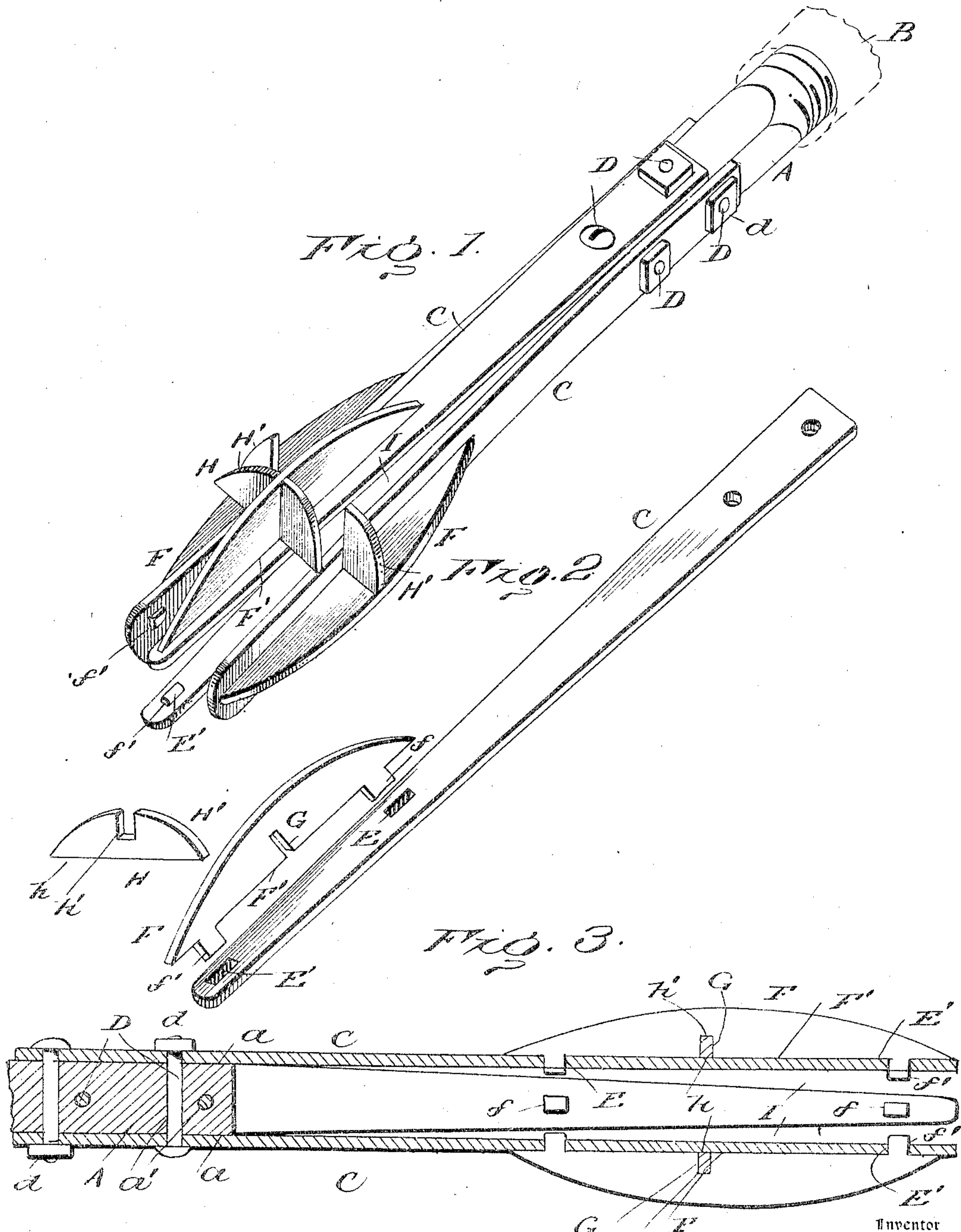


No. 789,447.

PATENTED MAY 9, 1905.

J. S. PARK.
FLUE SCRAPER.

APPLICATION FILED SEPT. 20, 1904.



Witnesses

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FLUE-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 789,447, dated May 9, 1905.

Application filed September 20, 1904. Serial No. 225,293.

To all whom it may concern:

Be it known that I, JOHN S. PARK, a citizen of the United States, residing at Rockport, in the county of Spencer and State of Indiana, have invented certain new and useful Improvements in Flue-Scrapers, of which the following is a specification.

My invention relates to improvements in flue-scrappers, and pertains more particularly to that class used in cleaning or scraping steam-boiler flues.

The object of my invention is to provide a device of this character which will more thoroughly scrape the flue of all soot and the like and at the same time produce a more simple device with as few connected parts as possible, thus obviating the use of bolts or screws for adjusting the same or securing the parts together.

In the accompanying drawings, Figure 1 is a perspective view of my improved scraper. Fig. 2 is a detached enlarged perspective view of one of the spring members, showing the scraper proper removed. Fig. 3 is a longitudinal sectional view of one of the spring members with the scraper attached.

Referring now to the drawings, A represents the bar or rod to which my device is attached and is provided at one end with a handle B, by means of which it is operated. The opposite end of the said bar or rod A is formed square or with four flat surfaces *a*, and passing through said bar are four openings *a'*. Resting upon said flat surfaces *a* are four outwardly-extending spring-arms C, and passing through the openings in the bar and through the arms C are bolts D, provided with nuts *d*, by means of which the arms are firmly secured to the rod. While I have shown four arms and prefer to use that number, it will be readily understood that the rod may be made with any number of flat surfaces and a corresponding number of arms. The said arms, as shown, are gradually tapered toward their ends and are elongated and extended a considerable distance beyond the end of the rod A, and being of spring metal they are adapted to be sprung inwardly toward each other, the purpose of

which will be hereinafter more fully described. The arms, as shown, are each provided with two elongated longitudinally-extending openings E and E' adjacent their ends, and the openings in the opposite arms being opposite each other, but not in alinement with the openings in the other pair of oppositely-arranged arms, as hereinafter more fully described.

The scraper-guides F, as shown, are of an elongated form provided with a flat surface or edge F', adapted to rest upon the outer face of the arms C, while the outer edge is convexed, which allows of the ready insertion of the scraper within the flue and at the same time compressing the arms C, so that they will have an outward pressure. The said flat surface F' of the scraper-guide is provided with inwardly-extending lugs *f* and *f'*, which pass through the openings E and E' of the arm C and are turned over, thus firmly securing the guides to the arms and doing away with bolts or screws. The said guides midway of their ends are provided with a transverse slot G, starting from the flat edge F' and extending about half-way through the same.

The scrapers H are of a flat form, provided with a semicircular outer edge H' and the flat straight edge *h*. The convexed edge H' of said scrapers is provided with slots or cut-away portions *h'* about midway their length and is adapted to slip through the slot in the guides F before they are secured to the arms, and thus the scrapers H are firmly interlocked with the guides and held in said position without screws or bolts. As before described, the guides being located at different points on the arms the scrapers will likewise be at different points in respect to its adjoining scraper, and a practically circular scraper is produced, which is adapted to be compressed inwardly and at the same time maintaining its normal shape, but only reducing the size of the same. As shown and described, there is a space I between the overlapping edges of the scrapers H. Thus if an obstacle is encountered in the flue, such as bolt-heads, the device may be turned so that the same will pass through the

space I, and the scraper is continued to be forced through the flue, the operating being precisely the same on its backward movement. The guides being convexed on their outer
5 edges, it will be seen that the outer ends will all enter the flue, and as the same is continued to be forced inwardly the arms are compressed and the scrapers are exerting pressure on the inside of the flue.

10 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A flue-scraper, comprising four outwardly-extending arms, guides extending longitudinally of said arms and having lugs passing through the arms, scrapers interlocked with said guides and held upon the arms at right angles thereto and said scrapers overlapping each other, substantially as described.

20 2. A flue-scraper, comprising outwardly-extending arms, guides having lugs passing through the arms and turned over, said guides having inner cut-away portions, scrapers having outer cut-away portions interlocked with

the cut-away portion of the guides between 25 the same and the arms and said scrapers overlapping each other but having a space between the same substantially as described.

3. A flue-scraper, comprising outwardly-extending arms, guides having lugs passing 30 through openings in the arms and turned over and holding the same thereon, said guides having convexed outer edges, having cut-away portions adjacent the arms, scrapers having convexed outer edges provided with 35 cut-away portions interlocking with the cut-away portions of the guides and extending at right angles thereto, said scrapers overlapping each other but having a considerable space between the same, substantially as de- 40 scribed.

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

JOHN S. PARK.

Witnesses:

JOHN C. BRITZIUS,

JOHN A. BERKSHIRE.