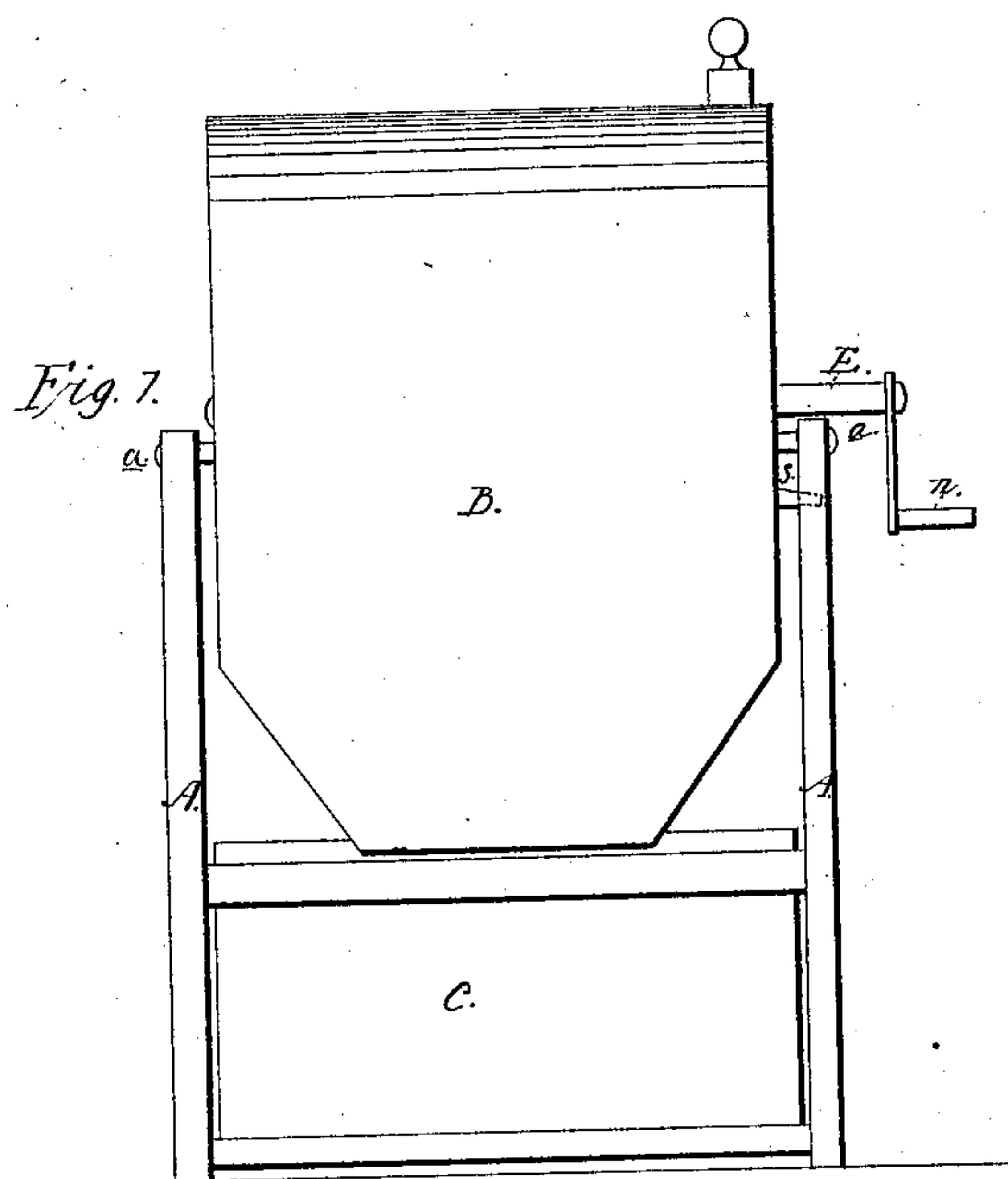
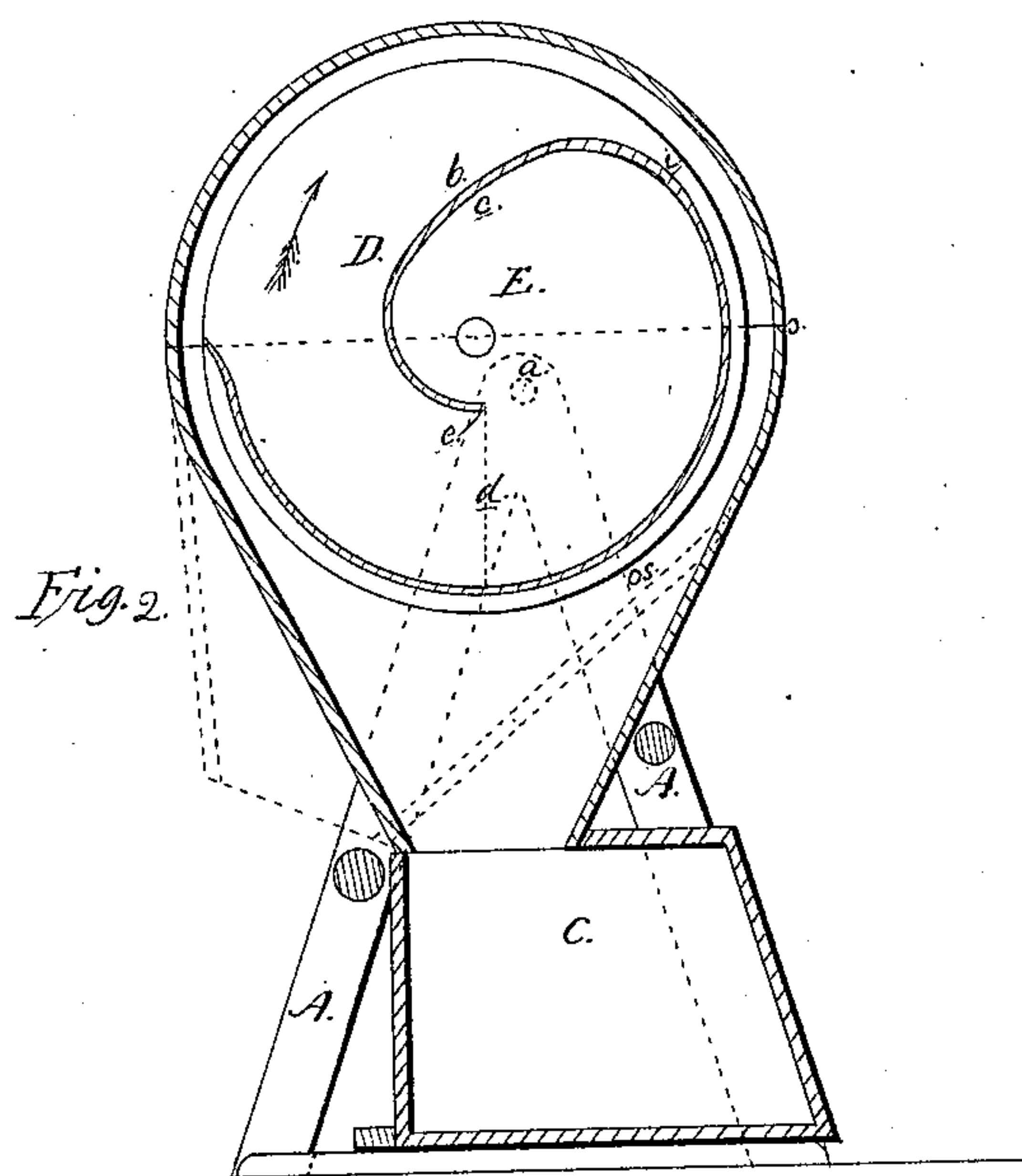


*E. S. Boynton,*

*Coal Screen.*

*N<sup>o</sup> 44,157.*

*Patented Sep. 13, 1864.*



*Witnesses*  
*E. S. Boynton*  
*Jeremy W. Bliss*

*Inventor:*  
*E. S. Boynton*

# UNITED STATES PATENT OFFICE.

EDWARD S. BOYNTON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO HIMSELF AND NATHAN BENHAM, OF SAME PLACE.

## IMPROVED COAL AND ASH SIFTER.

Specification forming part of Letters Patent No. 44,157, dated September 13, 1864.

*To all whom it may concern:*

Be it known that I, EDWARD S. BOYNTON, of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Sifters for Sifting Coal and Various other Substances; and I do hereby declare that the same is described and represented in the following specification and drawings; and to enable others skilled in the art to make and use the same I will proceed to describe its construction and operation by referring to the drawings, in which the same letters indicate like parts in each of the figures.

The nature of this improvement will be fully understood from the specification and drawings. The object desired to be attained thereby is to produce a simple, effectual working, and durable machine for sifting coal and other articles.

In the accompanying drawings, Figure 1 shows a front elevation. Fig. 2 is a side sectional view.

A is the frame-work in or upon which the mechanism is arranged. B is a hopper-case, which is hung eccentric upon the trunnions *a*, so that it may oscillate thereon when desirable, and so that its preponderance of weight shall tend to hold it in its proper place in the aperture cut in the top of the ash box C. D is the cylinder-head, which is made of two thicknesses of wood. The inner head has a groove cut through and through of sufficient thickness or width to receive the thickness of the sieve, (see double lines *b c*,) and the head separated into two parts, (see dotted line *d*,) after which the center portion of the inner head is secured to the outer heads, and the two heads thus prepared are secured upon the shaft E at the proper distance apart to receive the width of the wire sieve between the outer heads, and rest upon and nailed to the edge of the inner portion of the inner head from the point *e* to *i*. Then the other (the outer) portion of the inner head is secured to the outer head over that portion of the edge of the sieve

just nailed from *e* to *i*. Then the remaining portion of the edge of the sieve is nailed onto the outer edge of last mentioned portion of the inner head and otherwise, if necessary, secured thereto, thus forming a cylinder of two heads, as described, (arranged upon a shaft, E,) having a spirally-formed body, the edges of which are secured in a spiral groove formed in the inside surface of each head, as described, so that when turned in the direction indicated by the dart, by means of a crank, *n*, or pulley, a rolling and tumbling motion will be imparted to the substance placed within the body of the sieve, whereby the finer substance will be separated from the coarse. The finer portion will be conducted down through the hopper or lower portion of the cylinder box or case B into the sliding ash-box C. Then by vibrating the case into the position shown by the dotted lines, and turning the cylinder (by the crank *n*, in the opposite direction, (indicated by the dart,) the coal or other substance will be discharged into any convenient receptacle placed therefor. The lid is thrown open and the coal or other substance is placed in the cylinder much in the common way.

It seems to be superfluous to further remark upon the construction and operation of so simple a machine, with the drawings and the above in view. I believe I have therefore so described my invention, its nature, and construction as to enable a person skilled to make and use the same.

What I claim, therefore, and desire to secure by Letters Patent, is—

1. A spirally-formed open wire sieve or cylinder for sifting coal and other substances, substantially as shown and described.

2. The spirally-formed open sieve, in combination with a vibrating hopper, B, and ash-box C, substantially as and for the purpose described.

EDWARD S. BOYNTON.

Witnesses:

L. W. BOYNTON,  
J. W. BLISS.