A. SCHULTE.

FLUE-CLEANER.

No. 175,628. Patented April 4, 1876.

Fig. 1.

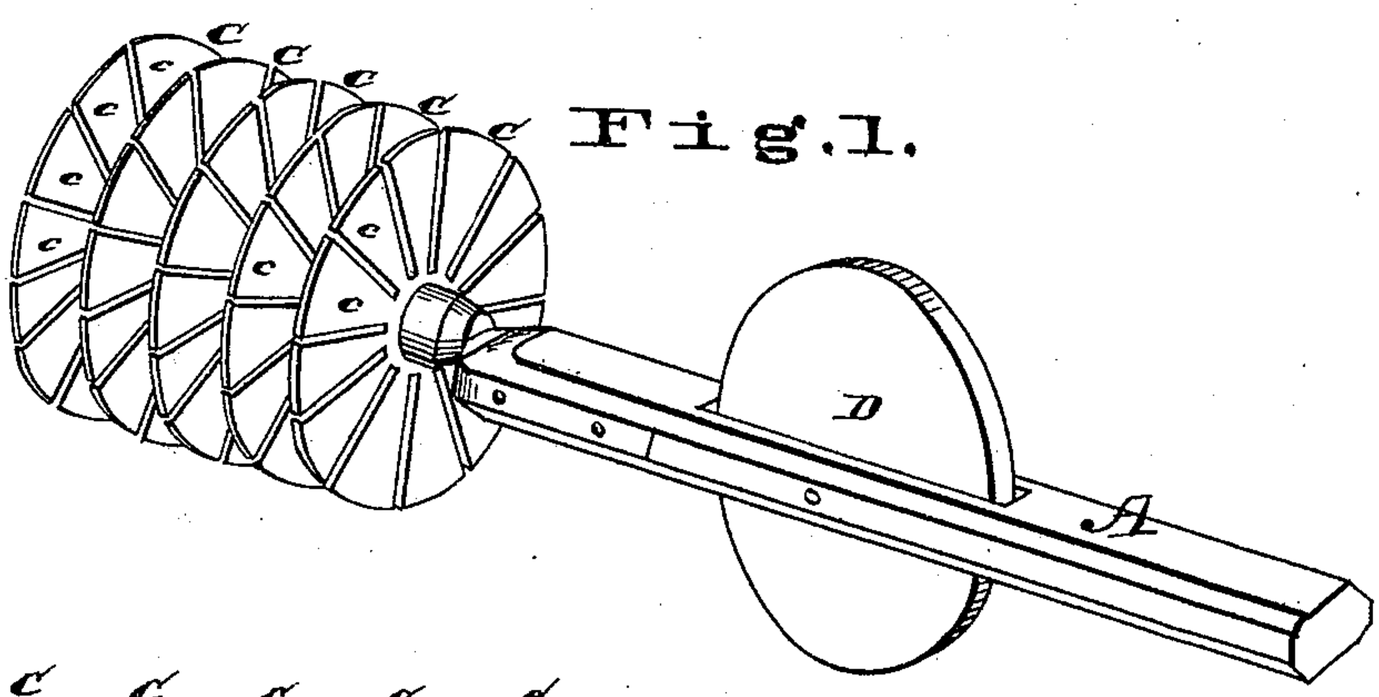


Fig. 2.

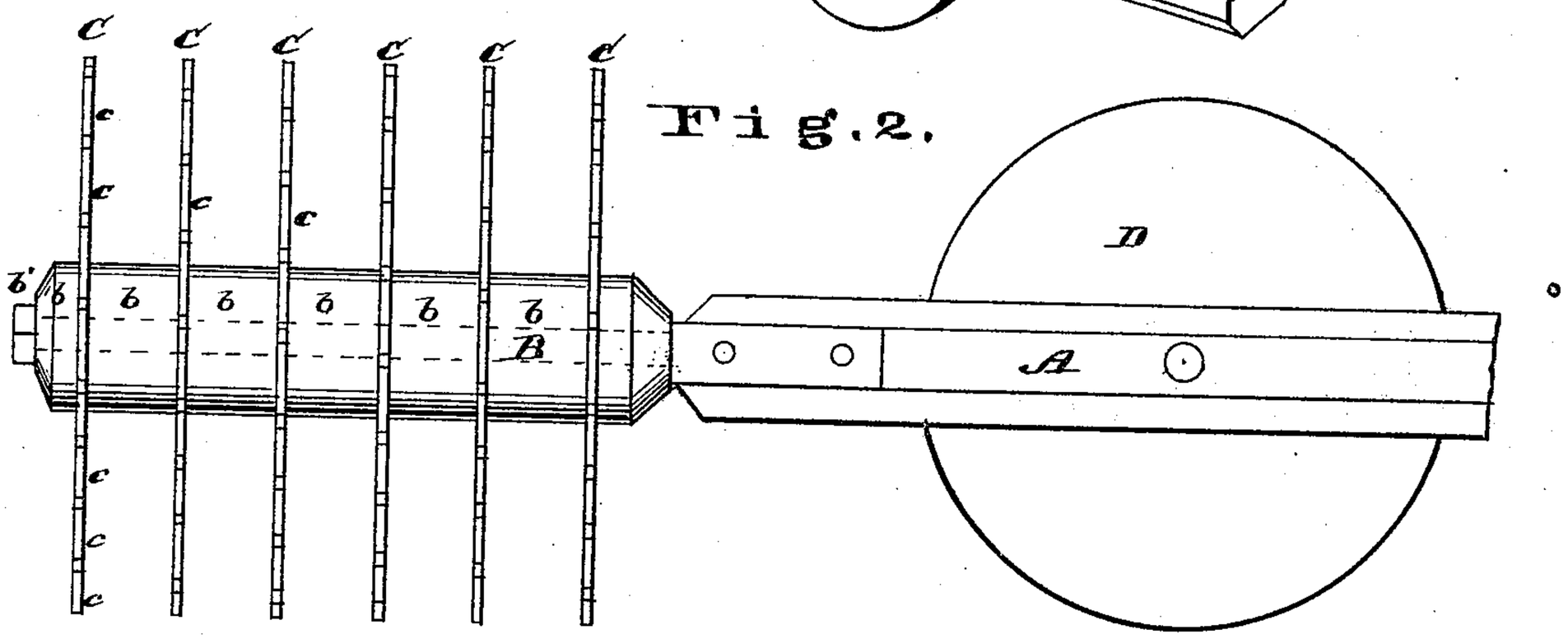
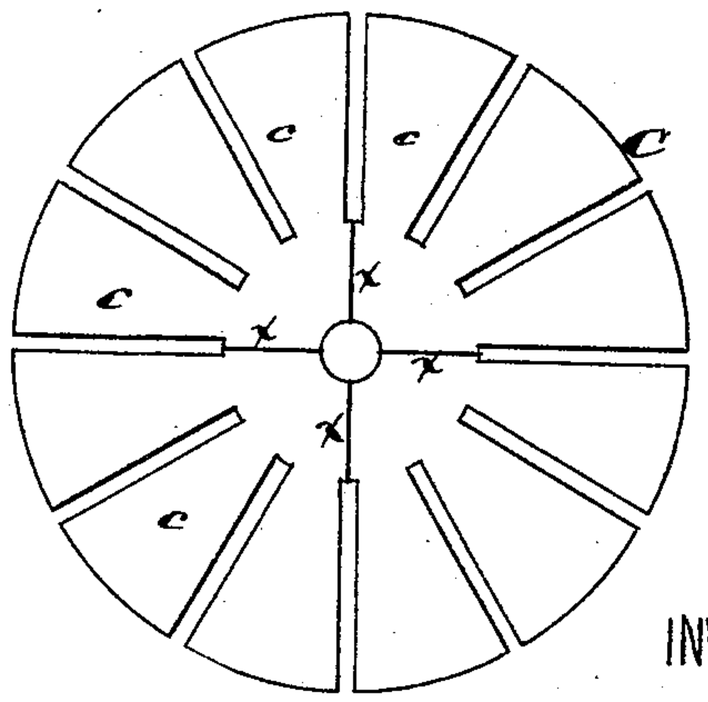


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ANTHONY SCHULTE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO JOSEPH W. BRANCH, OF SAME PLACE.

IMPROVEMENT IN FLUE-CLEANERS.

Specification forming part of Letters Patent No. **175,628**, dated April 4, 1876; application filed February 9, 1876.

To all whom it may concern:

Be it known that I, ANTHONY SCHULTE, a resident of the city and county of St. Louis, State of Missouri, have invented new and useful Improvements in Flue-Cleaners, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 represents my invention in perspective, and Fig. 2 in side elevation; and Fig. 3 represents a side elevation of one of the disks.

Like letters indicate like parts.

My aim is to provide an efficient flue-cleaner; and to this end it relates to the means used in thoroughly scraping the shell of the flue, and by which any protuberance, like a rivet-head, in the shell of the flue can be readily surmounted, and in such a way as to enable that part of the shell of the flue immediately surrounding the obstacle to be reached and cleaned. It also relates to the provision for keeping the device in its proper position in the flue, and by which a flue somewhat larger than the device can be cleaned. It further relates to the provision for expanding the disks, and setting the vanes out to a larger diameter.

Referring to the annexed drawing, A represents the handle of the device, being a rod of suitable material and proportions. At its outer end the rod is provided with an extension or spindle, B. (Indicated by the dotted lines in Fig. 2.) Upon the spindle are arranged and secured a series of circular disks, C C C C C, &c. They are made of thin steel, are uniform in size, and are similarly slit from the periphery toward the center, as shown in Fig. 1. In this way each disk becomes practically a series of independent vanes, *c c c*, &c. The disks, when more than one is used, are evenly spaced apart, and preferably by means of washers *b b b*, &c. The disks and washers are secured by means of the nut *b'* at the end of the spindle. The disks are preferably turned so that the slits in the various disks do not coincide. D represents a wheel, in diameter similar to the disks, journaled in the handle in the rear of the disks, and as shown in Figs. 1 and 2.

In practice, I prefer to make the disks large enough to require the vanes of the disks to be slightly deflected by coming against the shell of the flue as the cleaner is inserted. The division of the disks into vanes enables this to be done. Now, by reason of this, and owing to the nature of the material, the ends of the vanes are brought sharply against the shell of the flue, and caused to scrape it thoroughly. From this, irrespective of obstructions, the cleaner is very efficient; but when an obstacle in the nature of a protuberance is encountered only the particular vane opposite the obstruction yields, while the remaining vanes hold up to the shell. As soon as the obstacle is passed the vane recovers its place in the plane of the disk.

I prefer to use a series of these slotted disks, as shown, as the flue can be cleaned more thoroughly and rapidly. It is evident, however, that a single slotted disk will measurably accomplish the work, and when but one is used it can be attached directly to the handle.

The wheel D serves to keep the cleaner straight and in its proper position in the flue. It also serves as a fulcrum when flues larger than the device are cleaned. In such flues, by turning the outer end of the handle suitably, and using the wheel as a bearing, the disks can be brought properly against the flue-shell. By making this bearing in the form of a wheel the friction is diminished.

Another feature of this improvement is the provision by which the disks or vanes, after being worn and, in consequence, made smaller, can be set out so as to preserve the original diameter of the device, or even to enlarge it. This is done by extending the slits in the disks completely through them, as shown at *x x x x*, Fig. 3, and dividing the disk into sections.

When it is desired to enlarge the disks, the nut *b'* and washer *b* are loosened, and the various sections of the disk are suitably set out, and then secured by tightening the nut.

What I claim is—

1. The combination of the rod A, spindle B, disks C C C, &c., washers *b b b*, &c., nut *b'*, and wheel D, substantially as described.

2. The combination of the rod A, spindle B, disks C C C, &c., provided with slots extending from the periphery toward the center of the disk, and forming the independent vanes *c c*, &c., washers *b b b*, &c., and nut *b'*, substantially as described.

3. The combination of the rod A and the disk C, provided with slots extending from the periphery toward the center of the disk, and forming the independent vanes *c c*, &c., substantially as described.

4. The combination of the rod A, spindle B, disk C, divided by means of the slits *x x*, &c., into independent sections, washer *b*, and nut *b'*, substantially as and for the purpose of enabling the disk to be enlarged.

5. The combination, in a flue-cleaner, of the rod A and the wheel D, substantially as and for the purpose described.

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Witnesses:
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