(No Model.)

G. G. McLAUGHLIN.

ADJUSTABLE STEAM FLUE CLEANER.

No. 354,204. Patented Dec. 14, 1886.

FIG. 1.

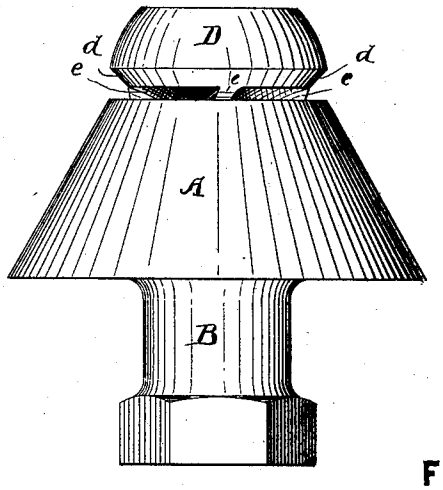


FIG. 2.

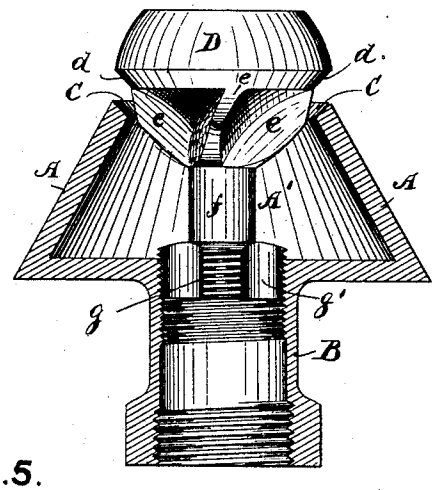


FIG. 5.

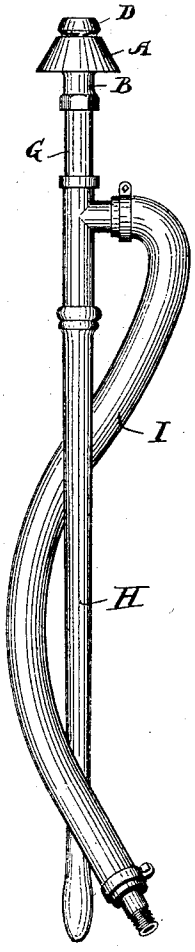


FIG. 4.

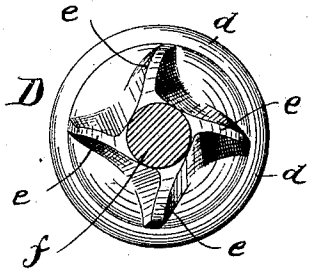
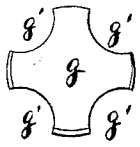


FIG. 3.



Witnesses.

E. Glantz.

Wm. S. Leland

Inventor.

Geo. G. McLaughlin

by J. H. Adams

Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE G. McLAUGHLIN, OF BOSTON, MASSACHUSETTS.

ADJUSTABLE STEAM FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 354,204, dated December 14, 1886.

Application filed May 3, 1886. Serial No. 200,963. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. McLAUGHLIN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improved Adjustable Steam Flue Cleaner, of which the following is a specification.

My invention relates to an improvement in steam-boiler-tube cleaners, whereby they can be easily, quickly, and thoroughly cleaned by the use of steam.

The invention consists in providing an adjustable head in a conically-shaped shell or chamber, whereby the opening for the escape of steam can be adjusted according to the pressure of the steam or the velocity required.

Referring to the accompanying drawings, Figure 1 is an elevation of a tube-cleaner embodying my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a view of the screw at the lower part of the head. Fig. 4 is a section through the stem, looking at the under side of the head. Fig. 5 shows the cleaner secured to a handle and hose-pipe for attachment to the steam-supply.

A represents a shell of conical shape, the interior of which constitutes an expansion and compression chamber, A′. The shell A is provided at its lower end with a neck, B, and at its upper end with a beveled opening, C.

D is a head having on its lower end a beveled edge, *d*, corresponding to the bevel of the opening C. Beneath the beveled edge *d* are radial wings *e*, which serve to impart a rotary whirling motion to the steam passing through.

f is a stem connecting the head to the screw-plug *g*, which latter is formed with four recesses, *g′*, for the passage of the steam. The plug *g* is screwed into the upper part of the neck B, so that when the said neck is turned one way or the other it will be raised or lowered accordingly, thereby widening or lessening the opening between the upper edge of the conical shell and the beveled edge *d*.

The lower end of the neck B is provided with a screw-thread for connecting it to a pipe, G, secured to a handle, H, and provided with a coupling for connection to one end of a hose, I, the other end of the same being attached to the steam-supply.

When steam is admitted to the neck B, it is partly retarded by the screw-plug *g*, and thereby caused to pass through the openings *g′* with great force into the expansion-chamber A′. The steam is then driven with great force out through the opening between the upper end of the shell A and the edge *d* of the head D, and, being guided in its passage by the wings *e*, has a rotary or spiral motion imparted thereto, so that when the end of the shell A is fitted to a steam-boiler-flue opening the soot and other foreign substance on the inner side of the tube will be thoroughly removed and the tube be quickly and entirely cleaned.

It will be seen that by having the head D secured to the shell by a screw-plug, *g*, the opening for the escape of steam can be regulated as desired.

In addition to its use as a tube-cleaner, my invention can be advantageously adapted for blowing fires to create a draft in steam-boiler and other furnaces, and also for a water spray or sprinkler for extinguishing fires in buildings.

What I claim as my invention is—

1. The conically-shaped shell A, inclosing an expansion and compression chamber, A′, and provided with a screw-threaded neck, B, at its lower end and a beveled opening at its upper end, in combination with a head, D, having a beveled edge at its lower end and provided with radial wings *e*, the stem *f*, and screw-plug *g*, provided with recesses or openings *g′*, substantially as and for the purpose set forth.

2. In a flue-cleaner, the screw-plug *g*, provided with openings or recesses *g′*, in combination with the neck B, the stem *f*, and head D, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE G. McLAUGHLIN.

Witnesses:
J. H. ADAMS.
F. M. BLAIR.