A. FISHER.

Flue-Scraper.

No. 168,891. Patented Oct. 19, 1875.

Fig. 1.

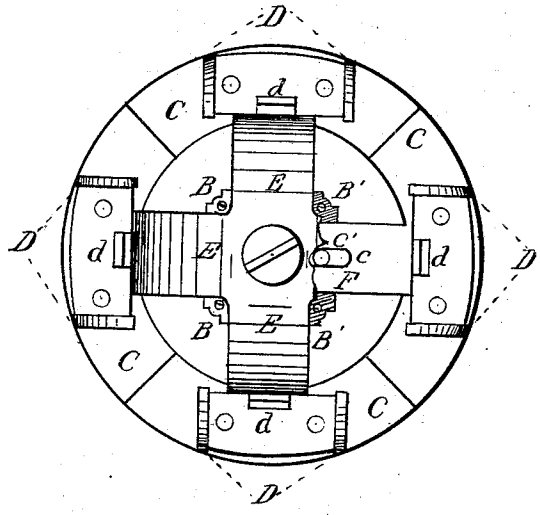


Fig. 2.

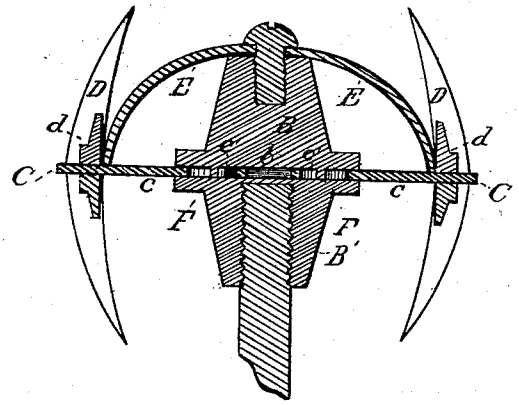
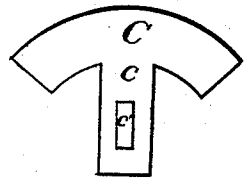


Fig. 3.



WITNESSES.

E. F. Nottingham

Wm. H. Brereton Jr.

INVENTOR

Albert Fisher.

By Leggett & Leggett Attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALBERT FISHER, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF AND JOHN FAULKNER, OF SAME PLACE.

IMPROVEMENT IN FLUE-SCRAPERS.

Specification forming part of Letters Patent No. **168,891**, dated October 19, 1875; application filed September 8, 1875.

To all whom it may concern:

Be it known that I, ALBERT FISHER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Flue-Scrapers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in scrapers.

In the drawings, Figure 1 is an end view of a flue-scraper according to my invention, with one wing of the spring removed, and that portion of the hub shown in section, showing the arm of the scraper in its relation to the surrounding parts. Fig. 2 is a longitudinal section of a flue-scraper after my invention, taken through the spring. Fig. 3 is a detached view of one blade of my flue-scraper.

My invention consists in the following parts and combinations, as hereinafter specified and claimed, wherein—

A is a shaft or stem, upon which my device is screwed or otherwise suitably fastened or attached. B B′ is a hub, made in two sections for clamping and guiding the blades of the scraper, as will hereinafter more fully appear. *b* are slots formed in the hub B B′ for the admission of the arms of the scraping-blades. C are the scraping-blades, each provided with an arm, *c*, and slots *c′*. D are guides rigidly attached to each blade C. *d* are lugs or teats to afford a bearing for the spring E. Said spring may be made in two or four separate pieces; but I prefer constructing it of a single piece, as shown in the drawing, having a sufficient number of wings to operate upon each blade of the scraper. This spring is fastened upon the end B′ of the hub.

If desired, spiral or other suitable springs may be employed, which shall impinge against the lugs or teats *d*, and act in a similar manner as the spring E. F are pins or stops in the hub B B′ passing through the slots in the arms of the scraping-blades, which serve to limit the inward and outward motion of the same.

It will obviously appear that it may not be necessary to employ four scrapers, as shown on the drawings, inasmuch as two, three, or more may be employed to complete the circle, and the hub B B′ and spring E be modified to accommodate that number without any departure from the spirit of my invention.

What I claim is—

1. The scraping-blade C formed in the segment of a circle, provided with the arm *c* and slots *c′*, substantially as and for the purpose shown.

2. The combination of segmental scraping-blade C, arm *c*, and slotted hub B B′ *b*, substantially as and for the purpose shown.

3. The combination of the slotted hub B B′ *b*, segmental scraping-blade C, guides D, lug or teat *d*, and spring E, substantially as and for the purpose shown.

4. In combination with three or more scraping-blades, C, of a flue-scraper, the spring E, constructed of a single piece of material, and provided with a number of wings or arms corresponding to the number of scraping-blades, substantially as and for the purpose shown.

5. The combination of shaft A, slotted hub B B′ *b*, slotted arm *c c′*, pin or stop F, two or more segmental blades, C, guides D, lugs or teats *d*, and spring E, substantially as and for the purpose shown.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT FISHER.

Witnesses:

LEVERETT L. LEGGETT,

L. A. WILLSON.