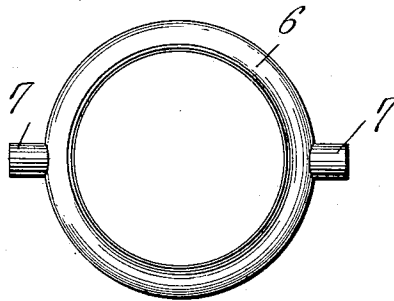
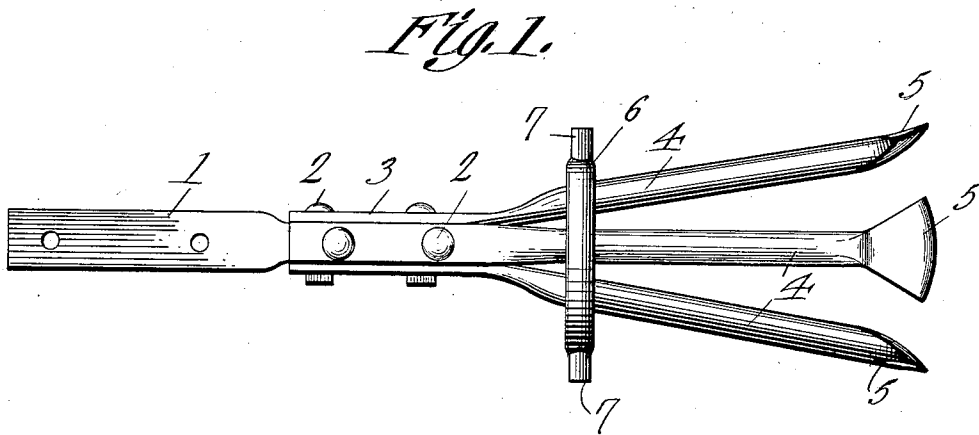


W. A. LORENZ.
FLUE SCRAPER.
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1,058,245.

Patented Apr. 8, 1913.



Witnesses:

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WILLIAM ADAM LORENZ, OF STOCKDALE, TEXAS.

FLUE-SCRAPER.

1,058,245.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed October 8, 1912. Serial No. 724,608.

To all whom it may concern:

Be it known that I, WILLIAM A. LORENZ, a citizen of the United States, residing at Stockdale, in the county of Wilson and State of Texas, have invented a new and useful Flue-Scraper, of which the following is a specification.

This invention relates to boiler tube scrapers.

The object of the invention is to provide an article that shall be simple in construction, effective and durable in use, and easy to manipulate, and in which the maximum of efficiency of the cutters in removing incrustations will be secured with the minimum of wear, and thus deterioration of the tool.

A further object of the invention is to provide novel means to permit the ready insertion of the scraper into a flue by the employment of an attachment that will operate to hold the cutter heads juxtaposed to allow introduction of the scraper into a flue and the release of the heads when the scraper has been entered the required distance.

With the above and other objects in view as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a boiler flue scraper, as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification, and in which like characters of reference indicate corresponding parts:—Figure 1 is a view in side elevation of a boiler flue scraper constructed in accordance with the present invention. Fig. 2 is a detached detail view of one of the elements of the scraper.

The scraper comprises a shank 1 with which may be connected a handle, of any preferred character, not necessary to be shown. Rigidly secured to the shank by bolts or rivets 2 are the rear relatively thin

ends 3 of a series of arms 4, in this instance four in number, the resilient outer ends of which flare outward and terminate in approximately wedge-shaped cutter heads 5. In order to secure the maximum cutting or scraping action of the tool under reciprocation in use, it is essential that when the arms are distended to their limit, that the cutter heads shall diverge too widely to permit of their being inserted into a flue, and in order to compress the arms to a degree sufficient to permit their introduction, a slidable compressor 6 is employed, which in the present instance is in the form of an annulus and is provided with two outward extending diametrically aligned shoulders which, when the scraper is inserted into the flue, contact with the flue-end or with the flue-sheet, and operate to force the compressor backward, thus permitting the arms to flex outward and allow the cutter heads to contact with the inner wall of the tube and thus perform their function.

The improvements herein described, while simple in character, will be found thoroughly efficient for the purpose designed, and will in a measurable degree reduce the labor required to enter the scraper into a flue.

What is claimed is:

A flue scraper comprising a shank, outward flared narrow spring arms secured at their inner ends to the shank and provided at their outer ends with cutter heads, and a ring freely slidable on the arms to hold the cutter heads closely assembled before insertion and provided on its periphery with a plurality of lugs.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM ADAM LORENZ.

Witnesses:

S. M. CLAY,

L. L. ADAMS.