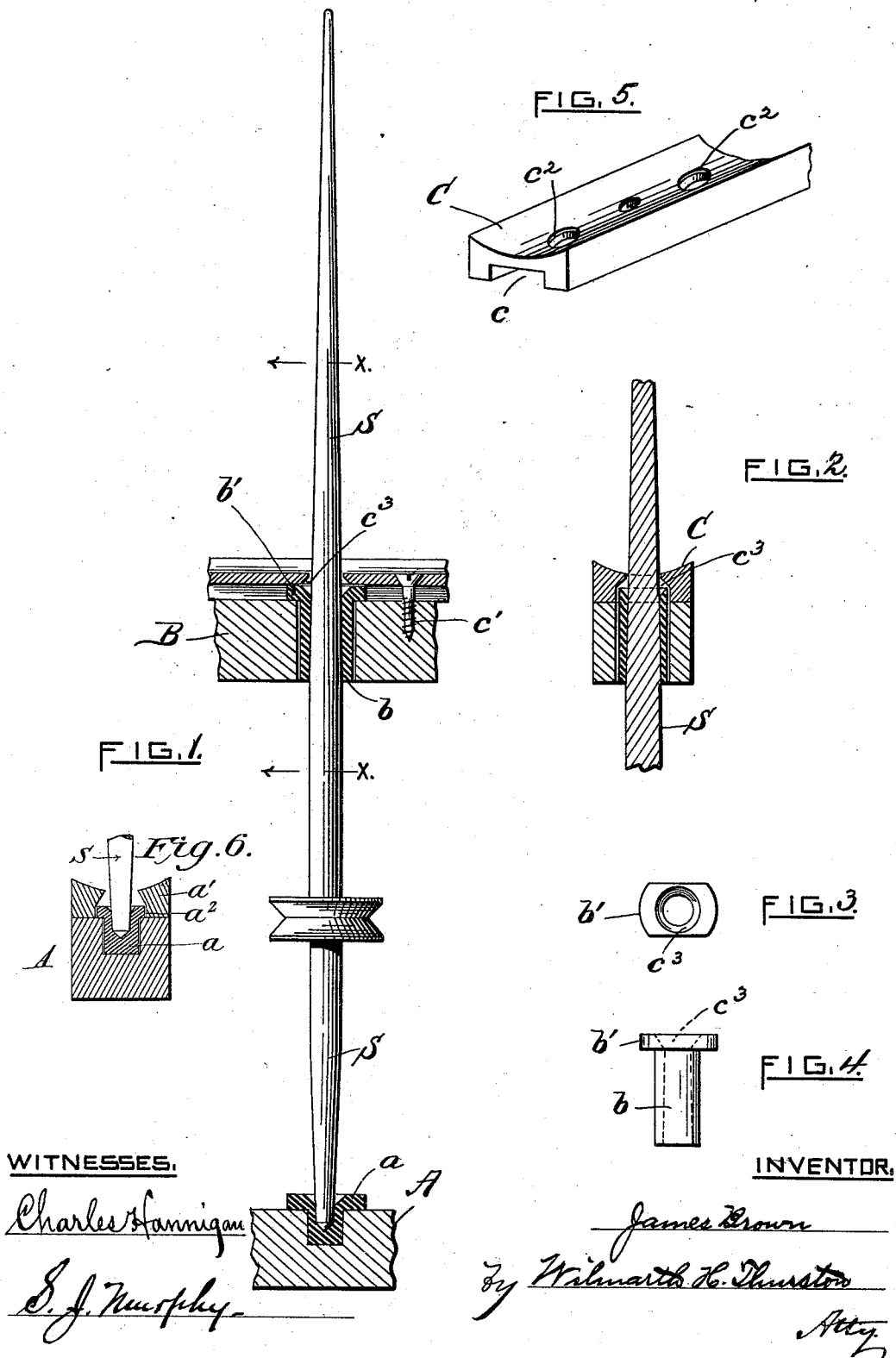


(No Model.)

J. BROWN.  
SPINNING MACHINE.

No. 554,360.

Patented Feb. 11, 1896.



# UNITED STATES PATENT OFFICE.

JAMES BROWN, OF PAWTUCKET, RHODE ISLAND.

## SPINNING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 554,360, dated February 11, 1896.

Application filed August 23, 1895. Serial No. 560,191. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BROWN, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning-Machines; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

The invention relates to the manner of supporting the spindles of a spinning-machine; and it consists in the combinations and arrangements of parts hereinafter described.

Referring to the drawings, Figure 1 represents in vertical section a portion of the bolster and step rails of a two-rail spinning-machine with a spindle mounted therein. Fig. 2 is a transverse section of that portion of Fig. 1 between the lines *x x*. Fig. 3 is a top view, and Fig. 4 an elevation, of the bolster-bearing. Fig. 5 is a view in perspective of a portion of the top plate, and Fig. 6 is a detail view of a modified form of step-bearing.

The step-rail A and bolster-rail B are to be secured to the frame of the machine in the usual manner and are provided respectively with the step-bearing *a* and the bolster-bearing *b* to support the spindle S. The bolster-bearing *b* is fitted loosely in the bolster-rail, so as to be free to move laterally therein in all directions. Said bolster-bearing is provided with a projecting flange *b'* at its upper end; but this flange, instead of being annular in form, as usual, is cut away on opposite sides, as shown in Fig. 3, so as to form in effect two projecting lugs, which, when the bolster-bearing is inserted in the bolster-rail, rest upon the upper surface of said rail and serve to support the bolster vertically therein. The under side of the lugs *b'* may be flat or more or less rounded, as desired.

C represents a top plate adapted to be secured to the upper surface of the bolster-rail and provided with a central groove or slot *c* upon its under side extending lengthwise of the plate. The groove *c* is to be of proper width to receive the projecting flange or lugs *b'* on the upper end of the bolster-bearing freely therein and so that when the top plate C is secured in place on the bolster-rail, as by screws *c'*, the flange or lugs *b'* will enter

said groove *c* in the top plate and the bolster-bearing be thereby prevented from turning with the spindle, the fit between said lugs *b'* and the walls of the groove *c* being such as not to interfere with the free lateral play of the bolster-bearing in the bolster-rail.

It will be understood that the top plate C extends the entire length of the bolster-rail and so that when in place the flanges or lugs of all the bolster-bearings will be received within the groove *c* and be held against turning by the walls of said groove. The top plate is provided with holes or apertures *c²*, suitably spaced, through which the spindles project, said apertures being preferably only slightly larger in diameter than the diameter of the spindles. Preferably, also, each of these holes *c²* is countersunk on the under side of the top plate, as shown in the drawings, which countersink, in connection with the usual countersink in the upper end of the bolster, serves to form a pocket or receptacle *c³* for oil.

The upper surface of the top plate C is hollowed out somewhat or concaved, as shown, and so that oil poured upon said upper surface of the top plate will flow toward the holes or apertures *c²*, and through the same into the pockets *c³*, and thence between the bolster-bearing and the spindle to lubricate the same. The inclined walls of the countersink on the under side of the top plate, and especially with the diameter of the hole *c²* only slightly greater than the diameter of the spindle, serve to prevent the oil from being thrown back again above the top plate by the revolution of the spindle. Thus the oil is conducted to lubricate the bearing, and is kept where it is required. The groove *c*, or at least that part of it which overlies the bolster-bearing, is cut deep enough so that when the top plate is secured in place on the rail the bottom of the groove will not bear against the upper face of the bolster or its flange, in order that the freedom of movement of the bolster in its rail shall not be in any way interfered with. Said top plate will, however, prevent the bolster-bearing from rising but slightly above its normal position.

The top plate C, instead of being made in one piece extending the entire length of the bolster-rail, may, if desired, be made in sec-

tions, and so also, if desired, instead of forming the groove *c* to extend the entire length of the top plate, separate grooves or recesses may be formed in the under side of the top plate, one to receive the flange or lugs of each bolster-bearing.

In the arrangement shown in the drawings the step-bearing *a* is fixed in the step-rail *A* in the usual manner. If desired, however, the construction and arrangement of parts shown and described in the case of the bolster-bearing may be employed in the case of the step-bearing—that is to say, the step-bearing may, if desired, be loosely mounted in the step-rail with its flange cut away on opposite sides, and a top plate *a'*, provided with a groove *a*<sup>2</sup> on its under side, may be secured to the upper face of the step-rail to embrace the flanges or lugs of the step-bearings and prevent them from rising or from turning with the spindles. I prefer, however, to have only one of the bearings loosely mounted in its rail, and if the step-bearings be so mounted I would then have the bolster-bearing fixed in its rail.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the rail of a spinning-machine, of a bearing loosely mounted in said rail, said bearing being provided at its upper end with a projecting lug and a top plate secured to the upper surface of said rail, said top plate being provided on its under

side with a groove or recess to receive the projecting lug of said bearing and prevent the bearing from turning in said rail, substantially as described.

2. The combination with the rail of a spinning-machine of a bearing loosely mounted in said rail, said bearing being provided at its upper end with a projecting flange cut away on opposite sides to form supporting-lugs to support said bearing vertically in its rail, and a top plate secured to the upper surface of said rail, said top plate being provided on its under side with a groove or recess to receive the projecting lugs of said bearing and prevent the bearing from turning in its rail, substantially as described.

3. The combination, with the rail of a spinning-machine, of a bearing loosely mounted in said rail, said bearing being provided with a projecting lug, and a top plate secured to the upper surface of said rail, said top plate being provided on its under side with a groove or recess to receive the projecting lug of said bearing, and being also provided with a hole or aperture for the spindle countersunk on the under side of the top plate to form an oil receptacle or pocket, substantially as described.

JAMES BROWN.

Witnesses:

S. J. MURPHY,  
W. H. THURSTON.