

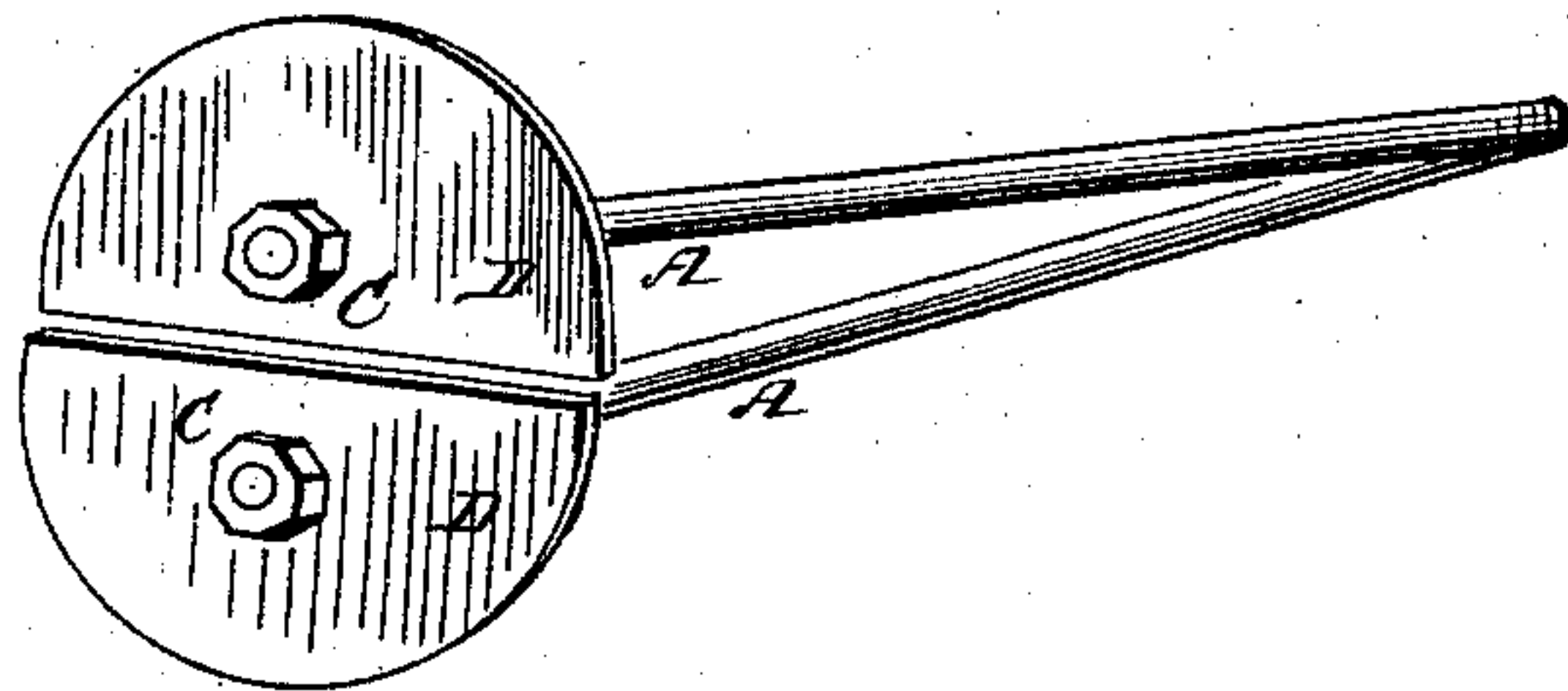
(No Model.)

M. L. METCALF.  
Tube Cleaner.

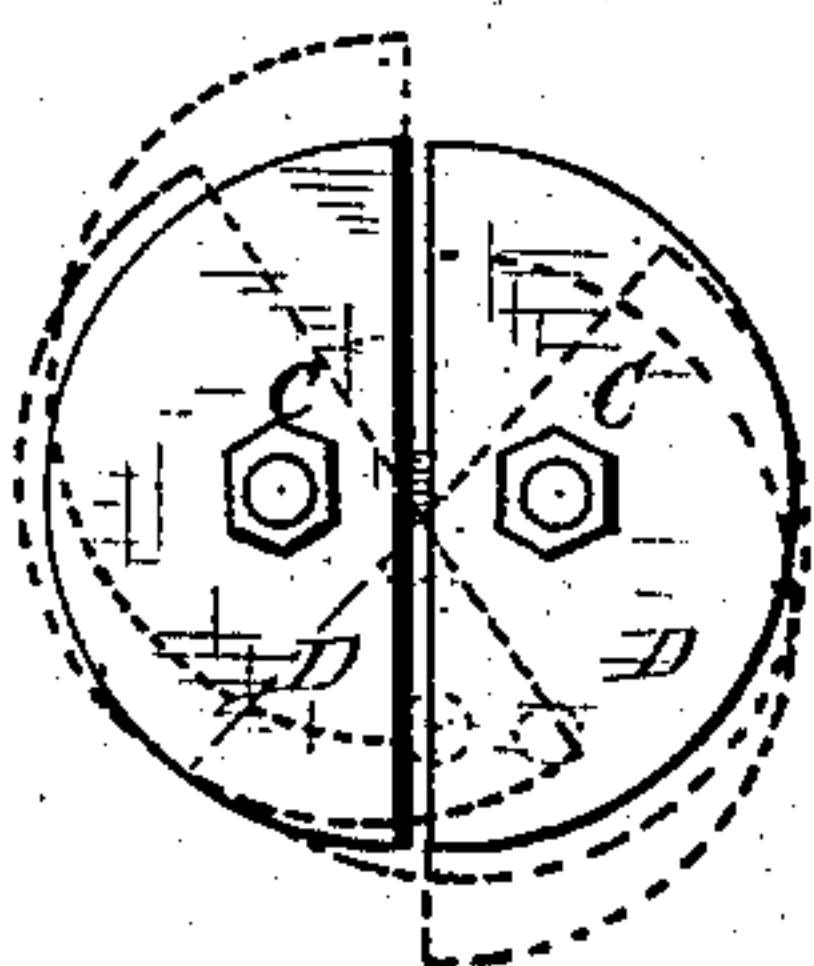
No. 235,694.

Patented Dec. 21, 1880.

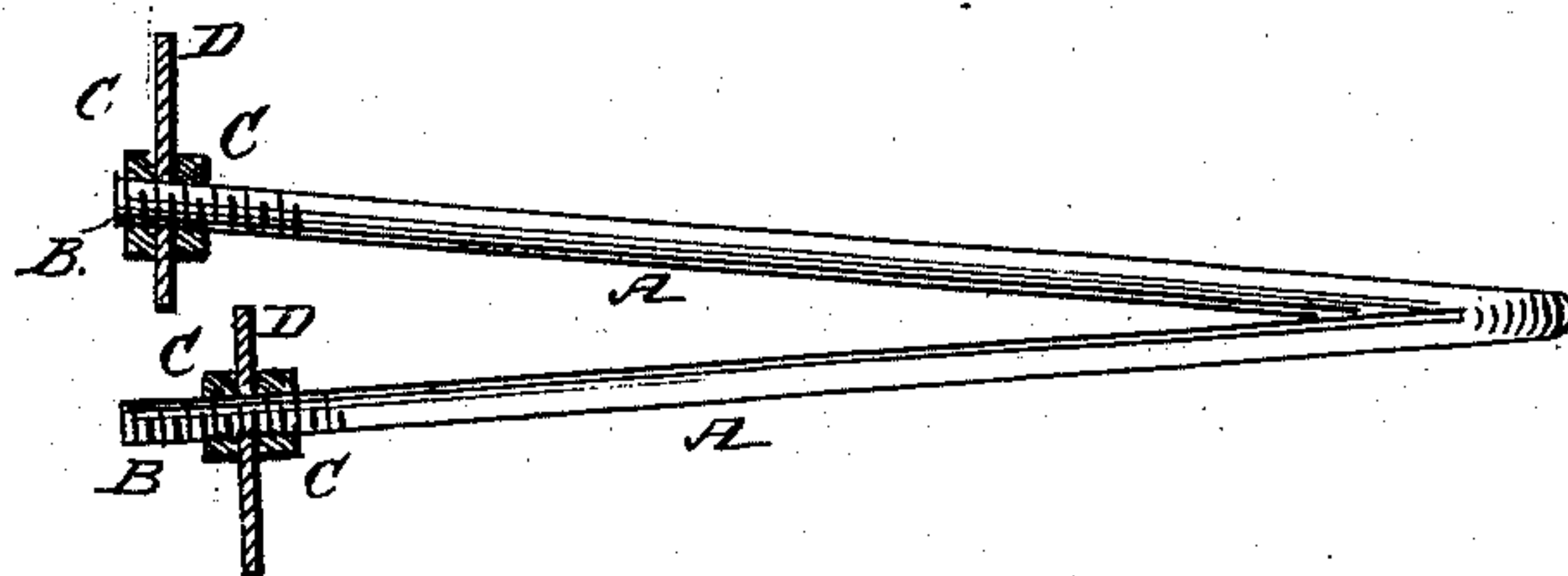
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
Fred. G. Dutcher  
J. R. Little

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M. L. Metcalf  
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# UNITED STATES PATENT OFFICE.

MARQUIS L. METCALF, OF WILLIMANTIC, CONNECTICUT.

## TUBE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 235,694, dated December 21, 1880.

Application filed July 22, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, MARQUIS L. METCALF, of Willimantic, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Tube-Cleaners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is an end view, and Fig. 3 is a longitudinal sectional view.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to implements for cleaning tubes or flues in boilers, &c.; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A A represent two rods or stems, connected at one end, as shown, in such a manner that their free ends shall have sufficient elasticity to spring apart, while the connected ends may be readily connected to a handle and held securely by means of a suitable key. The free ends of the rods A A are screw-threaded at B B, and each provided with nuts C C, between which a semicircular scraping-disk, D, is adjusted and held securely. The disks or scrapers D D, it will be seen, are expanded by the tension of the elastic rods or stems A A, thus causing them to fit in and be useful for scraping or cleaning the inner surfaces of tubes or flues slightly larger in interior diameter than the diameter of the circle of which each of the scraping-disks D constitutes one-half.

When large tubes or flues are to be cleaned or scraped, the disks D D (one or both) may be turned as indicated in dotted lines in Fig. 2, so as to increase the diametrical line. One of the disks may also be adjusted at a point upon its rod A somewhat above or beyond the other one, as shown in Fig. 3 of the drawings, so as to permit rust and dirt, when loosened from the top of the flue, to drop more readily to the bottom, and be from thence removed by the lower scraping-disk.

I am aware that tube and flue cleaners have been heretofore provided with elastic or expansible arms, to the free ends of which were attached semicircular scraping-disks or flanged pieces adapted to a like use; but this construction I do not broadly claim.

My invention, as will be seen, is exceedingly simple and inexpensive in construction, and its operation and advantages will at once be understood and appreciated by those skilled in the art to which it appertains.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, with a pair of expansible or elastic rods having screw-threaded ends, of a pair of adjustable semicircular scraping plates or disks adjustable upon the free ends of said elastic or expansible rods, all constructed and arranged substantially in the manner shown, and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MARQUIS L. METCALF.

Witnesses:

JOHN C. BUGBEE,  
HUBER CLARK.