

J. COE.  
Steam-Engine Governors.

No. 149,199.

Patented March 31, 1874.

Fig. 1.

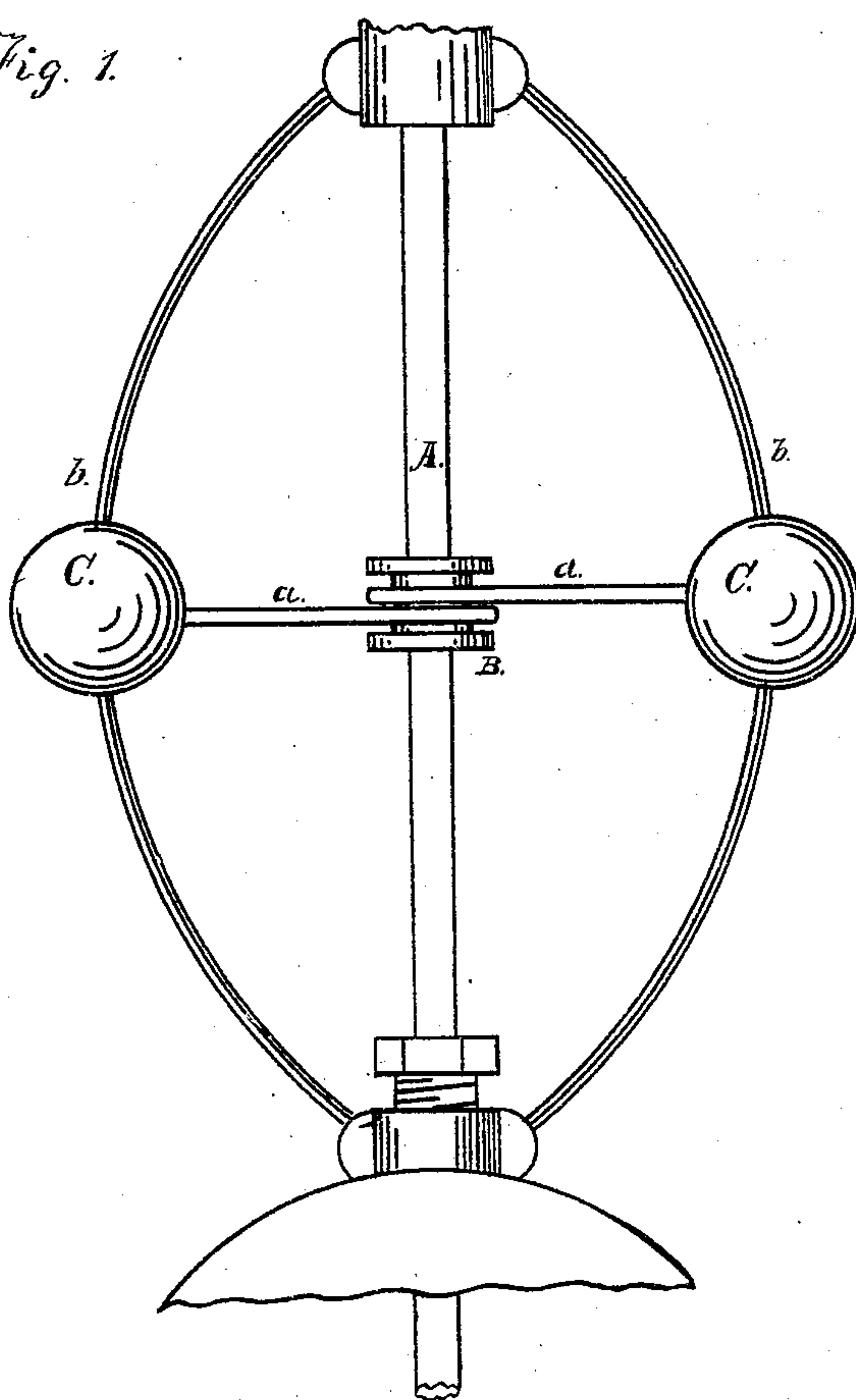
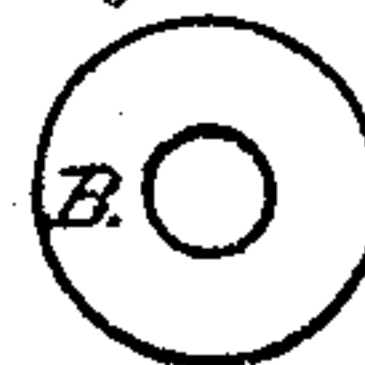


Fig. 2.



Fig. 3.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOSEPH COE, OF WINONA, MINNESOTA.

## IMPROVEMENT IN STEAM-ENGINE GOVERNORS.

Specification forming part of Letters Patent No. **149,199**, dated March 31, 1874; application filed March 9, 1874.

*To all whom it may concern:*

Be it known that I, JOSEPH COE, of Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Pickering Steam-Engine Governors; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to improvements in steam-governors known as the Pickering steam-engine governor, and consists of a spool or sleeve placed upon the valve-stem to prevent the wearing of the valve-stem by the ball-staple, as hereinafter described and claimed.

In the drawing, Figure 1 represents a Pickering governor, with my improvement attached. Fig. 2 is a side view of my invention removed from the valve-stem. Fig. 3 is an end view of the same.

A is the valve-stem. C is the governor-ball; *a a*, the staples, and *b b* the springs; and B represents the sleeve or spool. When the valve-stem A is new and its surface smooth it works well; but the action of the staples *a* will wear grooves or notches in its sides, and cause it to move unsteadily; as, for instance, if the engine should increase its motion, the balls

should throw out and cause the valve-stem A to descend and cut off a portion of the steam at once in order to regulate the motion; but the valve-stem A being worn, and the staple *a* being already in the groove worn in the stem, the valve-stem will not move readily in consequence of the staples until the engine acquires such speed that the balls C overcome the resistance of the staples *a* in the grooves, when it will slip out with a jerk, and, of course, will throw too far, causing very unsteady motion of the engine. This difficulty I remedy by means of the sleeve B, which I place upon the valve-stem A, and around which I pass the wires of the staples *a*, thus leaving a smooth bearing upon the valve-stem always, which may be made of any length to accommodate different styles and sizes of stems and governors.

I lay no claim to the governor or any of its parts, except that

I claim as my invention—

The sleeve B, in combination with the valve-stem A and staples *a*, substantially as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 25th day of February, 1874.

JOSEPH COE.

Witnesses:

THOMAS SIMPSON,  
WM. B. PHELPS.