No. 668,122. Patented Feb. 12, 1901.

V. RADSPINNER.

FLUE SCRAPER.

(Application filed Feb. 14, 1900.)

(No Model.)

Fig. 1.

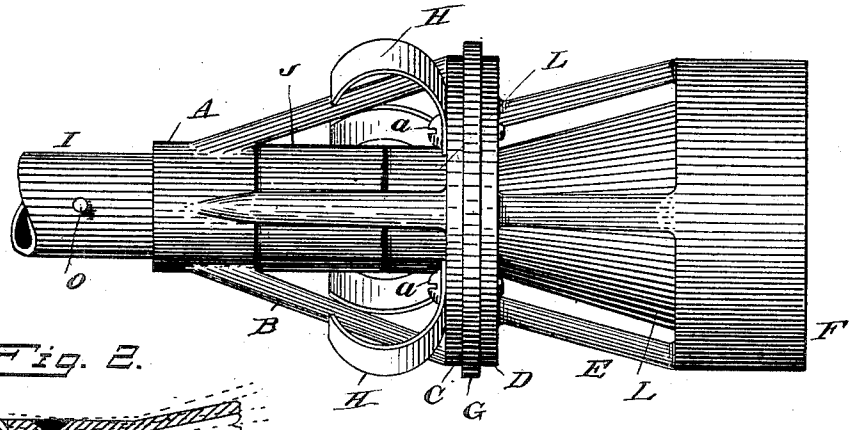


Fig. 2.

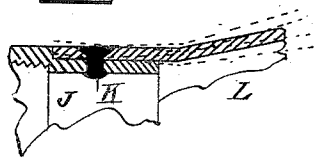


Fig. 3.

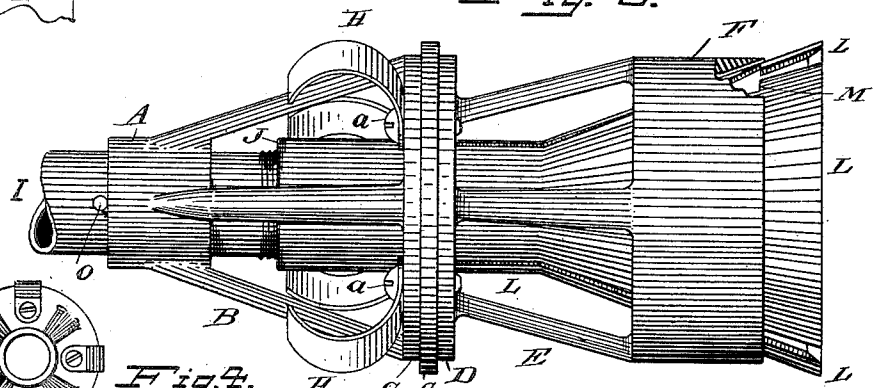
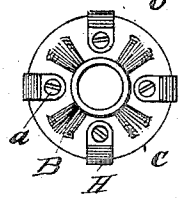


Fig. 4.



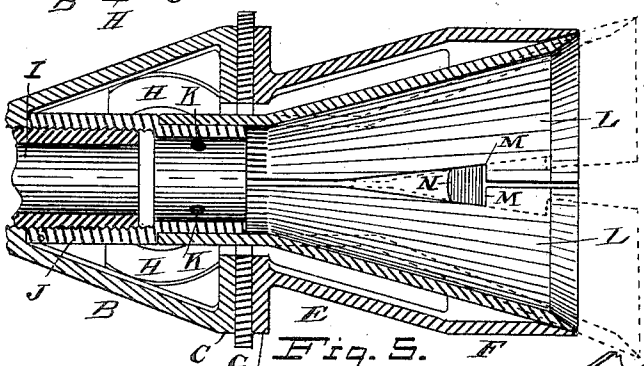


Fig. 5.

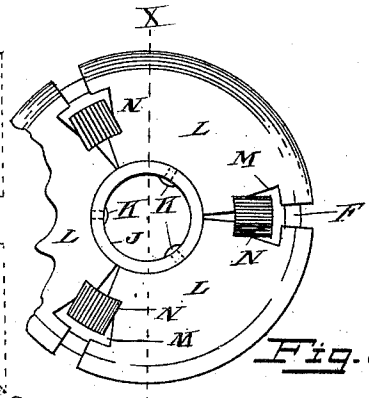


Fig. 6.

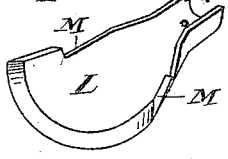


Fig. 7.

WITNESSES—

J. H. Blusch

H. E. Duke

INVENTOR

Veitus Radspinner,

By L. M. Thurlow,

Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

VEITUS RADSPINNER, OF PEORIA, ILLINOIS.

FLUE-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 668,122, dated February 12, 1901.

Application filed February 14, 1900. Serial No. 5,230. (No model.)

To all whom it may concern:

Be it known that I, VEITUS RADSPINNER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Flue-Scrapers; 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.

This invention pertains to flue-scrapers.

The object of such invention is to furnish a simple, convenient, and effective implement and one costing but little to manufacture.

The device consists in certain novel features and details of construction pointed out in the specification and claims.

In the appended drawings, Figure 1 is a side view of my improved flue-scraper. Fig. 2 is a cross-section of a portion thereof, showing three positions of one of the cutting portions. Fig. 3 is a side view of the scraper, showing the cutting portions pushed forward and out of the inclosing sheath in position for the work. Fig. 4 is a view of the rear end of the scraper much reduced in size. Fig. 5 is a longitudinal section of the scraper. Fig. 6 is a view of the forward end of the scraper, showing the bell-mouthed interior. Fig. 7 is a perspective view of one of the cutters.

Letters of reference in the drawings and specification correspond.

The body of the scraper, as shown in the drawings, is composed of the sleeve A, whose legs or arms B carry a ring C. To the ring C is secured a similar ring D, having legs or arms E, with which is formed a ring or sheath F. Between the said rings C and D is clamped a ring G, of rubber, felt, wire, or other flexible material, which aids in cleaning the flue and centering the device within the flue, although I desire to state that its use is not an absolute necessity. Beneath the heads of the screws *a*, which serve to clamp the rings C and D together, are springs H, as shown in Figs. 1, 3, and 4, adapted to have frictional engagement with the interior of the flue. The said springs project beyond the greatest diameter of the rings C and D, as well as the felt or rubber rings G, and serve to assist in the scraping operation, as will be hereinafter more fully described. I may use the springs or I may use the felt or rubber ring G for the same purposes or both.

While I have described and shown the body of the device composed of the arms B and E, I may substitute walls of solid metal to form tubes; but when made in skeleton form the device easily frees itself of soot and permits the passage of that material through it, as is obvious, besides making the device lighter and the interior more easily accessible in case of breakage. The portion A is merely a sleeve, to which the arms which support or carry ring G are attached. Through said sleeve a pipe or rod I passes to form a handle for the tool. The end of such handle is threaded and screws into a sleeve J, whose forward end carries the sectional cutters L by means of pins or rivets K, as shown in Figs. 2 and 5. In the former figure a pin K is shown passing through said sleeve J and cutter L. The outer surface of the cutter is countersunk, and the pin is headed within it in such a manner as to allow said cutter considerable play, as shown in dotted lines, without permitting it to become detached. The form of the cutters is shown in the various figures, but more clearly in Fig. 7. These portions at their outer or forward ends within the ring or sheath F fill the latter member when in the closed position, as shown in Fig. 5, and are tapered toward the pivotal ends thereof. Said forward edges of the cutters are beveled to form cutting edges. Three of these portions are shown in the drawings; but a greater or less number may be used. In Fig. 5 I show means for spreading the cutters when they are thrown forward out of the sheath. This consists in notching said cutters on their edges at M and casting with the sheath or ring F a lug N at each juncture of the several plates, as shown in Fig. 6. It will be seen that in pushing the cutters forward against the said lugs the distance between the pivotal points of the cutters and the said lugs will be shortened, and consequently the plates will be separated more and more as they are forced outward, as shown by dotted lines in Fig. 5. In this operation the cutting edges have been thrown out in order to form a circle of larger diameter than the sheath F. The limit of forward movement is governed by a pin O in the handle I. The closing

movement is limited by the contact of the sleeve J against the sleeve A. This will be clearly understood by reference to Figs. 1 and 3.

In order that Fig. 5 may be clearly understood, it may be stated that the section thereof is taken on lines *x x*, Fig. 6, thereby showing in full a lug F and the notches M of two of the cutters. I have beveled the interior edges of the end of the ring or sheath F in order to more readily provide a seat for the cutters L when closed in said sheath, though this is not absolutely necessary.

The operation of my improved flue-scraper may now be understood. When entering the same into a flue, it appears as in Fig. 1, and when entered the springs H engage the flue by friction. So, also, does the portion G. The friction of these parts is such that a forward thrust of the handle I will force the cutters L out of the sheath F against the surface of the flue, and a continued forward movement will carry the scraper through the flue its entire length, thus cutting off the soot as it passes along. Any soot falling behind the cutters is carried forward by the portion G, described, as will be understood. As before stated, I need not necessarily use the springs nor the said portions G, for the reason that a quick forward thrust of the handle will open the plates to their proper positions. Furthermore, drawing the soot out by the use of the part G will be accomplished equally well by the rings C and D. In the withdrawing movement the cutters are pulled within the sheath and there remain until another forward stroke is given.

I desire to make it clearly understood that I do not confine myself to any particular form of construction of my improved flue-scraper, having merely shown the construction in the drawings to carry out my intents and purpose.

Flues of varying diameters may be easily cleaned by my device, for the reason that the cutters adjust themselves to any size.

It is evident that the cutters L may be loosely connected to the end of the handle I, and thus do away with the intermediate sleeve J; but I prefer to use the sleeve, as it is a convenience in manufacturing and shipping. It is obvious that in drawing the cutters into the sheath the latter will necessarily force the said cutters together. Thus the lugs N accomplish the opening movement and the said sheath the closing movement of the cutters.

I am aware that flue-scrapers have been introduced from time to time embodying the idea of cutting-blades adapted to be opened by spring-pressure or by other mechanical means; but the construction thereof is different from that shown and described by me.

Having described my invention, I claim—

1. In a flue-scraper, the combination with the handle I, of a series of plates of conical form having cutting edges at their forward ends, a handle for moving said plates longitudinally said plates being attached pivotally to the handle at their smaller ends, and terminating at such pivotal points, the forward ends of the said plates arranged to form a circular cutting edge of variable size, for the purposes set forth, a ring surrounding the plates and forming the body of the scraper, and lugs on the inner surface of said ring between the adjacent edges of the said plates for the purposes described.

2. In a flue-scraper the combination of the sleeve A having the arms B and ring C attached thereto, the ring F secured to the ring C substantially in the manner shown, a handle I within the said ring A, the curved cutting-plates L loosely connected with the said handle, there being notches M in the said plates, lugs N attached to the ring F and secured thereto for separating the said plates L by means of the said notches M when the plates are thrust forward by the said tube or handle I substantially as set forth.

3. In a flue-scraper the combination of the ring A the ring C attached thereto by the arms B, the ring F secured to said ring C by arms E, the flexible ring G secured to the said ring C, the handle I within the ring A, a series of plates L loosely attached thereto, and a series of lugs N on the interior surface of the ring F between the several plates substantially as set forth and for the purposes described.

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

VEITUS RADSPINNER.

Witnesses:
H. E. DUKE,
A. KEITHLEY.