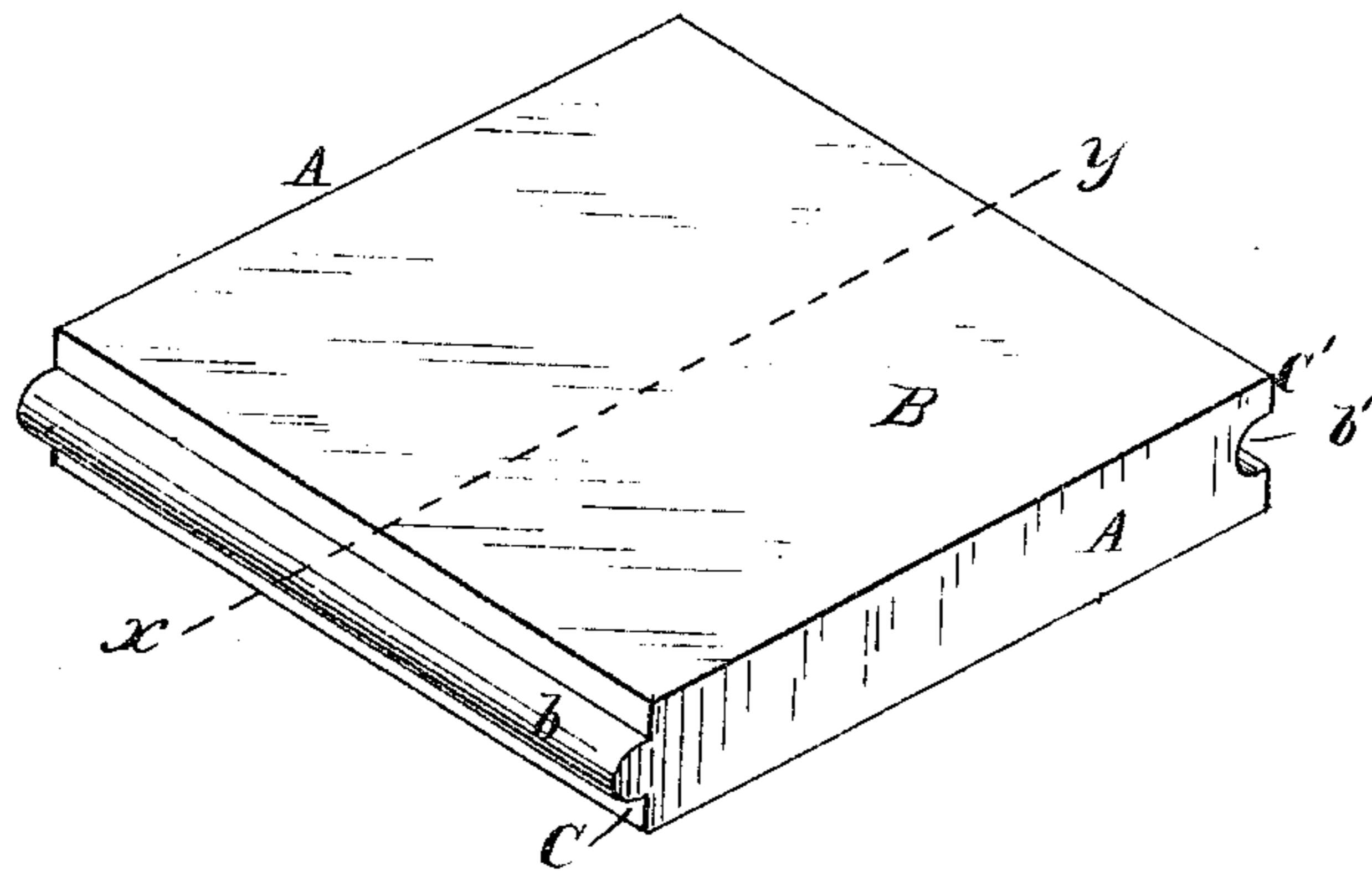


J. S. SMITH.  
Brick

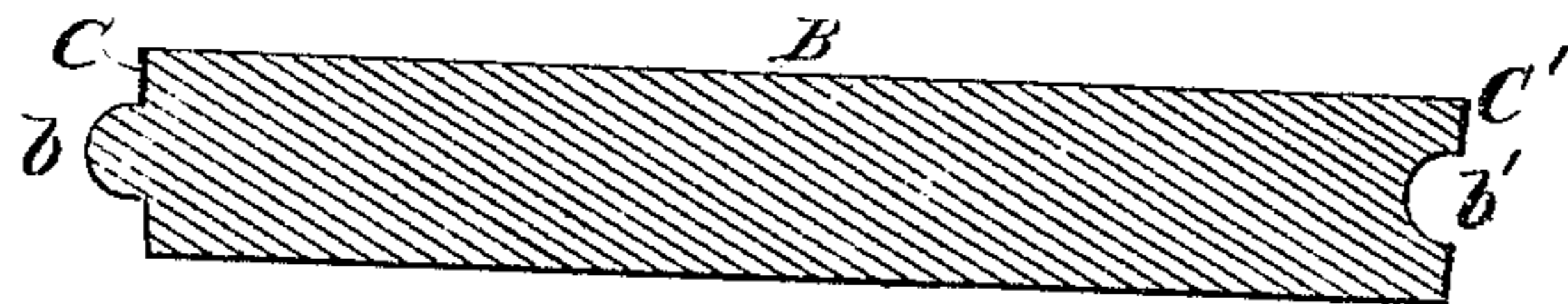
No. 229,766.

Patented July 6, 1880.

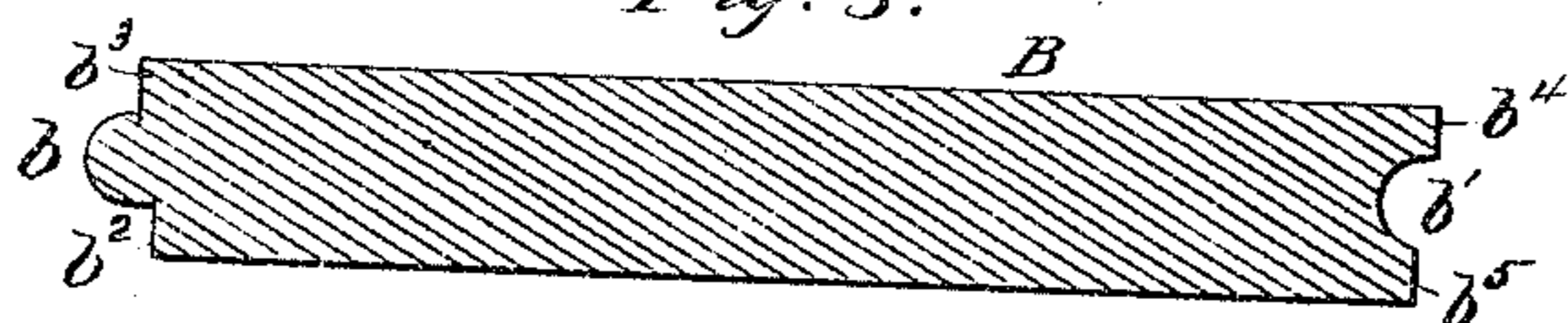
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

*H. N. Low.*  
*J. S. Barker*

*Inventor:*

*John S. Smith*  
*by W. H. Doubleday atty*

# UNITED STATES PATENT OFFICE.

JOHN S. SMITH, OF JACKSON, MICHIGAN.

## BRICK.

SPECIFICATION forming part of Letters Patent No. 229,766, dated July 6, 1880.

Application filed November 12, 1879.

*To all whom it may concern:*

Be it known that I, JOHN S. SMITH, of Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Bricks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to produce a brick which is specially adapted for pavements, sewers, arches, and other structures of similar character, in which it is desirable that adjacent bricks shall remain permanently in the plane, relative to each other, in which they are first placed.

To this end the invention consists in forming two edges of the bricks with corresponding ribs or tongues and grooves.

Figure 1 is a perspective view of my improved brick. Fig. 2 is a section taken on line *xy*; and Fig. 3 is a modification.

The bricks are made either square or rectangular in plan, as shown in Fig. 1, and of such thickness as the character of the work for which they are intended may indicate.

The two opposing sides *AA* are, by preference, made at right angles to the broad face *B* of the brick; but the edges or sides *CC'* are not formed upon planes at right angles to the face, but are formed at a less angle thereto, as shown plainly in Fig. 2.

*b* is a rib projecting from the side or edge of *C*, and there is a corresponding groove, *b'*, in the opposite side or edge, *C'*, so that each brick will interlock with the rib or groove of the adjoining bricks. Thus it will be seen that when the bricks are laid in an arch the sides or edges *CC'* will fit each other accurately. When preferred, however, the edges, instead of being made with the portions above and below the rib or the groove in a common plane, may be made as indicated in Fig. 3—that is to say, the lip *b<sup>2</sup>*, below the rib *b*, is shorter than the lip *b<sup>3</sup>* above said rib, and on the opposite side of the brick the shoulder *b<sup>4</sup>* projects farther than the shoulder *b<sup>5</sup>*, which is below the groove, the result being that when the bricks are laid in an arch these parts fit with the requisite accuracy. So also when the bricks are laid upon a flat surface, the projecting of the

shoulder *b<sup>4</sup>* beyond the lower shoulder and rib 55 and the lip *b<sup>3</sup>* insures that the upper edges of the adjacent bricks shall fit each other closely.

I propose to manufacture this brick by the use of a machine in which the clay is delivered in a continuous sheet from a cylinder 60 having in one end a suitable-shaped opening, said opening corresponding in cross-section to the shape of the brick, as shown in Fig. 2 or 3, and then cut the brick into the required length or width by any suitable cutting apparatus, preferably that heretofore patented 65 by me.

I am aware that bricks have been made having upon their opposite edges interlocking ribs and grooves; but, so far as I am aware, none 70 of them have ever been made with flat parallel faces and beveled edges provided with ribs and grooves, like my brick, which has certain advantages over those of earlier construction, in that they can be used for laying a 75 structure having a curved surface, like an arch, with their edges fitting tightly against each other; and by inverting the alternate bricks of the series they can be laid so as to form a plane surface with their edges in close con- 80 tact. Another advantage is that they can be made by forcing the clay in proper temper through a die having its sides in proper form to produce the rib and groove upon opposite sides of a continuous sheet or strip, which can 85 then be cut into suitable lengths by a cutter moving in a plane at right angles to the horizontal plane of the sheet or strip.

I am aware that a brick having ribs and grooves upon its sides has been made by passing a wire in a zigzag line through a sheet or body of clay, as set forth in English patent No. 12,884, of A. D. 1849; but said patent discloses no brick shaped like mine, nor any machinery by which such bricks can be advantageously made. 95

What I claim is—

The herein-described brick, having its upper and lower faces flat, and having two opposite edges beveled and grooved and ribbed, and 100 two other opposite edges in unbroken planes, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

JOHN S. SMITH.

Witnesses:

F. G. BENNETT,

WM. H. DICKEY.