sheet is that it shall be of fine mesh only sufficiently large to permit the powdered material to pass through under pressure, but to maintain it against passage except under pressure.

Within the housing, a distributor 14 is employed. Like the foraminous sheet 13, this distributor may be of any material, and the openings 15 therethrough of any size. Preferably, this distributor will be made of perforated sheet metal, but the invention is in no way limited to this material or manner of construction.

The distributor is maintained in position between the top 12 and the foraminous sheet 13 in any approved manner, and by the use of any approved construction. In the drawings, cleats 16 are shown secured to the side and end walls by means of screws 17, and the distributor is shown as secured to these cleats by means of fasteners 18. This is only a suggested construction, and the actual construction may be varied as circumstances may dictate.

To the top 12 is secured the air conduits and powder conduits. As shown in the drawings, a powder container 19 is provided with union connections 20 by which it is secured intermediate the nipples 21 and 22. The nipple 21 is connected with an air valve 23 which in turn is connected with the top 12. The nipple 22 is connected with the air valve 24 which in turn is connected by the nipple 25, elbow 26 and fitting 27, with the air inlet 28.

The air inlet 28 is provided with a by-pass comprising the nipple 29 and fitting 30

which are connected with an elbow 31, preferably by means of a union 32. The nipple 31 is connected with an air valve 33 which communicates with the interior of the housing through the top 12.

A bleeder or relief air valve 34 is provided in communication with the housing.

The powder container 19 is merely a hollow shell, and in the type shown in the drawings, it will be filled with powder by disconnecting the unions 20, removing it bodily from its relative position, filling with powder, and returning. Of course, it is to be understood that while this is a feasible, and at present considered a desirable arrangement, any type of powder container connected into the airline in any manner, is within the scope of the invention.

The device is intended to operate with perforated patterns, such as shown at Figure 3. These patterns comprise a sheet of material 35 which in operation, is laid upon a sheet of fabric 36 which is to be marked. The patterns contain perforated outlines 37, which outlines are completely covered by the housing when in operation.

The operation of the device is, therefore, as follows: The fabric 36 is laid smoothly upon some supporting surface, as for instance, a cutting table, and the perforated pattern sheet 35 then laid upon the cloth in such arrangement as is found economical. In practice, of course, these perforated patterns will be arranged in sets, skillfully disposed to accomplish the greatest amount of economy in cutting so that the cutter will waste no time in arranging patterns. The pattern being laid upon the fabric, the housing is set upon the pattern to cover the perforated portions thereof.

In the case of large patterns, a plurality of the housings may be employed in a battery, and all connected to the same airline. The airline will, of course, connect with the air fitting 28 and is from any source not shown. The powder container 19 being supplied with powder, and in position, the air valves 23 and 24 are opened, permitting the air under pressure to pass through the powder container into the housing upon the distributor 15 which, by reason of its perforations, will distribute the powder uniformly over the foraminous sheet 13. When by experience the operator has concluded that sufficient powder has been introduced, the valves 23 or 24, or both, may be closed, and the air valve 33 opened to continue the pressure of the air within the housing which will force the powder now upon the foraminous sheet, through this foraminous sheet, and through the perforated patterns onto the fabric, forcing it well into the fibre of the fabric by reason of the force of air, thereby making a marking upon the fabric which is more re-

sistant to handling than a marking merely upon the surface. The relief valve 34 is employed to prevent undue air pressure within the housing, and may be employed as experience may dictate.

Of course, the marking machine, herein illustrated, may be modified and changed in various ways without departing from the invention herein described and hereinafter claimed.

The invention is hereby claimed as follows:

1. A marking machine comprising a housing having a foraminous contact wall, a conduit to introduce marking powder into the housing, means to distribute the powder over the foraminous wall, and means to maintain air pressure within the housing upon the powder.

2. A marking machine comprising a housing having a foraminous wall, a distributor interposed between the foraminous wall and the adjacent wall of the housing, a powder container, a conduit forming communication from the powder container to the housing, an air inlet to the powder container, and a by-pass air inlet to the housing.

3. A marking machine comprising a housing having a foraminous wall, a distributor spaced away from the foraminous wall, a powder container, a conduit leading from the powder container to the housing, an air line communicating with the powder container, a by-pass from the air line to the housing, and manual valves located in the air line.

4. A marking machine comprising a housing having a foraminous wall, a perforated distributor spaced away from the foraminous wall, a powder container, a conduit from the powder container to the housing communicating therewith at the side of the distributor opposite the foraminous wall, an air line communicating with the powder container, and an air by-pass communicating directly with the housing.

5. A marking machine comprising a housing having a foraminous wall, a perforated distributor spaced away from the foraminous wall, a powder container, a conduit leading from the powder container into the housing and communicating therewith at the side of the distributor opposite the foraminous sheet, an air line communicating with the powder container in opposition to the conduit, an air by-pass communicating directly with the housing, and manual valves located in the air line.

6. A marking machine comprising a housing having a foraminous contact sheet, a conduit to introduce powder into the housing, and means to force the powder through the foraminous sheet.

In testimony whereof I have signed my name to this specification.

LEONARDO BERNARDO,