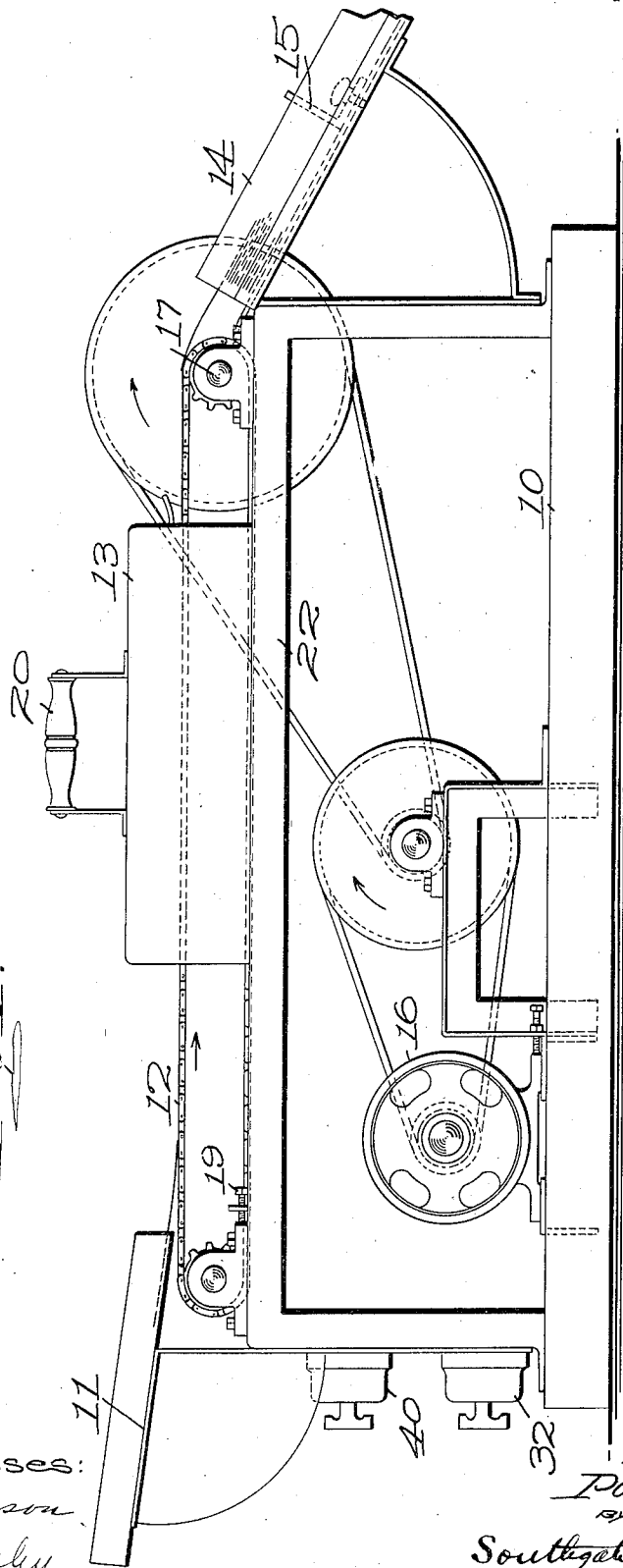


P. NATHAN.  
MACHINE FOR EMBOSsing WITHOUT DIES.  
APPLICATION FILED OCT. 10, 1914.

1,276,253.

Patented Aug. 20, 1918.  
2 SHEETS—SHEET 1.

*Fig. 1.*



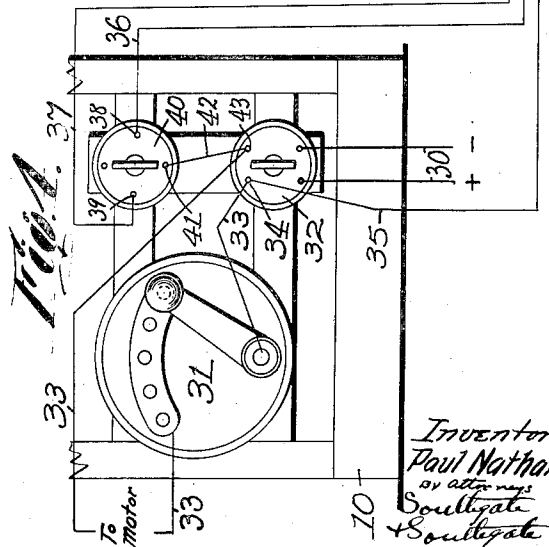
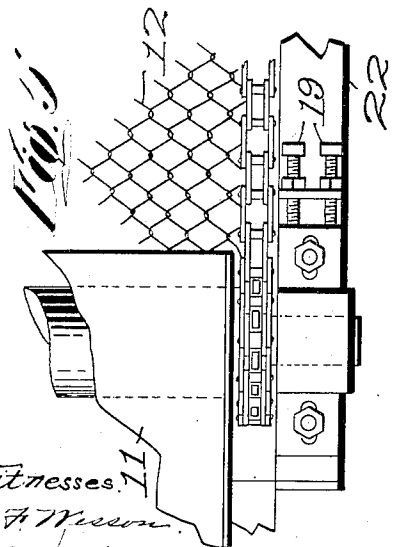
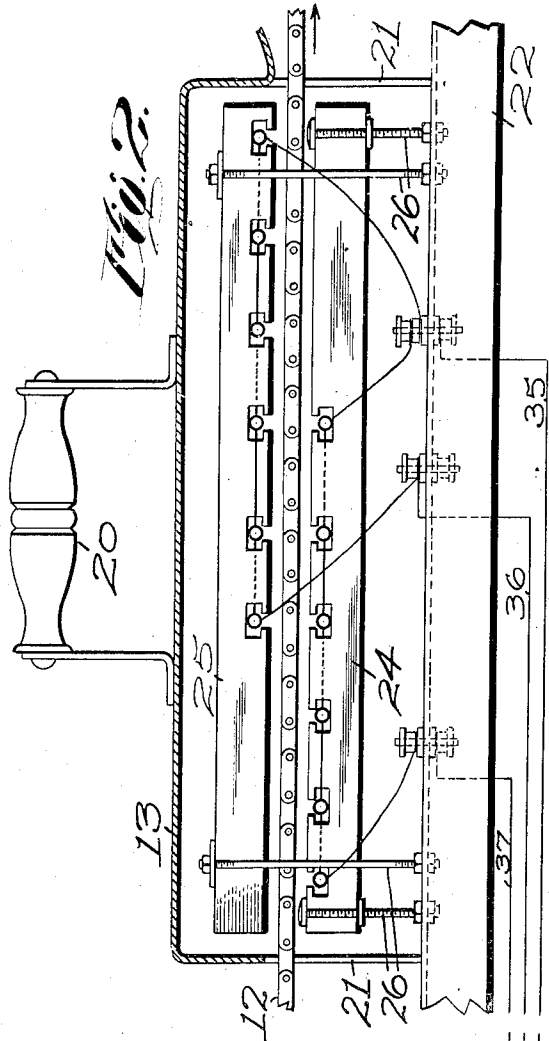
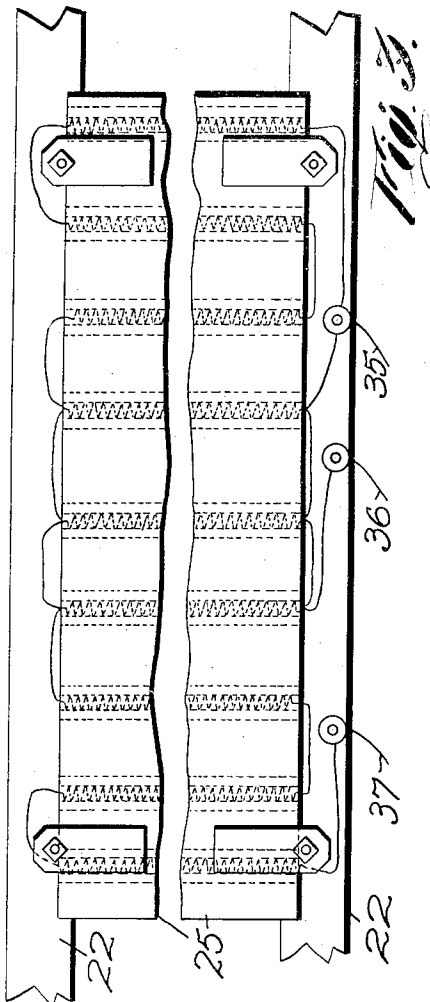
Witnesses:  
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 2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

PAUL NATHAN, OF NEW YORK, N. Y., ASSIGNOR TO WOOD, NATHAN & VIRKUS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

MACHINE FOR EMBOSSING WITHOUT DIES.

1,276,253.

Specification of Letters Patent. Patented Aug. 20, 1918.

Application filed October 10, 1914. Serial No. 866,172.

*To all whom it may concern:*

Be it known that I, PAUL NATHAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Machine for Embossing Without Dies, of which the following is a specification.

This invention relates to a machine designed for the same purpose as the machine set forth in the application of Frederick A. Virkus, machine for and method of embossing without dies, filed January 19, 1914, Serial No. 812,964, but the present machine is not arranged to perform all the functions of the Virkus machine.

The principal objects of this invention are to provide a small and comparatively inexpensive machine for melting and drying the powdered embossing material on sheets or cards which are fed to it by hand with the powdered material thereon; to regulate the heat and the time during which it is applied in such a way that either a glazed or a dead finish can be secured with accuracy and uniformity; and to provide several improvements in details of construction as will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a side elevation of a machine constructed in accordance with this invention;

Fig. 2 is a longitudinal sectional view of the heating oven showing the conveyers in elevation;

Fig. 3 is a plan of the electric heating oven with the cover removed;

Fig. 4 is an elevation of the switches showing electrical connections; and

Fig. 5 is a plan showing certain details of construction.

The machine is shown as comprising a main base 10 supporting side frames 22 provided with a sheet guide 11 on which the sheets or cards, previously supplied with the powdered material, are placed. They are deposited one at a time partly on this guide and partly on the endless chain conveyer or belt 12. As the sheet guide has raised sides the sheets or cards can be placed up against

them in such a position that they will be taken up by the conveyer or belt in the proper location thereon and consequently there is no need of any guiding device along the edge of the belt. The endless chain or belt carries the cards or sheets through the oven, which is provided with a cover 13, and drops them into a delivery box 14. This has an adjustable stop 15 to accommodate the different sizes of the paper or cardboard that are to be treated. From this the sheets are removed by hand preferably.

At a convenient point, preferably below the conveyer, is shown the electric motor 16. For operating the conveyer, belting is provided to drive the shaft 17 from the motor. It will be understood that the sizes of the pulleys can be varied for regulating the speed of the conveyer through the oven. The conveyer itself is provided with adjusting screws 19 so that its tautness can be regulated.

It will be noted that the cover 13 of the oven is provided with a handle 20 by which it can be removed and it is provided with openings 21 at its ends for receiving the belt. The lower strand of the belt passes between the frames 22 on which the cover rests. It will be seen therefore that this cover can be lifted off easily for the purpose of inspecting the oven proper or adjusting the parts.

The oven itself is composed of two electrically heated grids 24 and 25, one above the upper strand of the belt, and the other below it. In order that the intensity of heat applied to the powdered material may be varied to any desired degree of nicety, the grids are supported by screws 26 which are provided with adjusting and lock nuts so that the grids can be raised or lowered to bring them to any desired distance from the paper being fed through. In this way also, the greatest heat can be applied, either on the top or bottom of the sheet as may be found necessary in order to get the kind of finish desired. These grids may be made in any way usual in the manufacture of electrical ovens and other devices.

For the purpose of regulating the heat

electrically and also preventing the heat being left on when the machine stops, the following electrical connections are provided. The current is led from a lamp socket or  
 5 other source of power through a pair of mains 30 through a rheostat 31 which is of any ordinary construction and which will control the speed of the motor in a well known way.

10 Connected with this is a double pole switch 32 called the motor switch. The two mains are connected with two of the terminals of this switch and two wires 33 lead from it to the motor 16. The switch can  
 15 be turned on or off in the usual way so as to connect the motor with the mains or disconnect it therefrom. From one of the binding posts 34 of the motor switch to which one of the wires 33 is connected a wire 35 extends to one end of both of the grids. The other  
 20 ends of the two grids are connected separately by two wires 36 and 37 with binding posts 38 and 39 of the heater switch 40. A third binding post 41 on this switch is provided with a wire 42 which is connected with  
 25 another binding post 43 of the motor switch, this being the binding post to which one of the wires 33 is connected. The heating switch can be turned to four positions. In one of these it connects the binding posts 38 and  
 30 41 and thus allows the current to flow through the upper grid. When in another position it connects the binding posts 39 and 41 and thus allows the current to flow  
 35 only through the lower grid. In a third position it connects both the binding posts 38 and 39 in parallel relation with each other to the binding post 41 and thus allows the current to flow through both grids. In the  
 40 fourth position it disconnects both the binding posts 38 and 39 from the binding post 41 and thus cuts off all connection through the grids. It will be noticed, however, that in any event no current can flow through either  
 45 of the grids unless the motor switch is on and the motor is running. Consequently no matter how the heating switch is connected the turning off of the motor switch will also turn off the current through the oven.

50 It will be seen, therefore, that with this construction the cards can be heated either from the top or from the bottom, or both, as conditions may require and that the grids may be set at any desired distance from the  
 55 work so as to secure any degree of adjustment of the heating effect. Moreover by means of the rheostat and changes in the ratio of transmission from the motor to the belt the speed of the belt can be regulated  
 60 at will. At the same time the machine is of a simple and inexpensive construction and is particularly suitable for use in places where the amount of work is not too great to render hand feeding inadmissible.

Although I have illustrated and described 65 only a single form of the invention, I am aware of the fact that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. 70 Therefore I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. In a machine for embossing sheets, the combination with an endless conveyer, of a  
 75 sheet guide in a position to receive each sheet partly thereon and partly on the conveyer so that the conveyer will take the sheet from the sheet guide, said sheet guide having a side wall for guiding the sheets laterally as they pass to the conveyer, and an  
 80 oven through which the conveyer passes.

2. In a machine of the character described, the combination of a conveyer for carrying the sheets, and an oven located  
 85 adjacent to the conveyer, said oven comprising heating means above and below the conveyer and a hood adapted to be set down over the same and removable therefrom.

3. In a machine of the character described, 90 the combination of a table, a conveyer above it for carrying the sheets, and an oven located on the table and comprising heating means above and below the conveyer and a hood adapted to be set down over the same  
 95 on the table and removable therefrom by a direct upward motion.

4. In a machine of the character described, the combination with a conveyer for receiving and conveying sheets, a heating  
 100 device comprising a heating grid located adjacent to the surface of the conveyer, and a hood having openings in its ends extending from the bottom to a position above the conveyer and having a handle by which it  
 105 can be removed from the conveyer by an upward movement.

5. In a machine of the character described, the combination of a conveyer, an electric motor for operating the conveyer, a  
 110 heating grid parallel with the surface of the conveyer, a circuit whereby a current is supplied to the motor, and means connected with a part of said motor circuit for supplying current to the grid, whereby when the  
 115 motor is shut off the current will also be shut off from said grid.

6. In a machine of the character described, the combination of a conveyer, an electric motor for operating the same, a pair  
 120 of heating grids, one above and the other below the conveyer, means for conducting current to the motor, means for conducting current to said heating grids, and means whereby the current can be conducted through  
 125 either heating grid or both.

7. In a machine of the character described, the combination of a table, a con-

veyer above it for carrying the sheets, an  
oven located on the table, and a hood  
adapted to be set down on the table over the  
oven and removable therefrom by a direct  
5 upward motion.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing  
witnesses.

PAUL NATHAN.

Witnesses:

F. A. VIRKUS,  
MIRIAM MORRIS.