

W. DULLES.
MACHINE FOR ROLLING SHEET GLASS.
APPLICATION FILED JAN. 12, 1910.

1,003,093.

Patented Sept. 12, 1911.

2 SHEETS-SHEET 1.

FIG. 1.

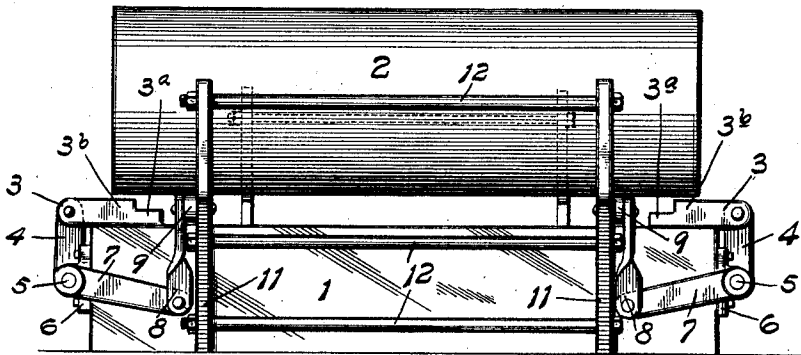


FIG. 2.

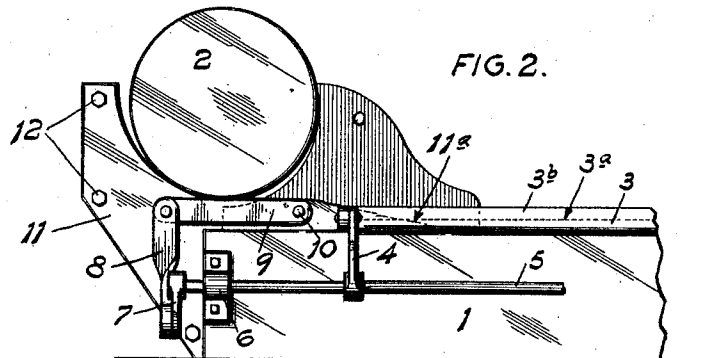
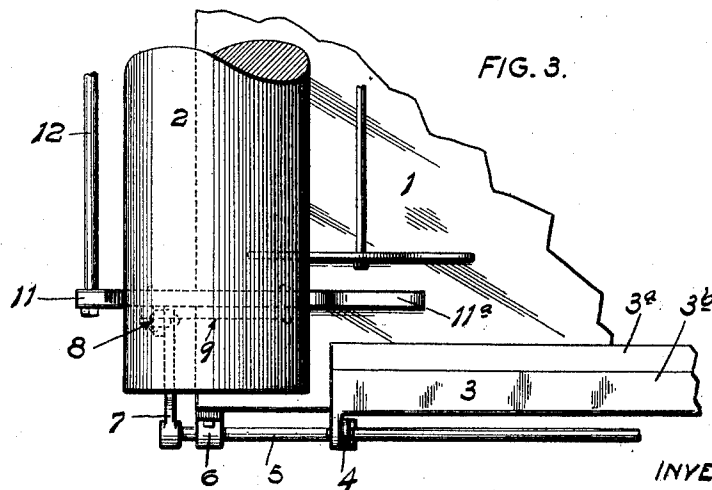


FIG. 3.



WITNESSES

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2 SHEETS—SHEET 2.

FIG. 4.

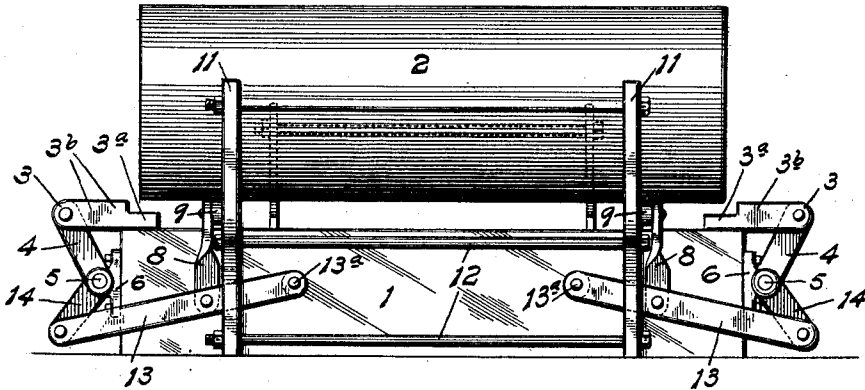


FIG. 5.

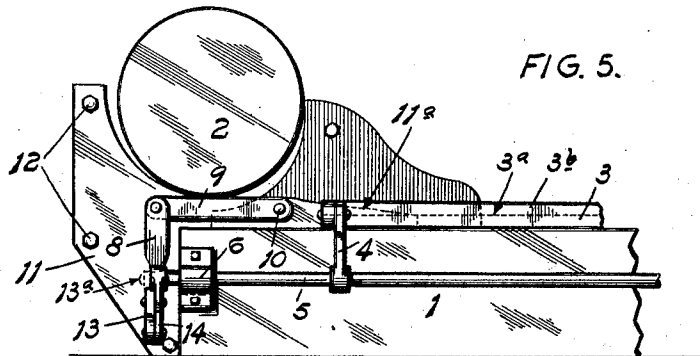


FIG. 6.

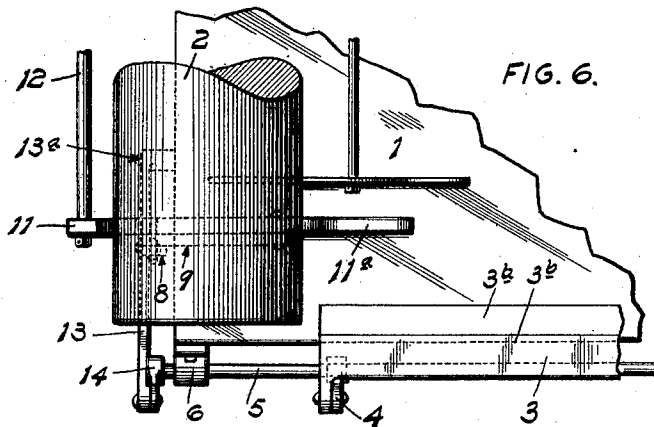
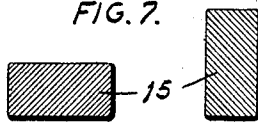


FIG. 7.



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MACHINE FOR ROLLING SHEET-GLASS.

1,003,093.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed January 12, 1910. Serial No. 537,760.

To all whom it may concern:

Be it known that I, WILLIAM DULLES, a citizen of the United States, residing at New York city, New York, have invented a certain new and useful Improvement in Machines for Rolling Sheet-Glass, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of one end of my glass rolling table. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan view of the same. Fig. 4 is an end elevation view of the opposite end of said table. Fig. 5 is a side elevation of the same. Fig. 6 is a top plan view of the same, and Fig. 7 is a detail view of a modified form of trang.

This invention relates to a new and useful improvement in machines for rolling sheet glass and particularly to that part of the machine known as the trangs.

My invention consists in means for shifting or moving the trangs so as to position a trang of the proper thickness, depending upon the distance the roller is to be located above the table.

Another object is to provide means whereby the trang may be automatically shifted so that the roller will roll thin and thick glass alternately, said means being operable by the roller when it approaches or reaches the end of the table.

My invention is particularly useful in rolling wire glass wherein a single thickness of glass is first rolled, then wire mesh arranged thereon, and by the reversed movement of the roller a second layer or thickness spread over the first thickness. This is commonly known as the sandwich method. According to my present invention, in connection with the manufacture of wire glass, the roller will roll the first thin layer of glass and as it approaches the end of the table, after rolling said first layer, the trang shifting means will be operated either by hand, if desired, or preferably automatically by the weight of the roller, so as to shift the trang or move another trang in position so that when the roller again traverses the table to roll the second layer or thickness of glass, said roller riding upon a thicker trang, will be located at such distance above the table as to properly spread

the second or finishing layer of glass over the first layer and the interposed wire mesh. As the roller approaches the end of the table from which it started, it is preferably made to automatically shift the trangs so as to bring the thinner trang into coöperative relation with the roller for the rolling of the first thin layer of glass of the next sheet.

Roller-supporting plates having inclined ends are arranged upon the ends of the table so as to elevate the roller above the thick trang or permit its descent to the thin trang without shock or jar. While I have shown two different positions of the trang, it is obvious that a trang of three thicknesses could be used to arrange the roller at three different positions above the table. That is, for instance, where a thinner finishing layer of glass is spread upon the completed sheet.

In the drawings, 1 indicates the table and 2 the roller.

3 is the trang which is composed of a thin part 3^a and a thick part 3^b. There is a trang located at each side of the table but as the mechanism coöperating with the same is identical I will describe but one trang. Trang 3 is connected by means of rock arms 4 to a rock shaft 5 mounted in suitable bearings 6 arranged on the side edges of the table. On one end of rock shaft 5 is a rock arm 7 connected by a twisted link 8 to a lever 9 whose opposite end is pivoted at 10 to an elevating frame 11. This frame 11 is connected to the table in any suitable manner and to its companion by means of tie bolts. The inner edges of the frame are provided with inclines 11^a whereby as the roller leaves the thin trang 3^a it will be elevated above the thick trang 3^b, the continued onward movement of the roller depressing the lever 9 and through the mechanism described moving the trang inwardly so as to bring the thick trang 3^b in the path of the roller for coöperative relation therewith. When the roller again traverses the table, it will ride upon the thick trang 3^b.

Assuming that in the first movement the roller riding upon the thin trang 3^a has spread a thin layer of glass upon the table, it is manifest that if wire mesh is arranged upon said thin layer and another pour of glass dumped in front of the roller, that its return movement, upon the thick trang 3^b will spread the second pour into the form of a layer over the wire mesh, thus forming

a complete sheet of wire glass by the so-called sandwich method. As the roller approaches the end of the table whence it started, it will ride upon its supporting frame 11 similar to the manner just described to cooperate with a lever 9 to which is connected a link 8 in all respects like the corresponding parts before described. At this end of the table, however, as shown in Figs. 4, 5 and 6, link 8, instead of being connected to a rock arm 7 rigidly secured to the rock shaft 5, is connected to a lever 13 pivoted at 13^a to the end of the table and connected at its upper end to a rock arm 14 fixed to the shaft 5. By this construction the weight of the roller upon the lever 9 will operate through the parts just described to move the trang outwardly so as to bring the thin portion 3^a thereof in cooperative relation with the roller 2. Hence when another pour of glass is dumped in front of the roller the roller riding upon the thin trang will spread a thin layer upon the table in readiness for the wire mesh in the second layer, as heretofore described.

In Fig. 7 I have shown a trang 15 of the form of a rectangular bar which may or may not have rounded corners. This bar may be laid flat for the first layer of glass, as shown at the left of said figure and be set on edge for the second layer as shown at the right of said figure. The bar may be mounted to rotate in suitable bearings at its ends and to be operated by rack and pinion mechanism from the rock shaft 5 in a manner which is well known.

The bar is sufficiently flexible to be deflected by the weight of the roller so as to rest solid upon the table in both of its positions.

I am aware that minor changes in the construction, arrangement and combination of parts can be made and substituted for those herein shown and described, without in the least departing from the nature and spirit of my invention.

What I claim is:

1. In a machine of the character described, the combination of a table, a roller, a trang formed with varying thicknesses, and means operated by the roller for moving the trang to present different thicknesses to the roller.

2. In a machine of the character described, the combination of a table, a roller and means for elevating the roller at the ends of the table, said elevating means cooperating with trang shifting mechanism.

3. In a machine of the character described, the combination of a table, a roller, means at the end of the table for elevating the roller, and trang shifting mechanism which is operated by the roller in its elevated position.

4. In a machine of the character described, the combination of a table, a roller, means

at each end of the table for elevating the roller above the trang, a trang having different thicknesses and means at one end of the table for shifting the trang when the roller is elevated so as to bring the thick portion of the trang in operative relation with respect to said roller, and means at the opposite end of the table for shifting the trang so as to bring the thin portion of the trang in operative position with respect to the roller.

5. In a machine of the character described, the combination of a table, a trang having a thin part and a thick part, a roller, roller-supporting means at the end of the table, and means operated by the roller for shifting the trang to present the thick part under the roller when said roller is on said supporting means.

6. In a machine of the character described, the combination of a table, a trang having a thin part and a thick part, a roller, roller-supporting means at the end of the table, and means operated by the roller for shifting the trang to present the thin part under the roller when said roller is on said supporting means.

7. In a machine of the character described, the combination of a table, a roller, a trang, a rock shaft connected to said trang, roller-supporting means at the end of the table, and means operated by said roller when on said supporting means for rocking said shaft and moving said trang.

8. In a machine of the character described, the combination of a table, a roller, a trang having a thin part and a thick part, a rock shaft connected to said trang at each end, roller-supporting means at each end of the table, and devices operable by the weight of the roller to rock said shaft first in one direction and then in the other as said roller is supported by said supporting means at the opposite end of the table.

9. In combination, a trang having different thicknesses at its inner and outer portions, and means for adjusting said trang in a direction lengthwise of a roller whereby said roller may be raised or lowered.

10. In a machine of the character described, the combination of a table, two oppositely arranged trangs on the table, each trang having varying thicknesses at their inner and outer portions respectively, and means for adjusting said trangs toward and from each other.

11. In a machine of the character described, the combination of a table, trangs arranged on opposite sides of the table, each trang having a thick outer portion and thin inner portion, and means for moving said trangs toward and from each other in order to present different portions thereof to a roller.

12. In a machine of the character de-

scribed, the combination of a table, trangs
arranged on opposite sides of the table, each
trang having a thick outer portion and thin
inner portion, and means for simultaneously
moving said trangs toward and from each
other in order to present different portions
thereof to a roller.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses,
this 29th day of December, 1909.

WILLIAM DULLES.

Witnesses:

G. FREED,

A. MYERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."