

No. 656,295.

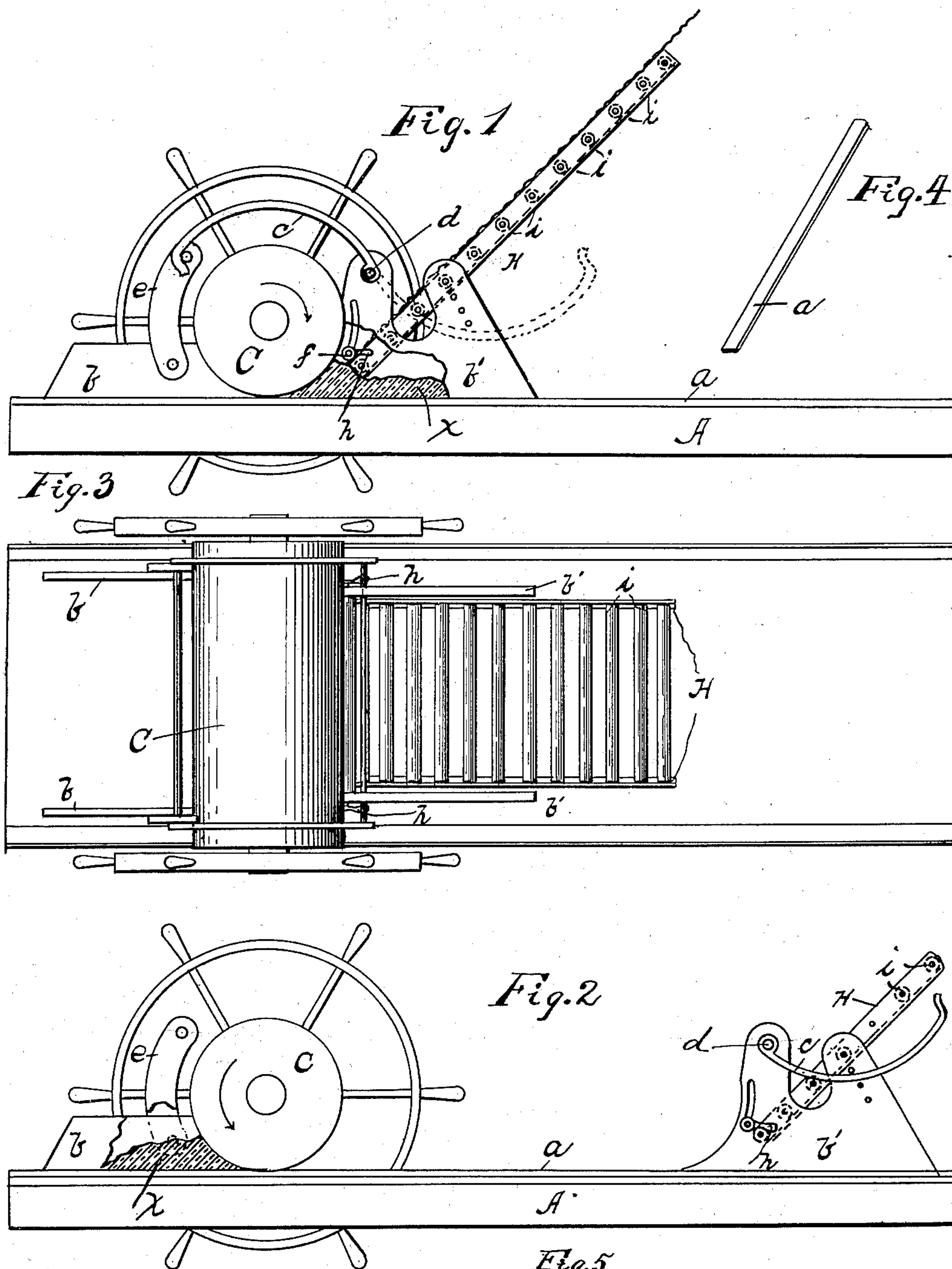
Patented Aug. 21, 1900.

J. LOCKE.

MANUFACTURE OF WIRE GLASS.

(Application filed Nov. 27, 1899. Renewed July 16, 1900.)

(No Model.)



Witnesses:
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Fig. 5
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UNITED STATES PATENT OFFICE.

JOSEPH LOCKE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE DAVIS GLASS COMPANY, OF SAME PLACE.

MANUFACTURE OF WIRE-GLASS.

SPECIFICATION forming part of Letters Patent No. 656,295, dated August 21, 1900.

Application filed November 27, 1899. Renewed July 16, 1900. Serial No. 23,822. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LOCKE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny, State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Methods or Processes for Producing Wire-Glass, of which the following is a specification.

My invention relates to improvements in methods or processes for producing glass plates or sheets having a web of wire inserted and commonly called "wire-glass."

My improvement consists, broadly, in dumping a mass of molten glass upon a casting-table and forming the same into a sheet or layer and during the operation of forming the same inserting therein a web of wire, and finally forming and welding a second layer of glass upon the first layer and inserting a metallic web or web of wire in a reverse direction to that of the first. Heretofore, so far as I am aware, in the manufacture of this character of sheets or plates of glass great liability to breakage has been unavoidable, due to the extreme tension upon the inserted wire occasioned by the contraction thereof and of the cooling glass in one portion—*i. e.*, the coolest portion or the end first rolled before the annealing of the sheet.

The object of my invention is to minimize or entirely obviate this difficulty; and to this end my invention consists in producing an equable and uniform temperature in the completed plate by rolling one of the layers comprising the same in one direction and the second layer thereof upon the top of the first layer in a reverse direction, so that the progressive formation of the two layers is reversed—*i. e.*, the first-formed portion of the first sheet or layer is relatively the last-formed portion of the second layer, and thus the coolest portions of the first layer are brought in contact with the hottest portion of the second at the last stage of forming the completed plate, producing a general average and uniform temperature throughout the completed plate and preventing harmful local contraction in the plate and inserted wire before annealing.

In the practice of my invention it will be

observed that I roll the first layer of the plate in one direction and during the rolling thereof insert a web of wire. Immediately this is completed a mass of molten metal is dumped upon the end of the table then occupied by the roll and upon the end of the lower layer last acted upon by the roll and the said mass rolled and welded upon the first layer in a reverse or opposite direction to the rolling of the first layer, so that the coolest portion of the first layer is acted upon the latest by the hottest portion of the second layer, raising the temperature thereof and producing an equable and uniform temperature throughout the completed plate, thus preventing harmful local contraction therein before annealing.

In the accompanying drawings I show a form of apparatus adapted to the application of my improved method or process for producing wire-glass.

In the said drawings, Figure 1 indicates a side elevation of my apparatus, a portion of the side of the guide being broken away to show molten glass in front thereof. Fig. 2 is a side elevation of the same, showing the position of the roll after the completion of the first layer and near the completion of the second layer. Fig. 3 is a plan view of the same. Fig. 4 is a perspective view of part of the removable bar, and Fig. 5 is a perspective view of the guide-roller.

Referring to said drawings, A is a table on which the molten metal *x* is adapted to be rolled into layers by the action of the roll C. The said roll is supported on narrow bars or ways *a a*, arranged or secured on said table along both sides of the same and corresponding in the first instance with required thickness of the first or lower layer. Upon completion of the first layer additional and similar bars are secured upon the first bars corresponding in thickness with the second layer.

b and *b'* are guides arranged, respectively, on opposite sides of the roll C for the purpose of regulating the width of the layers forming the sheet or plate. The said guides are connected by means of the link *c*, one end of which is pivotally and permanently attached to the rod *d*, which is secured in the

upper side of the guide *b'*, the opposite end of said link being attachably connected to the upper end of the link *e*, the lower end of which is secured to the guide *b* on both sides thereof.

f is a guide or feed roll arranged in bearings formed in the lower inner side of the guide *b'*, the said bearing being formed in a slot, so as to permit the said feed-roll to be lowered and elevated by means of the lever or handle *h*, which is secured on the ends of the spindle of said roll for the purpose of permitting the lower end of the chute *H* being elevated and lowered from and toward the mass of metal on the casting-table, the said chute *H* being pivotally secured near the lower end thereof in the guide *b'* to admit of this, rods or pins inserted in or through the outer sides of said guide *b'* being used to support the chute *H* at varying angles, as shown in Fig. 1. The said chute *H* consists of a frame or sides and a bottom, comprising a series of small rollers *i i*, journaled in said sides for the purpose of feeding the wire web beneath the compressing-roll and into the layer first rolled.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The herein-described improvement in method or process for producing plates of wire-glass, which consists in, first, forming a mass of glass into a sheet or layer, and inserting in said sheet a metallic web, and finally, forming a second sheet or layer of glass, on the first sheet and inserted metallic web, in a reverse direction to that of the first sheet.

2. The herein-described improvement in method or process for producing plates of wire-glass, which consists in, first, forming a mass of glass into a sheet or layer and simultaneously with the forming thereof inserting therein a metallic web, and finally, forming a second sheet or layer of glass, on the first sheet and inserted metallic web, in a reverse direction to that of the first sheet.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOSEPH LOCKE.

In presence of—

CLARENCE A. WILLIAMS,
JOHN H. RONEY.