

No. 774,699.

PATENTED NOV. 8, 1904.

J. A. SAGERDAHL.
BOILER TUBE CLEANER.
APPLICATION FILED MAY 11, 1904.

NO MODEL.

Fig. 1.

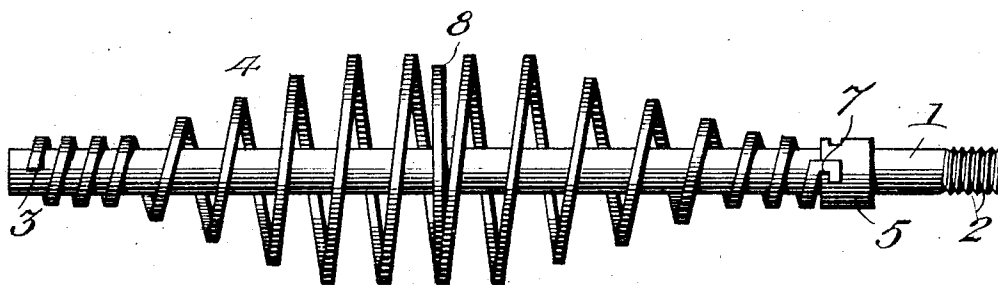


Fig. 2.

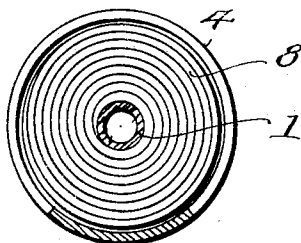
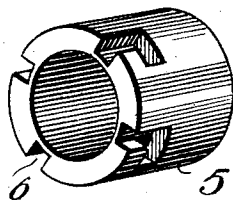


Fig. 3.



Witnesses

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JOHN A. SAGERDAHL, OF YOUNGSVILLE, PENNSYLVANIA.

BOILER-TUBE CLEANER.

SPECIFICATION forming part of Letters Patent No. 774,699, dated November 8, 1904.

Application filed May 11, 1904. Serial No. 207,474. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SAGERDAHL, a citizen of the United States, residing at Youngsville, in the county of Warren and State of Pennsylvania, have invented new and useful Improvements in Boiler-Tube Cleaners, of which the following is a specification.

This invention relates to boiler-tube cleaners, the object of the invention being to provide a simple, cheap, and reliable cleaner for the purpose stated in which provision is made for compensating for wear and for increasing or diminishing the diameter of the cleaner, so as to accurately and properly adapt the same for the work for which it is designed.

A further object of the invention is to so construct and combine the several parts of the cleaner that the member which constitutes the working part or surface of the device may be easily removed and replaced when worn out.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as herein fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a plan view of the boiler-tube cleaner embodying the present invention. Fig. 2 is a central cross-section through the same. Fig. 3 is an enlarged detail perspective view of the collar which provides for the adjustment of the device.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

The boiler-tube cleaner contemplated in this invention comprises, essentially, a stem 1, which under the preferred embodiment of the invention consists of a tube or pipe which is preferably threaded at one end, as shown at 2, to adapt it to be coupled to another section of pipe or tubing in order that the cleaner may be manipulated in and through tubing of any length. At or near one end the stem is provided with an opening 3 for the reception of the inbent extremity at one end of a coiled spring or cleaner 4, while near the other end of the stem the latter is provided with a collar 5, fast on the stem and provided with a circu-

lar series of bayonet-sockets 6, in which the hooked or angularly-bent extremity 7 of the opposite end of the spring or cleaner 4 is adapted to be inserted, as shown in Fig. 1. The hooked extremity of the spring may be inserted in any one of the bayonet-sockets 6. Several of the coils adjacent to the central portion of the spring are of the approximate size of the internal diameter of the tube to be cleaned, while the coils at opposite sides of the portion of the spring progressively decrease in diameter toward the ends of the spring, at which points the coils are relatively smaller, being of a size, however, to admit of the insertion and removal of the spring in the opening 3 and bayonet-sockets 6, respectively, thus providing for detaching the spring and replacing the same with a new one.

About centrally of the spring an involute coil 8 encircles the stem 1 and is secured thereto, the coils preferably lying close upon each other, so as to form a disk-shaped shoulder or pusher which engages the scale and other matter scraped from the inner surface of the tube and advances the same along the tube, finally ejecting such material therefrom.

In adjusting the device to the size of the tube the spring is wound or unwound by turning the same in the proper direction upon and around the stem 1 until the central coils are of the proper diameter, whereupon the hooked extremity 7 of the spring is engaged in the nearest bayonet-slot 6, where it is held interlocked with the collar 5. The cleaner is pushed lengthwise within the tube, the larger coils acting to scrape the scale and other material therefrom, while the pushing-shoulder 8 carries the same out of the end of the tube. As wear takes place on the central coils of the spring the same may be compensated for by adjusting the hooked extremities 7 to another notch, and when the spring is too far worn for further use it may be detached from the stem and replaced by a new one.

Having thus described the invention, what is claimed as new is—

A boiler-tube cleaner comprising a stem provided near one end with an opening and near the opposite end with a fixed collar formed with a plurality of sockets, a spring encircling

the stem and made tapering from its central
portion toward either end, one end of the
spring being removably inserted in the open-
ing in the stem, while its other end is adapted
5 for insertion in any one of the sockets in the
collar to render the spring adjustable, and an
involute coil secured centrally of the stem.

In testimony whereof I affix my signature in
presence of two witnesses.

JOHN A. SAGERDAHL.

Witnesses:

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