(No Model.)

# F. DEL MARMOL.

## APPARATUS FOR THE MANUFACTURE OF POLISHED GLASS.

No. 305,376. Patented Sept. 16, 1884.

Fig. 2.

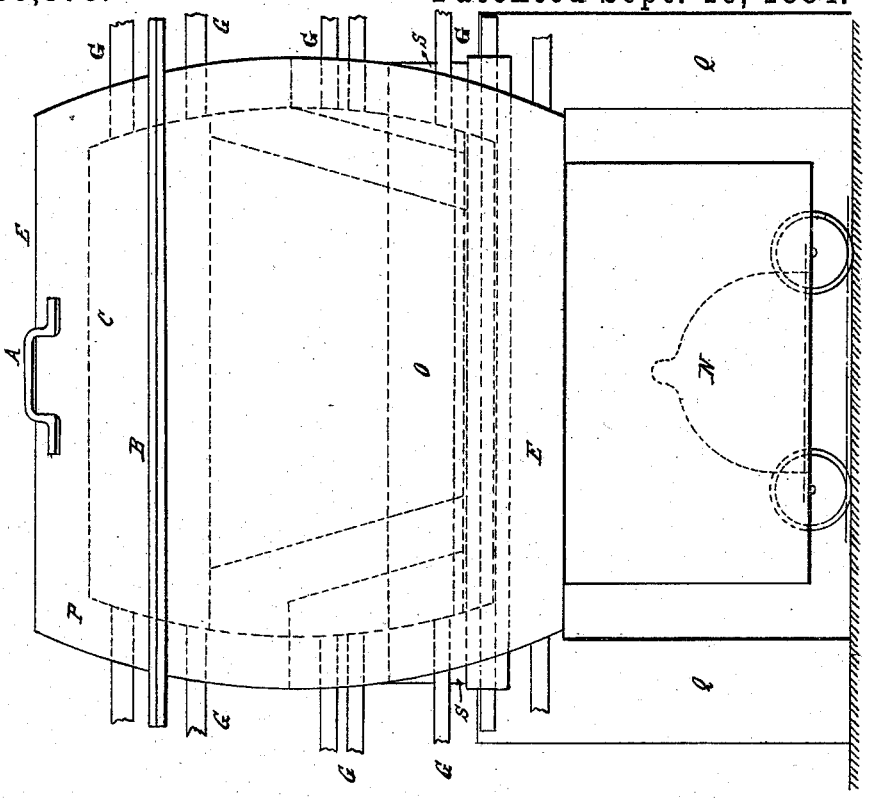
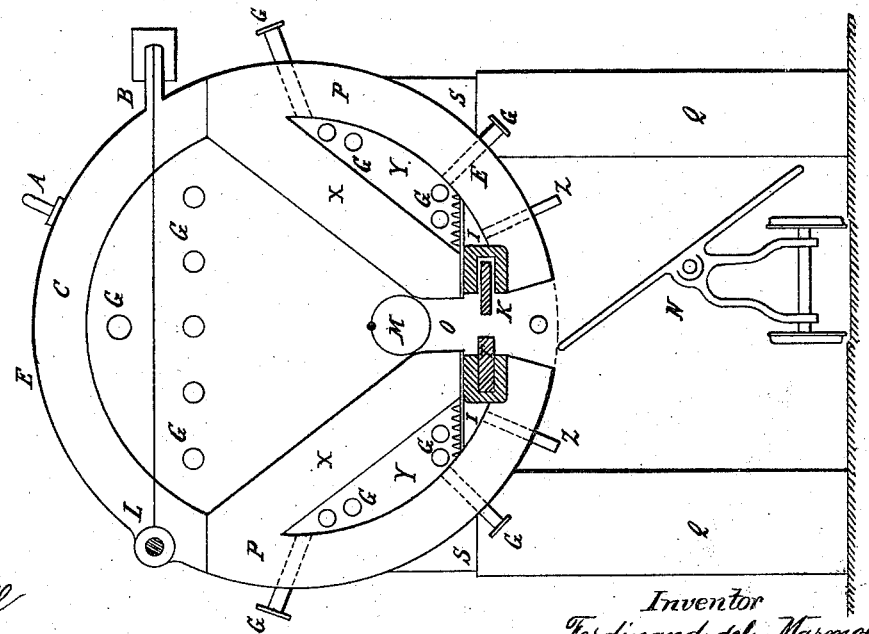


Fig. 1.



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# UNITED STATES PATENT OFFICE.

FERDINAND DEL MARMOL, OF BRUSSELS, BELGIUM.

## APPARATUS FOR THE MANUFACTURE OF POLISHED GLASS.

SPECIFICATION forming part of Letters Patent No. 305,376, dated September 16, 1884.

Application filed August 31, 1883. (No model.) Patented in Belgium May 31, 1883, No. 61,549, and in France June 15, 1883; No. 143,718.

*To all whom it may concern:*

Be it known that I, FERDINAND DEL MARMOL, of Brussels, in the Kingdom of Belgium, have invented certain new and useful Improvements in the Method and Apparatus for the Manufacture of All Kinds of Polished Glass, such as Plate-Glass, Window-Glass, &c., of which the following is a specification.

My invention has for its object the provision of an apparatus by which glass for the manufacture of polished-glass objects may be tapped off directly from a suitable conveyer, with the omission entirely or partially of the final polishing, washing, or blowing apparatus used in the manufacture or finishing of glass articles. I provide an intermediate or supplemental body or crucible in which melted glass from the crucible is conducted, and wherein it is kept heated by a suitable means, and whence it is conducted to the molds or tables employed in the manufacture of glass articles.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a vertical transverse section of my improved receiver. Fig. 2 is a side view of the same.

E represents the outer wall or body of my receiver, provided with a lid or cover, C, adapted to be hermetically closed when it is desired to tap off the glass contained in the receiver under pressure. The cover C is provided with a ring or handle, A, to enable it to be lifted around the hinge L. Instead of the hinge, as shown, however, the cover may be adapted to slide in grooves and be locked in place in any suitable manner. Flanges B surround the edges of both receiver and lid, to enable the making of a perfectly air-tight joint. The sides or walls P of the receiver may be vertical, horizontal, or inclined, fixed or movable, and of any form, and are provided at the bottom or at one or both sides with a passage or passages, O, adapted to be closed in any suitable manner.

The regulating-slides K may, if desired, be fixed within the opening O in the bottom of the receiver; or such opening may be provided with fixed bars, if desired.

M is a valve adapted to be closed or opened at pleasure to regulate the flow of glass.

If desired, the interior of the apparatus may be provided with pipes G, placed at the sides and ends of the receiver, through which the heating medium may be passed to maintain the glass at the required temperature. They may also serve for the introduction and exhaustion of air and gas for the purpose of forcing the glass out under pressure.

If it be desired to heat the receiver by means of solid fuel, I partition off, by means of inclined walls X, chambers Y, near the bottom of which are provided grates I, for supporting the fuel. Products of combustion evolved from the fuel in the chambers Y Y are conducted off by means of pipes G. The interior of the receiver may be lined with brick or other refractory material, and the shell E made of stone or other material of suitable strength. Shoulders S S, fixed to the receiver, may be employed to support the same on the pillars Q.

A truck or carriage, N, which may be either fixed or movable, may be placed beneath the discharge-opening O, for the purpose of receiving and directing the flow of the glass.

The form and dimensions of the apparatus are variable, and depend on the kind of work to be done.

The melted glass from the crucible is led into the receiver, whence it flows to the molds, tables, or rolls. The flow of the glass is rendered constant or intermittent by means of the valve M, according to the kind of work to be done and the dimensions of the pieces to be obtained. The method of treatment of the glass depends on the article to be manufactured. The apparatus may be warmed in any manner, whether internally, externally, or both by gas or coal.

By means above described, glass objects may be produced economically by leaving out entirely or almost entirely the apparatus for polishing, washing, or blowing which until now were used in this manufacture.

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

1. A glass-receiving chamber adapted to receive melted glass from the crucible and dis-

tribute it with pressure to the molds or tables employed in the manufacture of glass articles.

2. A closed receiver adapted to hold melted glass tapped from the crucible, and provided with suitable means for keeping the glass at a constant high temperature, and with means for tapping the glass off to the molds or tables, substantially as described.

3. A glass-receiver adapted to receive melted glass from a crucible, constructed with a chamber or chambers within its walls, and suitable means for heating said chamber or chambers, as and for the purposes set forth.

4. A glass-receiver for receiving melted glass from a crucible, constructed with an air-tight cap or cover, and means, substantially as described, for maintaining it at a high temperature.

5. A receiver for receiving melted glass from a crucible, constructed with a heating-chamber between the double walls, said heating-chamber being provided with a grate and suitable apertures for admitting oxygen and carrying off the spent products of combustion.

FERDINAND DEL MARMOL.

Witnesses:
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EMILE PICARD.