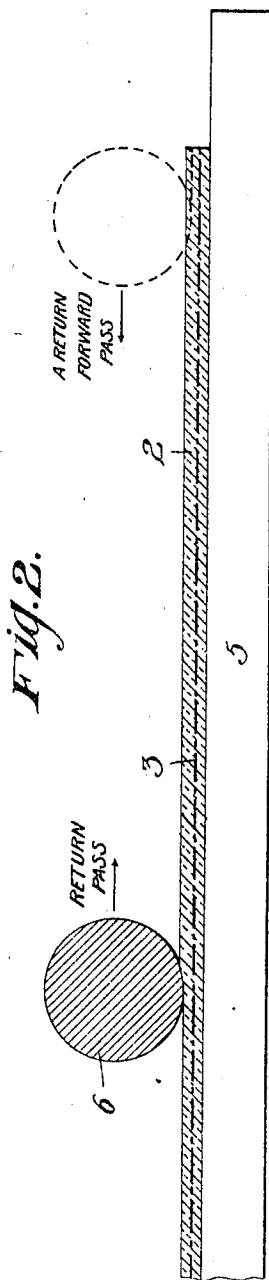
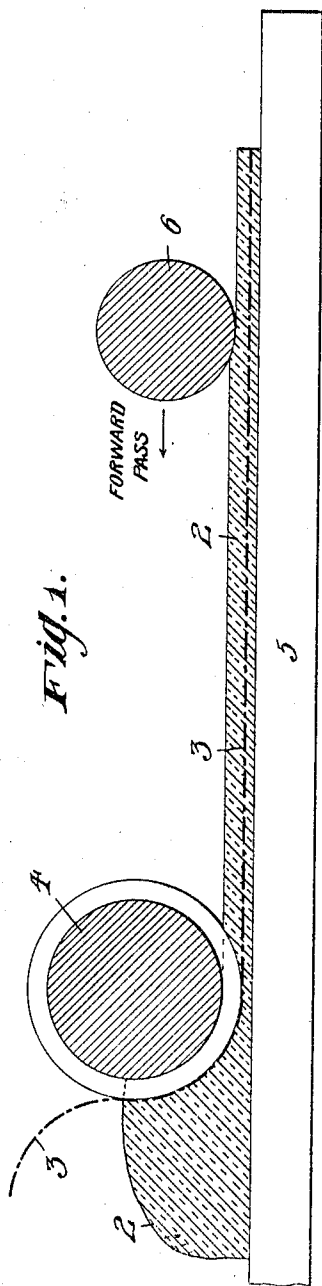


W. BUTTLER.
METHOD OF MANUFACTURING WIRE GLASS.
APPLICATION FILED FEB. 16, 1909.

980,063.

Patented Dec. 27, 1910.



witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM BUTTLER, OF INDIANAPOLIS, INDIANA.

METHOD OF MANUFACTURING WIRE-GLASS.

980,063.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed February 16, 1909. Serial No. 478,273

To all whom it may concern:

Be it known that I, WILLIAM BUTTLER, of Indianapolis, in the county of Marion and State of Indiana, have invented a certain new and useful Improvement in Methods of Manufacturing Wire-Glass, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 illustrates a vertical section through apparatus which may be used in carrying out my improved method, indicating the rollers as on their forward travel; and Fig. 2 is a similar view showing the finishing roller as being returned after a forward pass over the sheet.

My invention relates to method of manufacturing sheet glass having a reinforcing wire net-work or trellis embedded therein, and which is commonly known as "wire glass," the various uses to which it is adapted being too numerous and well known to be here set forth.

The object of my invention is to overcome that dull and wavy surface which characterizes that form of wire-glass as is manufactured by that method wherein the wire net-work or trellis is forced downwardly into the molten glass by means of a "leading" roller having a series of circumferential flanges which, as the sheet of glass is being rolled, serve to embed the metallic network in the sheet, while a second plain-faced roller adapted to travel in the rear of the leading roller, serves to flatten the sheet to its ultimate thickness. This irregular surface imparted to the glass sheet is attributable to the failure of the finishing roller to work the molten glass back into the grooves formed by the ribs or flanges of the leading roller.

My invention consists in breaking down a molten mass of glass and embedding a metallic net-work or trellis in the sheet at a predetermined distance from the surface thereof by means of a flanged roller in the usual manner—the molten mass of glass, the metallic reinforcing element and the leading roller being indicated by the reference numerals 2, 3, and 4, respectively, while the flattening table is indicated by the numeral 5 in the accompanying drawings—and then flattening and smoothing the sheet by several applications of a finishing roller such as indicated by the numeral 6. In this latter re-

spect is where my invention differs from all other methods of making wire-glass, namely, that in flattening and smoothing the irregular surface formed by the forward roller employed to flatten the batch and embed the metallic reinforcement, the surfacing roller 6 is adapted to be passed several times back and forth over the sheet while the glass is still plastic as distinguished from the customary one pass of the surfacing roller. The several passes of this finishing roller or rollers in one direction operate to completely fill the grooves formed by the leading roller, working the glass back and forth, bringing the sheet down to its ultimate thickness and imparting a smooth uniform, brilliant surface to the sheet. This result cannot be obtained by the application of a multiplicity of finishing rollers working in one direction because it is necessary that the surface of the plastic glass be so worked or manipulated as to obliterate all traces of the streaks or grooves formed by the wire embedding roll and which is only possible by causing the glass to be worked back and forth to insure a proper flow for the filling or obliteration of such streaks. Furthermore, in the forward travel of the finishing roller over the still plastic glass in my process, the roller becomes warmed or heated, preventing chilling of the glass in its return or subsequent passes. The flow of the glass, therefore, is easy and not strained. In those processes employing several rollers, working in one direction, the successive applications of the different rollers chill the glass, producing a dull, strained surface in addition to their failure, as above stated, to obliterate the streaks.

It will be apparent that my invention is equally applicable to other forms of glass rolling mechanism than the precise arrangement shown in the accompanying drawings.

The advantages of my invention will be appreciated by those skilled in the art.

By my improvement I am able to carry out successfully that method above described of making wire-glass wherein the metallic reinforcement is embedded in the molten glass by means of a roller employing a series of embedding ribs or flanges.

Having described my invention, what I claim and desire to secure by Letters Patent is—

1. The hereindescribed method of manufacturing sheet-glass having a metallic re-

inforcement embedded therein, which consists in breaking down a batch of molten glass and embedding the metallic reinforcement by means of a roller having a series of
5 peripheral ribs or flanges, and then bringing the sheet down to its ultimate thickness by working the glass back and forth by several applications of a finishing roller.

10 2. The hereindescribed method of manufacturing sheet glass having metallic reinforcement embedded therein which consists

in breaking down a batch of molten glass and embedding the metallic reinforcement by means of a roller and then passing a second roller back and forth over the soft glass 15 in order to remove the seams.

In testimony whereof, I have hereunto set my hand,

WILLIAM BUTTLER.

Witnesses:

ARTHUR BUTTLER,
FRANCIS M. SPRINGER.