

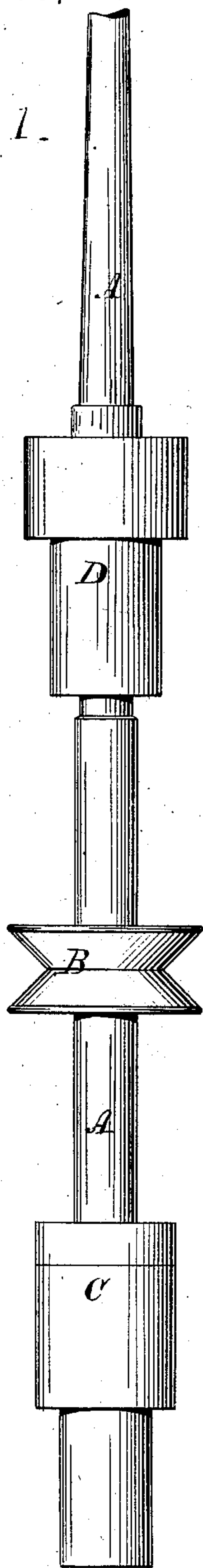
(No Model.)

A. S. HOPKINS.
SPINDLE AND BEARING THEREFOR.

No. 259,016.

Patented June 6, 1882.

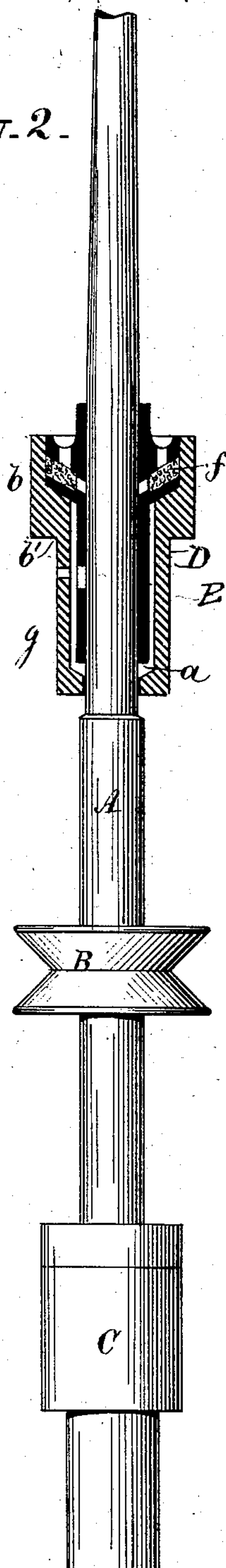
Fig. 1.



WITNESSES:

H. J. Miller
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Fig. 2.



INVENTOR:

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Fig. 4.

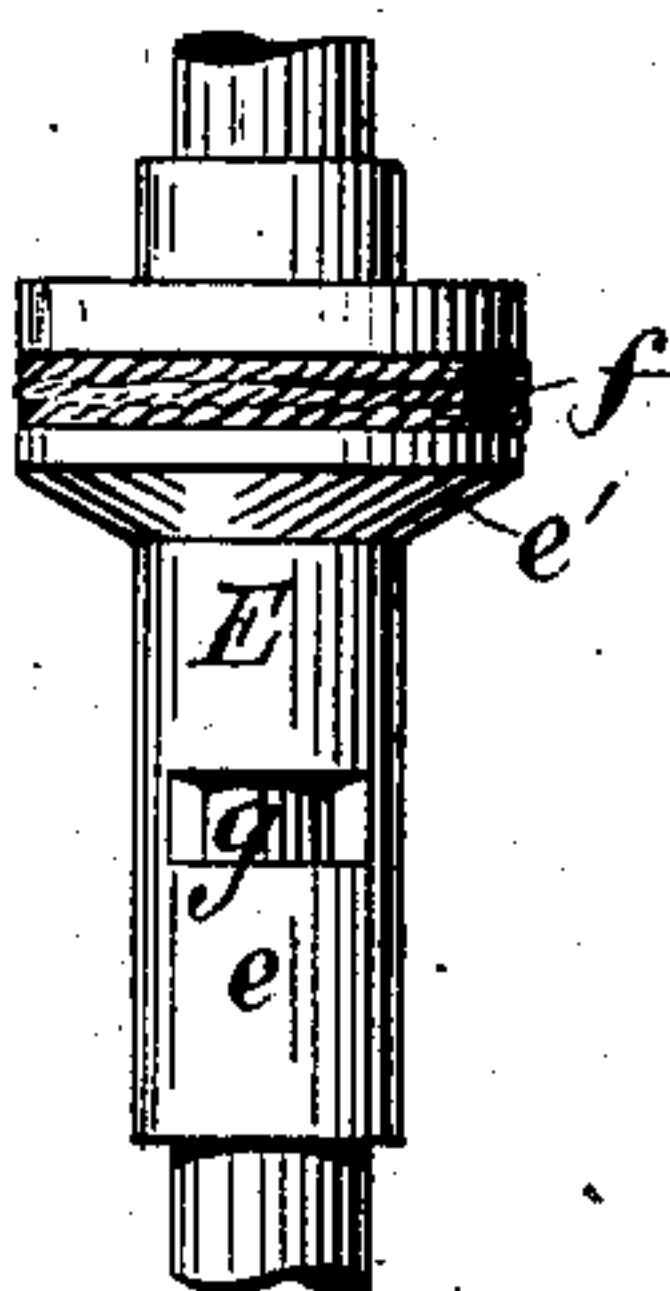


Fig. 5.

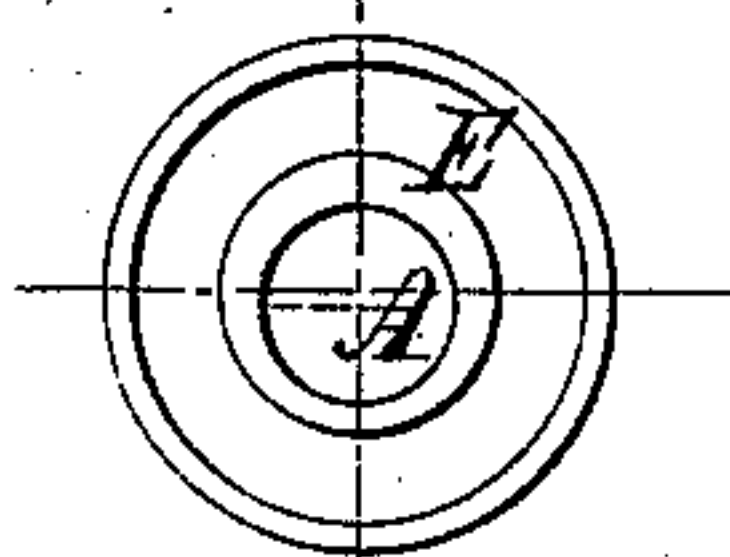
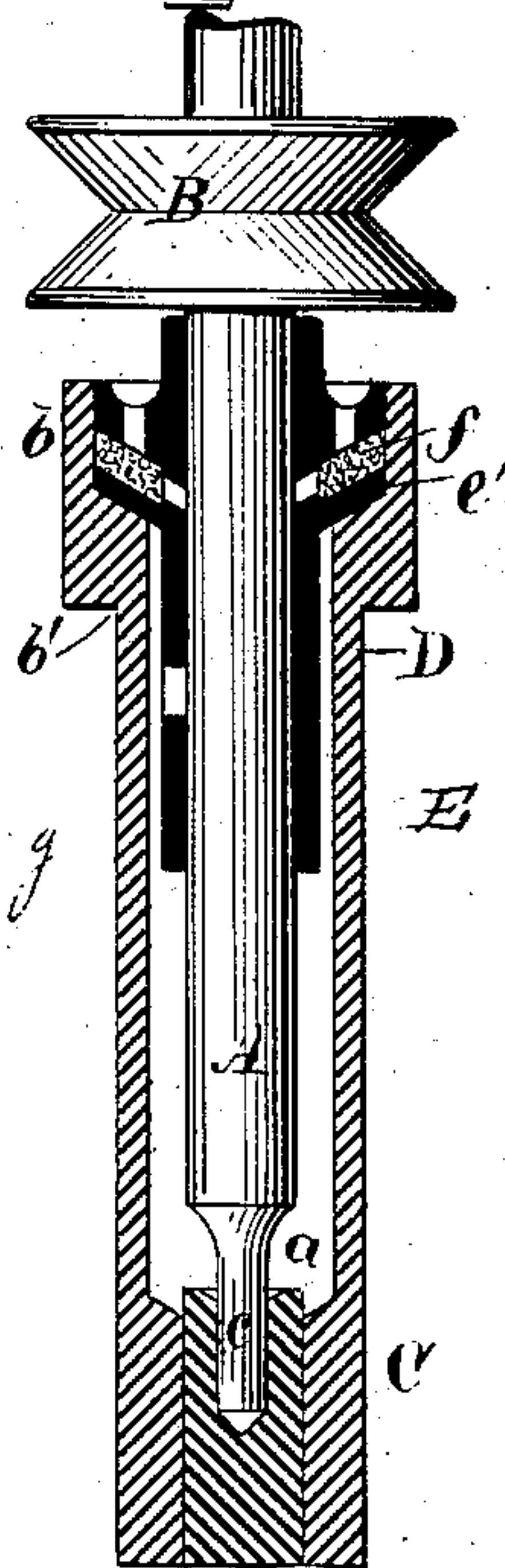


Fig. 3.



UNITED STATES PATENT OFFICE.

ADDISON S. HOPKINS, OF PASCOAG, RHODE ISLAND.

SPINDLE AND BEARING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 259,016, dated June 6, 1882.

Application filed January 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, ADDISON S. HOPKINS, of Pascoag, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Spindles; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in spindles for spinning-machines; and it consists in the peculiar and novel construction of the bolster or bearing, as will be more fully set forth hereinafter.

Figure 1 is a view in elevation of the spindle, showing also the bolster-case, the whirl, and the step. Fig. 2 is a similar view, the bolster and bolster case or bearing being shown in section. Fig. 3 is a sectional detail, showing a modification whereby the step and bolster case or bearing are adapted to be both mounted on one rail. The whirl in this figure is shown above the bolster. Fig. 4 is a view of the bolster; and Fig. 5 is an end view of the bolster, showing the bearing for the spindle eccentric with the bolster—that is to say, the axis of the spindle-bearing is on one side of the axis of the bolster.

In the drawings, A is the spindle; B, the whirl; C, the step; D, the bolster-case, which is secured in the bolster-rail, and E the bolster.

The bolster-case D consists of the oil-well *a* and the enlargement *b*, in which the bolster E rests, and which on the outside forms the shoulder *b'*, by which the bolster-case D rests on the bolster-rail.

The bolster E is composed of a metal tube, *e*, supported in the oil-well *a* by a projecting flange, *e'*, the cone-shaped lower side of which rests on a countersunk cone-shaped shoulder in the enlargement of the bolster-case.

f is an annular groove made into the projection *e'* of the bolster. This groove is made on the same angle, or nearly so, as the bearing on the projection, so that oil will run down this groove through holes communicating with the spindle-bearing. This groove *f* is filled with wicking, and the upper surface of the projection is dished or grooved to receive the oil,

holes being made to allow the oil to strain through the wicking in the groove *f*.

g is an opening in the bolster-tube *e*, connecting the spindle-bearing with the oil-well *a*.

It will be seen by examining Fig. 5 that the bearing for the spindle A is not concentric with the bolster, but the center is a little on one side of the center of the bolster. This eccentricity is shown by the broken lines indicating the centers, and although the centers are to be but very little one from the other, the effect on the running of the spindle is considerable, and I will now describe this more fully.

The projecting shoulder of the bolster fits into the enlargement of the bolster-case, but not so tightly but what the bolster may turn in the case when the spindle binds in its bearing, the tube *e* being free to adjust itself in the oil-well. The tapering cone-shaped bearing *e'* facilitates such adjustment, which would not be the case with a square shoulder or bearing. When now the bolster-case is adjusted to the spindle and a bobbin is placed on the spindle the true axis of the spindle and load may be slightly changed by the unequal distribution of the load, and the spindle-bearing will have a tendency to bind in the bolster, the bolster will turn with the spindle part of a revolution, and the axis of the spindle will change sufficiently to bring the same into the true center of the load. The spindle will now turn free and the bolster will retain this position until a new bobbin will require a new adjustment, or until the yarn load will change the true center of rotation. By this arrangement a self-adjusting and yet fixed bearing is secured, and the spindle can be run at a high speed with great steadiness.

I am aware that bolsters having an eccentrically-arranged spindle-bearing have heretofore been used, and this I do not claim broadly.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A spindle-bolster consisting of a tube having at its upper end a circular flange arranged eccentrically with relation to the bore or spindle-bearing of the tube, said flange being beveled upon its lower and provided upon its upper side with a circular groove, and having formed in its peripheral edge an inclined groove,

which communicates through openings with said circular groove and with the spindle-bearing.

2. The combination, substantially as before
5 set forth, of the spindle, the bolster-case provided with an oil-well, *a*, and an enlargement, *b*, having a beveled shoulder, and the bolster having a flange, *c'*, which is provided with an

annular groove communicating through oil-holes with the spindle-bearing of the bolster. 10

In witness whereof I have hereunto set my hand.

ADDISON S. HOPKINS.

Witnesses:

M. E. EMERSON,

J. A. MILLER, Jr.