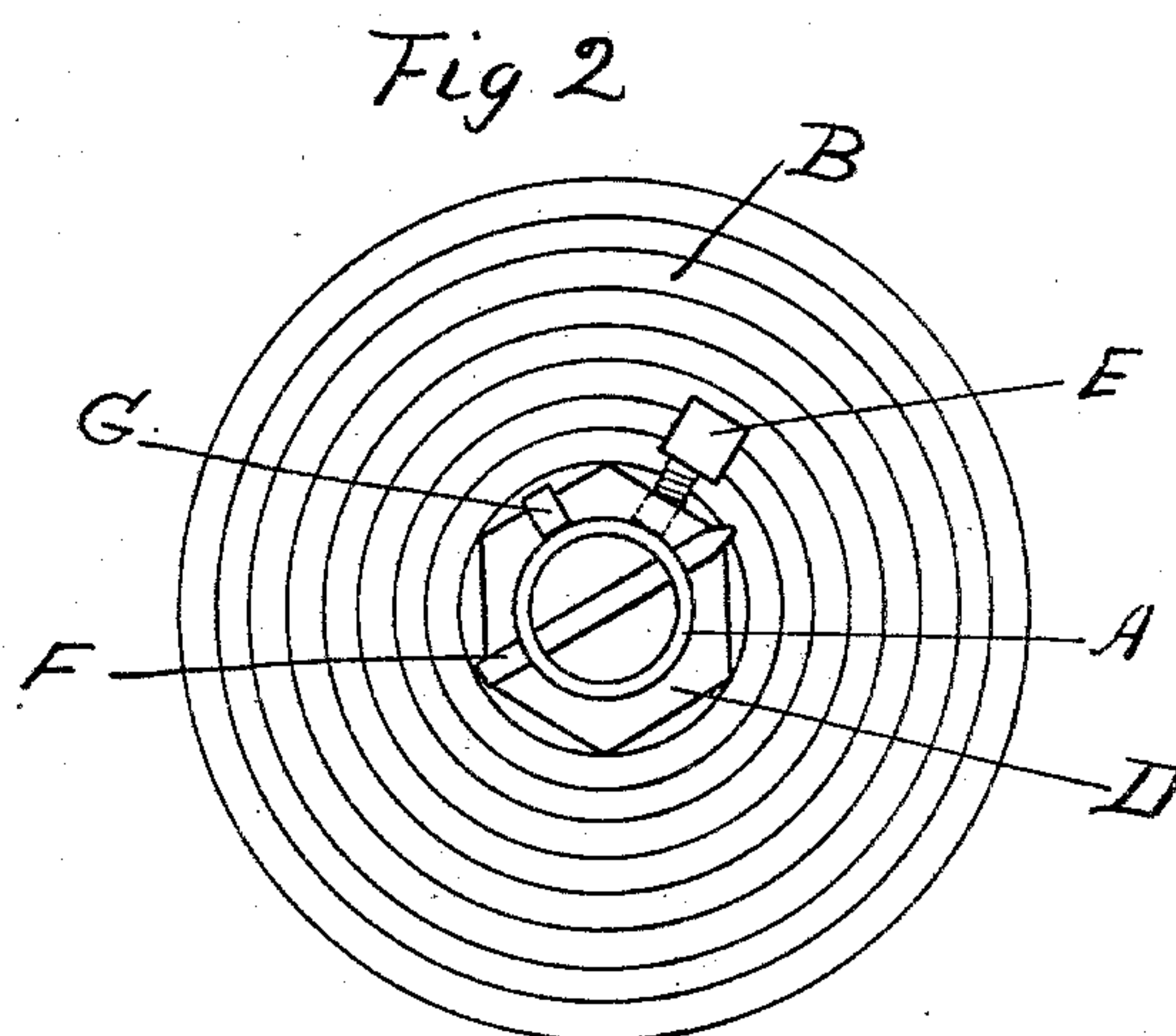
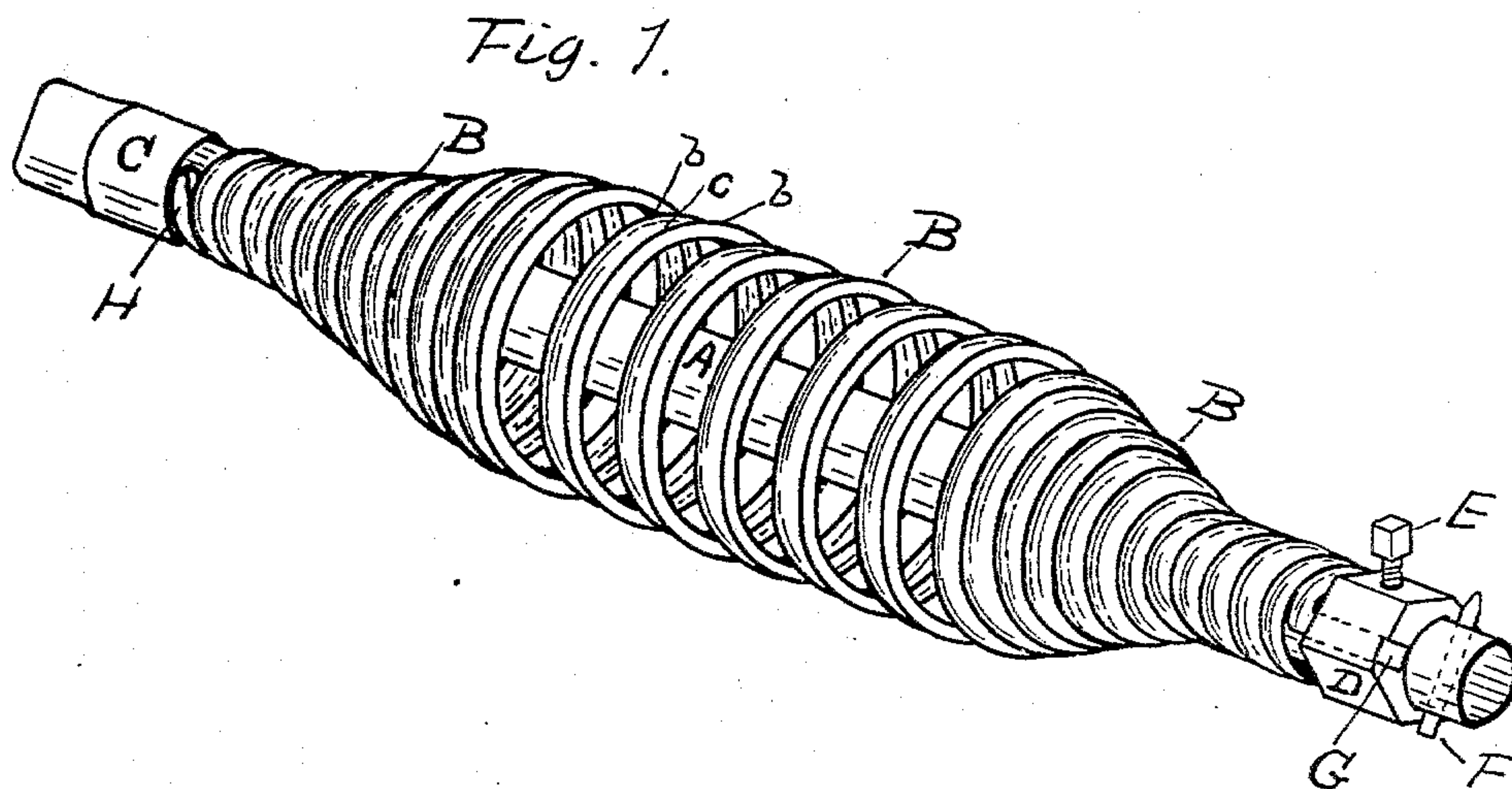


(No Model.)

G. C. BROOKS.
BOILER FLUE CLEANER.

No. 563,651.

Patented July 7, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE C. BROOKS, OF BINGHAMTON, NEW YORK.

BOILER-FLUE CLEANER.

SPECIFICATION forming part of Letters Patent No. 563,651, dated July 7, 1896.

Application filed March 19, 1895. Renewed June 8, 1896. Serial No. 594,806. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. BROOKS, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Boiler-Flue 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, forming part thereof.

My invention relates to improvements in boiler-flue cleaners; and the object of my improvements is to provide a simple and effective tool which will thoroughly clean any sized flue of all obstruction. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my flue-cleaner, and Fig. 2 is an end view of the cleaner.

In Fig. 1, A is the central rod or stem. B is a spring-coil; C, a union-joint; D, an adjusting-nut; E, a stop-screw; F, a holding-pin; G, the end of the spring-coil secured in the adjusting-nut, and H the end of the spring-coil secured to the stem.

In Fig. 2 the same letters represent the same parts.

In constructing my flue-cleaner I use a solid and hollow metallic rod of suitable size for the stem A. On one end of this stem A, I secure the union-joint C, by which the stem may be attached to a handle. On the other end of the stem A, I place the adjusting-nut D, in which is the stop-screw E, by which this nut can be secured at will to the stem A. In the end of the stem A and outside of the nut D is the holding-pin F, which prevents the nut D from being pushed off the stem when not secured by the screw E. The spring-coil B is made of steel in form of a spiral, the ends

being coiled down to the size of the stem A, while the center has its convolutions in a line with each other. The outer edge of the spring-coil is formed to produce two sharp cutting edges *b b* on each side of the concave center *c*. The end H of the spring-coil is permanently secured to the stem A by being placed in an opening in the stem, while the other end G is secured to the adjusting-nut D by being passed through an opening in its face.

When necessary to reduce or enlarge the coil B to fit a boiler-flue, the adjusting-nut D is turned with or against the direction of the spiral and secured by the stop-screw E.

In use the cleaner is secured to a handle and thrust into the boiler-flue and drawn backward and forward, the sharp edges *b b* of the spring-coil scraping and cleaning the flue in its passage, and the spring of the coil giving all that is necessary to avoid non-movable obstructions.

What I claim as my invention, and desire Letters Patent for, is—

In a boiler-flue cleaner, a coiled steel wire whose outer face is concave presenting two cutting edges to the surface of the tube to be cleaned, which edges sharpen by use instead of dulling, said wire being permanently secured at one end to the rod running through the center of the coil, and the other end being secured to a threadless nut working freely on the central rod and secured when desired by a pin, and by which the diameter of the coil may be expanded or contracted to fit different tubes by turning of the nut, the coiled wire being coiled close enough at the ends to hold the dirt and withdraw it from the tube; as described and for the purpose specified.

GEORGE C. BROOKS.

Witnesses:

JOHN T. BROOKS,
J. E. BOOKSTAVEN.