

A. B. HEIMANN.
FLUE SCRAPER.
APPLICATION FILED NOV. 15, 1907.

904,429.

Patented Nov. 17, 1908.

Fig. 1.

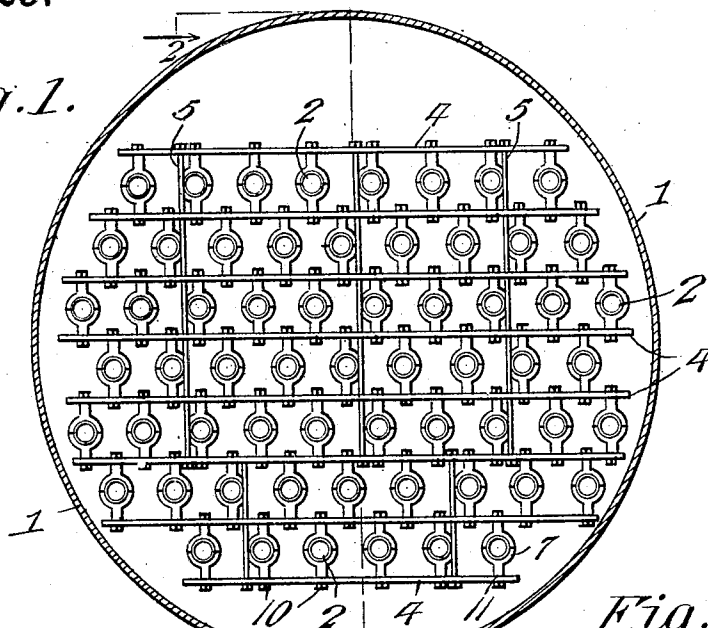


Fig. 2.

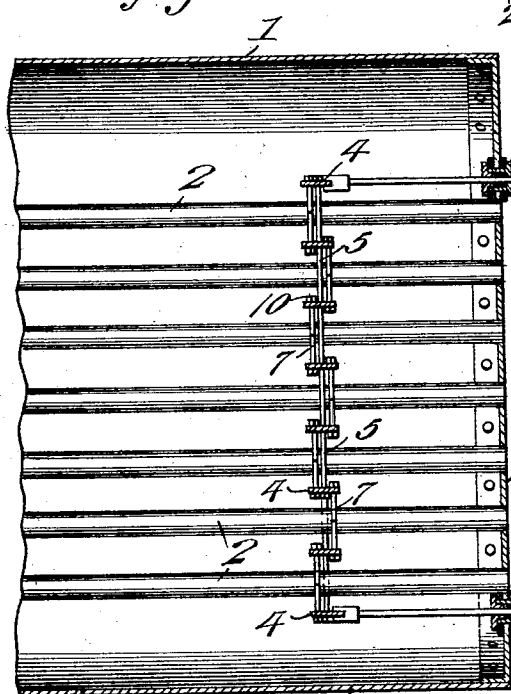


Fig. 3.

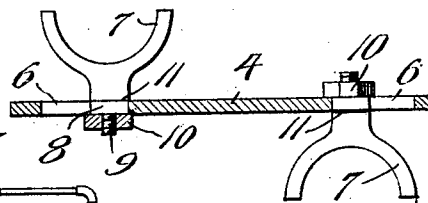
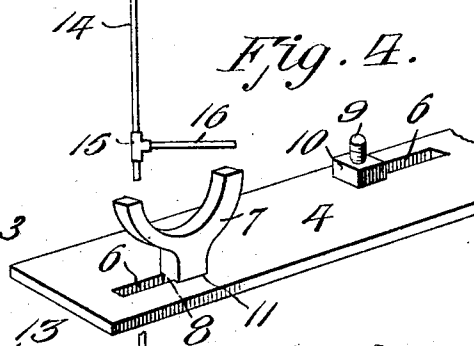


Fig. 4.



Inventor

August B. Heimann

Witnesses

Frank B. Hoffman

A. P. Ramsey

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

AUGUST B. HEIMANN, OF COALINGA, CALIFORNIA.

FLUE-SCRAPER.

No. 904,429.

Specification of Letters Patent.

Patented Nov. 17, 1908.

Application filed November 15, 1907. Serial No. 402,357.

To all whom it may concern:

Be it known that I, AUGUST B. HEIMANN, a citizen of the United States of America, residing at Coalinga, in the county of Fresno and State of California, have invented new and useful Improvements in Flue-Scrapers, of which the following is a specification.

This invention relates to flue cleaners, and one of the principal objects of the same is to provide means whereby all of the outer surface of the flues of a boiler may be cleaned simultaneously by the to-and-fro movements of the flue cleaner.

Another object of the invention is to provide means whereby the scrapers for the flues will adjust themselves laterally to any irregularities or inequalities of the surface of the flues.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation of a boiler with the boiler head removed and showing the flue cleaner in place within the boiler and engaging the flues thereof. Fig. 2 is a longitudinal section on the line 2—2, Fig. 1. Fig. 3 is a detail section taken through a portion of one of the scraper supporting plates. Fig. 4 is a detail perspective view of the same.

Referring to the drawing for a more particular description of my invention, the numeral 1 designates a boiler provided with a series of fire tubes 2 secured at opposite ends to the boiler head. The flue cleaner comprises a frame work made up of supporting plates 4 and brace bars 5. The supporting plates 4 are provided with a series of slots 6 located at the opposite side edges of said plates, and mounted in said slots are yoke shaped scrapers 7, said scrapers each being provided with a reduced shank 8, and a screw threaded extension 9 to accommodate a nut 10. Shoulders 11 are formed on opposite sides of the reduced portion 8 to bear upon the surface of the plates 4 at each side of the slots 6. The scrapers 7 are mounted in the plates 4 to have a comparatively free movement laterally in order that the scrapers may conform to any irregularities in the flues 2.

As shown in Figs. 3 and 4, the scrapers 7 extend alternately upon opposite sides of the supporting bars 4 and this arrangement is carried out throughout the series. Connected to the upper and lower bar 4 of the frame is an operating frame 12, secured to the supports 4 and extending through stuffing boxes 13 and connected outside the boiler by a vertical pipe 14 provided with a central T-coupling 15 to which a detachable handle 16 may be connected and disconnected whenever required.

From the foregoing it will be obvious that whenever it is required to clean the scales and sediment from the flues, the handle 16 is connected to the frame 12 and is moved back and forth to scrape the scale from the flues 2. After the boiler has been cleaned, the frame 14 is pushed inward toward the boiler head and the handle 16 may be removed and the entire cleaner is out of the way until it is again needed.

Having thus described the invention, what I claim is:

1. A flue cleaner comprising a series of supporting bars provided with slots, a series of scraper plates having yoke shaped scrapers mounted to slide in the slots in the supporting bars, and a frame connected to the supporting bars and provided with a detachable handle for reciprocating the scrapers simultaneously.

2. A flue scraper comprising a frame made up of supporting bars and braces therefor, said supporting bars being provided with slots arranged alternately near the opposite sides of said bars, yoke like scrapers provided with reduced shanks to fit within said slots, a threaded stud projecting from said shank and fitted with a nut, a handle frame secured to the upper and lower supporting bars and extending through the boiler head, and a detachable handle connected to said handle frame.

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

AUGUST B. HEIMANN.

Witnesses:

J. R. WILLIAMS,
R. BACKS.