(No Model.)

R. P. GERLACH.

FLUE CLEANER.

No. 260,189. Patented June 27, 1882.

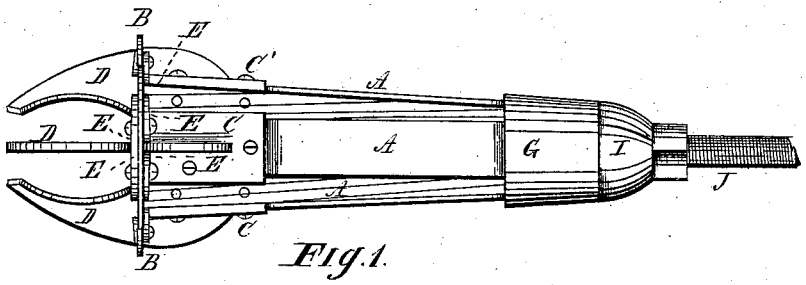

Fig. 1.

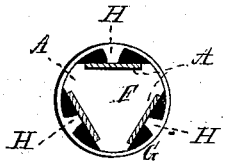

Fig. 2.

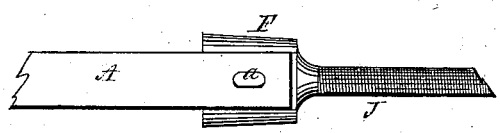

Fig. 3.

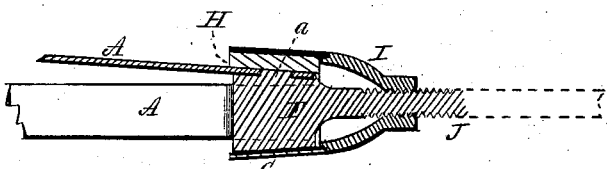

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

RUDOLPH P. GERLACH, OF CLEVELAND, OHIO.

FLUE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 260,189, dated June 27, 1882.

Application filed February 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH P. GERLACH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Flue-Cleaners; and I do hereby declare that the following is a full, clear, and complete description thereof.

The improvement above alluded to in flue-cleaners consists of a new and novel device for attaching the spring-arms of the cleaner to the head of the implement, so that the said arms shall be strong and durable in their connection therewith and not liable to break at their junction with the head.

A full and complete description of the improvement will be found in the following specification and illustrated by the annexed drawings, making a part of the same, in which drawings—

Figure 1 represents a side view of the improved flue-cleaner. Fig. 2 is an end view of the head of the cleaner, and showing a transverse sectional view of the arms attached thereto. Fig. 3 is a detached section. Fig. 4 is a longitudinal transverse section.

Like letters of reference refer to like parts in the several views.

Inasmuch as the scrapers, guides, and spring-arms of the implement form no part of the improvement above referred to, a brief description only of said parts is deemed essential in this place, which is substantially as follows:

A are the spring-arms, to the extreme ends of which are secured the scrapers B by means of angle-irons C. To said scrapers are attached respectively guides D, provided with wings, whereby they are riveted to the scrapers, substantially as shown in Fig. 1.

The head of the implement consists of a triangular-shaped block, F, in each side of which is a recess adapted in width and depth to receive the end of a spring-arm, as seen in Figs. 2 and 3, in which it is close-fitting.

From the center of each recess projects a stud, *a*, which may be either round, oblong, or of other form, and made to fit closely in a corresponding hole in the spring-arm, through which the stud projects far enough to permit of its being riveted down upon the spring for securing it to the head, as seen in Fig. 3. It is not essential, however, that the stud be riveted for the purpose specified.

It will be observed that upon the head, which is tapering, is fitted a ferrule, G. On the inner side of the ferrule are arranged longitudinally three ribs, H, corresponding to the three sides of the triangular head F, against which sides and the springs secured thereto the three ribs respectively press on forcing the ferrule onto the head by means of the nut I, screwed upon the screw-stem J of the head, thereby firmly binding the ends of the spring-arms between the said head and the ribs of the ferrule, so that they cannot become displaced laterally from the head, nor be withdrawn therefrom nor pushed inward, for reason of the stud *a* being in the hole in the spring-arm, as above mentioned, which effectually secures the spring-arms in place.

Heretofore the spring-arms have been secured to the head by being dovetailed or mortised therein. To do this requires a portion of the edges of the arm to be cut away to form the dovetail or mortise, thereby narrowing the spring at its junction with the head, at which point is exerted the greatest strain upon the springs, causing them to break at that particular place. This liability to break is wholly avoided by connecting the spring-arms to the head, as above described, and shown in the drawings, as the full strength of the metal of the arm is left to resist the strain to which it may be subjected. No part of the arms subject to strain is weakened by being cut away to make its connection with the head, which head and stem J are cast in one piece.

It is not essential that the head and stem be in one piece. The stem may be of wrought-iron and inserted in the head in any suitable way.

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

In flue-cleaners the ferrule G, with interior longitudinal ribs, H, forming an integral part thereof, a triangular-shaped block, F, having a recess in the sides thereof to receive the edges of the spring-arms, and a stud, *a*, extending therefrom and through said arms, in combination with the nut I and stem, arranged substantially as and for the purpose set forth.

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

RUDOLPH P. GERLACH.

Witnesses:
W. H. BURRIDGE,
J. H. BURRIDGE.