

W. H. KEES & L. SCHMID.

Flue Cleaner or Scraper.

No. 160,203.

Patented Feb. 23, 1875.

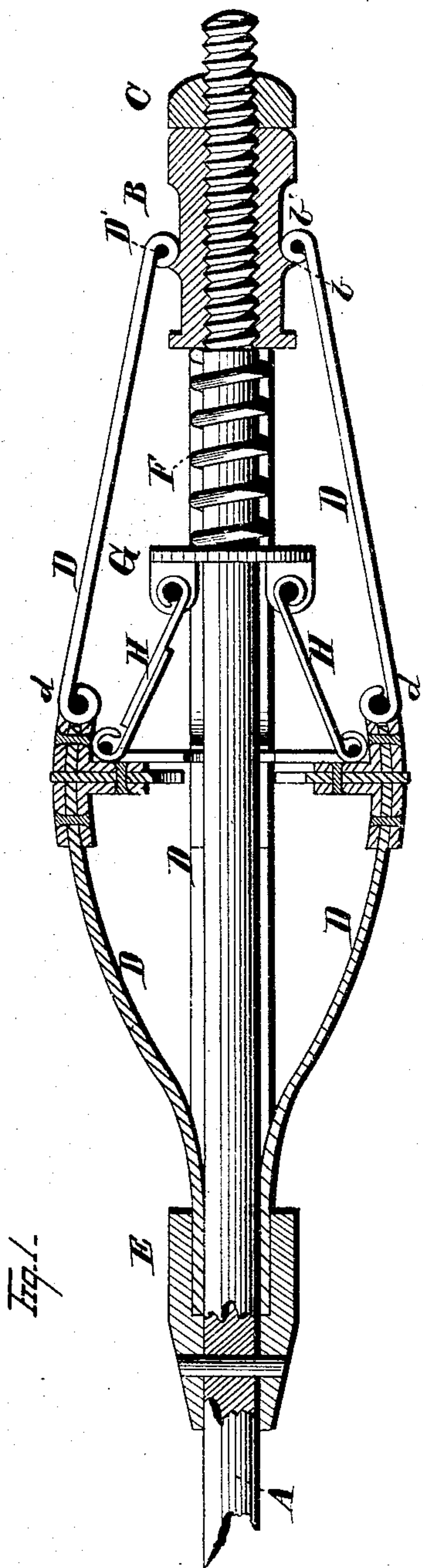


Fig. 1.

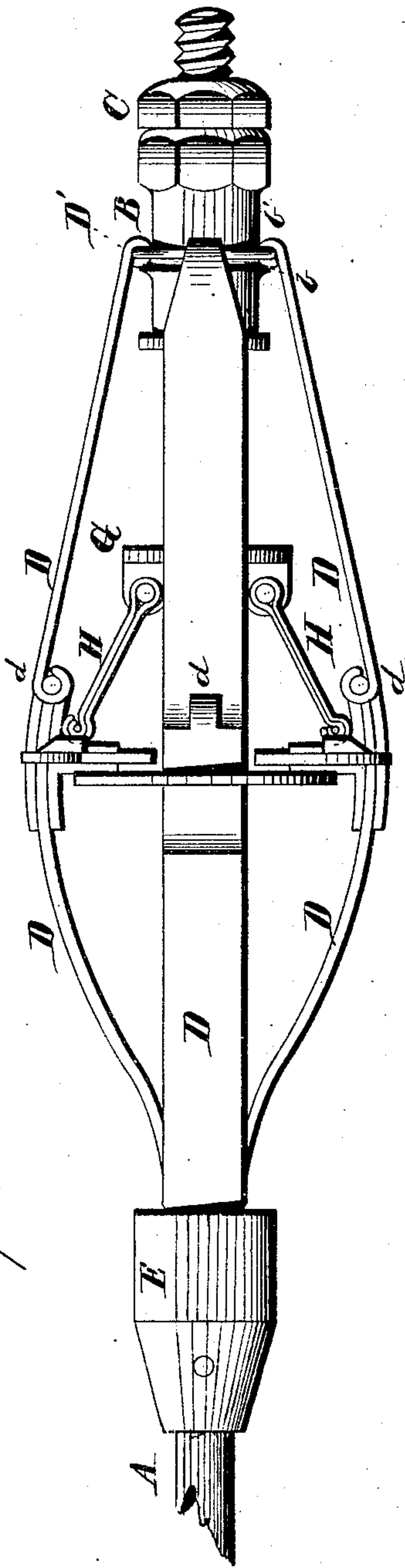


Fig. 2.

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IMPROVEMENT IN FLUE CLEANERS OR SCRAPERS.

Specification forming part of Letters Patent No. **160,203**, dated February 23, 1875; application filed February 2, 1875.

To all whom it may concern:

Be it known that we, WILLIAM H. KEES and LORENZ SCHMID, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Flue Cleaners or Scrapers; and we 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.

Our invention relates to an improvement in flue cleaners or scrapers; and consists in combining with the scraping-plates a toggle-joint actuated by means of a spring and a nut, whereby the said plates may be expanded or contracted to suit flues of different diameters, and after they have been adjusted to a flue they are permitted to yield through the medium of the spring.

In the drawing, Figure 1 is a section of an improved flue-cleaner. Fig. 2 is a side elevation of same.

A is a shaft, screw-threaded at its upper end to receive a traveling nut, B, and a jam-nut, C. D are arms that carry the scraping-plates. They are hinged at *d*, and are attached to the shaft A by a collar or any other suitable mechanism, E, at the bottom. At the top they are attached to a traveling nut, B, which has a shoulder, *b*, or its equivalent, by which the ends of the arms D are carried upward as the nut B is run out toward the end of the shaft; but it has a surface, *b'*, which permits the collar or its equivalent, D', to slide when the arms D are compressed within the flue. F is a spring attached to the shaft A, against which the nut B presses. The spring F bears against a collar, G. To this collar is attached the arms H, which arms are hinged at one end to the scraping-plates, and at the other end to the traveling collar G, so that the three together form a toggle-joint.

By depressing the traveling collar G it is evident that the arms H will force the scraping-plates outward, so that the scraper may be made to fit any sized flue. When it is desired to be fitted to a small flue the nut B is run upward toward the end of the shaft A. This carries with it the traveling collar G, and

also, by drawing upon the upper ends of the arms D, contracts the scraper. If it is desired to enlarge the scraper the nut B is run down in a direction toward the handle. This presses the scrapers outward.

No matter what position the scrapers may have, whether expanded or contracted, any pressure upon the scrapers from the outside—as, for instance, in entering a flue—will cause the said scrapers to yield. In yielding the traveling collar G presses upward against the spring F, which spring causes a continual pressure against the cutters to force them against the sides of the flue, so that any impediment or obstruction is readily cut away.

Instead of hinging the arms F to the cutter-plates, it is evident that the said arms may simply have a bearing against the cutter-plates and be hinged to the collar G. So, also, instead of the device shown in the drawings for attaching the tops of the arms D to the traveling nut, this may be effected by a collar or any other suitable device.

It will be seen that the collar E fastens the ends of the arms D snugly to the shaft A. We prefer this method of fastening the arms because they will then serve to assist the springs F in forcing the cutters outward against the surface of the flue. The cutters are made to lap over each other in such a manner as to effect a scraping of the entire surface of the flue.

What we claim as new, and desire to secure by Letters Patent, is—

1. The flue-scraper composed of the shaft A, the traveling nut B, the hinged cutter-arms D, spring F, traveling collar G, and toggle-arms H, all combined substantially as and for the purpose described.

2. The combination, with the arms D and the spring F, of the intermediate traveling collar G and toggle-arms H, substantially as and for the purpose described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM H. KEES.
LORENZ SCHMID.

Witnesses:

FRANCIS TOMMEY,
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