

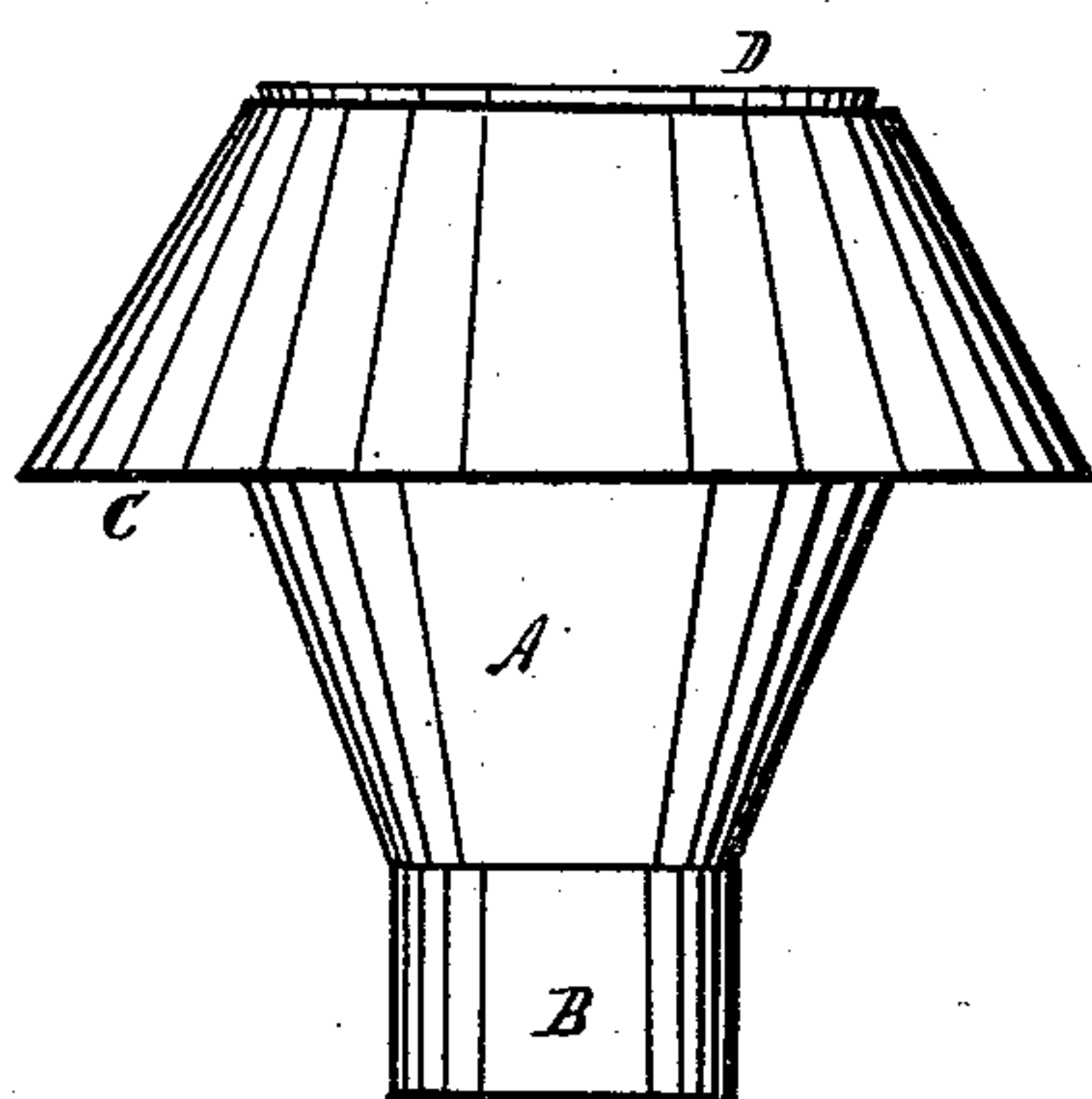
(Model.)

H. Le ROY.  
Flue Cleaner.

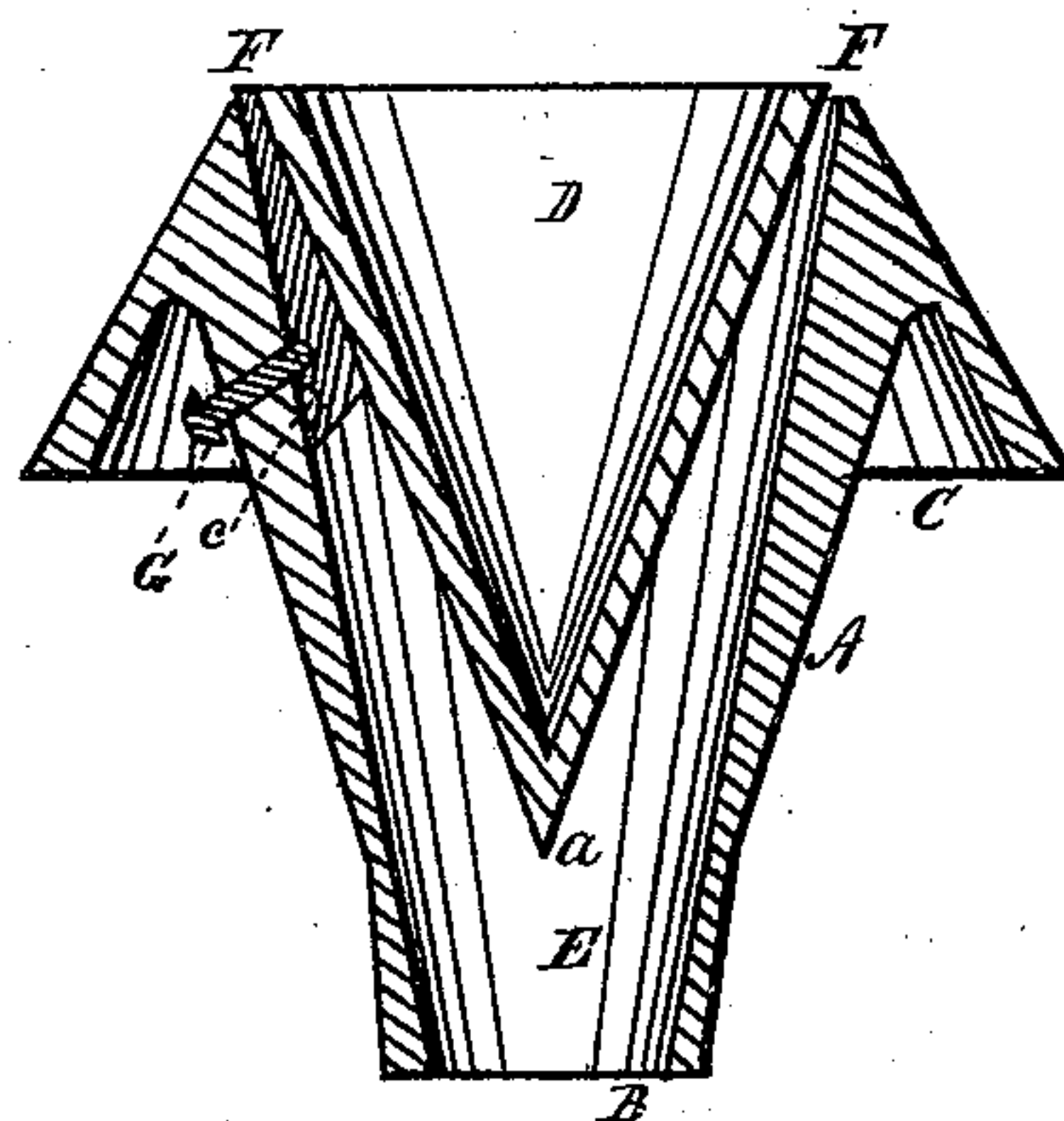
No. 230,139.

Patented July 20, 1880.

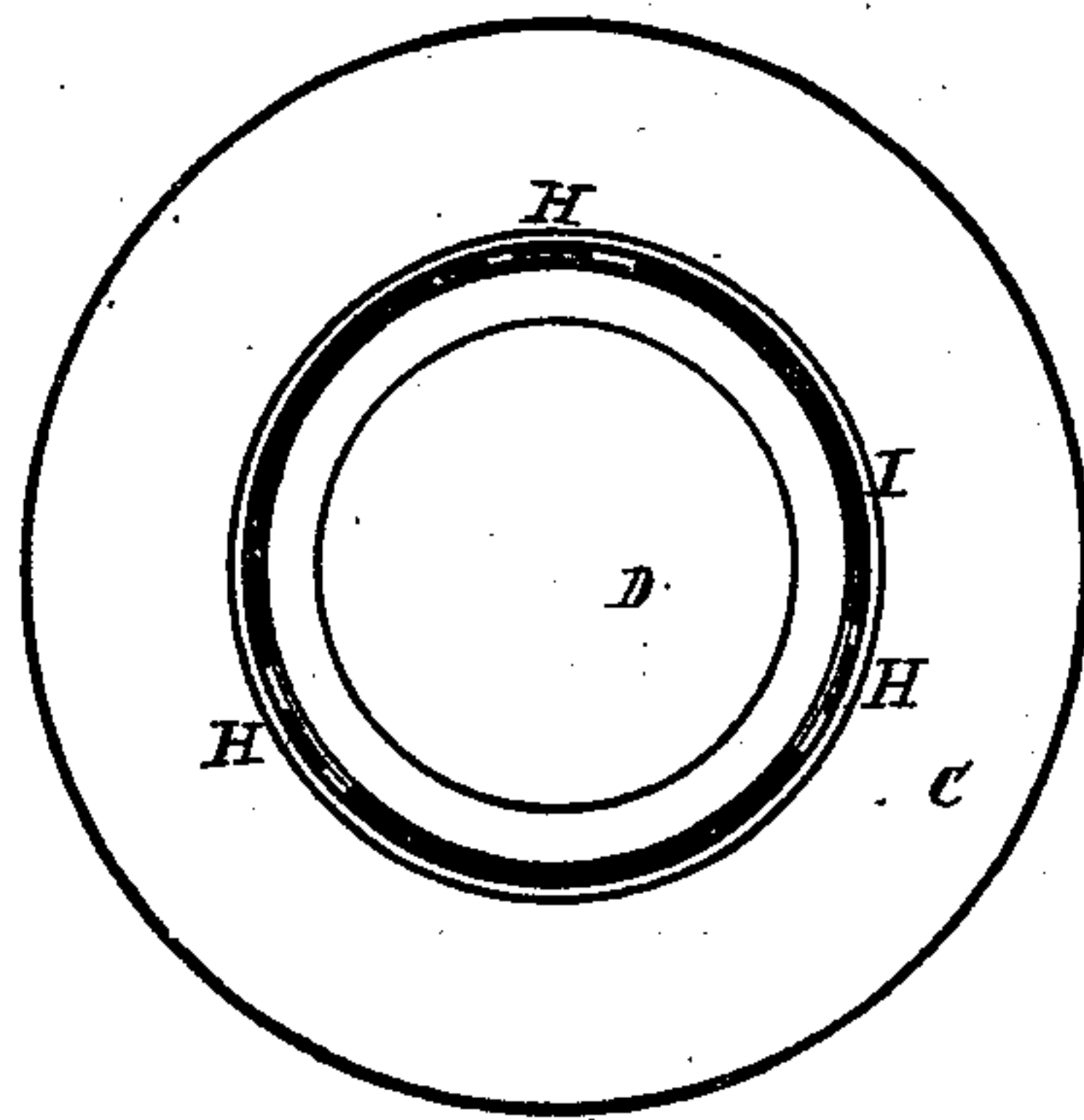
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.

J. H. Burridge  
J. Heinrich

Inventor.

H. Le Roy  
per W. H. Burridge  
att'y.

# UNITED STATES PATENT OFFICE.

HENRY LE ROY, OF AKRON, OHIO, ASSIGNOR OF ONE-HALF OF HIS RIGHT  
TO HENRY E. CAHILL, OF SAME PLACE.

## FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 230,139, dated July 20, 1880.

Application filed May 24, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, HENRY LE ROY, of Akron, in the county of Summit and State of Ohio, have invented a certain new and Improved Steam Flue-Cleaner; and I do hereby declare that the following is a full, clear, and complete description thereof.

This invention relates to a steam flue-cleaner; and the improvement consists in making the cleaner with a flaring mouth or steam-passage and an inverted movably-attached cone inserted in the mouth, having an annular outlet between the cone and mouth or opening.

It also consists in the manner of attaching the cone to the mouth to admit of a passage for the emission of steam, and also to the construction of the head having a flaring flange.

That others may understand the construction and use of the said invention, reference will be had to the following specification and to the annexed drawings, making part thereof, in which—

Figure 1 is a side view, Fig. 2 a vertical section, and Fig. 3 a top view, of the apparatus.

Like letters of reference refer to like parts in the several views.

A general view of the construction and arrangement of the invention is shown in the drawings.

In the drawings, A represents the head, to which is connected a steam-pipe, at B, leading from the boiler.

In the interior of the head is formed a flaring mouth, and around the exterior is a conical flange, C, Figs. 1 and 2, with a recess under the flange, as shown in Fig. 2. By means of this tapering flange the head may be used for flues of various sizes, and the coping out of the under side of the flange renders the head much lighter and admits of the cone D being secured to the head by a pin or screw entering the head under the flange, so as to be out of the way.

The general configuration of the head is circular, as seen in the drawings. The opening or passage E in the head is tapering from B

to F, as shown in Fig. 1. In this opening E is inserted a movable cone, D, and secured therein by a pin or screw, G, which passes through the shell into a boss, H, projecting from and forming a part of the cone, as seen in Fig. 2. The cone is formed at a more acute angle than the opening E, which gives a large area or space at the point *a* of the cone in the opening, and gradually contracts to the annular outlet I, Fig. 3. This outlet I may be enlarged or contracted to emit more or less volume of steam, according to the size and condition of the flue. This varying of the capacity of the outlet I is attained by removing the screws G from the indentation in each boss and then moving the cone into or from the opening E more or less, thereby enlarging or contracting the outlet, as may be needed for the purposes mentioned.

The set-screws G, when set against or into an indentation, *c*, of the bosses, will be sufficient to hold securely the cone in the varied positions required.

By contracting the outlet to a less area than at the point of the cone causes the emission of steam to pass through with great force, as the outlet is the point of contraction between the head A and boiler. By this arrangement the volume of steam will depend upon the size of the outlet, which is controlled by the movable cone and the energy of the steam upon its pressure in the boiler.

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

In flue-boiler cleaners, the head A, provided with a conical flange, C, and a flaring opening, E, in combination with the attached adjustable cone and screws G, constructed and arranged substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY LE ROY.

Witnesses:

J. H. BURRIDGE,  
H. E. CAHILL.