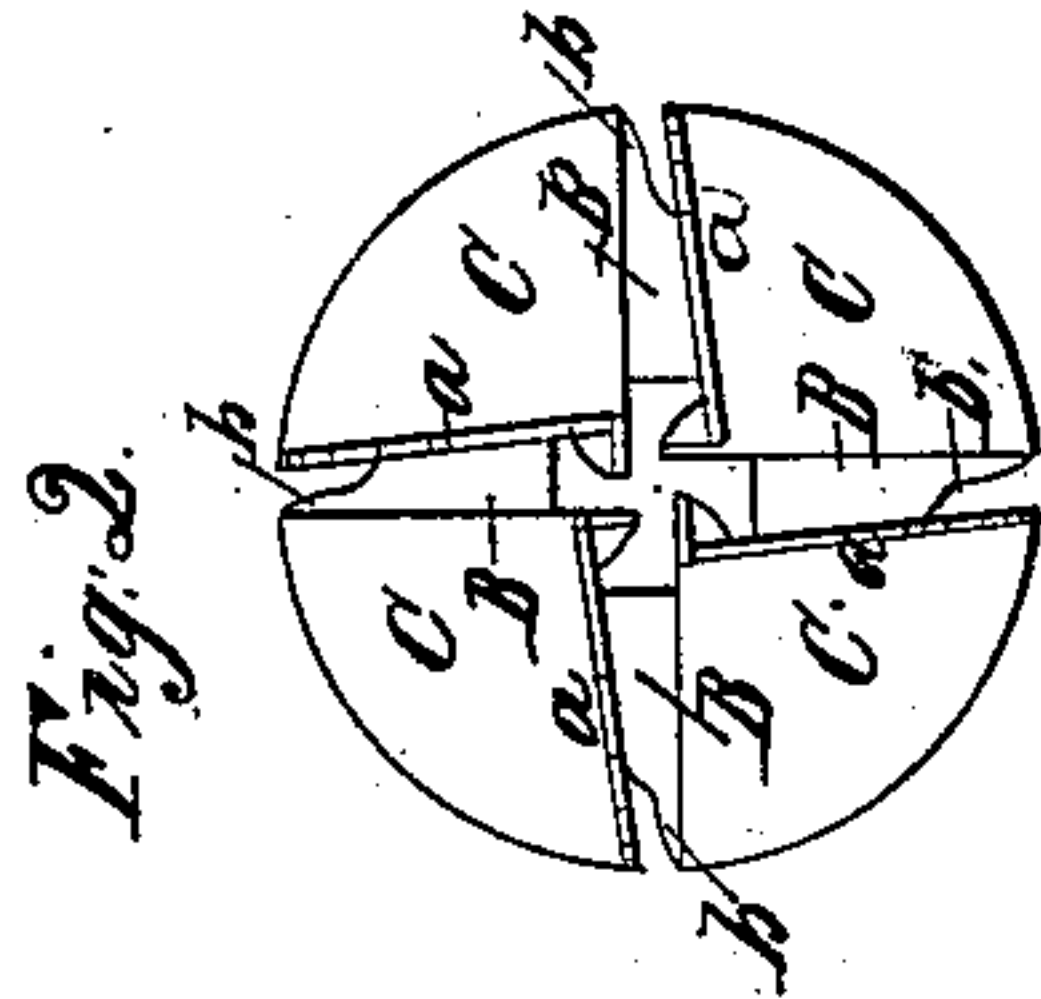


*S. Van Auken.*

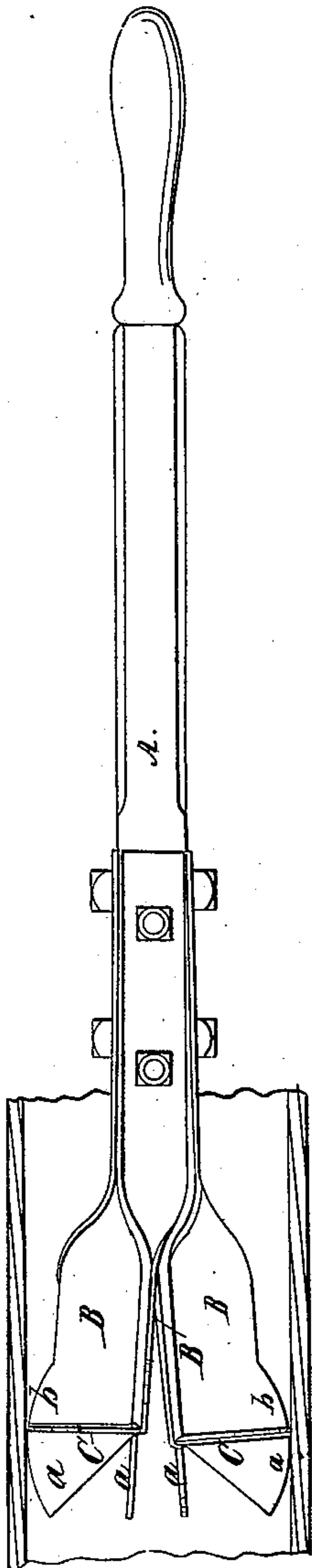
*Steam-Boiler Cleaner.*

*N<sup>o</sup> 60,653.*

*Patented Dec. 18, 1866.*



*Fig. 1.*



*Witnesses:*

*F. A. Jackson,*

*Alex F. Roberts,*

*Inventor:*

*S. Van Auken*

*Per Attorneys*

*Attorneys*

# United States Patent Office.

## IMPROVED TOOL FOR CLEANING BOILER TUBES.

SIDNEY VAN AUKEN, OF BINGHAMTON, NEW YORK.

*Letters Patent No. 60,653, dated December 18, 1866.*

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that SIDNEY VAN AUKEN, of Binghamton, in the county of Broome, and State of New York, have invented a new and improved Tool for Cleaning Boiler Tubes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention.

Figure 2 is an end view of the same.

Similar letters of reference indicate like parts.

This invention consists in a tool, composed of three or more spring-arms, made of elastic sheet-metal, and twisted so that the same will yield both ways. The outer ends of said spring-arms are formed into segmental scrapers, and they are provided with cams on the inside and outside of said scrapers, whereby the operation of introducing the said tool in a tube, or removing it therefrom, is materially facilitated.

A represents a handle or rod, made of wood or of any other suitable material, of sufficient length to enable the operator to reach through the boiler tube to be cleaned. To the end of this rod are secured the spring-arms B, which are made of thin and elastic sheet metal, sheet steel being used by preference, and which are twisted, as clearly shown in fig. 1 of the drawing, so that they are rendered yielding in two directions, and that the tool is enabled to accommodate itself to the interior of the boiler tube to be cleaned. The outer ends of the arms, B, are bent, so as to form segmental scrapers C, and cams *a b* on the inside and outside of these scrapers serve to facilitate the operation of introducing the tool into the tubes to be cleaned, and of removing it therefrom. The cams, *a*, on the outside of the scrapers are formed by turning the ends of the arms B at right angles with those parts which form the scrapers, and the cams, *b*, are formed by projections on the edges of the arms, close to the scrapers, as clearly shown in fig. 1 of the drawing. The segmental scrapers are made of such a size that they overlap each other, and that, by their action, the entire inner surface of the tube to be cleaned can be reached. By the action of the double-yielding spring-arms my scrapers are enabled to accommodate themselves readily to the inner surfaces of the tubes, and to avoid all inequalities or rough places which may occur on said surfaces; and, furthermore, my scrapers are cheap, and not liable to wear out for a long time.

Having thus described my invention, what I claim is—

The doubly yielding spring-arms B, in combination with the segmental scrapers C, and cams *a b*, constructed and operating substantially as and for the purpose set forth.

The above specification of my invention signed by me this 21st day of August, 1866.

SIDNEY VAN AUKEN.

Witnesses:

W. HAUFF,

ALEX. F. ROBERTS.