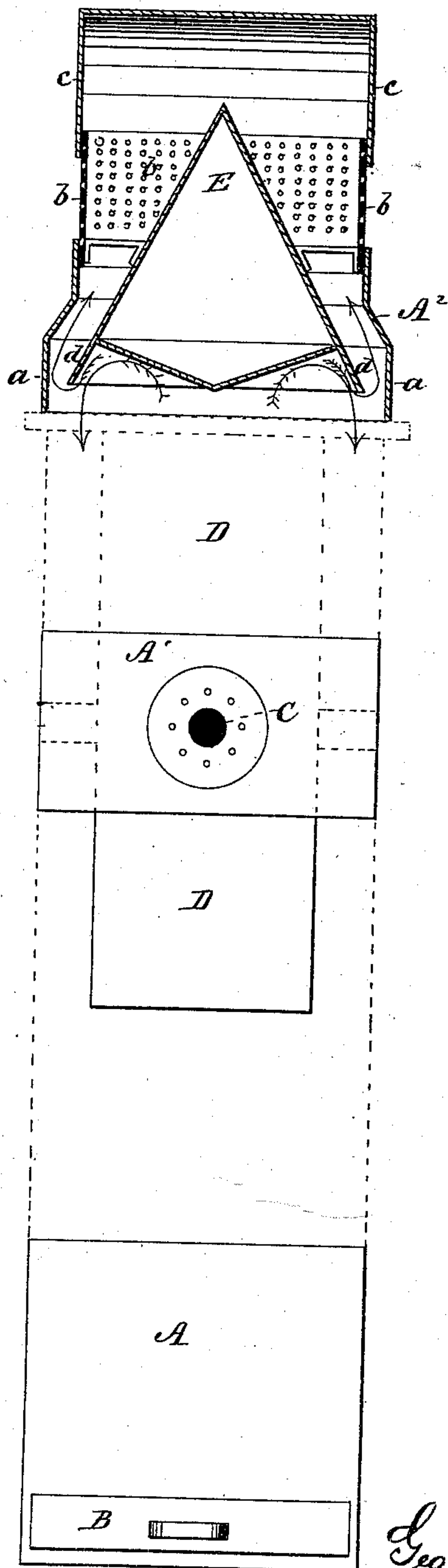


G. F. KNIGHT.

CHIMNEYS.

No. 182,681.

Patented Sept. 26, 1876.



WITNESSES:

John A. Kenyon
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INVENTOR:

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BY

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UNITED STATES PATENT OFFICE.

GEORGE F. KNIGHT, OF CARROLL, OHIO, ASSIGNOR TO HIMSELF, NATHANIEL HAVENS, AND JOHN W. WILLSON, OF SAME PLACE.

IMPROVEMENT IN CHIMNEYS.

Specification forming part of Letters Patent No. 182,681, dated September 26, 1876; application filed September 5, 1876.

To all whom it may concern:

Be it known that I, GEORGE F. KNIGHT, of Carroll, in the county of Fairfield and State of Ohio, have invented a new and useful Improvement in Chimneys; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

The figure is a side view, showing the sections of the chimney detached, with intervening plain sections in dotted lines, and the top section cut vertically, to show its interior construction.

My invention relates to certain improvements in chimneys designed for the better ventilation of the rooms, and the rendering of the same fire-proof by providing for the easy removal of soot and arresting the issue of sparks. It belongs to that class of chimneys which have an inner and an outer flue; and it consists in combining with the same a deflector of peculiar construction, which diverts the soot from the inner smoke-flue to the outer flue, down which it falls into a removable pan at the bottom, a cage of perforated sheet metal being arranged at the top to operate as an additional security against the issue of sparks, all as hereinafter more fully described.

In the accompanying drawing, A A¹ A² represent three different outer sections of my improved chimney, of which A represents the bottom section, having a removable soot-pan, B, while A¹ represents a middle section, provided with stove-pipe holes C upon each side, with which the stove-pipes from the rooms communicate; and A², the top section, arranged above the roof upon the outside of the building. Between these sections other plain ones may intervene, in number according to the height of the chimney. These sections of chimney are made of fire-clay, terra-cotta, metal, or any other suitable material, and inside the same are arranged a second set of sections, D, of the same material, forming an inner flue and an outer surrounding chamber.

The stove-pipe holes are surrounded by ring-shaped plates or collars, which are per-

forated, so as to form ventilating-outlets from the room to the outer chamber, while the central pipe-hole communicates through a short pipe with the inner or smoke flue.

The top section A² is made with an enlarged lower portion, *a*, and contracted portion *b*, of perforated metal, which latter forms a cage, and is surmounted by a cover, *c*. Inside of said top section is arranged a double pyramidal deflector, E, provided with a skirt or flange, *d*, all around, extending down into the enlarged part *a* to a position directly above the outer ventilating-chamber.

The smoke in passing up the inner flue carries with it particles of soot and sparks. As it reaches the deflector E it is thrown outwardly and downwardly by the pyramidal bottom of the deflector and its skirt *d*, so that, in turning the course shown by the arrows, the soot and cinders are precipitated, by reason of their greater gravity, down the outer chamber into the soot-pan below, from whence they are readily removed, while the smoke passes out at the top through the cage. This cage prevents the discharge of small sparks and soot-particles, which are carried up by the draft, and by throwing them back against the pyramidal top of the deflector, compel them to roll down the inclined surface, over the edge of the skirt, down into the outer chamber into the soot-pan below.

As shown, the top section A² is rectangular; but it is obvious that I may make it circular, with a double cone inside, if desired.

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

1. The sectional chimney having an inner and outer flue, in combination with the top section A², having a double pyramidal deflector, E, with skirt *d*, located just above the outer flue, substantially as and for the purpose described.

2. The top section A², composed of the enlarged portion *a*, perforated cage *b*, and cover *c*, in combination with the double pyramidal deflector E, having skirt *d*, as and for the purpose described.

3. The sectional chimney having an inner and outer flue, with stove-pipe connection

with the inner one, and soot-pan below, in combination with the top section A², composed of enlarged portion *a*, cage *b*, and cover *c*, and the double pyramidal deflector E, having skirt *d*, substantially as and for the purpose described.

The above specification of my invention

signed by me this 25th day of August, A. D. 1876.

GEO. F. KNIGHT.

Witnesses:

M. C. ALDRED,
N. S. EBRIGHT.