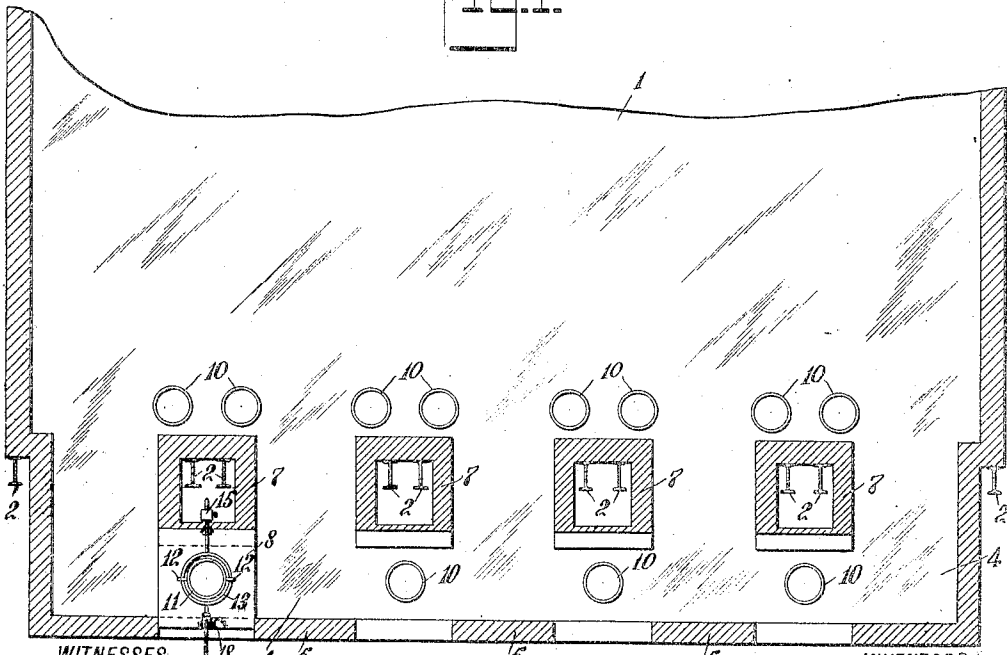
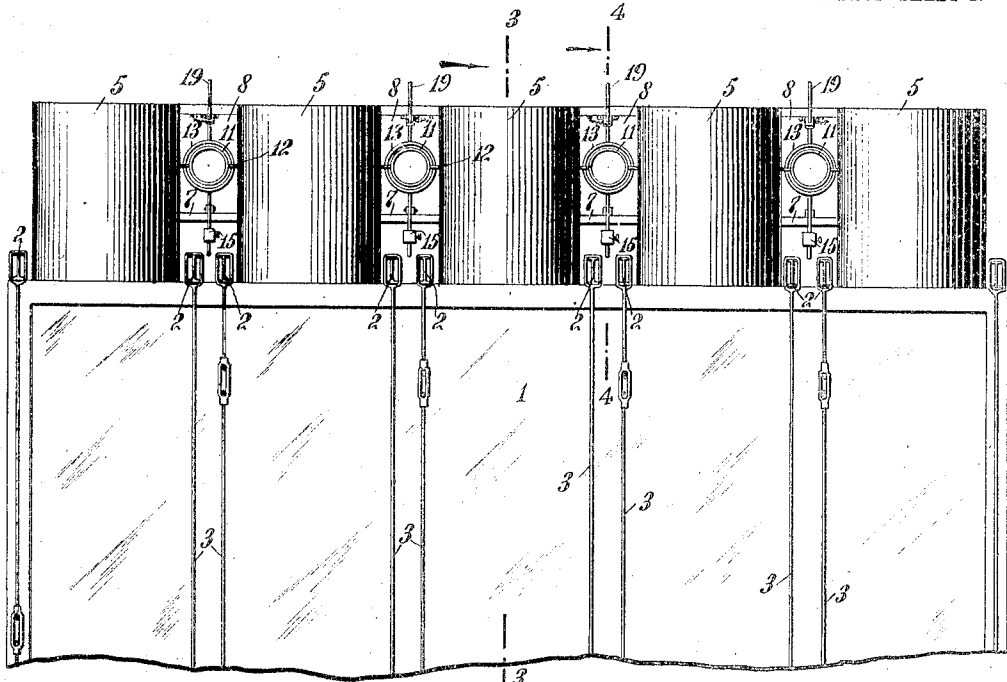


I. J. RALSTON & J. BRIGGS.
GLASS DRAWING FURNACE.
APPLICATION FILED OCT. 28, 1909.

958,535.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



WITNESSES
Ben. J. J. J.
N. J. J.

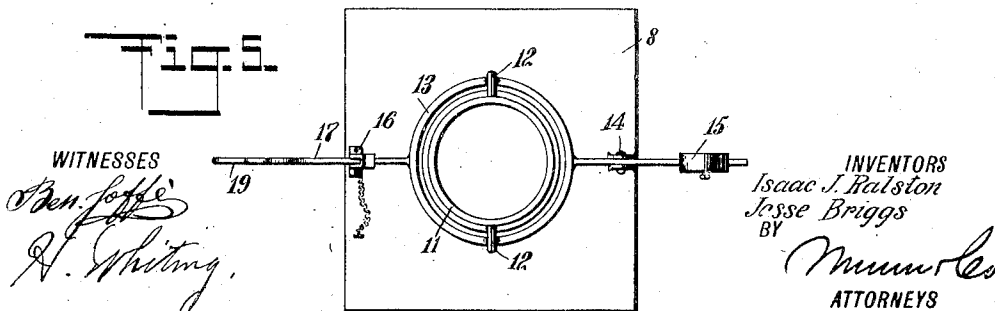
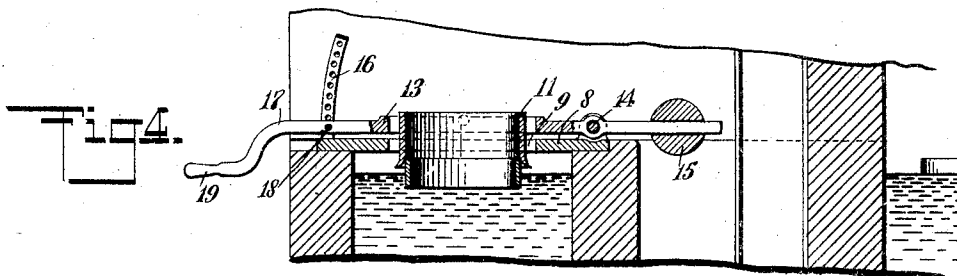
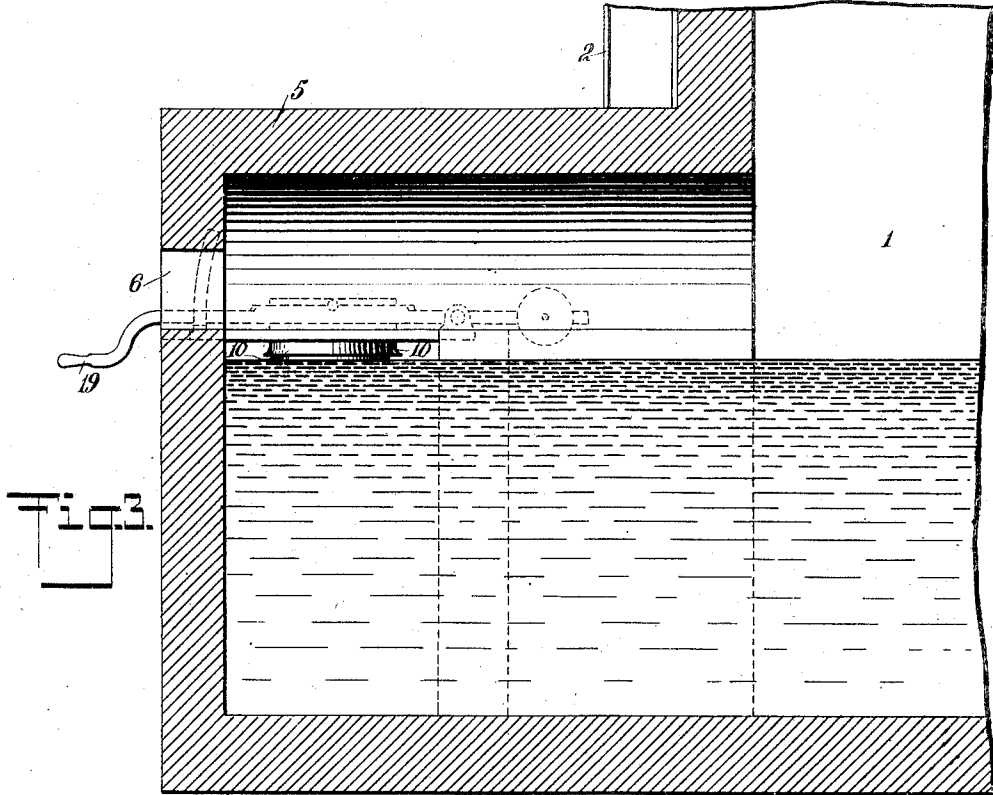
INVENTORS
Isaac J. Ralston.
Jesse Briggs
BY *Mum & Co*
ATTORNEYS

I. J. RALSTON & J. BRIGGS.
GLASS DRAWING FURNACE.
APPLICATION FILED OCT. 28, 1909.

958,535.

Patented May 17, 1910.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

ISAAC J. RALSTON AND JESSE BRIGGS, OF KANE, PENNSYLVANIA, ASSIGNORS OF
ONE-THIRD TO HUGO J. WALTER, OF KANE, PENNSYLVANIA.

GLASS-DRAWING FURNACE.

958,535.

Specification of Letters Patent.

Patented May 17, 1910.

Original application filed June 5, 1909, Serial No. 500,304. Divided and this application filed October 28, 1909. Serial No. 525,004.

To all whom it may concern:

Be it known that we, ISAAC J. RALSTON and JESSE BRIGGS, both citizens of the United States, and residents of Kane, in the county of McKean and State of Pennsylvania, have invented a new and Improved Glass-Drawing Furnace, of which the following is a full, clear, and exact description.

This invention relates to a new and improved furnace suitable to melt glass therein and from which glass cylinders may be drawn in a convenient and efficient manner, and is a division of our application, Serial No. 500,304, filed June 5, 1909.

An object of the invention is to provide a new type of furnace, which will be simple in construction, readily accessible, and which will permit clean and uniform cylinders to be drawn therefrom.

A further object of this invention is to provide a glass-drawing furnace, with means for protecting a plurality of baths therein and with means for forming and protecting a clean drawing surface.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a fragmentary plan view, showing an arrangement of the extension to the furnace; Fig. 2 is a horizontal fragmentary section; Fig. 3 is an enlarged vertical section on the line 3—3 in Fig. 1, through one of the dog-houses; Fig. 4 is a vertical section on the line 4—4 in Fig. 1, through the cover-plate for a bath, and the boot and ring therein; and Fig. 5 is a plan view of a cover-plate with the boot attached.

Referring more particularly to the separate parts of the device, 1 indicates a furnace, which may be made of any suitable form and material, and preferably consists of suitable fire-proof masonry reinforced by suitable buck-stays 2, which are secured together in any suitable manner, as by means of adjustable tie-rods 3. On any or all of the sides of the furnace 1, there is provided a suitable extension 4, which forms a bath

from which the glass cylinders may be drawn. This extension has a plurality of so-called "dog-houses" 5, which are in the form of arched inclosures, each having an opening 6 in the end thereof, to permit access to the interior of the dog-house and the furnace proper.

Intermediate the dog-houses, there are provided a plurality of walls 7, which are built up above the level of the bath in the extension, and provide a means for protecting the buck-stays 2, which are located therein for supporting the main wall of the furnace. Between the walls 7 and the walls of the dog-house 5, there are left a plurality of open baths, from which a plurality of glass cylinders may be drawn. These baths are adapted to be protected by suitable cover-plates 8, which are adapted to be supported in any suitable manner on the front wall of the extension 4, and on the walls 7 which protect the buck-stays. There is provided in each of these cover-plates 8 a suitable opening 9, through which the glass cylinders may be drawn.

In order that the scum on the surface of the glass bath may not be drawn up by the glass-drawing mechanism, and in order to form a cylinder of clear and uniform structure, there is provided a plurality of rings 10, preferably three for each cover-plate, which are adapted to be successively located in substantial alinement with the openings 9 in the cover-plates 8. In order to hold the rings 10 in substantial alinement with the openings 9, there is provided a suitable boot 11, which is in the form of a ring having an outwardly-flared bottom, slightly larger than the ring 10, and in which the ring 10 is adapted to rest. The boot 11 is removably supported by any suitable means, such as trunnions 12, on a ring-support 13, which is pivoted in any suitable manner to the plate 8, as at 14, and is suitably counter-weighted by means of an adjustable weight 15, which is secured to an extension of the support 13, on the opposite side of its pivot-point 14.

The support 13 is adapted to be locked in various adjusted positions relative to the plate 8 by means of a pin 16, which is adapted to engage suitable openings in a bracket 16, secured in any well-known manner to the plate 8, and also engages an opening in the

extension 17 on the support 13. The extension 17 has a hand-hold 19 thereon, whereby the support 13 may be manipulated.

The peculiar construction of the alternate 5 baths and dog-houses forms clean and hot drawing baths, and permits ready access into the interior of the furnace for skimming the bath, and for manipulating the rings 10. The use of three rings, to substitute one for the other, permits a clean and thoroughly 10 heated ring to be used at each drawing operation without any unnecessary delay.

Having thus described our invention, we claim as new and desire to secure by Letters 15 Patent:

1. In a device of the class described, the combination with a furnace, of an extension on said furnace having a plurality of drawing baths, and a plurality of dog-houses juxtaposed to said baths. 20

2. In a device of the class described, the combination with a furnace, of an extension on said furnace, a plurality of dog-houses on said extension, and a plurality of drawing baths interposed between said dog-houses. 25

3. The combination with a furnace, of an extension on said furnace, a plurality of dog-houses on said extension having a plurality 30 of drawing baths interposed between them, and a cover-plate for each of said baths having an opening therein.

4. In a device of the class described, the combination with a furnace, of an extension 35 on said furnace having a plurality of drawing baths, and a plurality of dog-houses juxtaposed to said baths, said dog-houses being in communication with said baths and said furnaces, whereby a plurality of interchangeable rings may be manipulated suc- 40 cessively between said baths and said furnace.

5. In a device of the class described, the combination with a furnace, of an extension

on said furnace, having a drawing bath, and 45 a dog-house arranged alongside of said bath, said dog-house being in communication with said bath and said furnace, whereby a plurality of interchangeable rings may be successively manipulated between said bath and 50 said furnace.

6. In a device of the class described, the combination with a furnace, of a drawing bath on said furnace, a cover-plate for said drawing bath, having an opening therein, a 55 support adjustably connected to said cover-plate in juxtaposition to said opening, and a boot pivotally connected to said support on a horizontal axis.

7. In a device of the class described, the combination with a furnace, having a drawing bath, of a cover-plate for said drawing bath, having an opening therein, a support 60 pivotally connected to said plate, means for adjusting said support, means for locking said support in any adjusted position, and a boot swingingly connected to said support. 65

8. In a device of the class described, the combination with a furnace, having a drawing bath, of a cover-plate for said drawing bath, having an opening therein, a support 70 pivotally connected to said plate, means for adjusting said support, means for locking said support in any adjusted position, and a boot swingingly connected to said support, 75 said boot being flared at the bottom, whereby it is adapted to successively hold in cooperation therewith a plurality of interchangeable rings.

In testimony whereof we have signed our 80 names to this specification in the presence of two subscribing witnesses.

ISAAC J. RALSTON.
JESSE BRIGGS.

Witnesses:

LOUIS HOUSE,
LENA O'ROURKE.