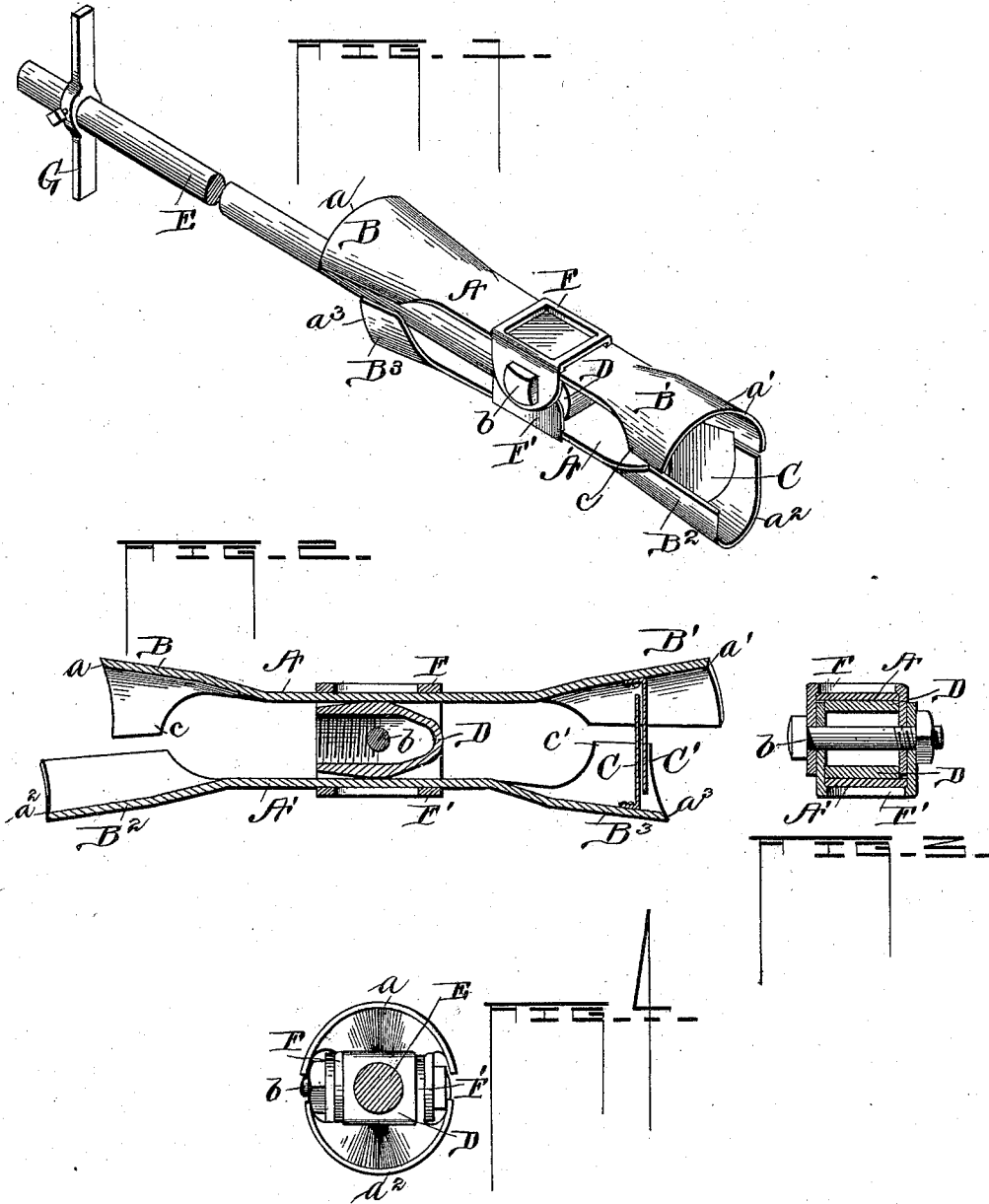


(No Model.)

H. OLTMANNS.
FLUE SCRAPER.

No. 558,701.

Patented Apr. 21, 1896.



Witnesses:-
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UNITED STATES PATENT OFFICE.

HERMANN OLTMANNS, OF PEORIA, ILLINOIS.

FLUE-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 558,701, dated April 21, 1896.

Application filed April 25, 1895. Serial No. 547,106. (No model.)

To all whom it may concern:

Be it known that I, HERMANN OLTMANNS, 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.

My invention relates to certain new and useful improvements in flue-scrapers by means of which a very efficient device for that purpose is provided, the same being very simple, durable, and cheap in first cost.

More particularly my invention relates to a flue-scraper purposed to act upon the interior of a flue within which it is inserted by both the forward and rearward movement thereof within the said flue.

My invention consists, essentially, in the provision of two sections, which combined provide a general circular form to the complete scraper, the said sections being properly curved at portions thereof to provide this general form, the interior part being generally open. The extremities of the section consist of flare curved parts having shear edges, the same being cut on a bias or a diagonal line, the sections being so arranged that the matching ends of the two sections or the shear edges thereof will form a continuous bias throughout the entire circumference of the general circle formed by the combination of the sections, it being provided in the formation of the sections that the inward extremity of biased edge so formed shall bear slightly over the adjacent edge of the other section, so as to bring it out on a line with the forward edge of the lower section in order that a complete circle may be described.

My invention further consists in the provision of partitions attached to the respective sections to close the opening within the said sections, and further in the provision of a block having a general longitudinal curved form to form a bearing for the sections, said block being internally threaded to receive a rod, and further in the provision of clamping-plates for securing the sections together and a suitable rod connected with the scraper or

the threaded block and a cross head or bar secured to the rod to form a stop to prevent the scraper being passed entirely through the flue.

That my invention may be more fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a perspective view of my device. Fig. 2 shows a section of the same with the operating-rod omitted. Fig. 3 is also a section. Fig. 4 is an end view of the device, showing the rod cut off.

In the figures, A A' are sections of the scraper, the same having a general curved shape, the middle portion being reduced practically to a flat surface, and this reduced portion enables the section to spring to accommodate the different adjustments of the ends of the sections.

B B' are flared ends of the section A, these parts expanding gradually as they extend outwardly and are cut at their extremities in a biased or diagonal line, and their outside edges are sharpened or formed so as to provide shear edges, the bias of the ends of these sections being cut in the same general direction.

B³ B³ are corresponding flared ends of section A'.

c c' are the inner extremities of the flared ends, and it will be noted that they are extended somewhat beyond the opposite sides of the same flared ends, so that when the upper and lower sections are placed together these extended portions of the flared ends overlap the spaces between the sections in the respective ends, so that no continuous opening will be provided in the length of the scraper, the said extended parts c c' being also flared outwardly in a greater degree than the opposite side of the flared part of each section which is in an exactly cross position therefrom.

D is a block having flat sides and a curved top and bottom, the sections of the scraper bearing upon the curved surfaces, which enables them to spring thereover, the said block being provided with an internal threaded opening and a cross-perforation.

F F' are clamping-plates bearing over the tops of the sections A A', and depending ears thereof overlapping each other in such a man-

ner that the perforations therein will match and also match with the cross-perforation in block D.

b is a bolt carried through the perforation in the ears and the block to secure the sections together.

E is a rod, one end thereof screwed into the block D, and *G* is a cross-bar secured to the said rod by means of a suitable set-screw.

C C' are overlapping plates forming a partition in the interior opening between the sections.

a a' a² a³ refer to the bias edges of the combined sections.

The application of the device in practical use is very simple, the parts thereof having been arranged as shown in the drawings, the complete device being fully shown in Fig. 1. The end of the scraper is inserted within a flue, and as it is pushed forwardly therein the forward edges of the flared parts will cut out the accumulations of soot and other substances and the shear edges will cut off any iron projections or unusually hard substances encountered therein, the biased form and shear edge of the end of the scraper aiding materially in the work of cleaning the flue, all forward movements of the scraper causing the forward end of the scraper to clean the flue, the accumulations being pushed forward and out of the flue on account of the partition therein formed by the cross-plate *C C'*. In the rearward movements of the scraper the rear end of the same will serve to cut out any soot or other matter that may have been left after a forward movement of the said scraper, the formation of the sections or the ends thereof being such, as previously explained, that they will fit perfectly within a flue, and will expand or contract to accommodate slight differences in the internal openings of flues, the overlapping edges

of the sections serving, by both a forward and a rearward movement, to cover and to clear every part of the interior surface of the flue.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a flue-scraper, the combination, of the sections *A, A'*, formed with the diagonally-cut and overlapping fore-and-aft scrapers, and overlapping interior partitions, the block D, having the curved bearing-surfaces for the sections, the clamping-plates *F, F'*, bearing over and securing the sections *A, A'*, upon block D, and the push-rod *E*, having the gage *G* thereon, all substantially as described and shown.

2. In a flue-scraper, the combination of the sections *A, A'*, formed with the circularly-flaring scrapers *B', B²* and *B, B³*, the fore-and-aft scrapers bearing slightly non-concentrically with relation to each other and having the diagonally-cut edges *a', a² a* and *a³*, and the projecting portions *c, c'*, one on one side of each scraper to provide for an overlapping of fore-and-aft scrapers on each side of the sections and further provided with the overlapping guard-plates *C, C'*, the block D, having the curved bearing sides for the sections and being perforated to receive a bolt and threaded to receive the push-rod, the clamping-plates *F, F'*, bearing over and securing the sections *A, A'*, upon the block D, the push-rod *E*, having the gage *G*, all substantially as described and shown.

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

HERMANN OLTMANNS.

Witnesses:

B. F. ORDWAY,
W. V. TEFFT.