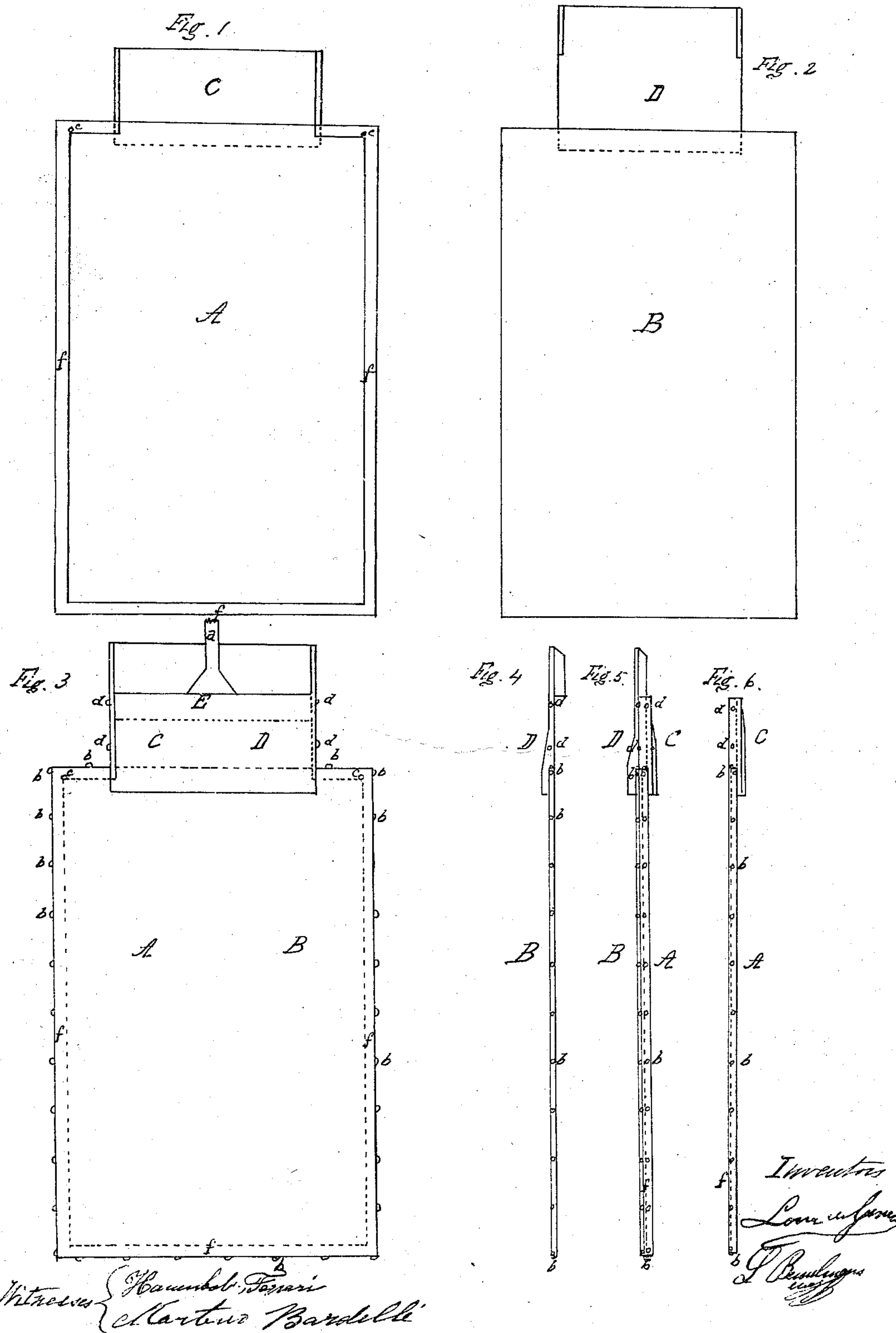


No. 79,892.

PATENTED JULY 14, 1868.

L. BEMELMANS & L. DE GIVE.
MANUFACTURE OF GLASS.



UNITED STATES PATENT OFFICE.

L. BÉMELMANS AND L. DE GIVE, OF ATLANTA, GEORGIA.

IMPROVEMENT IN THE MANUFACTURE OF GLASS.

Specification forming part of Letters Patent No. 79,892, dated July 14, 1868.

To all whom it may concern:

Be it known that we, LION BÉMELMANS, a civil engineer of mines, arts, and manufactures, and LAURENT DE GIVE, both residing in Atlanta, Georgia, have invented a new and improved process of manufacturing window and mirror glasses of whatever thickness, and a new and useful machine to carry it into operation, called "window and mirror glasses manufacturing machine;" and we do hereby declare that the following are full, clear, and exact descriptions of them and of the construction of said machine, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, which descriptions will enable others skilled in the art to make and use our inventions and put them in perfect operation.

Figure I is a front view of the machine. Fig. II is a side view of same. Fig. III is a perspective view of the plate C. Fig. IV is a perspective view of the frame B. Fig. V is a perspective view of the pressing-piece A. All the drawings are constructed on a scale of one-twelfth of the natural size.

Our process consists in pressing the lumps or the quantity of melted glass between two parallel and polished plates—like cast-iron or cast-steel polished plates—until the desired thickness is obtained. The melted glass spreads under the pressure and as long as said pressure acts until it reaches the sides of a frame, beyond which it cannot go, and when the upper plate is removed gives a sheet all over equally thick, perfectly transparent, and polished, which is taken away, to be heated again, like in the existing process.

Our machine is described as follows:

First, one cast-iron or cast-steel plate, C, rectangular, one and one-half inches thick, fifty inches wide, sixty-three and one-half inches long, perfectly polished on the upper side.

Second, one frame of same metal, B, rectangular at its base and sides, measuring inside forty inches in width, fifty-six inches in length, and twenty-four inches in height; also, polished inside and below. The four sides are open, (Fig. IV,) to lighten the piece and give an opening for introduction of the melted glass. The upper part of the frame has inside an

edge, *c*, one inch thick and high. This edge reposes on the case *d* of the pressing-piece A when the latter is brought up, and causes the frame to ascend too with said piece. The frame sits down on the plate C, but is not fastened to it. Said frame is fixed by four pairs of guide-sockets, *b b' b'' b'''*, to four vertical rods of iron, *e e e e*, and is enabled by these to move up and down for the purpose of taking away the pressed glass.

Third, one pressing-piece of same metal, A, rectangular at its base and sides, said base and sides also polished outside. Said pressing-piece measures, outside, forty inches in width and fifty-six inches in length at the base. Its height is twenty-five inches. It is hollow and open at the top. A rod, *a*, four inches thick, is in communication with a motive power, that elevates or lowers the pressing-piece. The sides of said pressing-piece slide up and down along the sides of the frame B, and fit in perfectly, so as to keep said pressing-piece steady in the vertical, so as to keep the base perfectly parallel to the plate C, and so as to prevent the pressed glass from escaping between its edges and the frame.

Fourth, the whole is maintained by a frame of timbers twelve inches square, *f f f f*.

The width and length of the plate, frame, and pressing-piece can be increased or diminished, according to the size of glasses that are wanted.

The machine operates in the following manner: The frame B being down on the plate C, a quantity of melted glass, proportionate to the sheet of glass that is wanted, is placed by the front hole of the frame in the middle of the plate, the pressing-piece A is allowed to come down, and, pressing on the melted glass, forces it all over the plate until it has filled all the space left free between the two parallel surfaces above and below, and the four faces of the frame on the sides. Then the pressing-piece is lifted up, and with it ascends the frame. Then the sheet of glass is taken away to be heated again, like in the other process.

The advantages of our process and machine are, first, economy of labor and combustible; second, perfection of products.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The process, broadly, of manufacturing

window and mirror glasses, of whatever thickness and size, by pressing the melted glass between two parallel and polished plates, whatever may be the mode of pressing employed.

2. The machine to carry said process in operation, called "window and mirror glasses manufacturing machine," heretofore described,

or any other substantially the same, and which will produce the intended effect.

L. BÉMELMANS.
LAUR. DE GIVE.

Witnesses:

HANNIBAL FERRARI,
MARTINO BARDELLI.