

J. S. LUKASKO.
METHOD AND APPARATUS FOR FORMING GLASS TILES.
APPLICATION FILED OCT. 4, 1907.

917,470.

Patented Apr. 6, 1909.

FIG. 1

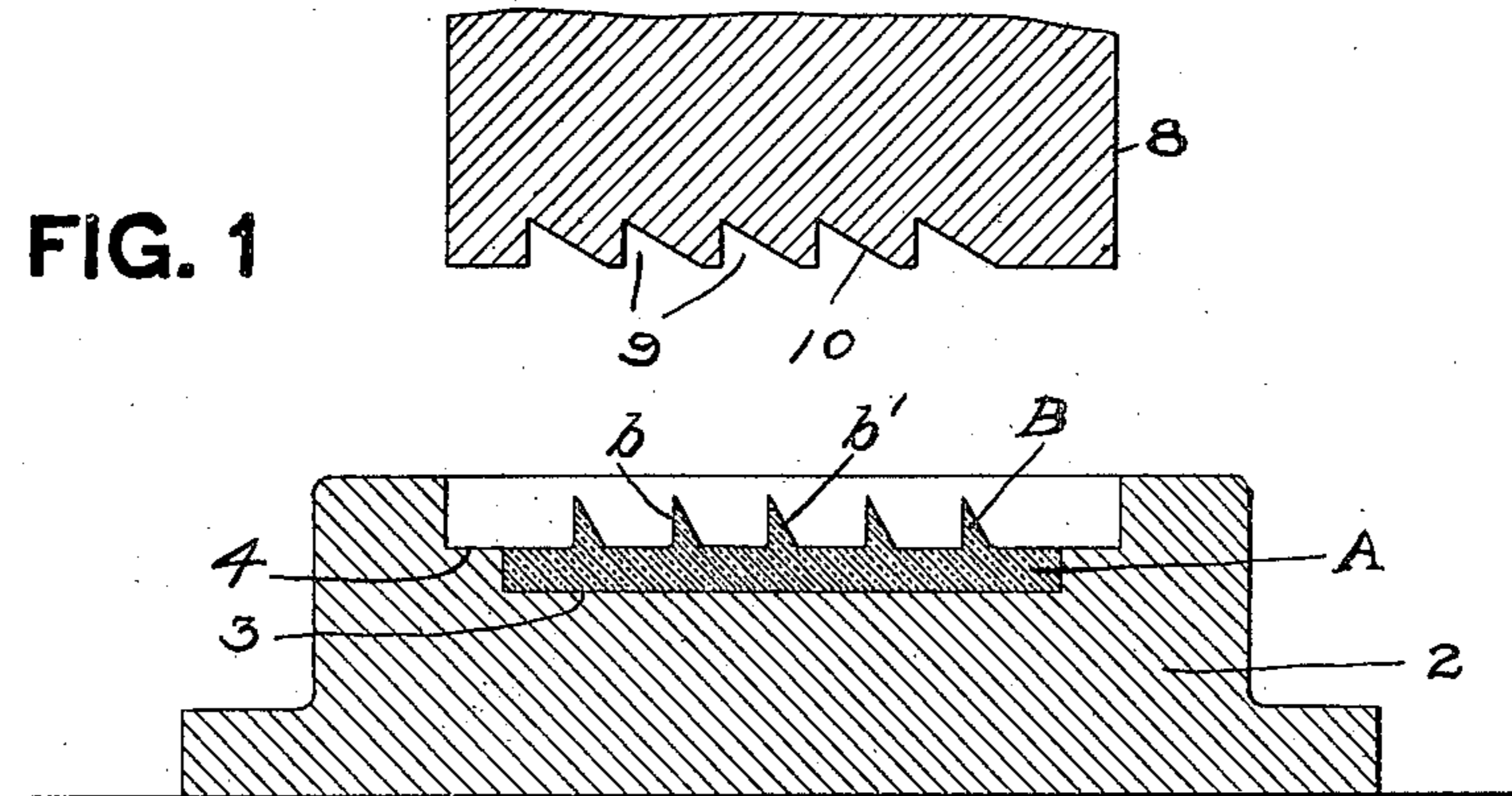


FIG. 2

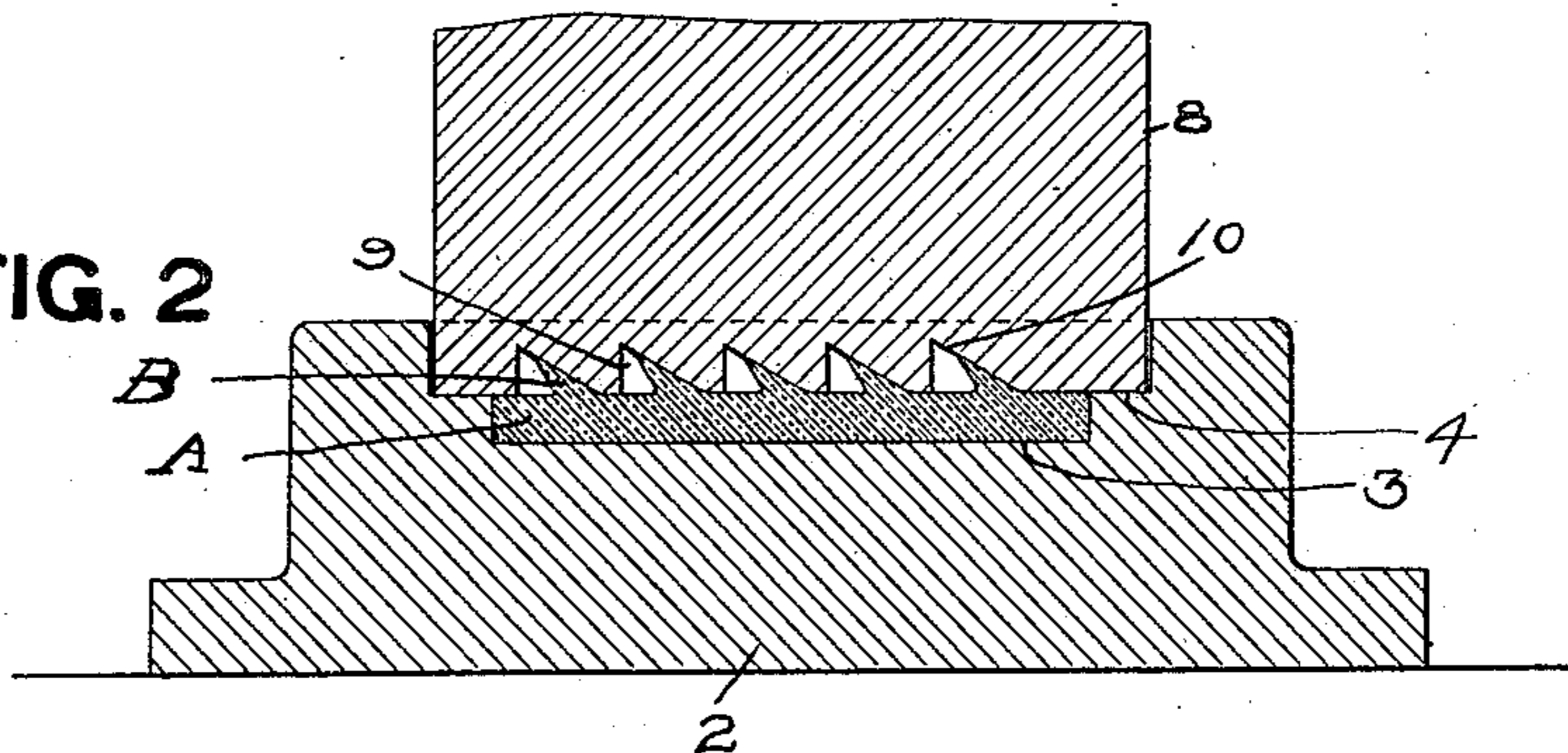


FIG. 3

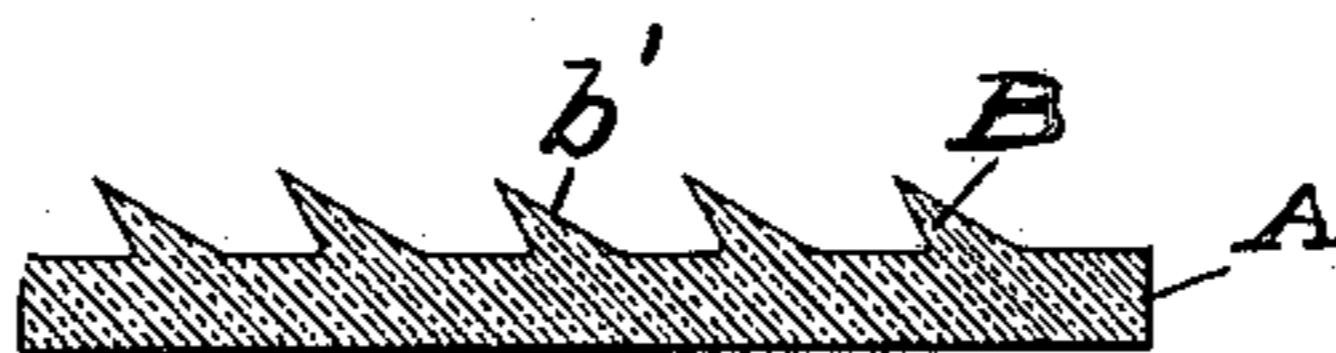
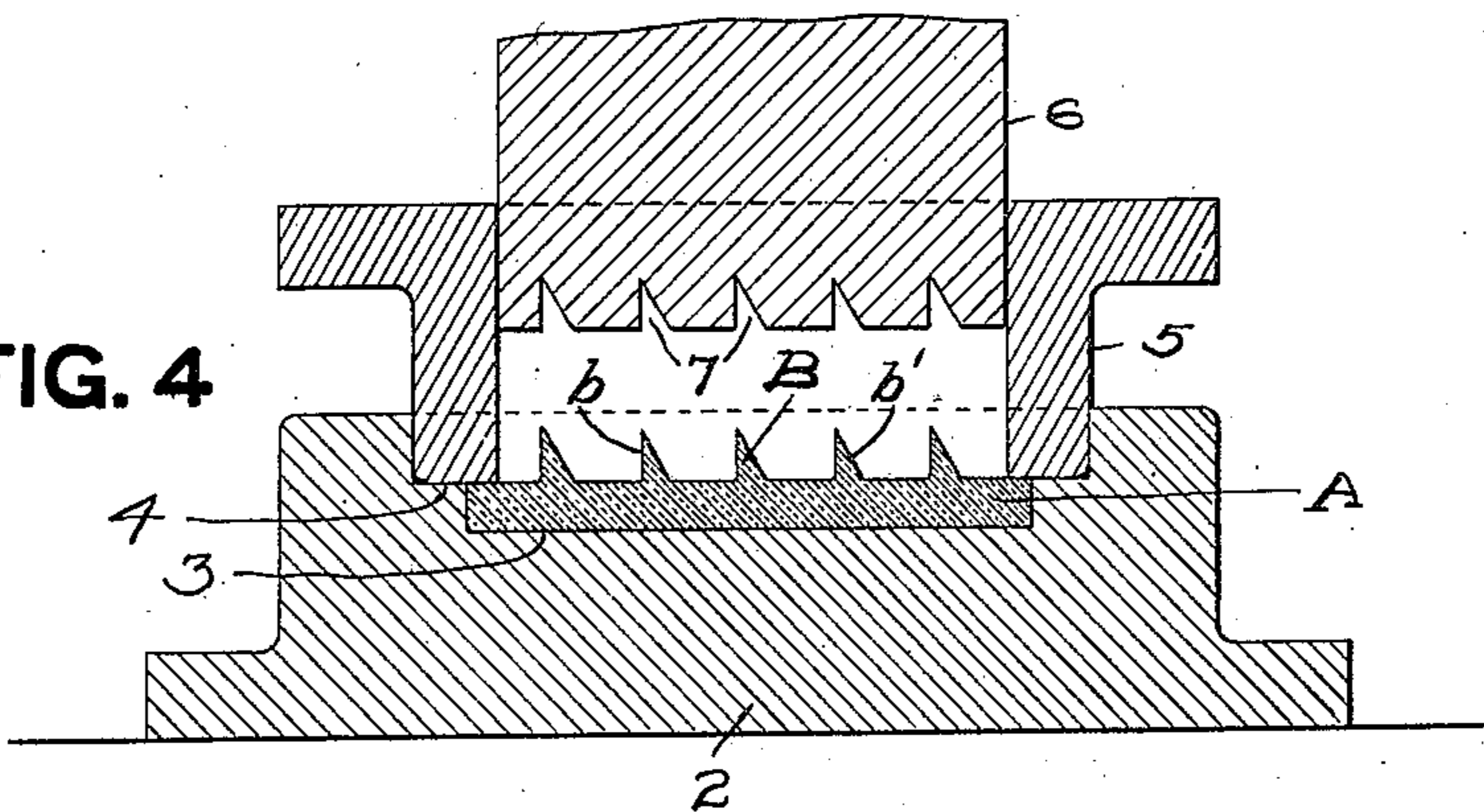


FIG. 4



WITNESSES.
M. A. Keller
Alberta P. P. P.

INVENTOR.
John S. Lukasko,
By J. J. V. V. V.

UNITED STATES PATENT OFFICE.

JOHN S. LUKASKO, OF WESTON, WEST VIRGINIA.

METHOD AND APPARATUS FOR FORMING GLASS TILES.

No. 917,470.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed October 4, 1907. Serial No. 395,865.

To all whom it may concern:

Be it known that I, JOHN S. LUKASKO, a resident of Weston, in the county of Lewis and State of West Virginia, have invented certain new and useful Improvements in Methods of and Apparatus for Forming Glass Tiles, of which the following is a specification.

This invention relates to the manufacture of glass tiles having ribs or "undercuts" on their rear faces for securing a firm hold in the cement backing in or on which the tiles are laid or placed, and the primary object is to provide for inclining the ribs with respect to the surface from which they project in order to obtain the necessary secure hold in the cement.

The invention is preferably practiced by pressing the tile in a mold with a suitable plunger, the latter having grooves in its pressing face into which the molten glass is forced, the plunger being of such shape as to readily disengage the tile and ribs and be removed from the mold. Upon the removal of the plunger, and with the tile remaining in the mold, the ribs thereof are subjected to the pressure of a former which bends over or inclines the ribs as desired, this being done while the glass is still sufficiently heated to permit of such bending.

In the accompanying drawings, Figure 1 is a sectional view of the improved forming device for practicing the new method, the former being shown raised and before engaging the tile, and Fig. 2 is a similar view showing the former entered in the mold, with the ribs of the tile bent thereby. Fig. 3 is a cross sectional view of the tile having the ribs thereof bent in accordance with the invention. Fig. 4 is a vertical sectional view of the tile pressing mechanism.

Referring to the drawings, 2 designates the mold body having the tile molding depression 3 corresponding exactly in outline and in depth to the tile which is formed therein. Extending around this depression is the base or shoulder 4 of the cup-like ring or collar 5, the latter however being of rectangular form like the tile and the molding-cavity, and with the passage therethrough of a size to closely fit the pressing plunger 6. The pressing face of the latter is formed with the V-shaped grooves 7.

Upon pressing tile A in the molding cavity 3, these grooves form upright ribs B on the rear face of the tile, the form of said grooves

being preferably such as to provide each of the ribs with a side face *b* disposed at right angles to the plane of the tile, and the other face *b'* disposed obliquely thereto, the two faces converging and forming an edge at the extremity of the rib. As soon as the tile is thus pressed and the plunger withdrawn, ring 5 is removed, and with the tile remaining in cavity 3 and before it has so cooled as to make the glass rigid, a former 8 is introduced, this former closely fitting the ring cavity of the mold and adapted on its under face to bear downward upon shoulder 4 and upon the uppermost surface of the tile as in Fig. 2, so that the tile has no opportunity to warp or become displaced. In the under face of the former are grooves 9 which are preferably larger than the ribs, each groove having an inclined face 10. The grooves are so disposed that when the former is introduced, the faces 10 bear downwardly upon the sloping surfaces *b'* of the ribs, and by the time the former has become seated it has bent the ribs laterally, with both faces thereof disposed obliquely to the surface of the tile from which they project, as clearly shown in Figs. 2 and 3.

It will be noted that this rib bending operation is performed while the pressed tile is still in the mold and while still in a heated state, so that there is no opportunity for the tile to warp or become displaced. I thus secure uniformity in the product, both as to the tiles and to the inclination of the securing ribs or "undercuts".

I claim:—

1. The method of forming glass tiles consisting in forming a tile body with projecting ribs, and then bending the ribs by subjecting each to a laterally pressing surface moving in a plane at right angles to the tile face from which the ribs project.

2. The method of forming glass tiles consisting in pressing a tile with ribs thereon, and subjecting the unribbed portion of the tile to a second pressing and simultaneously bending the ribs.

3. The method of forming glass tiles consisting in forming a tile body with ribs projecting from one face thereof, and then bending the ribs by subjecting each to an oblique pressure-applying surface moving in a plane at right angles to the tile face from which the ribs project.

4. The method of forming glass tiles consisting in forming a tile body with projecting

ribs, each rib having an oblique face, and then bending the ribs by subjecting the oblique face of each rib to an oblique pressure-applying surface moving in the direction in which the tile forming pressure is applied.

5 5. The method of forming glass tiles consisting in pressing a tile with ribs thereon, and subjecting the tile to a second pressing within its molding cavity and simultaneously bending the ribs.

10 6. The method of forming glass tiles consisting in pressing a tile with ribs having faces disposed obliquely to the plane in which the tile forming pressure is applied, and then subjecting said oblique faces to oblique pressure-applying surfaces moving in the plane in which the tile forming pressure is applied.

15 7. The combination of a mold having a tile-forming depression with means forming ribs on the tile while molding the latter and a former adapted to enter the mold and provided with grooves for embracing and bending laterally the ribs.

20 8. The combination with a tile mold having a tile-forming depression, and a pressing plunger having a series of rib-forming grooves in its pressing face, of a former adapted to enter the mold upon the with-

drawal of the plunger, the former having 30 grooves disposed differently from the grooves of the pressing plunger for bending the ribs formed by the plunger.

9. The combination with a mold having a tile-forming depression, and a plunger hav- 35 ing grooves on its pressing face, each groove molding a rib having a face disposed obliquely to the plane of the tile body, with a former adapted to enter the mold and having a groove for each rib, each groove having an 40 oblique face adapted to engage the oblique face of the rib and bend the latter.

10. The combination with a mold having a tile-forming cavity beneath a ring-space, a ring, and a plunger adapted to enter through 45 the ring and having rib-forming grooves in its pressing face, of a former adapted to closely fit within the ring-space of the mold and bear upon the tile, the former having grooves in which the pressed ribs are adapted 50 to enter and be bent laterally by the seating of the forming device.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN S. LUKASKO.

Witnesses:

E. RALSTON,
ERNESTINE RALSTON