

(Model.)

P. LIGHT & J. LUSCHER.

FLUE BRUSH.

No. 348,469.

Patented Aug. 31, 1886.

Fig. 1.

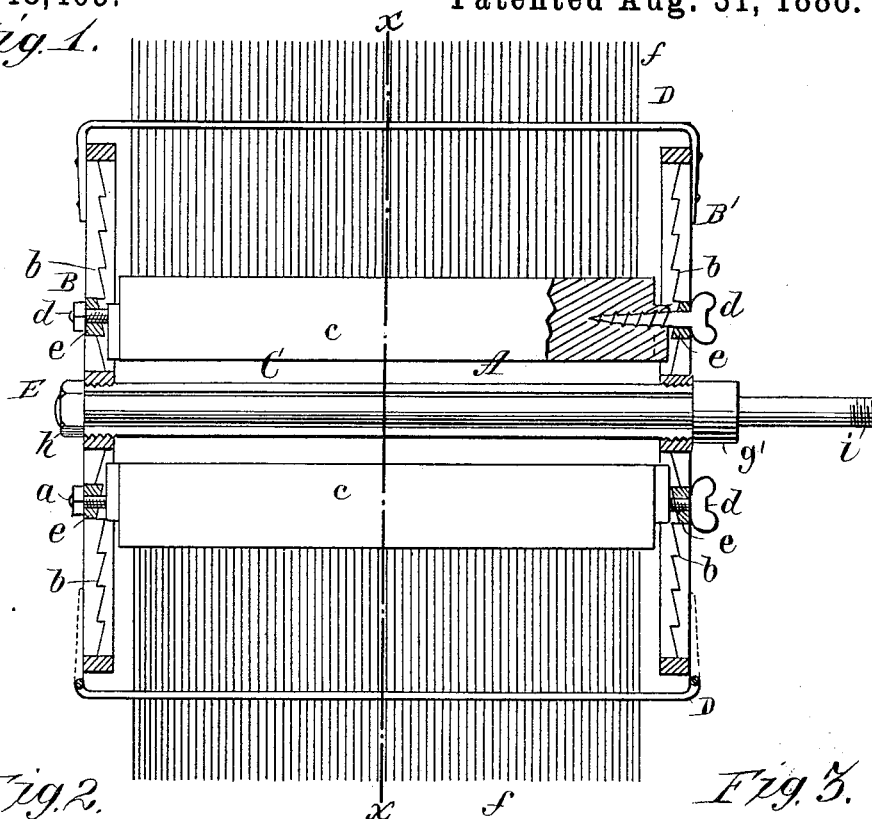
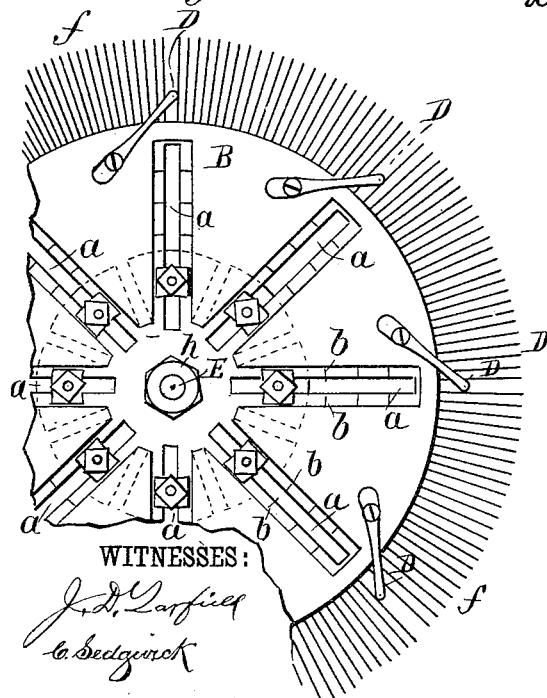


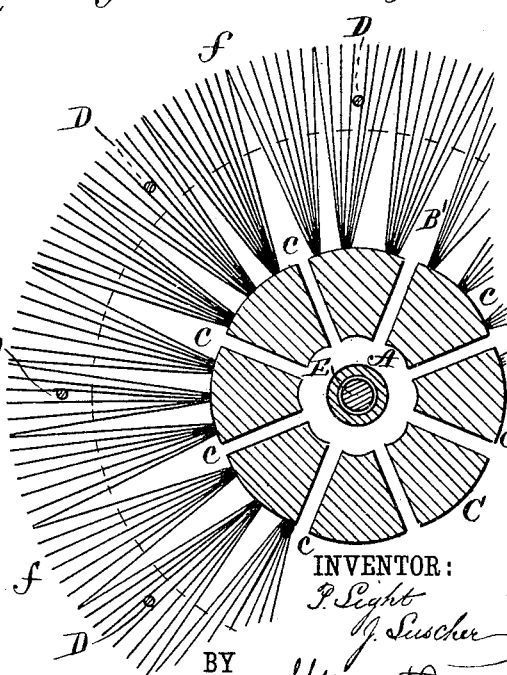
Fig. 2.



WITNESSES:

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Fig. 3.



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# UNITED STATES PATENT OFFICE.

PETER LIGHT AND JOHN LUSCHER, OF FRANKFORT, KENTUCKY.

## FLUE-BROOM.

SPECIFICATION forming part of Letters Patent No. 348,469, dated August 31, 1886.

Application filed April 23, 1886. Serial No. 199,935. (Model.)

*To all whom it may concern:*

Be it known that we, PETER LIGHT and JOHN LUSCHER, of Frankfort, in the county of Franklin and State of Kentucky, have invented a new and useful Improvement in Flue-Brooms, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a diametrical section of our improved flue-broom. Fig. 2 is an end elevation. Fig. 3 is a transverse section taken on line *x x* in Fig. 1.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of our invention is to provide an expansible broom for cleaning flues of different sizes.

Our invention consists in broom-sections adjustably supported by radially-slotted disks secured to the ends of a tubular shaft, and in means for guiding the broom-sections at the periphery of the disk, as hereinafter more fully described.

To the ends of the tubular shaft *A* are secured disks *B B'*, provided with series of radial slots *a*, the slots of one disk corresponding in position with the slots of the opposite disk. At the opposite sides of each slot are formed series of ratchet-teeth *b*, for engaging the brush-holders, presently to be described.

Between the disks *B B'* is placed the brush-body *C*, consisting of segments *c* of a hollow cylinder. In the present case there are eight of these segments, each provided at its ends with tenons fitting into the slots *a* of the disks *B B'*, and screws or bolts *d* pass through beveled blocks *e*, and through the slots *a* into the ends of the segments *c*, the blocks *e* being adapted to engage the ratchet-teeth *b*, so that when the screws *d* are screwed into the ends of the segments *c* the segments will be held in any desired position along the length of the slots *a*. Each segment *c* is provided with several rows of brush-wires, *f*. In the present case I have shown three rows in each segment; but this number may be varied with the size of the brush. Rods *D*, bent at right angles at their ends, are secured to the disks *B B'*, opposite the slots *a*, for guiding the brush-wires and partly removing the lateral strain from the segments *c*.

To the tubular shaft *A* is fitted a rod, *E*,

having a collar, *g'*, at one end of the tubular shaft, and a nut, *h*, at the opposite end. The rod *E* has a threaded end, *i*, to admit of connecting it with other rods or with a rope or chain, by which the brush is operated. The brush is expanded by loosening the screws *d*, moving the segments *c* outward in the radial slots, and again fastening them by tightening the screws *d*.

The range of adjustment for different sizes of flue-brooms would be about as follows: The four-inch broom would be extended so as to serve as a seven-inch broom. The six-inch broom would be extended to a ten-inch, an eight-inch broom to a thirteen-inch, and so on.

In addition to the advantage of adapting a single broom to flues of different sizes, our improved broom has an important advantage when used continually in flues of the same size, as it may be readily adjusted to compensate for wear.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the segments *c*, provided with the brush-wires *f*, of the radially-slotted disks *B B'*, substantially as herein shown and described.

2. In a flue-broom, the combination of the radially-slotted disks *B B'*, the tubular shaft *A*, connecting the disks, the segments *c*, provided with tenons received in the radial slots and carrying the brush-wires *f*, and means, substantially as herein shown and described, for holding the segments *c* in position in the slots.

3. The combination, with the brush-wires *f* and disks *B B'*, of the rods *D*, substantially as shown and described.

4. In a flue-broom, the combination, with the tubular shaft *A*, of disks *B B'*, provided with radial slots *a* and ratchet-teeth *b*, the segments *c*, carrying the brush-wires *f*, and having tenons received in the slots *a*, fasteningscrews *d*, the beveled blocks *e*, and the rods *D*, secured to the disks *B B'*, substantially as herein shown and described.

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Witnesses:

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