

A W M^c Millen.

Cast-Iron Chimney.

N^o 76094

Patented Mar 31, 1868

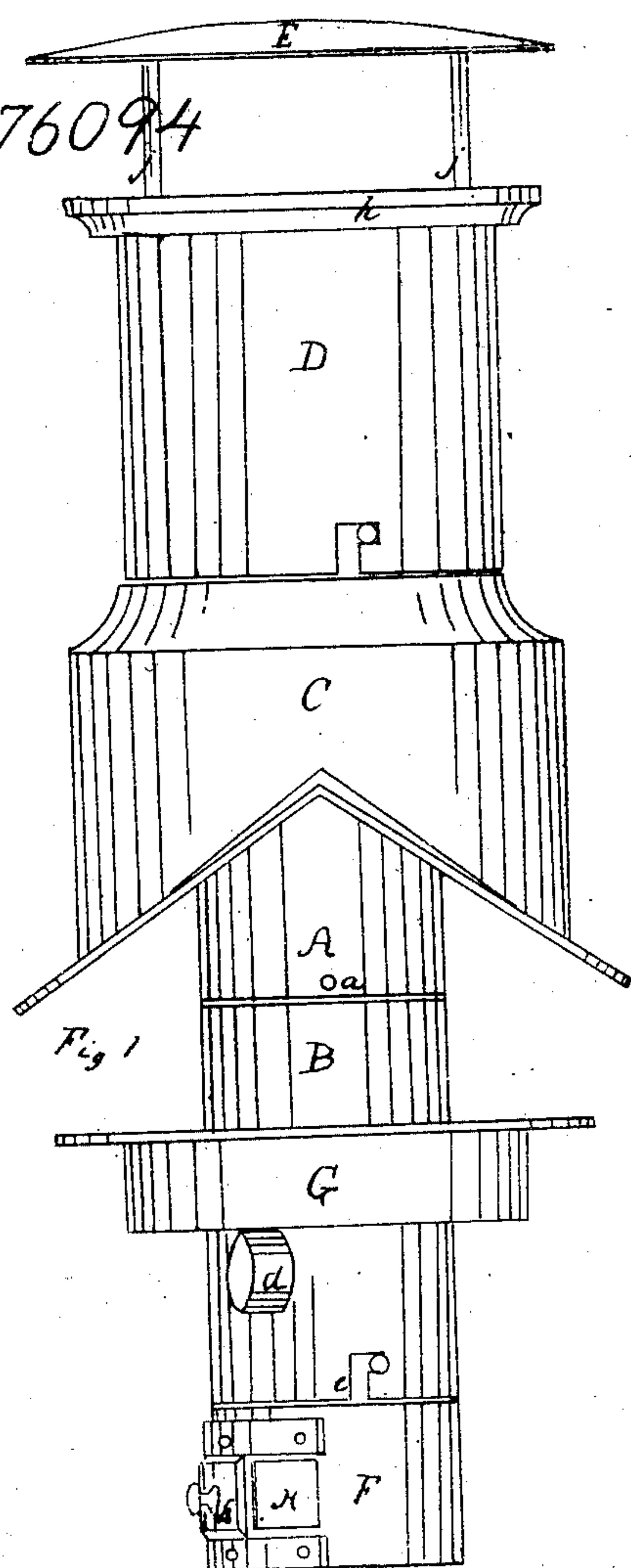


Fig 1

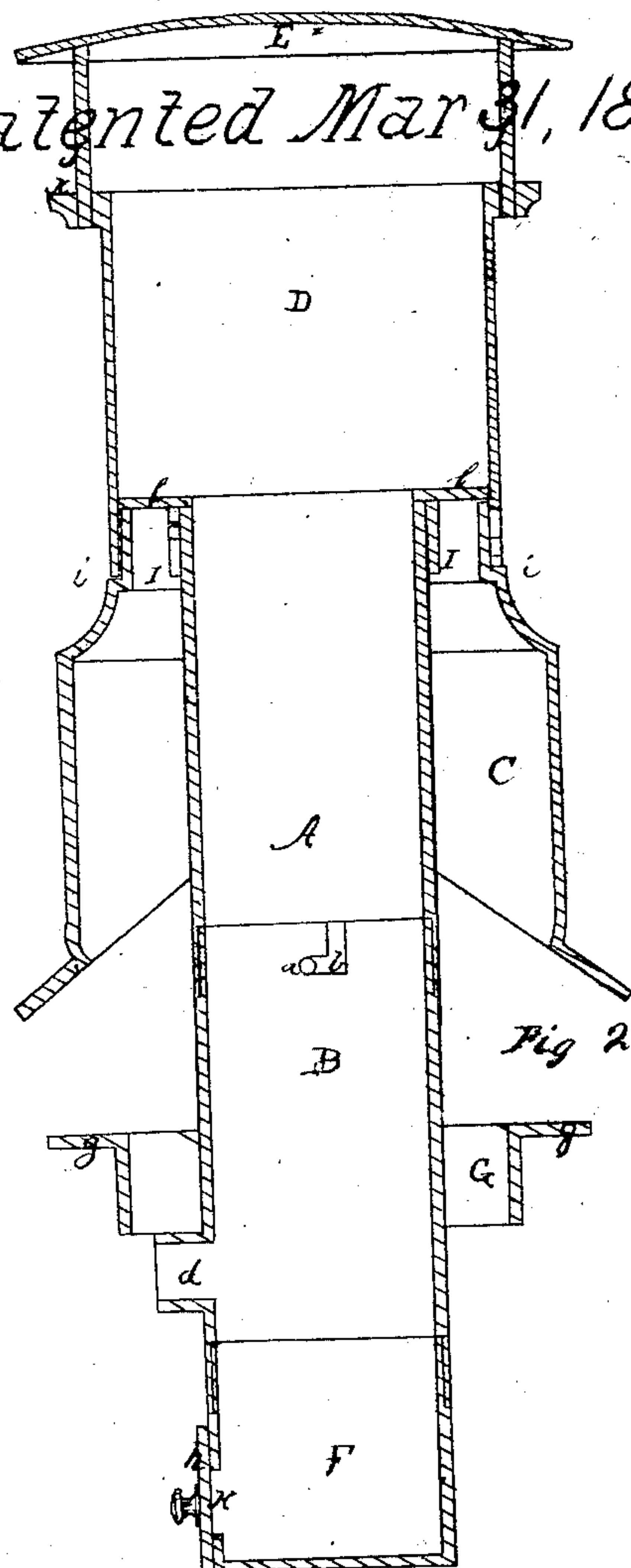


Fig 2

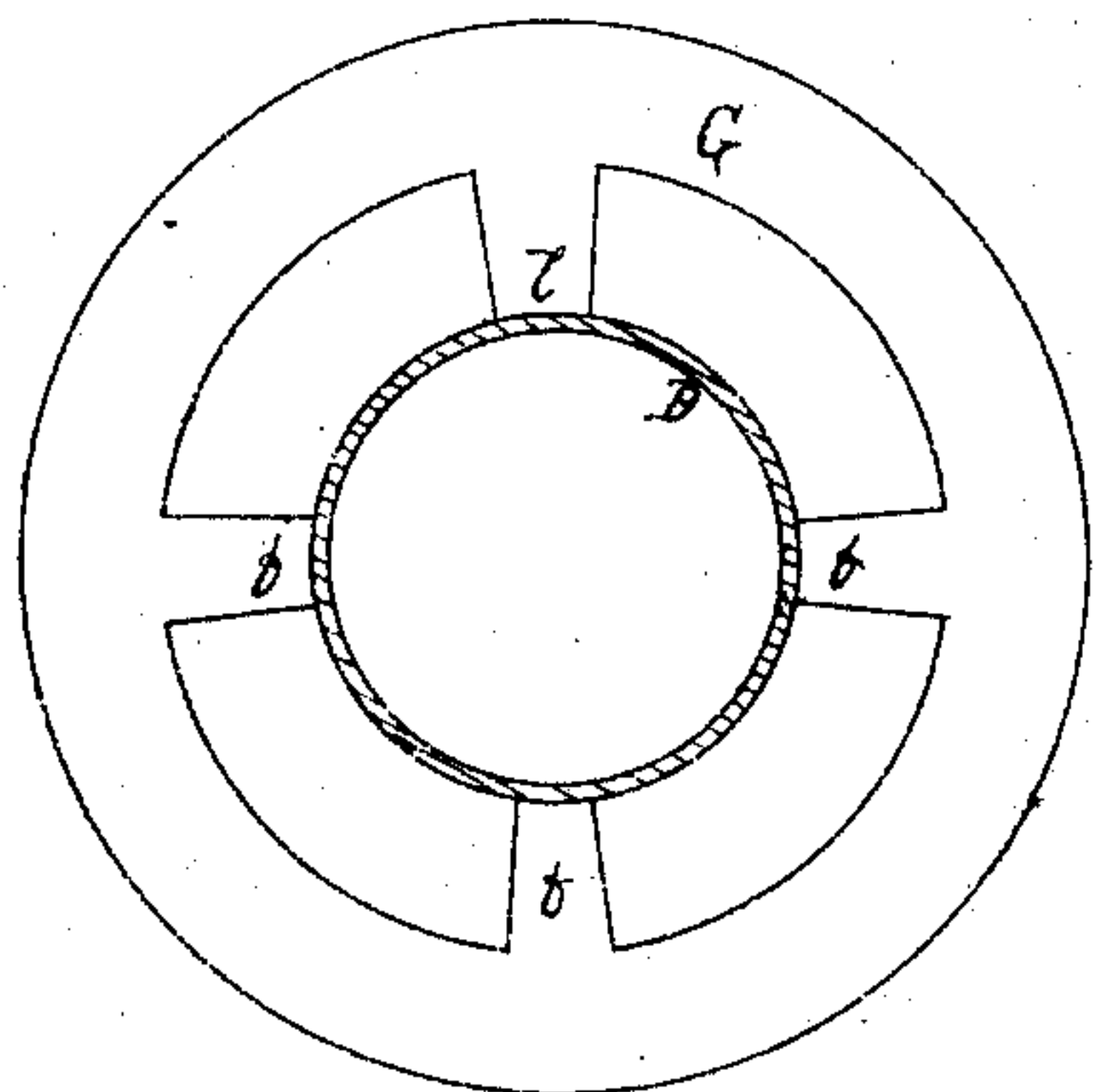


Fig 3

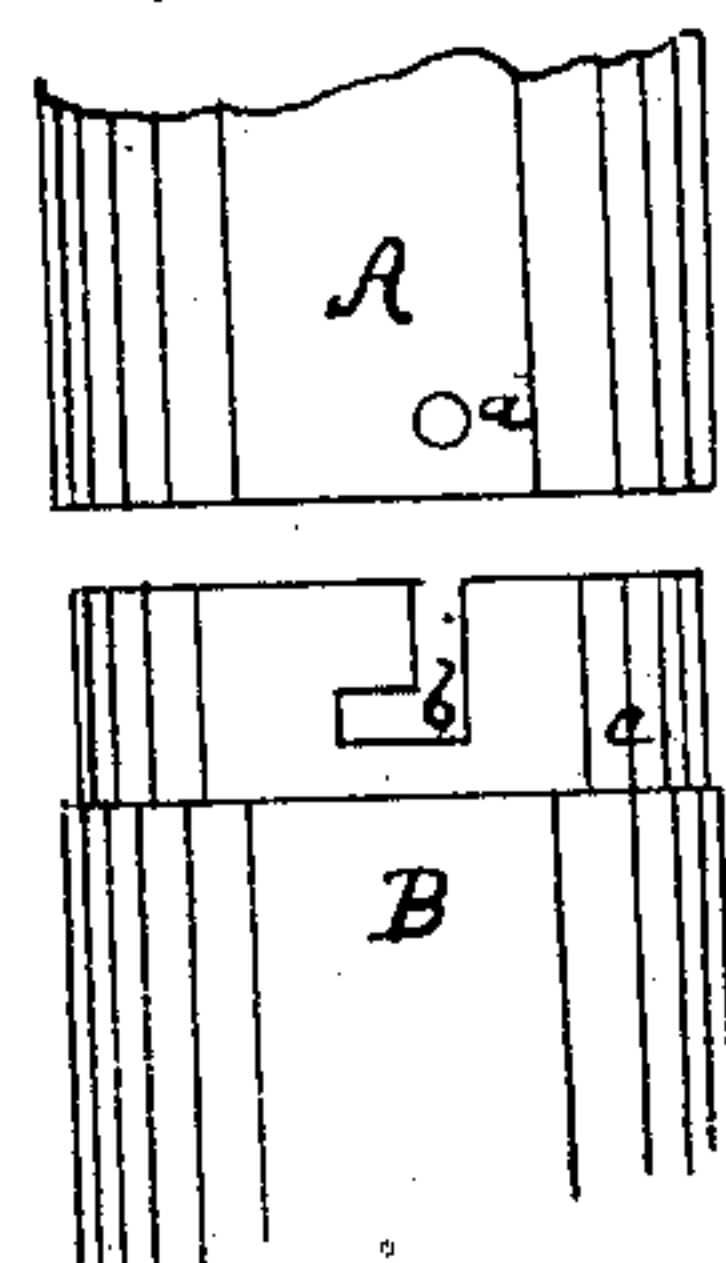


Fig 4

Witnesses

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ARTHUR W. McMILLEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF
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Letters Patent No. 76,094; dated March 31, 1868.

IMPROVEMENT IN CAST-IRON CHIMNEYS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ARTHUR W. McMILLEN, of the city of Chicago, in Cook county, and State of Illinois, have invented certain new and useful Improvements in Cast-Iron Chimneys; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation.

Figure 2, a vertical section.

Figure 3, a top view of the guard.

Figure 4, a detail, showing the mode of connecting the sections.

The nature of my invention consists in forming an iron chimney without any seams or joints, except between the sections, in so connecting the joints that they are safe and secure without the use of cement, and in several devices and combinations herein described and claimed.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction.

The several parts of my chimney are made of cast iron, cylindrical in form.

A B represent two sections of that part of the chimney designed to be used within the building. They may be about two feet four inches long, and, for ordinary uses, about eight inches in diameter, and about one-eighth of an inch thick. One end of each section is made a trifle smaller than the main portion thereof, as shown at *c*, fig. 4, and also in fig. 2, while a corresponding portion of the other end is somewhat enlarged within, so as to receive the smaller part, *c*, of another section, as shown at the junction of the sections A B, fig. 2. These parts should be made to fit tightly, and are secured together by means of the pins or lugs *a*, and slot *b*. As shown in fig. 4, the lugs project on the inside of the section, and the slot *b* is cast in the smaller end thereof, so that when the two sections are brought together, and so turned as to bring the lugs *a* to their proper places, the outer surface of the two will be perfectly smooth, and the slot *b* will be covered. As many sections as may be desired can be thus joined, and openings, *d*, for stove-pipes can be provided in the sections, when cast, at pleasure.

The lower section may be provided with an opening, H, for the removal of soot, which may be closed by a door, *h*, either sliding or hinged; or the lower section, F, may be made so as to be removed, and the opening can be dispensed with, if desired. This lower section is cast with a bottom. As shown in the drawings, fig. 1, *e*, the lug is attached to the smaller part of the section, and the slot *b* placed in the larger end. This forms a joint as secure as the other, being in effect the same, but does not present as finished an appearance.

In the floors through which the chimney is to pass, I place the guard G, the rim or flange, *g*, resting on the floor. Projecting inwards from the flange are three or more points, *f*, and as no part of the guard except these points can come in contact with the chimney, and as there will be a constant circulation of air between the chimney and the guard, perfect security is attained. This guard must be adapted to the place where it is to be used. In use the guard will not be placed so near the opening *d* as shown in the drawings.

On the roof of the building I securely fasten the base, C, of the exterior portion of the chimney. The lower portion of this base must be cast with reference to that part of the roof on which it is to be placed, and can be adapted to fit the peak of the roof, as shown, or the slope, or it can be used on a flat roof. To this base, C, I attach a section, D, by the use of lugs and slots as before, except that I pass this section D over the base, C, so that the top of the base is wholly within the section D, forming a shoulder, on which the flange of the collar I may rest. This section D rests on a shoulder, *z*, in the base. An ornamental flange can be cast on the top of the section D.

To the top of the chimney I attach a shield or wind-break, E, by means of rods *j* fastened thereto, and inserted in holes provided in the flange *k*. It can be adjusted to any required distance from the top, and may be secured by the use of nuts. The upper end of the section of the chimney which passes into the base, C, is not enlarged within. To this end I attach a collar, I, which passes over the section, and is connected to it by means of lugs and slots, as before described. On the top of this collar is a flange, *l*, which also extends inwards a distance equal to the thickness of the section.

When the several parts of the chimney have been prepared as described, in putting them up for use, I first attach the base, C, to the building, and then pass the upper section, marked A, in figs. 1 and 2, and having the collar fastened thereto, as described, down through the base, D. The flange *l* of the collar will rest upon the top of the base, forming a perfectly tight joint. The section D is then attached to the base, and, when in position, it prevents any lateral motion of the section A, the flange *l* being of such width as to nicely fit the interior of the section D. Any desired number of sections B may then be attached below, and finally the soot-box F. The chimney will then be ready for use.

The chimney may be extended to any desired height, by uniting the required number of sections in the same manner that A and B are joined together. Such exterior sections being properly constructed, and provided with lugs and slots, and the flanges omitted from all but the one designed for the top. I deem it advisable to use for each joint two lugs, and corresponding slots, opposite each other. That portion of the chimney within the base can be turned around on the upper edge of the base, bringing the opening *d* at any desired position, thus often dispensing with the duplication of elbows for the pipe.

My method of connecting the interior and exterior parts of the chimney by means of the collar I, as described, produces a joint without seam or opening through which sparks can come to the building, and the point of connection being at a considerable distance above the roof, where the chimney is constantly exposed to the external air, it cannot become hot and dangerous. The interior of my chimney has a smooth unbroken surface from the bottom to the point of connection with the base, C.

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

1. The cylindrical cast-iron chimney, constructed substantially as described.
2. Constructing and connecting the several sections B, substantially as described.
3. Connecting and supporting the section A with and upon the base, C, by means of the collar I, substantially as specified.
4. Connecting the section D with the base, C, substantially as and for the purposes specified.
5. The soot-box F, with or without the opening H, in combination with the sections A B and base, C, substantially as described.
6. The adjustable shield or cap E, in combination with the sections A B D. and base, C.
7. The guard G, in combination with the sections A B and base, C.

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Witnesses:

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