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UNITED STATES PATENT OFFICE.

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CHIMNEY-FLUE CLEANER.

966,853.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed May 5, 1910. Serial No. 559,438.

To all whom it may concern:

Be it known that I, IVER I. OIUM, a citizen of the United States, residing at Westby, in the county of Vernon and State of Wisconsin, have invented certain new and useful Improvements in Chimney-Flue Cleaners, of which the following is a specification.

This invention relates to an adjustable device for cleaning the flues of chimneys.

10 The object of my invention is to provide an automatically contractible and expansible device, which can be easily operated, for effectively cleaning chimney flues, and can be adjusted for cleaning flues of different
15 sizes. The parts and combinations of parts constituting my invention will be defined in the claims.

The details of construction of my flue cleaner are shown in the accompanying
20 drawing, in which—

Figure 1 represents a vertical section of the device expanded, taken on the diagonal line 1—1, Fig. 2. Fig. 2 represents a transverse section on line 2—2, Fig. 1. Fig. 3
25 represents a side elevation of the device in the contracted position. Fig. 4 represents an enlarged sectional detail view, showing a detachable scraping shoulder.

In constructing my expansible flue cleaner
30 I provide a frame composed of a comparatively thick head plate 1 which may be of cast metal, and a lower plate 2 composed of sheet metal and having a central opening 2^a. To the head plate is secured a long staple 3
35 which is provided at the top with a loop or eye 4 for guiding the lowering cord 5. This lowering cord 5 is used when the cleaner is to be lowered into a flue and is attached at *x* to the head plate and passes down over
40 a pulley in rod 10 and thence up through an opening and through the loop 4, as shown. A lifting cord 6 is attached to the staple. When the device is lowered by the cord 5 it will automatically assume the contracted
45 position, shown in Fig. 3, and when it is raised by cord 6 it will automatically assume the expanded position, shown in Fig. 1.

The means for scraping soot and ashes from the flue consist of an assemblage of
50 spring steel wires or rods 7 having scraping shoulders and set in a flaring position from the top downward and connected at their upper ends by loops 7^a in holes around the edge of the plate 1. The loops are soldered
55 or otherwise secured to the plate. The rods

7 are provided near their lower ends with reinforced shoulders or offsets 8, preferably made detachable, and below the same with inwardly inclined free ends 9, so that they may readily pass over any obstructions or
60 across stovepipe openings in a flue when the device is being lowered in the cleaning operation. The shoulders 8, having sharp outer edges, are preferably made detachable and are secured by screws or rivets 8^a to the lower ends of rod 7 above the free ends 9, as
65 shown in Fig. 4, so that when worn they may be replaced without renewing the rods.

For the purpose of contracting the cleaning device I provide a vertical sliding lifting rod 10 which may be of common gas
70 pipe and provided at the top with a stop pin 11 and near the lower end with a slot 12 in which is pivoted a pulley 13. In the lower end of the tubular rod 10 is screwed a hook
75 14 which is rigidly held by a nut screwed up against a washer, as shown in Fig. 1. With the hook is engaged a cast iron weight 15 which must be sufficiently heavy to spread or
80 expand the cleaning rods and their connections. To the rod 10, above the washer at its end, is secured a cross hinge piece 16, Fig. 2, which may be made of malleable iron, and the outer ends of the cross have openings for
85 the hinge pintles. Two opposite members of the cross are curved upward, while the other two members are curved downward for better connecting the opposite pairs of
90 hinges, as indicated in Fig. 3. Four hinge plates 17 are connected by pintles to the cross piece and are provided with longitudinal slots 17^a. To these hinges are applied adjustable extension plates 18, having
95 longitudinal slots 18^a arranged to register with the slots 17^a. The extension plates 18 are connected to the hinges 17 by bolts and
100 nuts 19 passing through the slots and they will be adjusted and secured in position for cleaning flues of different sizes. The extension plates 18 are also provided with ears 20
105 which are turned over and inward to form guide ways and reinforcing stays for the hinges. The marginal edges of the extension plates 18 are provided with openings 21 through which are passed the cleaning rods
110 7. The corner rods are preferably connected to the plates 18 by wire loops 22, for producing a direct pull and for limiting the upward movement of the cross and lifting rod 10. The extension plates 18 may be

quickly adjusted on the hinges for suiting the device to the size of the flues to be cleaned.

By holding the lowering cord 5 in hand, the rod 10 will be pulled up through the opening in the head plate 1, as shown in Fig. 3, thereby raising the weight and hinge cross so as to cause the hinges and extension plates to assume the inclined position and thereby contracting the cleaning rods 7. In this position the device may be readily lowered to the desired depth. The operator may now grasp the lifting cord 6 and release cord 5, thereby permitting the rod 10 to slide downward through the action of the weight 15, and spreading hinges and the extension plates into the position shown in Fig. 1. This expanding operation is automatically effected simply by pulling on the lifting cord 6. The device now being raised by cord 6 will clean the flue by reason of the expanded rods 7 and their shoulders 8 scraping the surface thereof. Of course the device may be repeatedly raised and lowered until the soot and ashes are scraped from the surface of the flue.

The device works smoothly and effectively and by its proper manipulation a flue may be quickly cleaned. The shoulders 8 being made heavy and with sharp outer edges will serve to cut into, and scrape adhering soot and ashes from the interior surface of the flue.

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

1. The combination with a frame and a series of spring scraper rods secured circumferentially thereto, of a central sliding rod working in the frame, hinged plates connecting with the lower end of the sliding rod and engaging the scraper rods, and a weight also connecting with the lower end of the

sliding rod, whereby said rod, after being raised to contract the scraper rods, will be automatically lowered to expand the scraper rods. 45

2. The combination with a frame and a series of spring scraper rods secured circumferentially thereto, of a sliding rod having a cross hinge-piece secured to its lower end, four hinge-plates pivotally connected thereto and having adjustable extension plates engaging the scraper rods, and means for raising and lowering the sliding rod for contracting and expanding the scraper rods. 50 55

3. The combination with a frame and a series of spring scraper rods set flaringly therein and having off-set shoulders near their lower ends to serve as scrapers and inwardly inclined free ends, of flexible mechanism connecting with said rods for contracting and expanding them. 60

4. The combination with a frame and connected scraper rods, of a rod sliding in the head plate of the frame and having a pulley near its lower end, a lowering cord attached to the frame and passing around the pulley and out through the top of the frame, a weight connected to the lower end of said sliding rod, and flexible contracting and expanding mechanism connecting the sliding rod with the scraper rods. 65 70

5. The combination with a frame, of a series of spring scraper rods secured thereto at their upper ends and having near their lower ends detachable shoulders to serve as scrapers and inwardly inclined free ends, and flexible mechanism bearing on the rods for expanding them. 75 80

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

IVER I. OIUM.

Witnesses:

OLE L. LEUM,
SOREN. LUNBAKKEN.