No. 886,362. PATENTED MAY 5, 1908.

E. F. FLETCHER.

FLUE SCRAPER.

APPLICATION FILED NOV. 23, 1905.

Fig. 1.

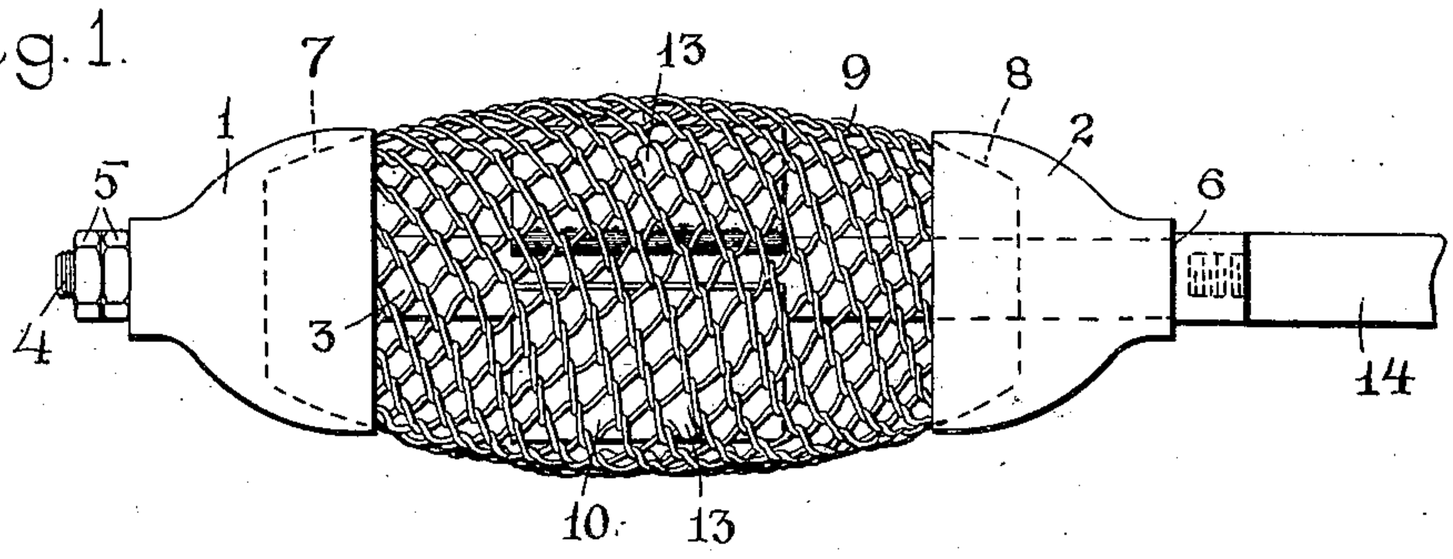
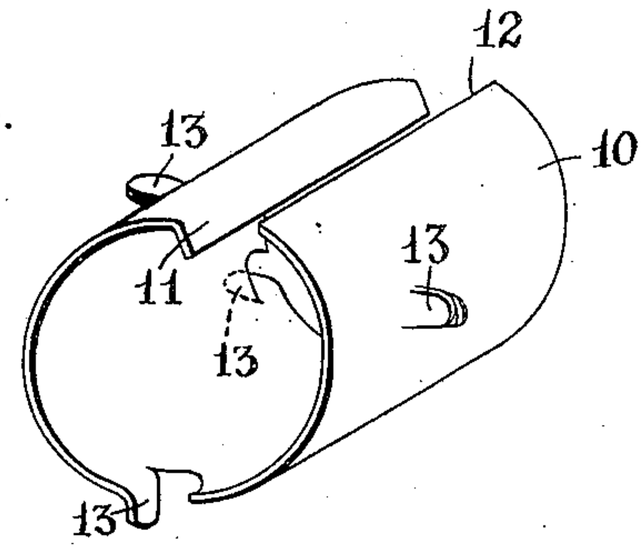


Fig 2.



Witnesses

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FLUE-SCRAPER.

No. 886,362. Specification of Letters Patent. Patented May 5, 1908.

Application filed November 23, 1905. Serial No. 288,686.

To all whom it may concern:

Be it known that I, EDWARD F. FLETCHER, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in a Flue-Scraper, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents a side view of a flue scraper embodying my present invention. Fig. 2 is a detached and perspective view of the expanding spring by which the contour of the flue scraping section is restored.

Similar reference letters and figures refer to similar parts in the different views.

My present invention relates to a flue scraper which comprises a pair of metallic heads 1 and 2, connected together by a bolt 3, having a portion screw threaded at 4 and provided with nuts 5 by which the heads 1 and 2 are drawn toward each other between the nuts 5 and a shoulder 6. The heads 1 and 2 are recessed as indicated by the broken lines 7 and 8 to receive the ends of the knit wire section 9, consisting of a series of looped and interlaced elastic steel wires forming a tubular section gradually increasing in diameter from each end toward the center, the outer surfaces of said wires forming the scraping section of the device.

My present invention consists in providing the elastic wire scraping section 9 with an inclosed expanding spring 10 shown in detached perspective view in Fig. 2. The expanding spring 10 is formed from an elastic steel plate bent substantially in the form of a circular tube, but having one of its ends 11 bent abruptly inward so as to insure the overlapping of the ends of the spring as the spring is compressed. The compression of the spring which brings the ends together causes the bent end 11 to slide beneath the opposite end 12. At suitable points upon the spring 10 I provide outwardly projecting spurs 13 which are adapted to enter between the meshes of the wire section 9 and prevent the displacement of the spring within the scraper, serving to hold it central between the heads 1 and 2.

In operation the scraper is provided with a long handle, a portion of which is shown at 14, by which the scraper is pushed back and forth through the flue with the meshed wires of the scraping section 9 in contact with the interior surface of the flue. The normal diameter of the scraping section 9 is greater than the interior diameter of the flue to be cleaned, causing a compression of the meshed wires in the scraping section and pressing them against the exterior surface of the expanding spring 10. The spring 10 is of sufficient diameter so that when it is inserted within the meshed scraping section 9, it will exert normally a pressure against the interior of the wires, holding them in their normally expanded position, and as the scraping section 9 is compressed within the flue the tension of the spring 10 maintains sufficient pressure against the yielding wires of the scraping section 9 to forcibly remove the soot or other accretions which have been formed on the surface of the flue. As the scraper is violently pushed through the flue and retracted, an unequal contraction of the flue scraping section results, due to irregularity of the deposit upon the inner surface of the flue, but the relative position of the meshed wires 9 and the expanding spring 10 is constantly maintained by the interlocking spurs 13.

What I claim as my invention and desire to secure by Letters Patent is:—

1. As an article of manufacture, a flue scraper having a central flexible section, means for varying the diameter of said central section, an annular spring inclosed in said central section, with one end of said spring bent at an angle to allow free movement of the opposite end of the spring when the diameter of said central section is varied.

2. As an article of manufacture, a flue scraper having a central flexible scraping section of intermeshed wire, an annular spring inclosed in said central section provided with outwardly projecting spurs to engage the meshes of the wire, whereby said spring is made to conform with the change in form of said central section.

EDWARD F. FLETCHER.

Witnesses:

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