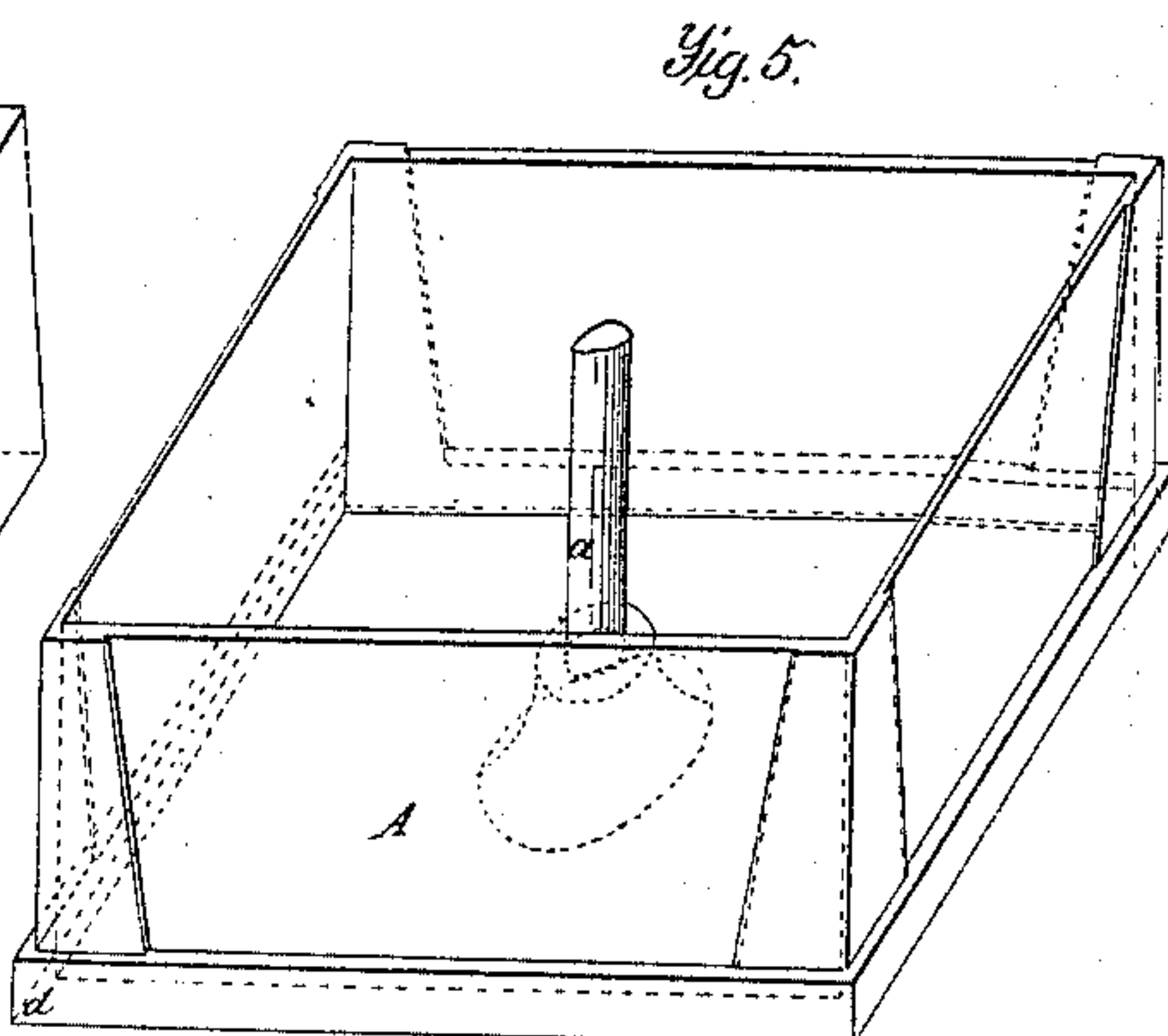
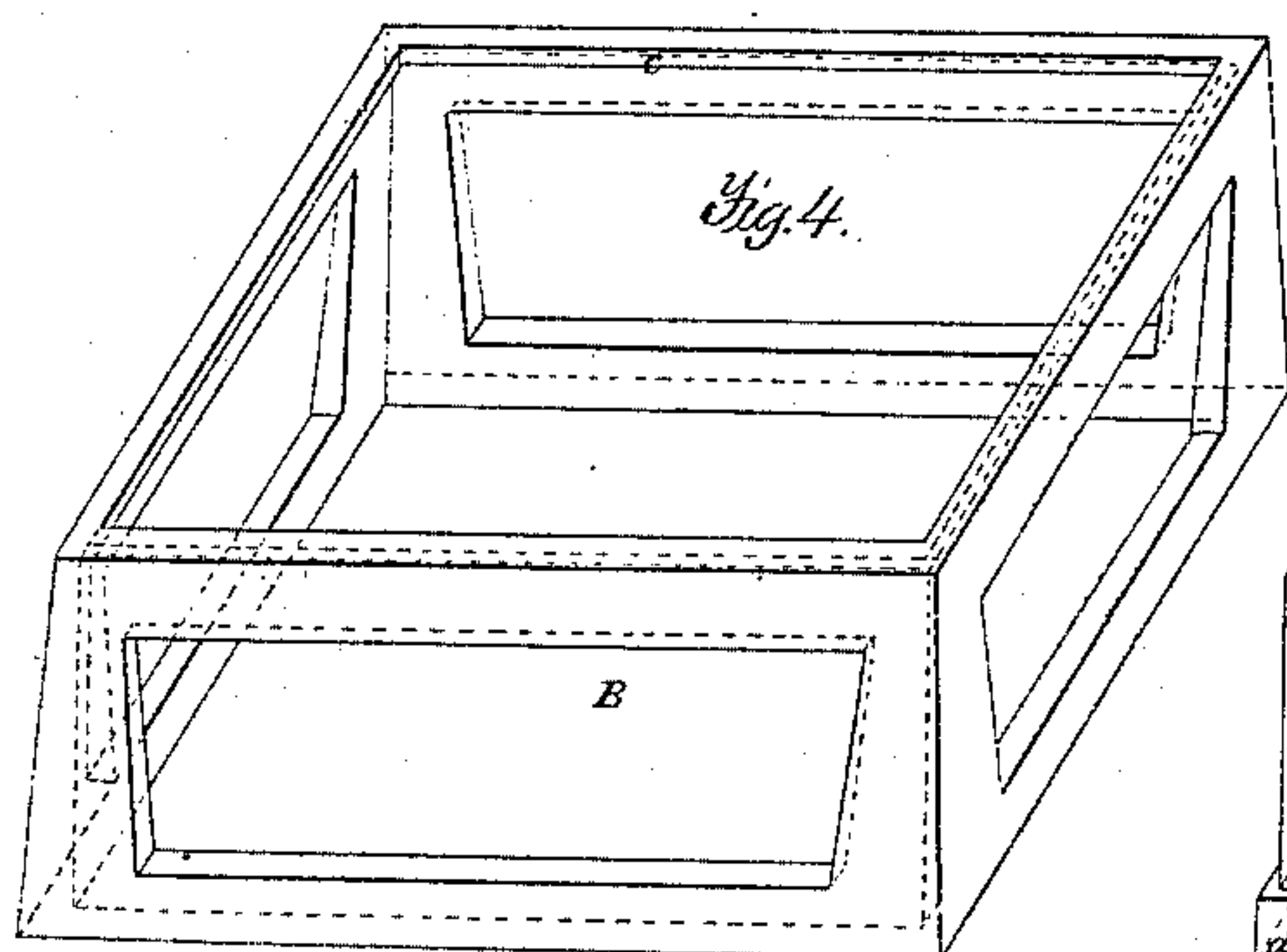
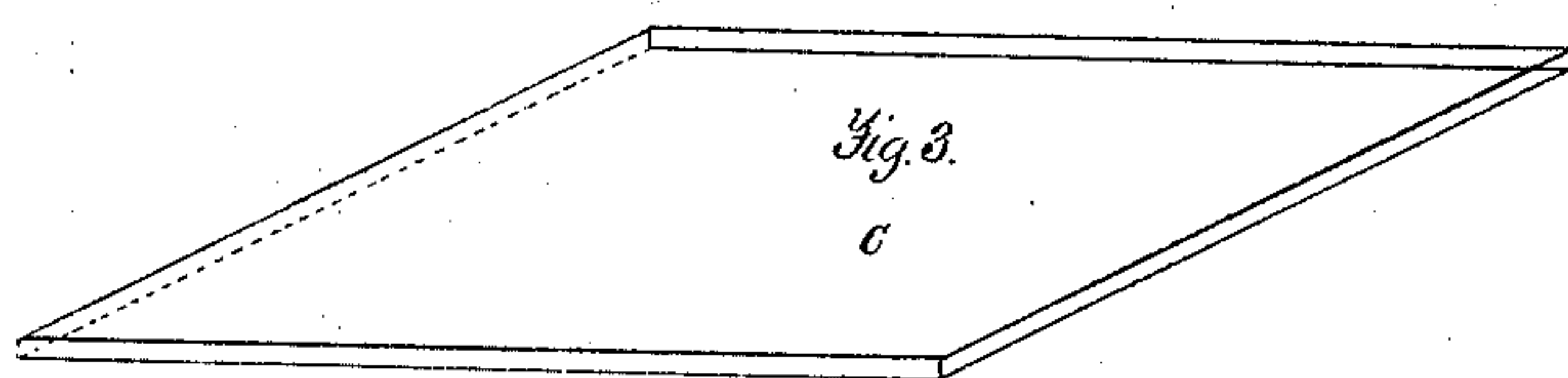
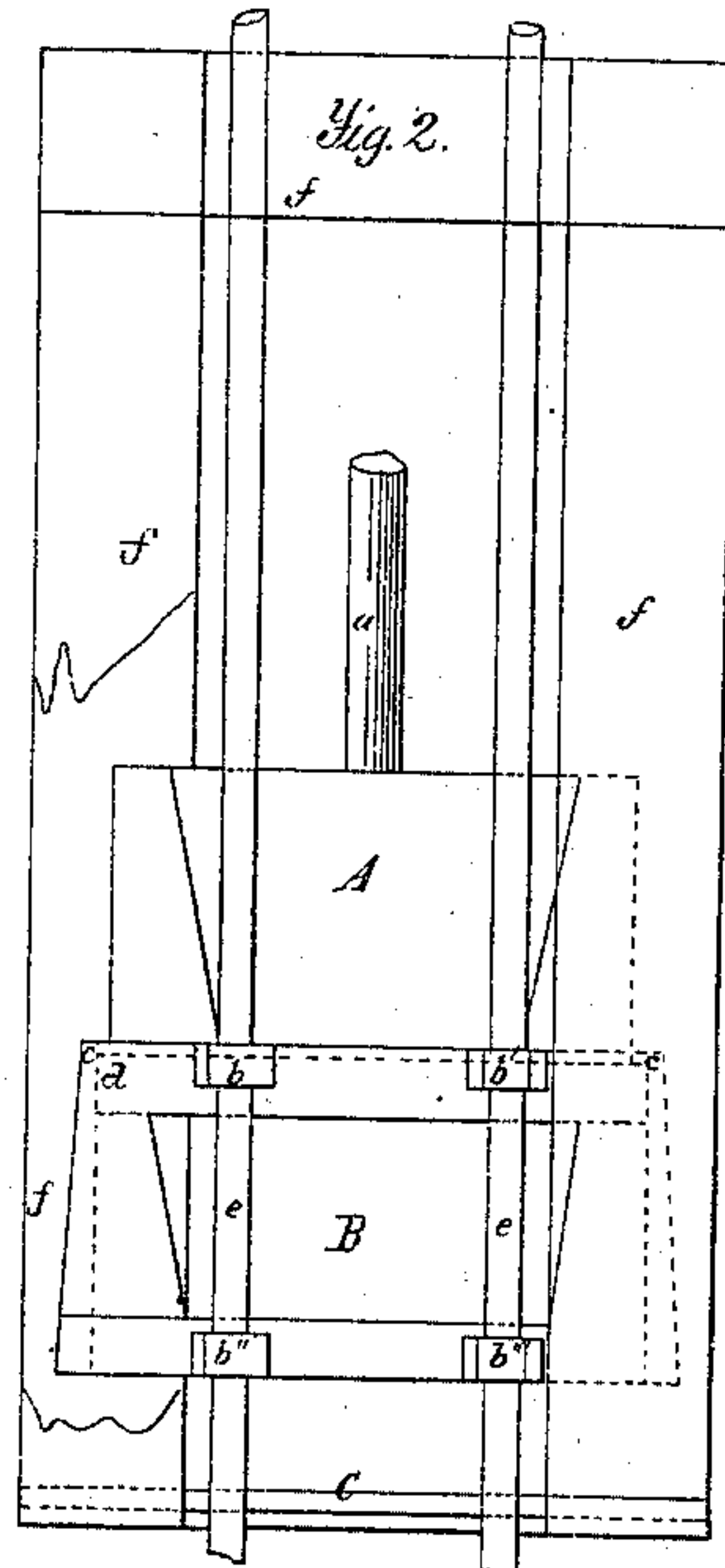
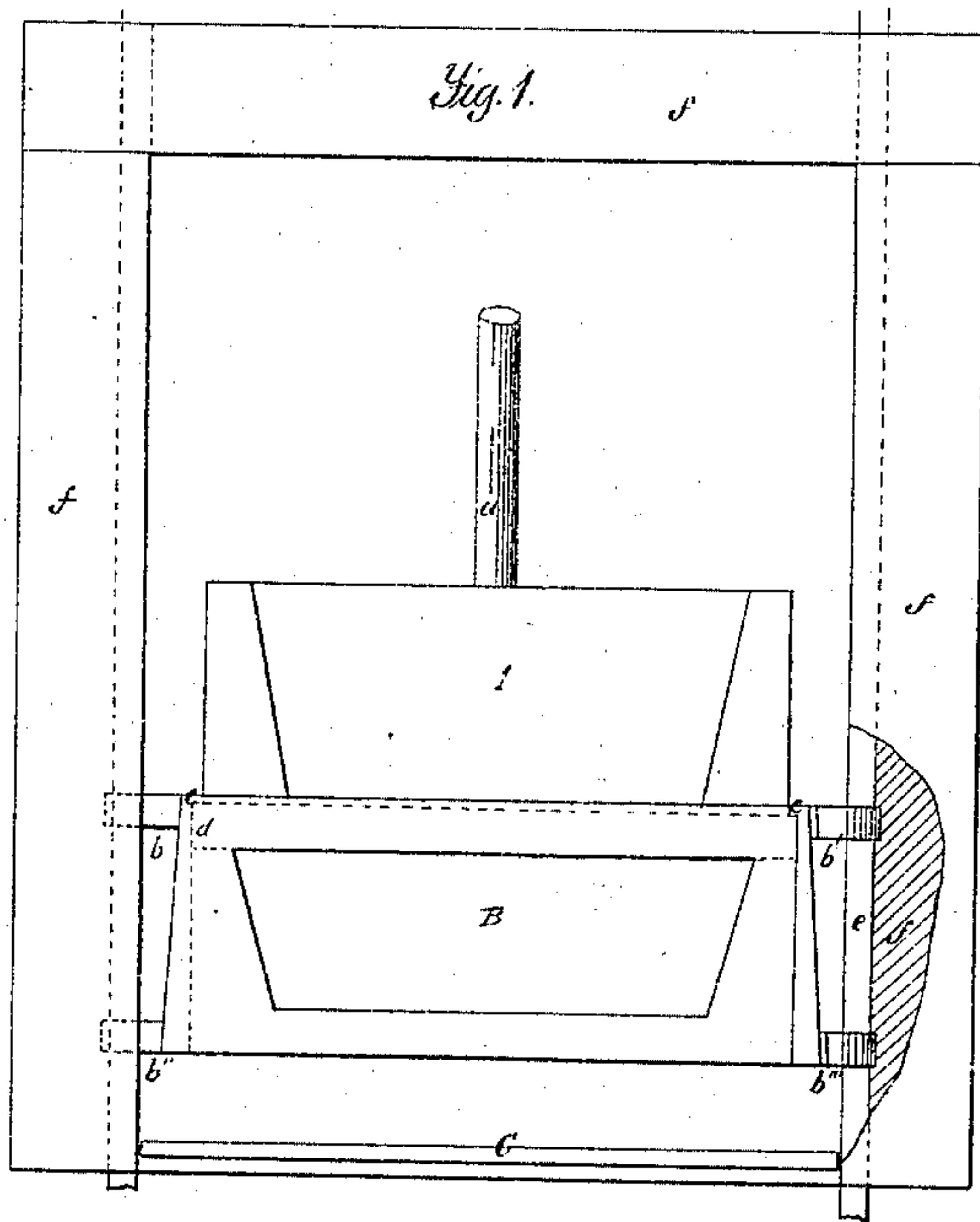


L. BÉMELMANS & L. DE GIVE.  
MANUFACTURE OF GLASS.

No. 79,893.

Patented July 14, 1868.



Witnesses.  
Gennibal Perotti  
Martino Bordelli

Inventor.  
L. Bémelmans, L. de Give

# United States Patent Office.

LÉON BÉMELMANS AND LAURENT DE GIVE, OF ATLANTA, GEORGIA.

Letters Patent No. 79,893, dated July 14, 1868.

## IMPROVEMENT IN THE MANUFACTURE OF GLASS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, LÉON BÉMELMANS, and LAURENT DE GIVE, residing in Atlanta, Georgia, have invented a new and improved process of manufacturing window and mirror-glasses, of whatever thickness, and a machine to carry it into operation, called Window and Mirror-Glasses-Moulding 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 III is a front view of the machine.

Figure V is a side view.

Figure I is an inside view of one half of the machine.

Figure VI is a side view of the same half.

Figure II is an inside view of the second half of the machine.

Figure IV is a side view of the same half.

All the drawings are constructed on a scale of one twenty-fourth of the natural size.

Our process consists in pouring the melted glass between two plates of metal, like cast iron or steel, polished parallel, and separated by an interval equal to the thickness one wants to give to the sheet of glass; then in pressing on said melted glass by one of the sides. Under the double action of its natural weight, and of the aforesaid pressure, the melted glass spreads tidy in all the space left between the plates, until it reaches, on the four sides, an edge beyond which it cannot go. Then one of the two plates is removed, and on the other one is left a sheet of glass, 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:

1. One cast-iron or cast-steel plate, B, Fig. II, rectangular, two inches thick, ten and a half feet long, six and a half feet wide, perfectly polished on one face.

2. Another plate, A, Fig. I, of same metal, size, and form, also polished on one face. Around this plate, except at the mouth-hole, on the polished face, is fixed by screws a strip of iron, *f*, Fig. I, three inches wide, and two-fifths of an inch thick. Against this strip lies the other plate B, and by the thickness of it is determined the thickness of the glass. It acts as an edge, to prevent the escaping of the melted glass. This strip can be replaced by another one, more or less thick, according to the thickness of the glass wanted. When the two plates are lying one on another, the polished faces of both are inside. They are fastened together by hooks, *b b b b*. Two little holes, *c c*, Fig. I, allow the air to escape.

3. One mouth-hole C D, Fig. III, by which the melted glass is to be poured in, of same metal, and rectangular, four feet long, two and two-fifth inches wide, one and a half foot on one side, and two and a half feet on the other side, high. Of this hole, one part, D, the highest, is fastened to the plate B, and the other part, C to the plate A. These parts are also fastened together by hooks, *d d d*, and they are also polished inside.

4. One pressing-piece, E, Fig. III, of same metal, rectangular at its base and sides, four feet long, two and two-fifth inches thick, six inches high, polished on the lateral and lower faces. A rod, *a*, of four by two and two-fifth inches, is in communication with a motive-power. Said pressing-piece acts up and down in the mouth-hole, in which it fits perfectly.

The width and length of the plates, and the interval between said plates, can be increased or diminished according to the size of glasses that one wants to manufacture.

The machine operates in the following manner:

The plate B is laid down on a rock masonry of forty-five degrees' inclination; the plate A is fastened on it by the hooks; then, to resist the enormous pressure bearing on its surface from the inside, maintained parallel to the other plate by three transversal wooden beams. The melted glass is poured in between the plates.



by the mouth-hole U D. When that space is filled, and also partly the said mouth-hole, the pressing-piece E is introduced in said hole. The melted glass, under the action of said pressing-piece, fits tidy all the polished faces of the machine, and is made itself perfectly polished and unstriated, (without striæ.) All the air that may exist between the plates has escaped by the two little holes *c c*, that are stopped by iron pegs as soon as melted glass shows itself there. Then the pressing-piece and the wooden beams are removed, the machine is placed horizontally, the upper plate A is lifted the lump of glass contained in the mouth-hole is cut off, and the glass sheet taken away to be heated again, like in the other process.

The advantages of our process and machine are—

1. Economy of labor.
2. Perfection of products.

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

A machine, called window and mirror-glasses-moulding machine heretofore described, or any other substantially the same, and which will produce the intended effect.

L. BEMELMANS,  
LAUR. DE GIVE.

Witnesses:

MAT. FER. FASSIG,  
J. H. LUCKHARDT.