

(Model.)

W. J. BRADSHAW.

FLUE CLEANER.

No. 272,640.

Patented Feb. 20, 1883.

Fig. 1.

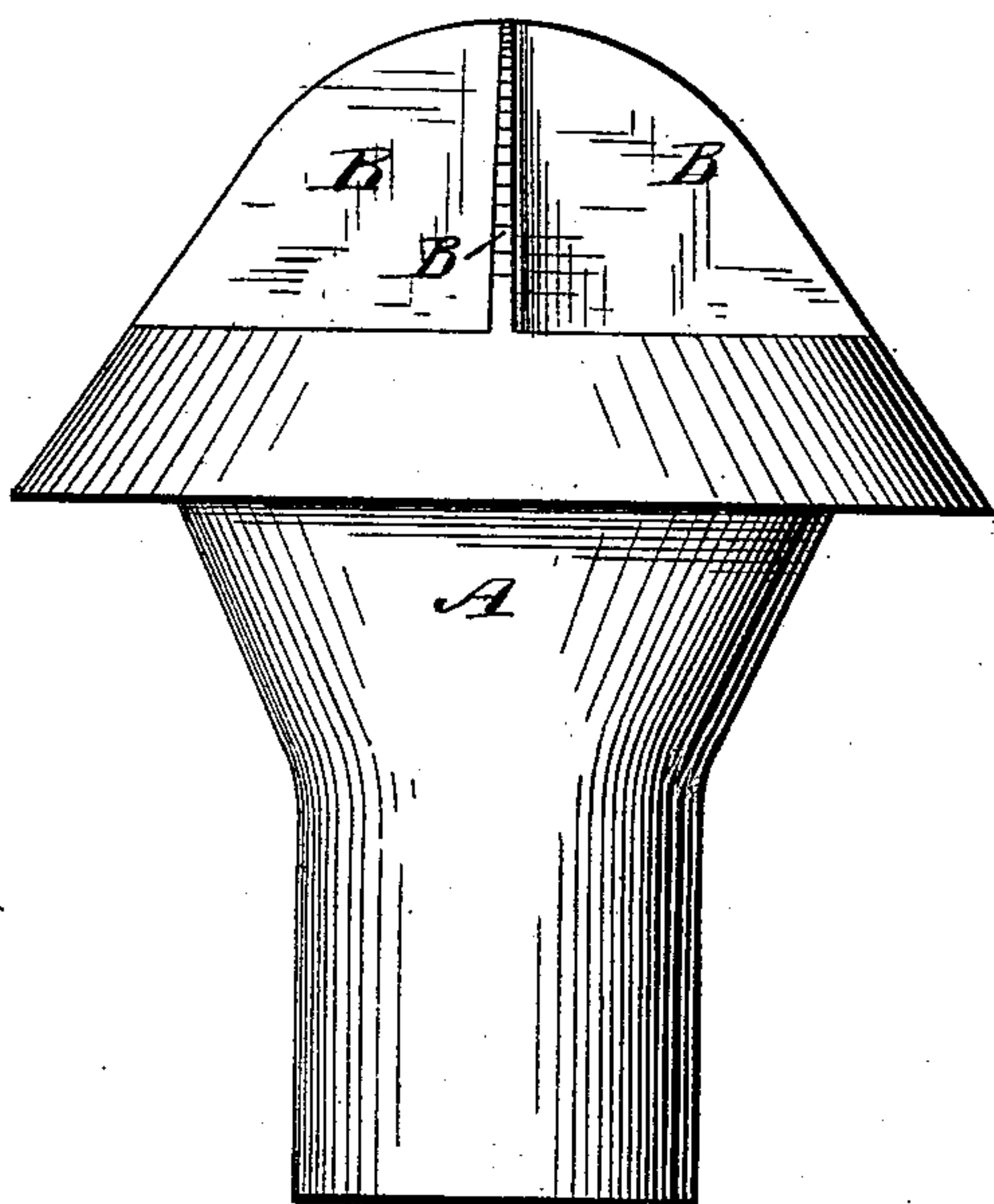


Fig. 2.

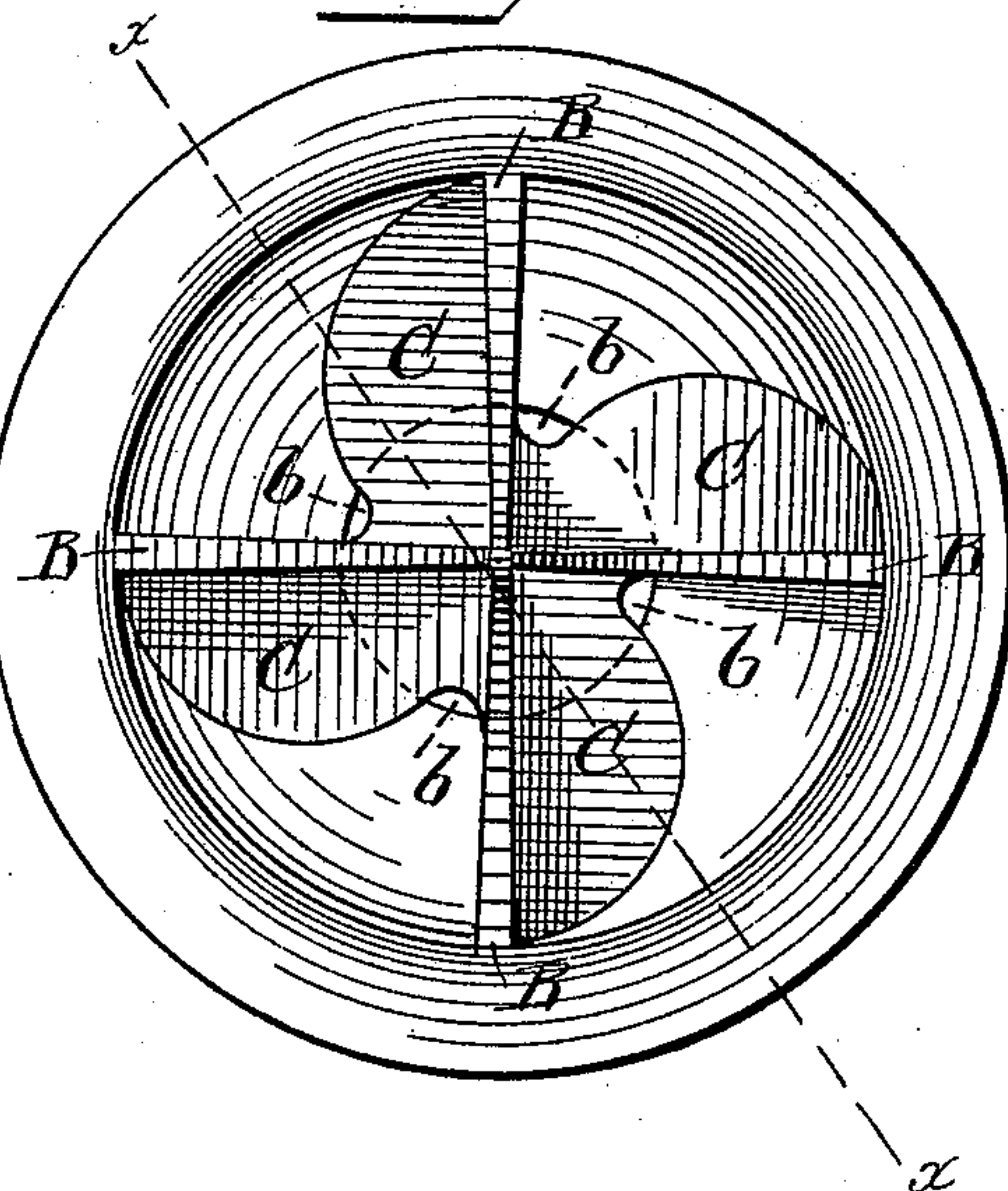
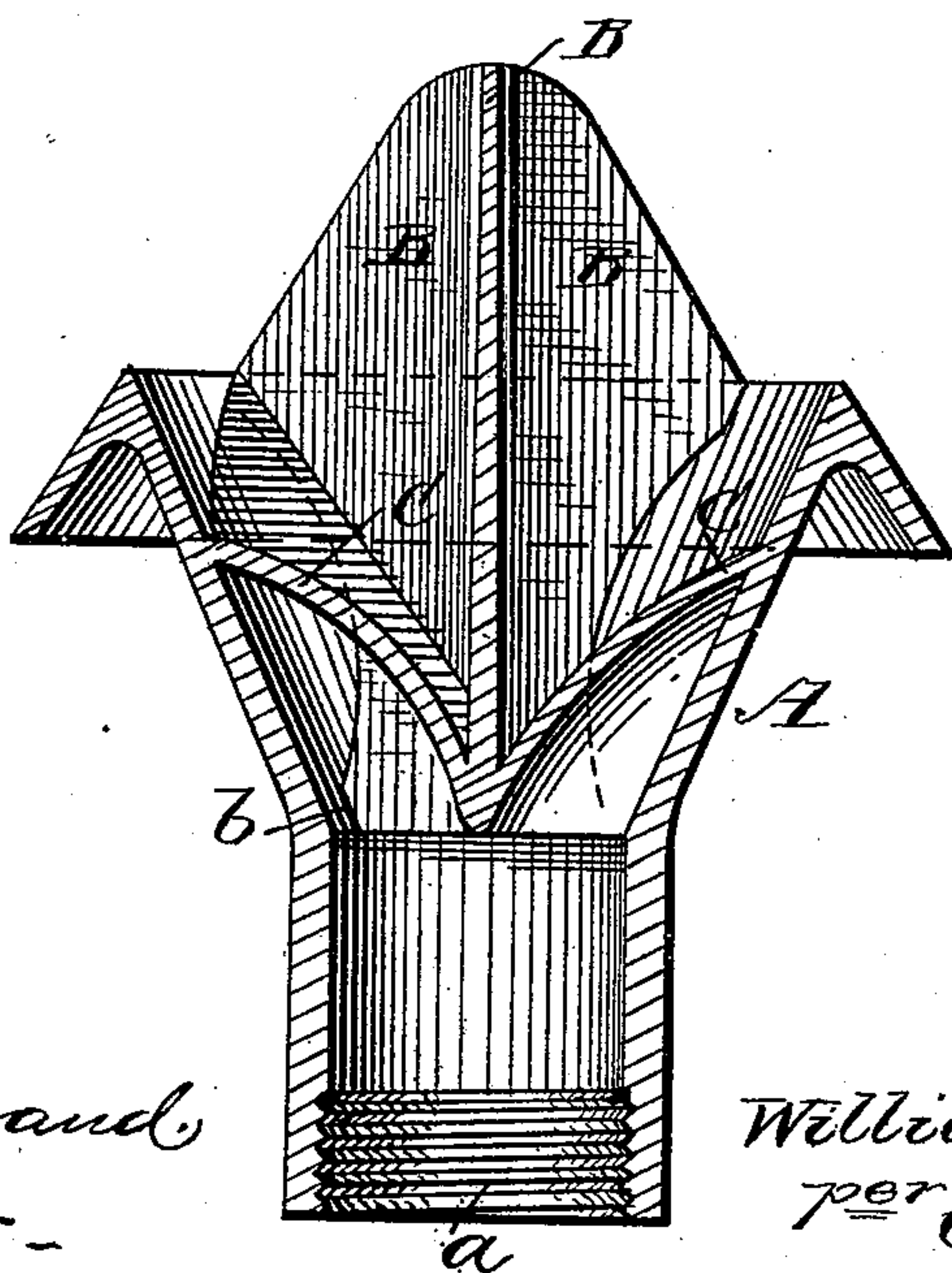


Fig. 3.



WITNESSES
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WILLIAM J. BRADSHAW, OF CLEVELAND, OHIO.

FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 272,640, dated February 20, 1883.

Application filed August 18, 1882. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM J. BRADSHAW, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Flue-Cleaners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of my invention; Fig. 2, a top plan view; and Fig. 3, a longitudinal vertical section of the same, taken through line *x x*, Fig. 2.

This invention relates to certain new and useful improvements in flue-cleaners for steam-boilers; and the object thereof is to provide such a device as will be simple in construction, effective in operation, and that can be manufactured at a small cost. These objects I attain by the construction substantially as shown in the drawings and hereinafter described.

In the accompanying drawings, A represents the flue-cleaner, cast of metal, having projecting radial pointed wings B, which serve as a guide for its entrance to the flue. Upon the inner surface of the cleaner are formed curved wings C, which serve to give a rotating motion to the steam, which enters the cleaner through a steam-pipe engaging with the screw-threads *a* upon the inner surface of the lower extremity of the said cleaner, the steam entering the flue through ports *b*.

When a flue is to be cleaned the cleaner is connected to a steam-pipe and entered into the flue, the projecting radial pointed wings acting as a guide to its entrance. The steam, when turned on, is given a rapid rotary motion by the curved wings, thereby removing the scale or incrustation from the interior of the flue in a thorough and complete manner.

By constructing a flue-cleaner in the manner described I produce one that is always ready, and that has no detachable parts to become lost or broken.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a flue-cleaner cast in one piece, with projecting radial arms and inner curved wings, substantially as and for the purpose set forth.

2. The flue-cleaner A, having projecting radial guide-wings B, inner curved wings, C, and screw-threads *a*, for connecting a steam-pipe, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM J. BRADSHAW.

Witnesses:

WM. CLARK,
H. W. CANFIELD.