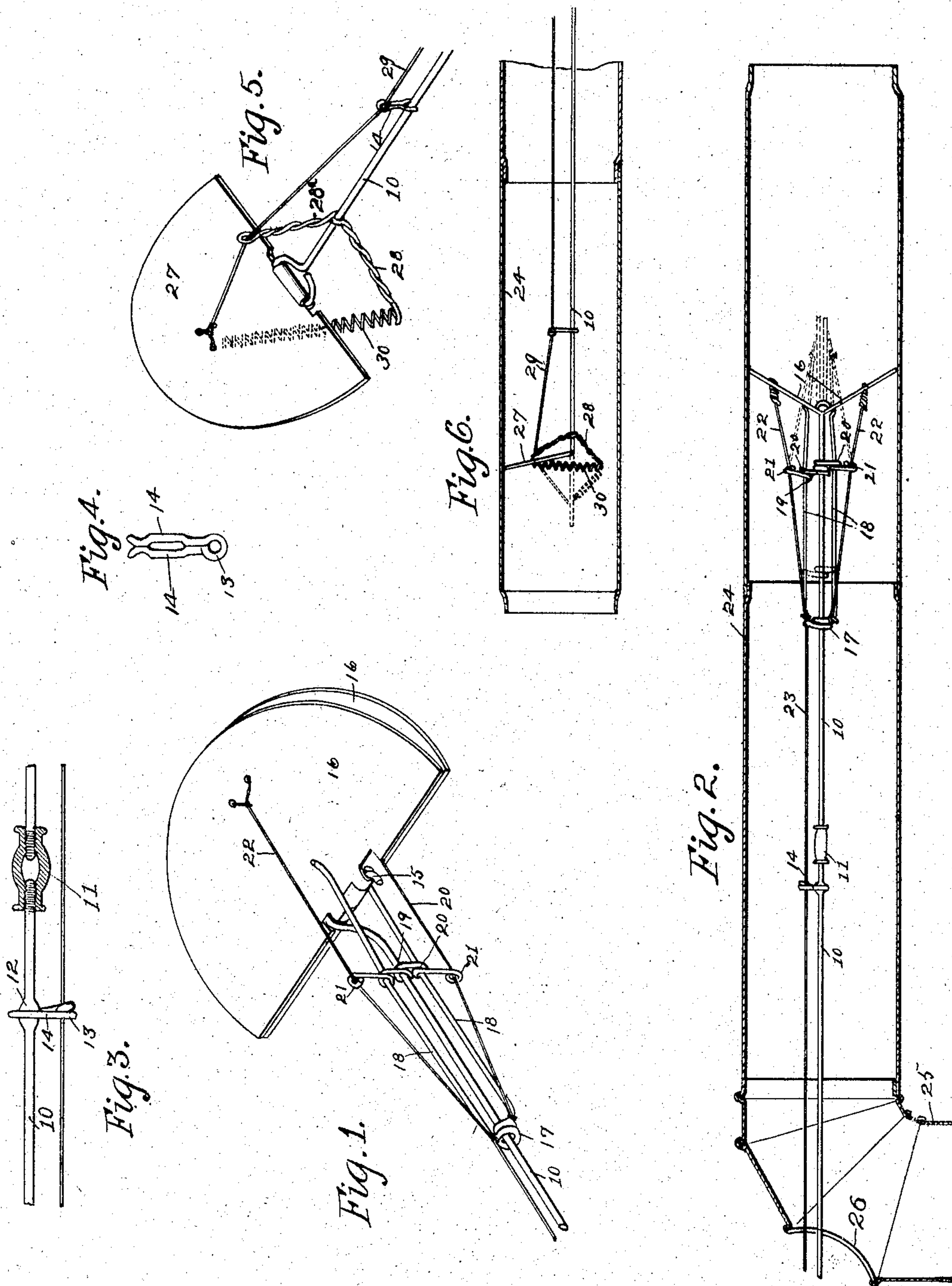


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D. WITT.  
FLUE CLEANER.  
APPLICATION FILED JAN. 19, 1904.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 781,118, dated January 31, 1905.

Application filed January 19, 1904. Serial No. 189,778.

*To all whom it may concern:*

Be it known that I, DETLEF WITT, a citizen of the United States, residing at Owasa, in the county of Hardin and State of Iowa, have invented a certain new and useful Flue-Cleaner, of which the following is a specification.

The objects of my invention are to provide a flue-cleaner of simple, durable, and inexpensive construction especially designed for removing soot from the interior of stovepipes, flues, and chimneys. Said cleaner comprises a flexible wire handle and a scraper-blade connected with the handle in such a way that it may be inserted in a stovepipe with the scraper-blade parallel with the handle and then the operator at the other end of the handle may cause the scraper-blade to move to position at an angle relative to the handle and may also move the entire scraper-blade and the adjacent end of the handle to position where the scraper-blade will engage the top or the sides of a horizontally-arranged stovepipe.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a perspective view of a part of the handle and scraper-blade hinged thereto and connected parts. Fig. 2 shows a sectional view of a horizontally-arranged stovepipe with my improved scraper in position for use therein. The dotted lines show the position of the scraper-blades folded. Fig. 3 shows a detail view of a part of the handle and blade-operating wire, partly in section. Fig. 4 shows a detail view of one of the arms. Fig. 5 shows a perspective view of a modified form of flue-cleaner in which a single scraper-blade is used, and Fig. 6 shows a sectional view of a piece of stovepipe with the modified form of scraper therein. The dotted lines show the position of the blade when parallel with the handle.

The handle of my improved flue-cleaner is composed of a number of rods 10, screw-threaded at their ends. The adjacent ends of the rods are inserted in couplings 11, which are

provided with internal screw-threads to receive them. On each of the handle-sections is a flattened portion 12. A spring-actuated arm is provided for each rod. Said arm is constructed as follows: The central portion of the arm is formed with a loop 13, and the ends 14 of the arm are parallel and notched on their adjacent faces near their ends to receive the flattened portion 12 of the handle-section, so that in order to connect one of the arms with the handle-section it is only necessary to force the ends 14 apart until the flattened portion 12 may be inserted between them and placed in position in the notches of said arms. The yielding ends will then firmly hold the arm in this position. In this way a handle of any length may be made and carried from place to place in sections detached from each other, and when it is desired to use the same the sections may be put together after the scraper is in position in a pipe. The handle-section nearest the scraper is provided with a right-angled portion 15, and hinged to this part 15 are two scraper-blades 16, each substantially semicircular in outline.

I have provided a spring for normally holding the scraper-blades toward each other, which spring is released by a pull upon the wire, which opens the scraper-blades. This spring comprises a coil 17, slidably mounted upon the wire handle and having two arms 18 parallel with the wire handle and having their ends shaped to admit the scraper-blades between them when they are moved longitudinally of the handle to position where they may receive the scraper-blades between them. When in this position, the scraper-blades are held together. However, when the spring-arms 18 are moved away from the scraper-blades the said blades may easily be opened.

Mounted upon the handle near the scraper-blades is a rigid arm 19, having two loops 20 to receive the arms 18 and also having two loops 21 at their ends. These loops 21 are designed to support the wires 22, which wires are attached to the outer ends of the scraper-blades and are passed through said loops 21 and attached to the coil 17.

The numeral 23 indicates a wire also attached to the coil 17 and extended parallel



with the handle through the loops 13 of the spring-arms on the handle.

The numeral 24 indicates a stovepipe of ordinary construction having an elbow 25. The elbow is provided with an opening 26, said opening being in line with the horizontal part of the elbow. The stovepipe forms no part of my present invention and is shown simply to illustrate the use of the scraper.

In practical use and assuming that it is desired to scrape the soot from a horizontally-arranged stovepipe having a downwardly-extending part and an opening at the elbow, the operator first places the scraper-blades in their folded position and inserts them through the opening at the elbow and forces them into the horizontally-arranged part of the pipe. In their folded position they will not operate to move the soot, but will slide freely in the pipe. The handle of the scraper may be lengthened, if desired, by adding additional handle-sections. When the scraper reaches the end of the pipe, the operator pulls upon the wire 23, with the effect of first sliding the spring 18 forwardly and permitting the blades to open. Then a further pull upon the wire 23 will tend to open the blades, because the ends of the arm 19 through which the wires 22 are passed are projected far enough from the handle to cause the blades to move outwardly when these wires are pulled upon. Each of the scraper-blades is of such shape that its edge farthest from its pivotal point will engage the interior of the pipe before the scraper-blades are at right angles to the handle. Then the operator pulls the wire and handle and moves the scraper-blades through the pipe, loosening the soot and scraping it toward the elbow, and when it reaches the elbow it may drop downwardly through the pipe into the stove, where it may be removed the same as the ashes. This operation may be repeated indefinitely.

In the modified form shown in Figs. 5 and 6 I have shown a single scraper-blade 27 pivoted to the handle, and I operate this scraper-blade as follows: Mounted on the handle adjacent to the scraper-blade are two arms 28 and 28<sup>a</sup>, one of the arms having an eye through which a wire 29 is passed and attached to the outer end portion of the scraper-blade. The other supports a contractile coil-spring 30, one end of which is attached to the outer end of the scraper-blade. This spring normally holds the scraper-blade in position parallel with the handle and when the scraper-blade is moved

to position at or near a right angle to the handle the spring tends to return it. In use with this form of my device the scraper is inserted in the pipe with the blade in line with the handle and when the operator pulls upon the wire 29 the blade is moved to position nearly at right angles to the handle or until it is stopped by the arm 28. Then the handle and blade will move through the pipe jointly.

One of the desirable features in connection with this form of my device is that after the blade has moved to position in engagement with arm 28 then a further pull upon the wire 29 will move the scraper-blade and the handle jointly toward the side of the pipe, no matter whether the blade is extending upwardly or laterally. The blade may in this way be held against the top of the pipe without engaging any other part of the interior of the pipe.

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

1. An improved flue-scraper comprising a handle, a scraper-blade pivoted to the handle, an arm projected laterally from the handle near the blade and a wire extended substantially parallel with the handle slidingly connected with the outer end of the arm and attached to the scraper-blade.

2. An improved flue-scraper, comprising a handle, a scraper-blade pivoted to the handle, an arm projected laterally from the handle near the blade and a wire extended substantially parallel with the handle slidingly connected with the outer end of the arm and attached to the scraper-blade and a yielding pressure device for holding the blade substantially parallel with the handle.

3. An improved flue-cleaner, comprising a handle, a scraper-blade pivoted to the handle, an arm fixed to the handle near the scraper-blade serving to limit the movement of the scraper-blade relative to the handle, a second arm on the handle, a contractile coil-spring fixed to said second arm and to the scraper-blade normally holding the scraper-blade substantially in line with the handle, and a wire slidingly mounted in the first arm and attached to the scraper-blade on the side opposite from the spring, substantially as and for the purposes stated.

DETLEF WITT.

Witnesses:

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