

H. F. LEWIS.  
 PROCESS OF LAYING SHEET GLASS.  
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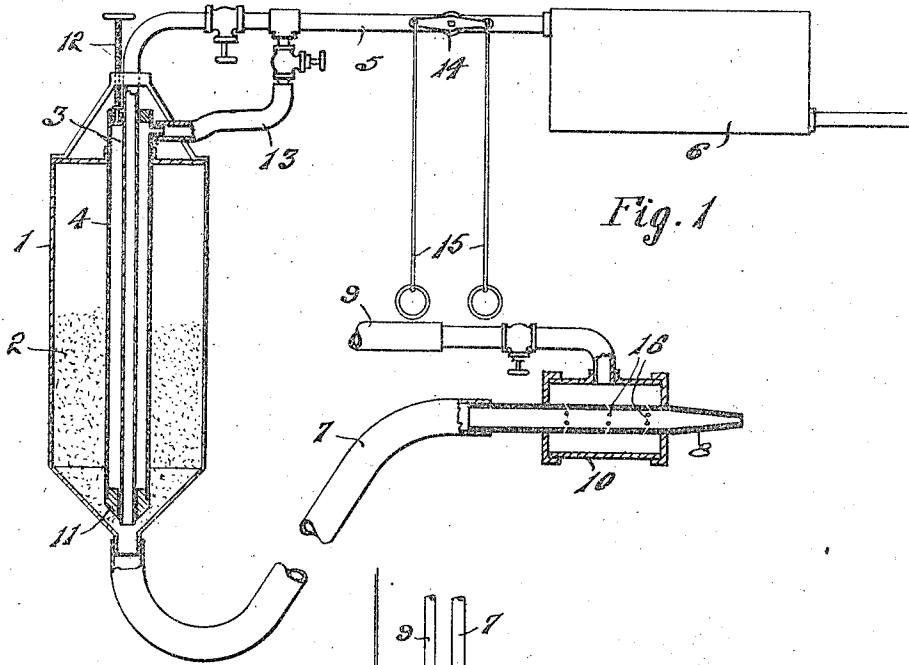


Fig. 1

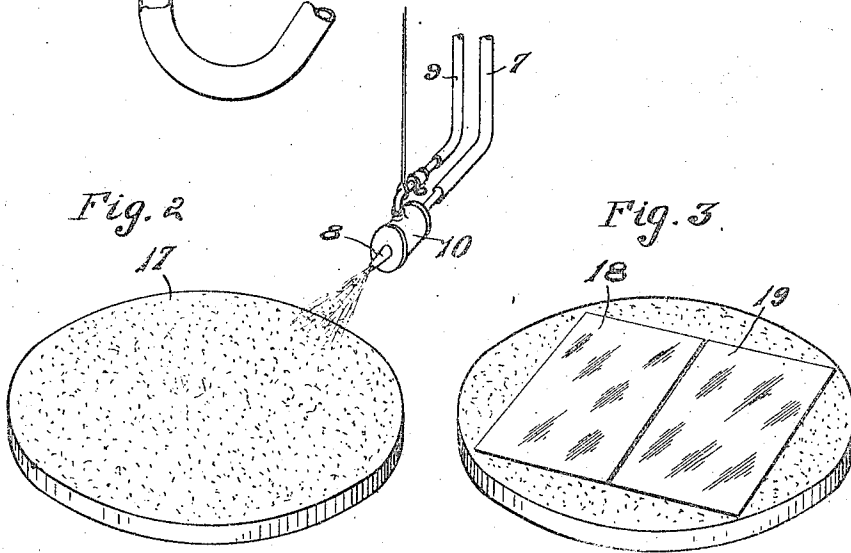


Fig. 2

Fig. 3

WITNESS:

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# UNITED STATES PATENT OFFICE.

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## PROCESS OF LAYING SHEET-GLASS.

1,194,520.

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*To all whom it may concern:*

Be it known that I, HARRY F. LEWIS, a citizen of the United States, residing at Ford City, Armstrong county, and State of Pennsylvania, have invented a certain new and useful Process of Laying Sheet-Glass, of which the following is a specification.

The invention relates to a process for laying sheet glass upon the grinding and polishing tables and securing it thereto by means of plaster of Paris or similar material capable of being hydrated and setting rapidly. It has for its primary objects; the provision of an improved process having the following advantages as compared with the process now in use; (1) a saving of time in the application of the plaster, (2) a saving in the amount of plaster, (3) increased strength in the holding layer of plaster, (4) a saving in the labor required in applying the plaster, and (5) a more uniform distribution of the plaster. The process is illustrated in the accompanying drawings wherein:—

Figure 1 is a side elevation of the apparatus employed with certain parts in section; Fig. 2 is a perspective view showing the application of the hydrated plaster of Paris to the grinding table to which the glass is to be applied; and Fig. 3 is a perspective view showing the glass applied to the table.

Plate glass is secured upon the grinding and polishing tables by means of plaster of Paris. Heretofore it has been customary to mix the plaster of Paris with water and apply it by means of buckets to the surface of the table, the plaster being spread as uniformly as possible over the surface of the table and the glass then pressed into position in the layer of plaster. There are certain well known disadvantages incident to this process of laying glass. Considerable time is consumed in getting the plaster on the table and properly smoothed before the glass is applied, and in this period a certain set is imparted to the plaster and as a result the bond between the glass and the table is not as secure as if the glass were applied before the initial set of the plaster. It is also difficult to spread the plaster in a layer of uniform thickness, and as a result it often happens that parts of the surface of the glass are higher than others, so that in the grinding operation the sheet is unduly thin at some parts. The high parts of the glass sheets are usually the central portions, as

there is more resistance of the plaster against lateral movement at these points when pressure is applied to the surface of the glass to press it into position and squeeze out the surplus plaster from between the table and the glass. As the application is not uniform and the layer must be of sufficient thickness at all points, an excess of plaster must be used, and this excess is lost or wasted when the sheet is pressed into position. There is also an additional loss of plaster incident to the mixing in the buckets and to the handling.

It is the purpose of my invention to provide a process which is free from the foregoing objections, and to that end I provide a means whereby the powdered plaster of Paris is projected in a stream, and hydrated during its passage through the air so that the mixed plaster of Paris and water is sprayed upon the table to form a layer of any desired thickness.

The apparatus which I preferably employ in carrying out this process is illustrated in Fig. 1, wherein 1 is a container for the powdered plaster of Paris 2; 3 and 4 are pipes supplied with air under pressure from the pipe 5 leading from a source of compressed air 6; 7 is a flexible tube leading to the nozzle 8; and 9 is a flexible water supply pipe leading to the casing 10.

The lower end of the pipe 3 is guided in the block 11 secured to the pipe 4, and the pipe 4 is adjustable back and forth in the casing by means of the screw 12 so that the space between the block 11 and the inclined bottom of the casing 1 can be varied to adjust the feed of the plaster of Paris. The connection 13 is flexible to permit this movement, and the pipe 4 is perforated throughout its length to permit the air to pass through the plaster of Paris and feed it forward. A valve 14 in the air pipe governed by the connections 15, permits of the regulation of the air supply. It will be seen that this arrangement provides for the projection under pressure of a mixture of plaster of Paris and air through the pipe 7 and the nozzle 8. The nozzle 8 is provided with a series of forwardly projecting openings 16 by means of which water is admitted to the nozzle from the casing 10.

In operation, the nozzle is used to spray the mixed plaster and water upon the surface of the table 17 as indicated in Fig. 2, the method of application corresponding 110

to that in painting with an air brush. The material is sprayed over the area to which the sheet of glass is to be applied until a layer of the desired thickness is provided, 5 after which the sheet of glass is applied and pressed into position. In case another sheet is to be applied to the same table, the process is repeated, the sheets 18 and 19 as applied to the table being illustrated in 10 Fig. 3.

I have found that by the use of this method, the plaster of Paris can be applied in a fraction of the time required by the old process, and that it can be applied in 15 a layer of uniform thickness, thus securing a saving in time and in plaster. Since the plaster can be applied uniformly there is little excess plaster to be squeezed out and the upper surface of the glass is more level 20 than was the case with the old process. I also find that the bond between the plaster and the glass is much stronger than with the old process and this, I believe, is due to the fact that the period of time between the 25 mixture of the plaster and water and the application of the glass is much less than with the old process, so that there is a

smaller loss of strength due to the initial set occurring before the glass is in position. The mixing of the plaster and water is also 30 more thorough since there is no opportunity for the materials to become unmixed as is the case where the mixing is done in buckets, and as a result the mixture is more uniform with my process and the strength of 35 the plaster is greater. A further saving of time with the new process occurs in the operation of pressing the glass down into the plaster since the layer of plaster is more uniform than with the old process and com- 40 paratively little effort is necessary to tramp the glass down so that its upper surface is level. Other advantages incident to the process will be apparent to those skilled in 45 the art.

What I claim is:

The process of laying sheet glass upon a table which consists in projecting powdered plaster of Paris in a stream, hydrating the said stream as it moves forward, directing 50 the said stream upon the table to form a bed of uniform thickness, and then applying a glass sheet upon the said bed.

HARRY F. LEWIS.