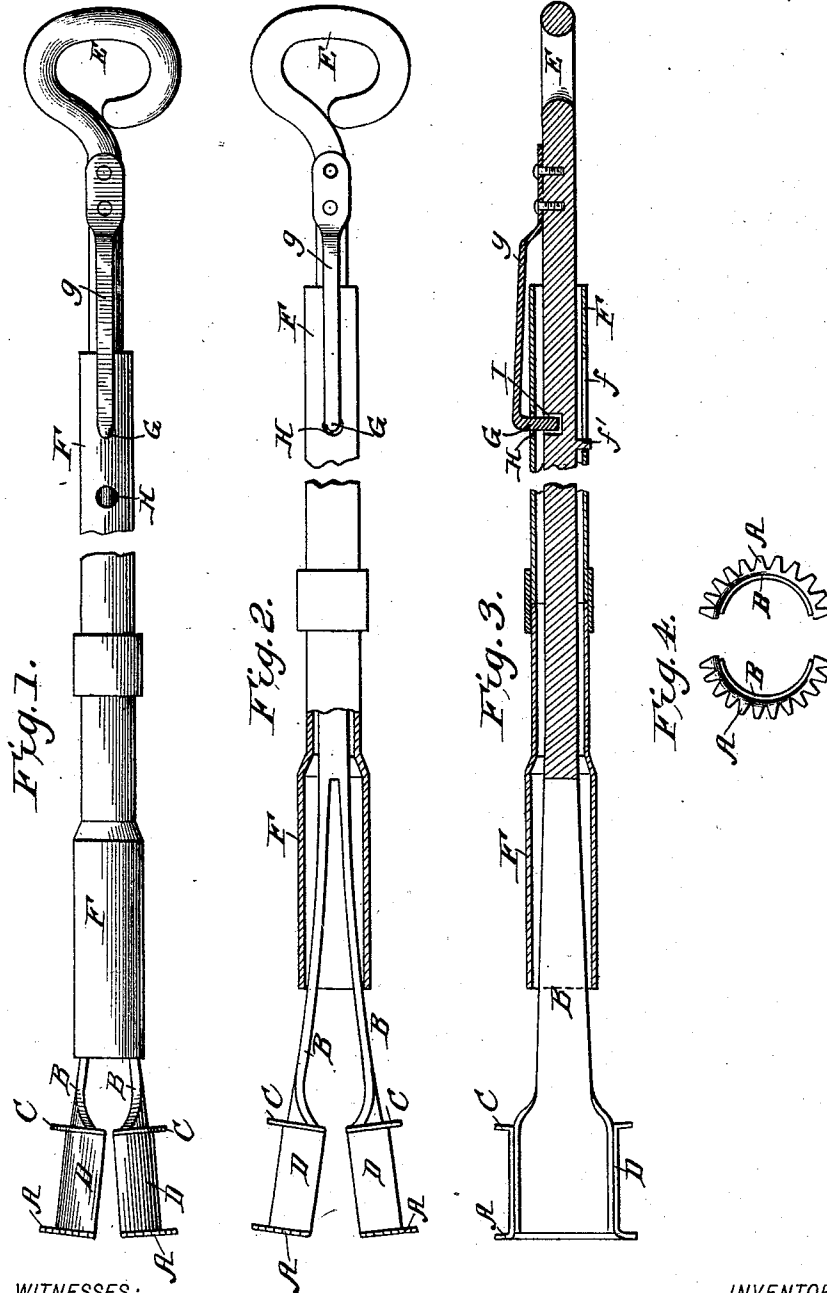


(No Model.)

W. PHARR.
FLUE CLEANER.

No. 477,957.

Patented June 28, 1892.



WITNESSES:
Fred G. Duterich
P. B. Surpin.

INVENTOR:
Walter Pharr.
BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WALTER PHARR, OF BARNUM, TEXAS, ASSIGNOR OF ONE-HALF TO W. T. CARTER, OF SAME PLACE.

FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 477,957, dated June 28, 1892.

Application filed September 22, 1891. Serial No. 406,464. (No model.)

To all whom it may concern:

Be it known that I, WALTER PHARR, of Barnum, in the county of Polk and State of Texas, have invented a new and useful Improvement in Flue-Cleaners, of which the following is a specification.

My invention is an improved flue-cleaner; and it consists in certain novel constructions and combinations of parts, as will be herein-
after described, and pointed out in the claims.

In the drawings, Figure 1 is a side view of the device, showing the cleaner-head compressed. Fig. 2 is a side view, part in section, showing the cleaner-head expanded. Fig. 3 is a longitudinal section of the device, and Fig. 4 is a detail view of the cleaner-head.

My improved flue-cleaner comprises a plurality of segmental serrated sections A and spring-supports B therefor, whereby they are given an outward tension. In rear of such sections A, I provide the scraper-sections C for pushing out of the flue the material cut off by the sections A. The sections A and C are arranged at, respectively, the outer and inner ends of semi-cylindrical sections D, which are secured to the outer ends of the spring-arms B. These parts A, C, and D constitute the cleaner-head. The arms B are formed by bifurcating the end of the handle-rod and bending such arms out, so that they diverge gradually from the point of separation toward their outer ends, where they support the cleaner-head sections. The handle-rod is thus provided at one end with the cleaner-head and has at its opposite end a suitable hand-hold E.

In use the cleaner-head may be compressed and inserted in the flue and then be released to expand to fit snugly in the flue and scraper and clean the same, as desired, the serrations or teeth efficiently removing all scale and the like and the scraper plates or flanges serving to push it therefrom. It is preferred to support the handle-rod to slide in a hollow stock F, open at both ends, and the handle-rod projecting at both ends beyond such stock. At the end adjacent to the bifurcated end of the handle-rod the hollow stock is preferably slightly enlarged to permit the spring ends to

be drawn in and ejected from it. The hollow stock has a guide-slot *f* and the handle-rod a pin *f'*, projecting into such slot, such construction limiting the longitudinal movement of the handle-rod in the stock and also serving to keep such handle-rod from turning. It will be noticed that when the handle-rod is drawn backward into the stock the spring-arms are compressed and the cleaner-head is so compressed that it will enter the flue. Then by pushing the handle-rod forward and holding the stock the spring-arms will adjust out of the stock and the cleaner-head expand to properly fit in the flue. To hold the stock and handle-rod in the said relation with the head expanded, I provide a latch. This latch is shown as having a pin G, movable through an opening H in the stock into an opening I in the handle-rod when such openings H I register. This pin G is supported on one end of a spring-plate *g*, the opposite end of which is secured to the handle-rod. It is manifest that instead of forming the spring-arms integral with the handle-rod they might be made separately and secured thereto by riveting, welding, or in other suitable manner, and that such construction would to a certain extent be the equivalent of the integral construction shown.

Having thus described my invention, what I claim as new is—

1. An improved flue-cleaner comprising a hollow stock and the expansible cleaner-head having spring-arms and a rod on which the stock is mounted, said arms being movable within said stock and out of one end thereof and arranged to be pressed toward each other by such end of the stock as they are drawn therein and to expand as they are pushed out of such end of the stock, all substantially as and for the purposes set forth.

2. In a flue-cleaner, substantially as described, the combination of a stock having an opening and the expansible cleaner-head comprising spring-arms and a rod on which the stock is mounted, said arms being movable longitudinally in said opening, such arms being drawn together at one end and normally flared at their other or outer ends

and adapted to be compressed by the walls of said opening as they are drawn thereinto, substantially as set forth.

3. A flue-cleaner consisting of a hollow tubular stock open at both ends and a handle-rod on which said stock is mounted, said rod movable longitudinally in said stock and protruding at one end beyond one end thereof and provided at its opposite end with spring-arms protruding from the other end of the stock and flared at their outer ends, whereby they may be compressed by the engagement of the walls of said end of the stock when drawn therein-
15 to, all substantially as and for the purposes set forth.

4. A flue-cleaner comprising the hollow stock and the handle-rod sliding in said stock and having the spring-arms and the cleaner-section supported thereon, the hollow stock
20 being mounted on the rod, all substantially as and for the purposes set forth.

5. In a flue-cleaner, the combination of the hollow stock having a guide-slot and the handle sliding in the said stock and having a pin or
25 projection entering the guide-slot of the stock and provided with spring-arms having the cleaner-head sections, the hollow stock being mounted on the rod, all substantially as and for the purposes set forth.

30 6. An improved flue-cleaner consisting of the hollow stock and the handle-rod sliding in said stock and projected at both ends beyond the stock, one of such ends having a hand-

hold and the other being bifurcated, forming spring-arms supporting cleaner-sections, substantially as and for the purposes set forth. 35

7. In a flue-cleaner, a cleaner-head comprising two semi-cylindrical sections, each provided at one end with outwardly-projected serrations or teeth and at the other end with
40 an outwardly-projected flange or scraper-plate having its edge uninterrupted or unserrated, all substantially as and for the purposes set forth.

8. The combination, in a flue-cleaner, of the hollow stock, the expansible cleaner-head having its support movable in the said stock, and the latch by which to hold such head in its
45 expanded position, substantially as set forth.

9. The improved flue-cleaner consisting of the hollow stock having an opening for the latch-pin, the handle-rod sliding in the said stock and having an opening movable into register with the opening in the stock and
50 also provided with spring-arms supporting the segmental cleaning-sections, and the latch comprising a spring-shank fixed at one end and provided at its other or free end with a pin movable into the openings in the stock
55 and handle-rod when such openings are registered, substantially as set forth. 60

WALTER PHARR.

Witnesses:

J. H. JOHNSON, Jr.,

C. L. CARTER.