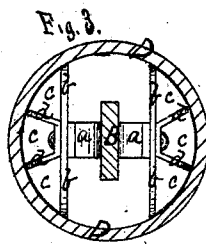
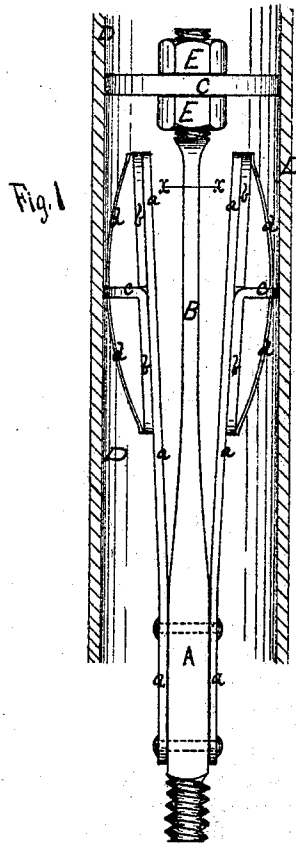
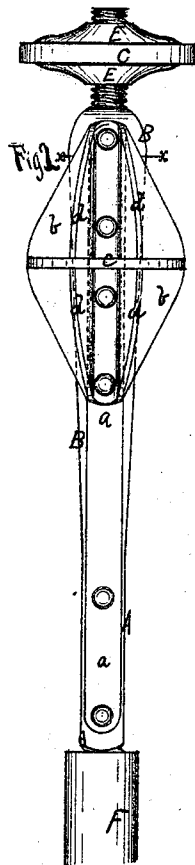


JAMES H. DANN.

Improvement in Boiler Flue Scrapers.

No. 123,155.

Patented Jan. 30, 1872.



Witnesses.

J. R. Drake,  
C. N. Woodward.

James Hodges Dann.

Inventor, By  
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# UNITED STATES PATENT OFFICE.

JAMES H. DANN, OF ROUSEVILLE, PENNSYLVANIA.

## IMPROVEMENT IN BOILER-FLUE SCRAPERS.

Specification forming part of Letters Patent No. 123,155, dated January 30, 1872.

Specification describing certain new and useful Improvements in "Boiler-Flue Scrapers and Wipers," invented by JAMES HODGES DANN, of Rouseville, in the county of Venango and State of Pennsylvania.

### *Nature of the Invention.*

This invention consists in the special construction and arrangement of the scrapers used in connection with spring-arms, with or without a flexible wiper, as hereinafter described.

### *General Description.*

In the drawing, Figure 1 is a side elevation. Fig. 2 is a front elevation. Fig. 3 is a cross-section through the line *x*, showing its position in a boiler-flue.

A is the iron shank or operating-handle, provided with a thread suitable for a one-quarter-inch gas-pipe to serve as a handle, and flattened on the sides *a B*, to allow for the inward spring of the scrapers. C represents the cleaner or brush attached or screwed on the extreme end of the shank, made of rubber, leather, or any other suitable material. Secured to opposite sides of the shank A are steel springs *a a'*, bent outward sufficiently to hold the scrapers firmly against the sides of the flue, and provided with flat diamond-shaped pieces of metal *b b'* and transverse semicircular scrapers *c c'*, which scrape off all the incrustations and scales, while the brush or wiper C removes all the ashes, cinders, &c. If there should be any irregularity in the interior of the flue, the spring-arms *a a'* have sufficient play to allow the scrapers to pass over it and not break or bend out of shape. They will be made of different sizes, to fit different-sized flues. They will also, by their peculiar arrangement, reach every part of the flue. By turning the shank A the longitudinal scrapers *d d'* may be made to act on the sides of the flue, and thus reach places that could not be reached by simply drawing it back and forth when only the semicircular scrapers *c c'* are used. The scrapers *d d'*, it will be observed, set at an angle, and not upright. This is an important arrangement, as it gives them a beveled or "knife-edge," so that they will act with more effect and thoroughness. The disks *b b'* and scrapers *c c'* may

be cast in one piece, and riveted or bolted to the springs *a a'*, as shown, and the disks *c c'* may be chilled, to render them harder. The angular scrapers *d d'* not only act as such, but in addition are braces to the circular scrapers *c c'*, and aid in strengthening them and keeping all in place, while the scrapers *d d'* also aid in guiding the device in entering the flue.

The disks *c c'* are formed by bending up one end of the nearly diamond-shaped pieces *b b'*, which are secured to the springs, as shown. The brush-head C is held by two nuts, E E', as shown in Fig. 1, but they may be made, as in Fig. 2, with washers or extra heads to stiffen the brush. The recesses formed by the angles, the scrapers, and disks serve the important purpose of catching the cinders and ashes as they are scraped off. The shank A may be made of joints, so as to fit any length flue, or it may be made, as shown, to have a wooden handle, F, attached; or the handle may be formed of gas-pipe, which is much lighter and stronger than wood. The disks or scrapers *c c'* being made of steel, and the braces *d d'* of iron, the disks *c c'* will always project above the braces or scrapers *d d'* by the latter wearing away much faster than the steel. The disks *c c'* also are ground square across, and thus form two edges, to act both ways, or they may be "channeled," to answer the same purpose.

I am acquainted with the patent of Van Auken, December 18, 1866, and with the rejected case of Green and Uree, filed December 20, 1866; but both are differently constructed from mine, and are not so effective.

What I claim is—

The plates *b b'*, constructed with the transverse semicircular scrapers *c c'* and the longitudinal scrapers *d d'*, standing in an angular direction, when combined with the spring-arms *a a'*, with or without the flexible wiper C, in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES H. DANN.

Witnesses:

J. R. DRAKE,  
C. N. WOODWARD.