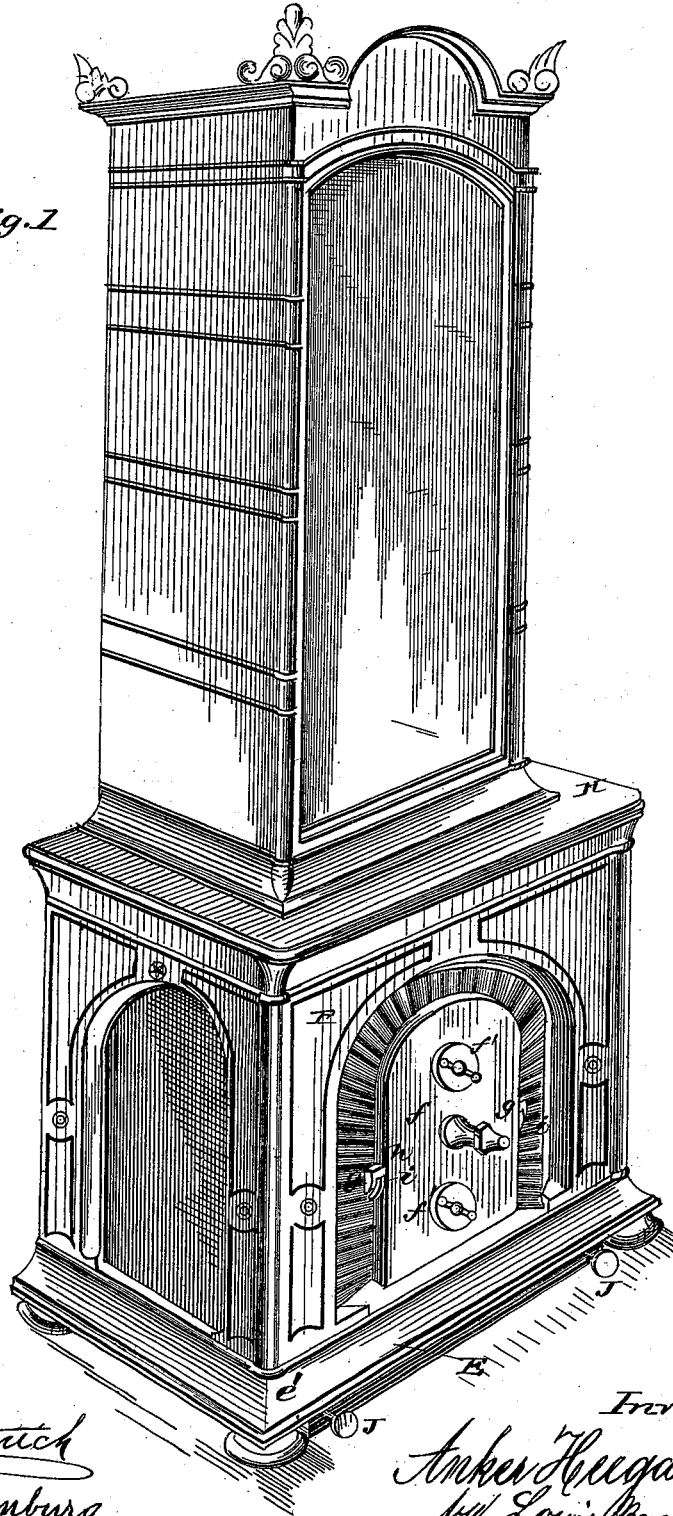


A. HEEGAARD.
Smoke-Flue.

No. 210,120.

Patented Nov. 19, 1878.

Fig. 1



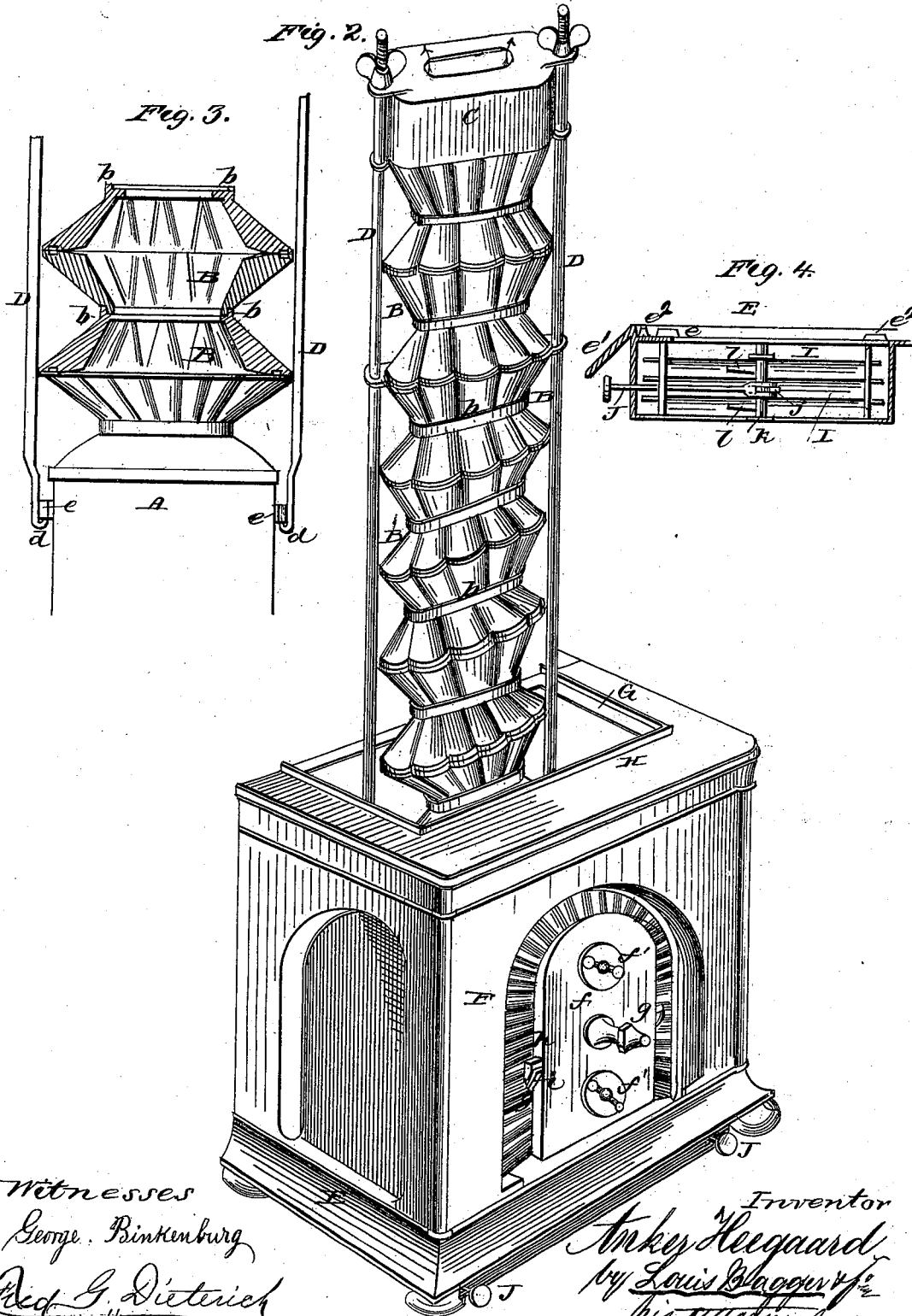
Witnesses
Ed. G. Dittich
George Binkenburg

Inventor
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his attorney

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UNITED STATES PATENT OFFICE.

ANKER HEEGAARD, OF COPENHAGEN, DENMARK.

IMPROVEMENT IN SMOKE-FLUES.

Specification forming part of Letters Patent No. 210,120, dated November 19, 1878; application filed October 14, 1878.

To all whom it may concern:

Be it known that I, ANKER HEEGAARD, of Copenhagen, Kingdom of Denmark, have invented certain new and useful Improvements in Smoke-Flues; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, to enable others skilled in the art to which my invention appertains to make and use the same, and in which drawing—

Figure 1 is a perspective view of my improved device. Fig. 2 is a similar view of the same with the flue-inclosing case removed, and Fig. 3 is a detailed sectional view thereof.

The same part in the several figures is designated by the same letter.

This invention relates to certain improvements in that class of flues for smoke which are more particularly adapted for heating air passing up around the flue and between it and an inclosing-case; and it consists in surmounting the flue with a soot box or receptacle, held thereon by rods nipped at their upper ends, passing down through eyes formed in connection with any one or more of the flue-sections, and hooked at their lower ends into sockets or staples on the sides of the heater or stove, and certain other details in the construction of the parts, substantially as hereinafter more fully set forth.

In the drawing, A refers to the heater or stove, to the smoke-flue opening of which is rigidly fitted the lowermost section of the smoke-flue. This flue consists of a number of conical sections, B B, arranged one upon the other, the face or upper end of the lowermost section, which is its flaring end or surface, meeting the similar end of the one next above, and the tapering end of the latter fitting within a flange, *b*, on the corresponding end of the superimposed section, which order of bringing the parts or sections of the flue together is observed throughout the whole series.

By this construction and arrangement of the sections, the soot or other unconsumed particles of combustion is, to a greater or less extent, prevented from adhering thereto, the inclined surfaces of the sections having

this end in view, while the extended or greater surface of their exterior presents an increased heating-surface for the passing air, and thus also serves to augment the heating of the air to be passed off into the room or apartment. The flue consists of any number of these sections, according to its height.

Upon the uppermost section of the flue is placed a soot box or receptacle, C. The box C is held in place thereon and the superimposed sections held together by rods D D, the upper ends of which are screw-threaded and nipped to the box C, and which rods are passed down through eyes in projecting portions of two or more of the sections, and hooked at their lower ends, as at *d d*, into staples or sockets *e e* on the heater or stove A.

The sections B B may each be fluted or scalloped or ribbed, as shown, and round, oval, or polygonal in shape, as may be desired, without departing from the spirit of my invention.

E is a base-piece, cast with an external flange, *e'*, and inwardly a short distance therefrom with studs or projections *e'' e''*. Upon this base, and between the flange *e'* and studs *e''*, is placed the mantel F, with an opening in front for access to the heater or stove, which opening is closed by a door, *f*, provided with draft-valves *f' f'*.

The door *f* is hung in hooked or notched projections *g* on the stove-door-opening flange *h* by lateral projections or studs *i* on the door *f*.

The top of the mantel is covered by an open plate, G, whose opening is for the reception of the flue, and which plate is provided with a flange around said opening, against which flange fits a second plate or shelf, H, slid on the plate G.

The base-piece E is provided in its downwardly-projecting portions with valves I, operated, opened, and closed by rods J J, extending through the front portion of the base-piece and connected to the horizontal arms *j* of upright shafts or levers *k*, pivoted in studs of the piece E, and having each a number of fingers, *l l*, engaging with the valves I I.

By this mechanism the passage of the air is controlled through the valves or their openings.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the superimposed conical sections B B of a flue with the soot-box C, rods D D, and stove or heater A, substantially as and for the purpose set forth.

2. The combination of the mantel F, base-piece E, having flange *e* and studs *e*¹, open

flanged top-plate G, and plate or shelf H, substantially as and for the purpose specified.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

ANKER HEEGAARD.

Witnesses:

J. WOLF,

NORD PETERSEN.