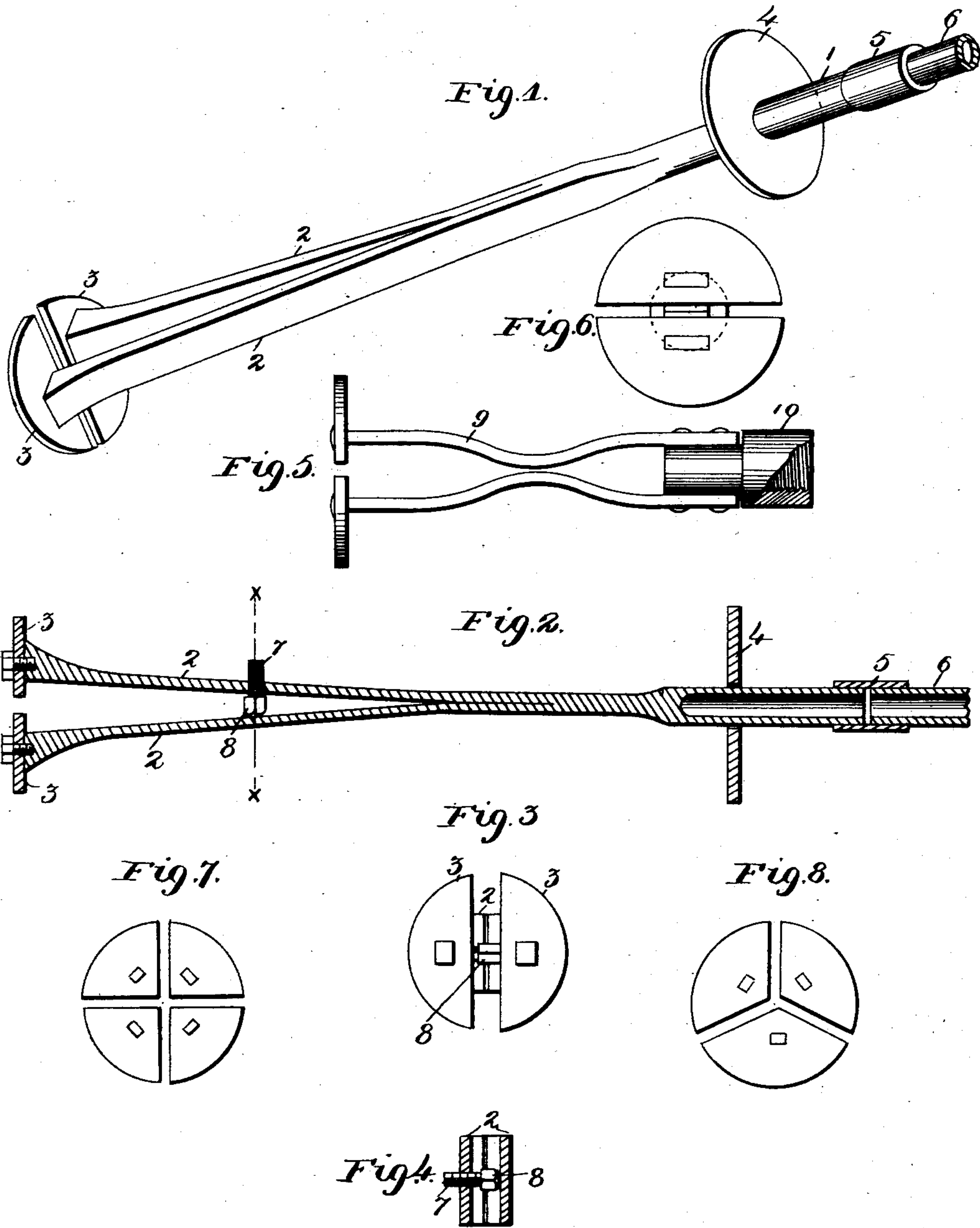


(No Model.)

P. H. ENOCHS.  
BOILER FLUE CLEANER.

No. 525,699.

Patented Sept. 11, 1894.



Witnesses  
*J. J. O'Donoghue*  
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# UNITED STATES PATENT OFFICE.

PHILLIP HENRY ENOCHS, OF FERNWOOD, ASSIGNOR TO ENOCHS BROS., OF JACKSON, MISSISSIPPI.

## BOILER-FLUE CLEANER.

SPECIFICATION forming part of Letters Patent No. 525,699, dated September 11, 1894.

Application filed May 31, 1894. Serial No. 513,014. (No model.)

*To all whom it may concern:*

Be it known that I, PHILLIP HENRY ENOCHS, of Fernwood, Pike county, State of Mississippi, have invented certain new and useful  
5 Improvements in Boiler-Flue Cleaners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements  
10 in boiler-flue cleaners and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a perspective  
15 view of my improved cleaner. Fig. 2 is a middle longitudinal section of the same. Fig. 3 is an end view thereof. Fig. 4 is a section on the line  $x-x$  of Fig. 2. Fig. 5 is a side elevation of a modified form. Fig. 6 is an  
20 end view of the same. Fig. 7 is an end view of a form having four resilient members or legs each with a scraping plate secured thereto; and Fig. 8 is an end view of a form having three resilient members with scraping  
25 plates attached.

The object of my invention is to construct a boiler-flue cleaner which will be simple in construction, adjustable for various sizes or  
30 diameters of flues, one which can be varied according to the length of the boiler; one that can be easily inserted into, withdrawn from, and guided within the flue. In detail it may be described as follows:

Referring to the drawings, the cleaner por-  
35 tion proper is composed of an iron bar 1 formed by welding at one end the resilient members or legs 2, the free ends of which carry the semi-circular plates 3, constituting the terminal scrapers of the cleaner. The  
40 solid portion of the bar 1 carries a sliding or movable washer 4 which is intended to prevent the cleaner from passing through and hanging in the flue. Exterior to the washer is an interiorly screw-threaded nipple 5 into  
45 which can be screwed one end of the operating handle 6.

At a suitable point along the length of one of the members 2 is a screw-threaded bolt 7  
50 passing through substantially at right angles to the expanded or flat side or face of the same, and abutting against the inner face of the opposite member. The bolt carries a head 8 between the opposite faces of the

members 2, by turning which the said members can be expanded more or less according  
55 to the width or diameter of the flue to be scraped, thus adapting the present device to flues of various diameters.

The semi-circular plates 3 constituting the cleaning flange of the cleaner can be riveted  
60 to the expanded ends of the members 2, as shown in Fig. 2, or in practice they may be turned on said members. It is to be understood of course that I do not limit myself to the precise details of construction. The ex-  
65 tremity distance between the washer 4 and the plates 3 should be a fraction of an inch less than the length of the flue to be cleaned so as to prevent the end of the cleaner from dropping and hanging in the flue. For very  
70 long flues of course it is obvious that the handle may be extended and the washer 4 shifted so as to accord with the increased length of the flue cleaned.

The modified form shown in Figs. 5 and 6  
75 is used in flues which are comparatively of large diameter, say three inches, the resilient arms or members 9 touching or approaching each other at or near their medial portion and then expanding on either side thereof,  
80 and having one end secured to a casting 10 which is provided with a screw-threaded socket 11 for the reception of a suitable handle. In flues of still larger diameter I may use four or three resilient members in which  
85 instance the scraping plates secured to their ends will be either in the form of a quarter-circle or one-third of a complete circle as fully indicated in Figs. 7 and 8.

Having described my invention, what I  
90 claim is—

A boiler-flue cleaner comprising a suitable bar, resilient members secured to or forming a part of said bar, suitable scraping plates at the end of said members, an adjusting bolt  
95 having a head carried by one of said members, the head being located between the members, and a suitable operating handle adapted to be secured to said bar, substantially as set forth.

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

PHILLIP HENRY ENOCHS.

Witnesses:

W. L. WELLMAN,  
WM. BOYD.