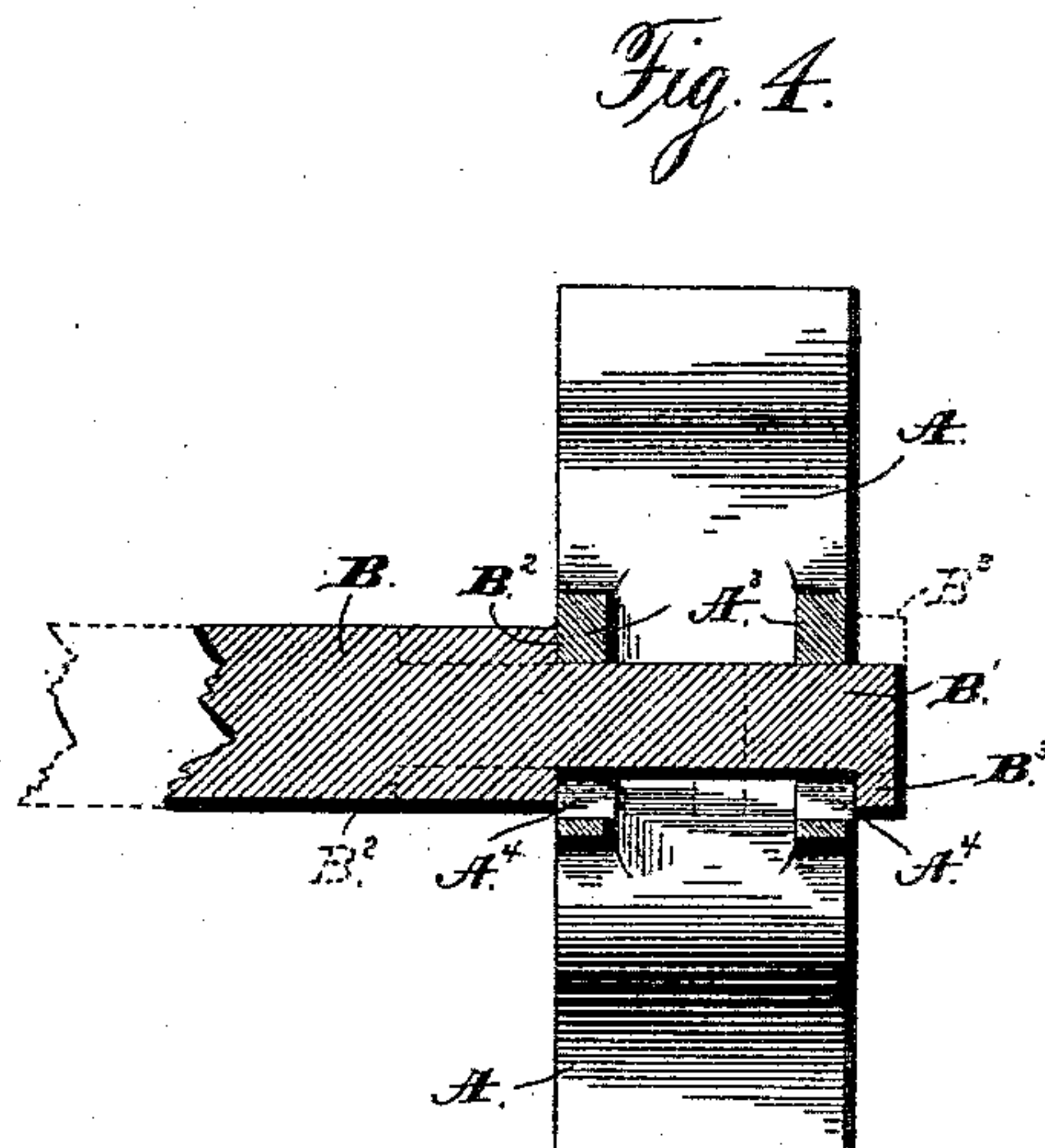
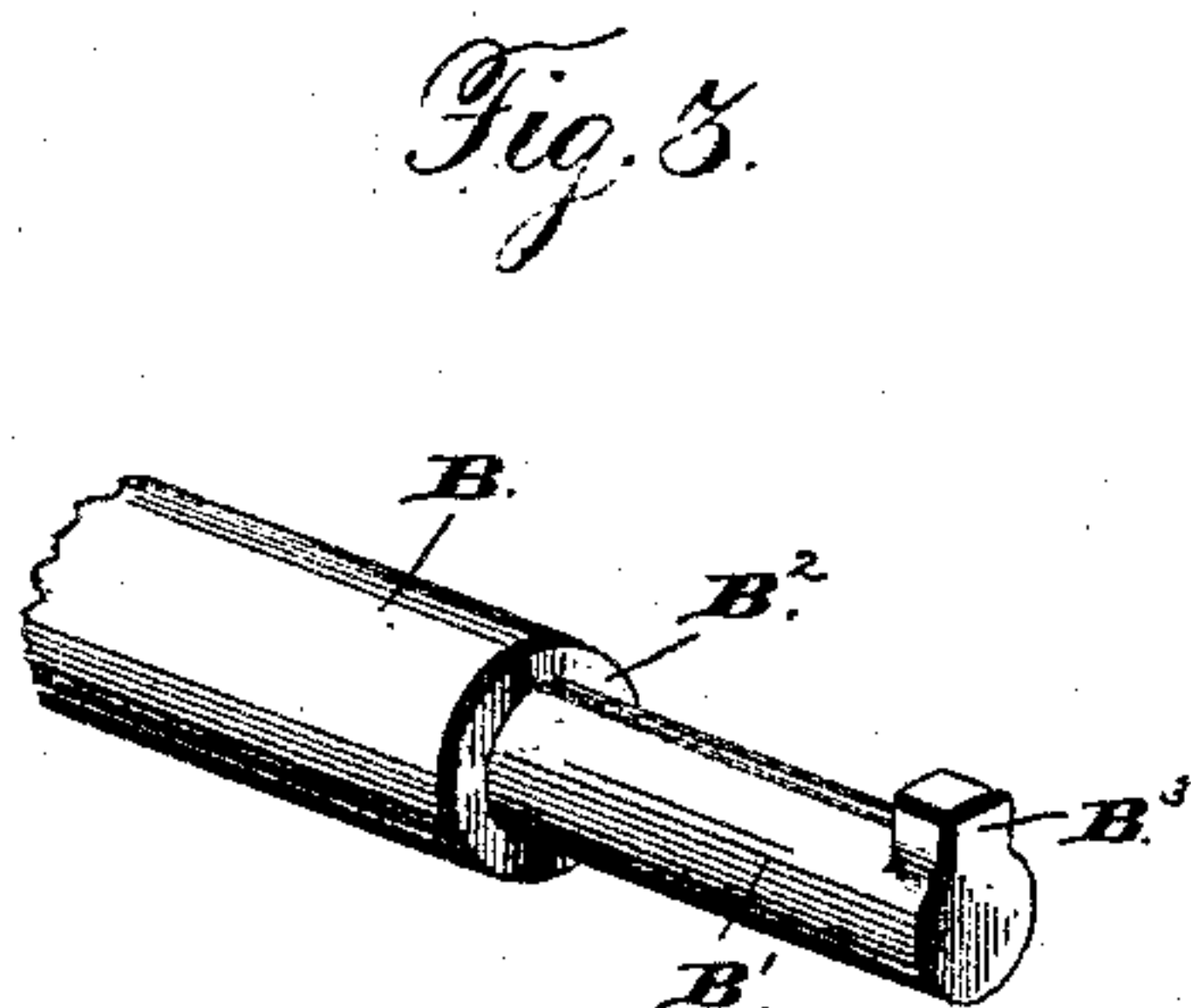
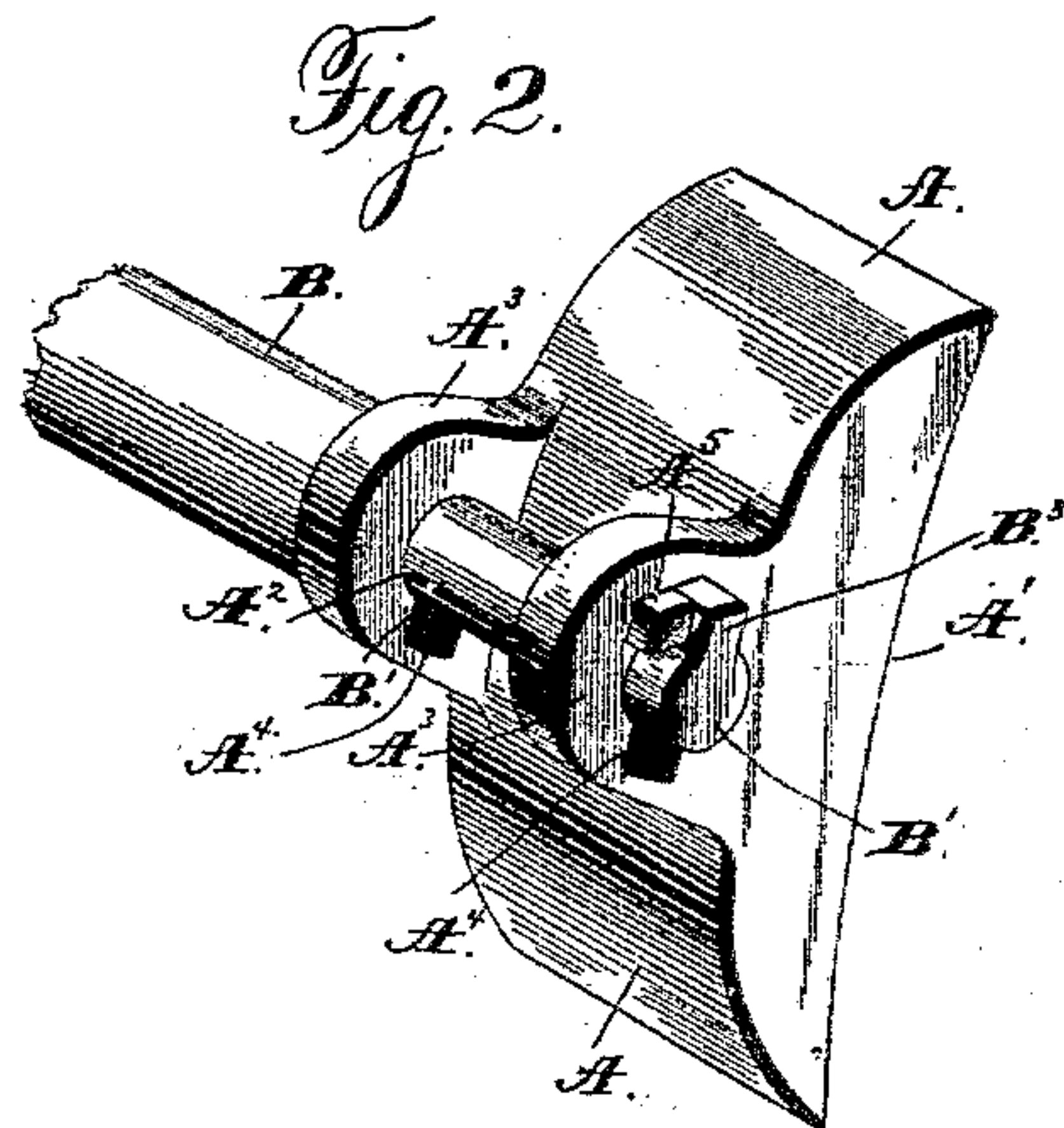
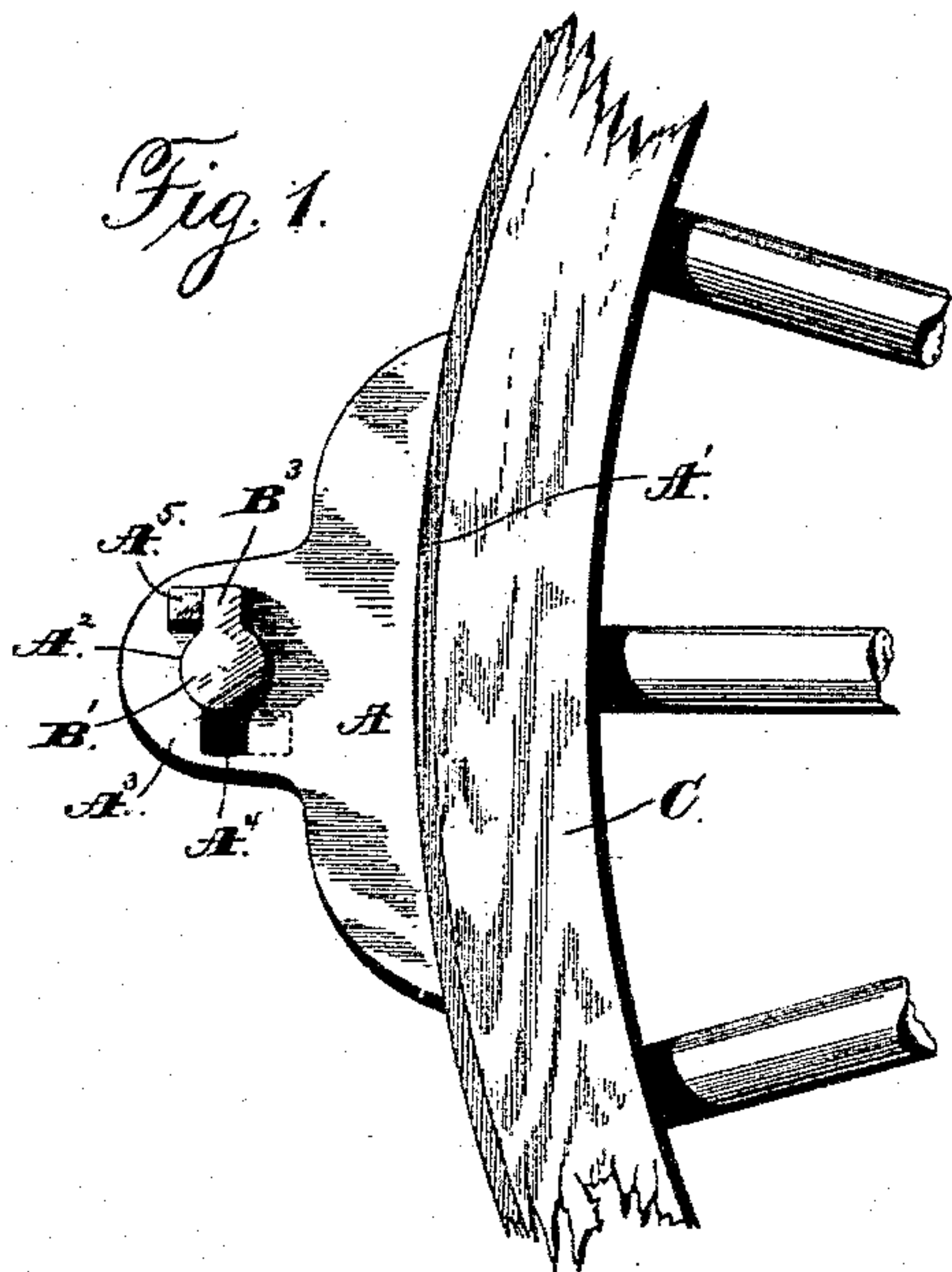


(No Model.)

**T. S. SMITH.**  
**BRAKE FOR VEHICLES.**

No. 401,224.

Patented Apr. 9, 1889.



Witnesses:  
Jas. E. Hutchinson.  
Henry C. Hazard.

Inventor.  
Thomas S. Smith  
by Prindle and Russell  
his attorney



# UNITED STATES PATENT OFFICE.

THOMAS S. SMITH, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF  
ONE-HALF TO HENRY COPPERTHITE, OF SAME PLACE.

## BRAKE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 401,224, dated April 9, 1889.

Application filed December 29, 1888. Serial No. 294,960. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS S. SMITH, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows in side elevation a brake-block constructed and supported in accordance with my invention; Fig. 2, a perspective view of the same; Fig. 3, a similar view of the end of the brake-bar with the brake-block removed; and Fig. 4, a transverse sectional view of the block, showing the manner of placing the same on the brake-bar.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide certain improvements in brakes; and to this end my invention consists in the brake and in the construction, arrangement, and combination of the parts thereof, as hereinafter specified.

In brakes as heretofore made the brake-block has been attached to or held in place on the brake-bar by various forms of fastenings—such as nuts, set-screws, and pins—all of which have been detachable and liable to break or work loose, so as to leave the brake-block free to work off of the bar and get lost.

It is the special purpose of my present invention to provide simple and efficient means for securely locking the brake-block on the bar without the use of screws, nuts, or other objectionable detachable devices.

In the drawings, A designates the brake-block, which can be of any desired material and general form or construction, and B designates the brake-bar, to which it is attached. As usual, the block has its face A', for engaging the wheel C, made slightly concave to correspond in curvature with the wheel-tire, while at its back, or on the side opposite to such face, it has a socket or opening, A<sup>2</sup>, for receiving the stem or shank B' on the brake-bar. This socket or opening can be made through a single lug or projection on the block, but, as shown in the drawings, is in two lugs or ears, A<sup>3</sup> A<sup>3</sup>, situated in line with each other

at opposite sides of the back of the block, with a space between them.

The bar shank or stem B' is preferably made round in cross-section, as shown, the receiving-opening in the brake-block being correspondingly shaped, though I do not limit myself to such form. At the inner end of the shank B' the bar B has a shoulder, B<sup>2</sup>, adapted to engage the inner lug or ear A<sup>3</sup> on the block, so as to hold the latter from movement inward along the bar. On the outer end of the shank, in position to engage the outer side of the outer ear, is a lug, B<sup>3</sup>. To admit of putting the brake-block on the shank, an offset, A<sup>4</sup>, is made at one side of the shank-receiving opening. With the brake-block turned so as to bring this offset around to the lug B<sup>3</sup>, the block can obviously be slid directly upon the shank. As the block is slid on, the lug passes through the notch or offset until it reaches the outer end of the shank socket or opening. If now the block be turned on the bar shank or stem so as to bring the offset A<sup>4</sup> out of line with the lug B<sup>3</sup>, the latter will obviously hold the block securely between itself and the shoulder B<sup>2</sup>, so that it cannot come off or move longitudinally with reference to the bar. The offset for admitting the passage of the lug is so situated, as shown, that when the brake-block is in place, with its wheel-tire-engaging face turned toward the wheel, it is out of line with the lug. It is preferably so situated that with the block in operative position the lug and offset are at opposite sides of the bar shank or stem receiving opening A<sup>2</sup>. The block cannot then get off of such shank or stem without making a half-revolution thereon, which it cannot do as long as the wheel is in place.

To keep the block, supported as described, at its back from tilting, so as to bring its upper portion in contact with the wheel-tire when the brake is not in operation, I provide the block with a lug or shoulder, A<sup>5</sup>, to engage the lug B<sup>3</sup> on the stem B'. When the lug B<sup>3</sup> is, as shown in the drawings, on the upper side of the stem, the lug A<sup>5</sup> is so situated as to engage the side of such former lug away from the brake-block face. With the stem-lug on the under side of the stem, the lug A<sup>5</sup> would, obviously, be arranged to engage it on the side



toward the block-face A', as shown in dotted lines.

My brake-block, constructed as shown and described, is slid onto the bar-stem and turned  
5 into operative position before the wheel is put on, and after the wheel is in place cannot get off of the brake-bar. It is held securely in place by the lug B<sup>3</sup> without the intervention or aid of any screw, nut, or other detachable  
10 device. As indicated hereinbefore, I do not limit myself to the two lug or ear construction of the attaching portion of the block.

If desired, a single projection extending across the back of the block and having the  
15 shank-opening and offset A<sup>4</sup> running through it from side to side can be used.

Having thus described my invention, what I claim is—

1. In combination with the brake-bar having a suitable shank or stem, the brake-block  
20 having an opening to receive such stem, and a lug on the stem engaging a portion of the block, so as to hold it in place on the stem, substantially as and for the purpose specified.

25 2. In combination with the brake-block having the opening for reception of a supporting-stem, the brake-bar having a stem extending through such opening, and a shoulder and lug at opposite ends of the opening to  
30 hold the block in place on the stem, substantially as and for the purpose shown.

3. In combination with the brake-block having the shank-receiving opening with an offset at one side, the brake-bar having a stem or shank to enter the opening in the brake-  
35 block, and having the shoulder and the lug to engage the block at opposite ends of the opening, with the lug so situated as to be out of line with the offset from the opening when the block is in operative position, substantially as  
40 and for the purpose set forth.

4. In combination with the brake-bar having the brake-block-supporting shank and the shoulder and lug at opposite ends of such  
45 shank, the brake-block having the shank-receiving opening with an offset so situated as to be out of line with the lug on the shank when the block is in operative position, and a lug or shoulder on the block to engage the  
50 lug on the stem, so as to limit the rotation or tilting of the block, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of December, A. D. 1888.

THOMAS S. SMITH.

Witnesses:

HENRY C. HAZARD,  
CHAS. J. WILLIAMSON.