(No Model.)

J. H. EGAN.

Cone Attachment for Stoves.

No. 229,684. **Patented July 6, 1880.**

Fig. 1.

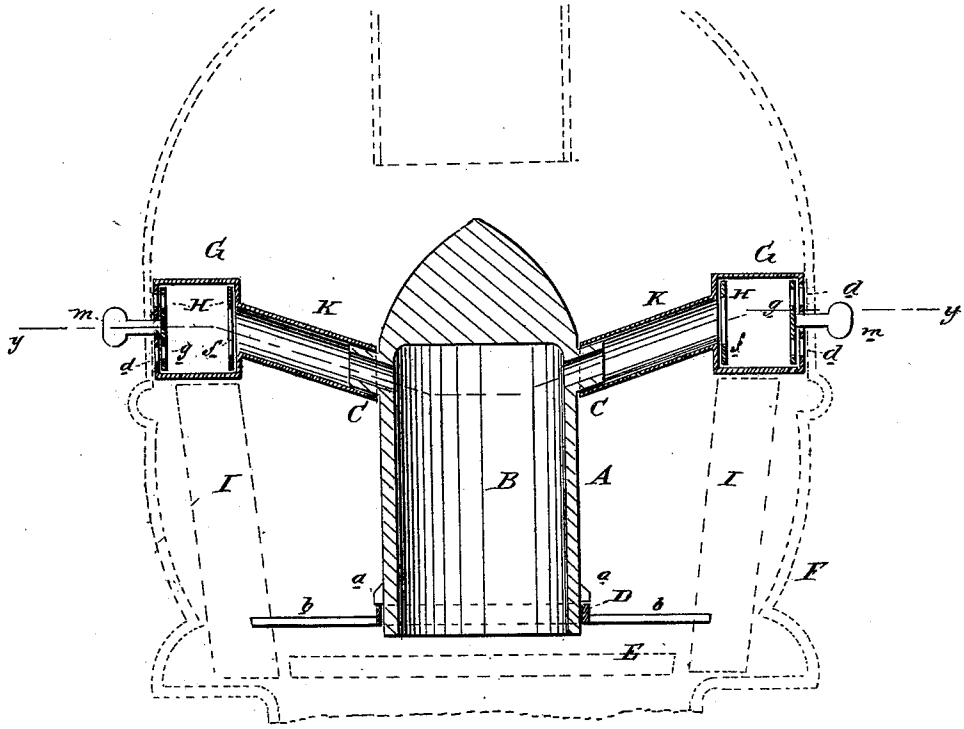
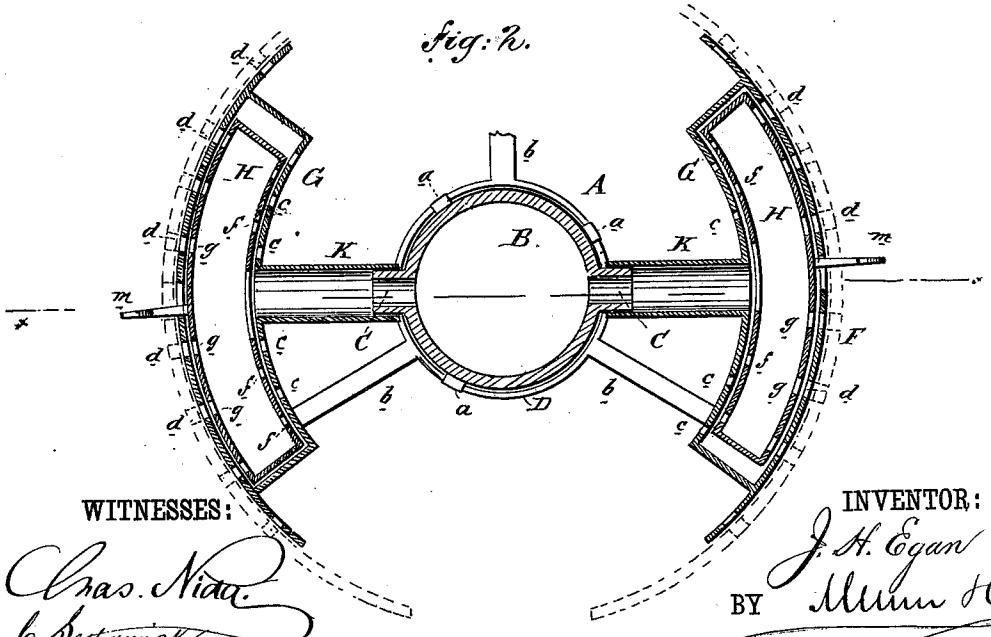


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES H. EGAN, OF ST. JOHNSVILLE, NEW YORK.

CONE ATTACHMENT FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 229,684, dated July 6, 1880.

Application filed April 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. EGAN, of St. Johnsville, in the county of Montgomery and State of New York, have invented a new and Improved Cone Attachment for Coal-Burning Stoves and Furnaces, of which the following is a specification.

The object of this invention is to provide a device for economizing coal and for securing better combustion and more heat therefrom.

The invention consists of a cast-iron cylinder with conoidal top, said cylinder being hollow for about two-thirds of its depth upward from its base, and being provided with one or more radial pipes, that connect with hot-air boxes, which are fixed around the inside of the stove or furnace and communicate with the outer air by means of registers in the sides of the stove.

Figure 1 is a sectional elevation of the device in position in a stove on line *x x*, Fig. 2. Fig. 2 is a cross-section of the same on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the cylinder, having a vertical central hollow space, B, of equal diameter throughout, and reaching about two-thirds upward the height of the said cylinder.

C C are radial tubular projections communicating with the space B at about the top thereof.

The said cylinder A is provided about its bottom with several radial lugs, *a a*, by means of which the said cylinder A is supported above the grate E of the stove or furnace F, said lugs *a* resting upon a ring, D, from which radial arms *b* project and are secured in the lining or side of the said stove or furnace F. The said cone A is thereby raised sufficiently above the grate E to permit the free movement of the said grate E for cleaning.

G G are segmental covered hot-air boxes set upon the lining I of the furnace or stove F and against the inside of the said furnace or stove F. These boxes G may be more than one in number, and, if desired, may be made to form a continuous circle. On their inner faces these boxes G G are provided with perforations *c c*, and on their outer faces with perforations *d d*, which latter are opposite an opening in the sides of the said furnace or stove and communicate therewith. Within these hot-air boxes G are the sliding registers H, consisting of two parallel plates of the same depth and curve of the boxes G, and united at their ends by other plates, the curved plates of said registers H being in contact with the inner and outer plates of the hot-air boxes G.

The inner plates of the registers H are provided with perforations *f f*, corresponding with the perforations *c c* of the hot-air boxes, while the outer plates of said registers H are provided with perforations *g g*, corresponding with the perforations *d d* of said hot-air boxes G, and the respective perforations are so arranged that when the registers H are moved so as to establish communication between the interiors of the boxes G and the outer air, by bringing the perforations *c c* and *f f* opposite each other, communication between the said boxes G and the interior of the stove or furnace F is shut off, while a reverse movement of a register, H, will establish communication between a box, G, and the interior of the stove or furnace F and cut off all communication of said box G with the outer air. These registers H are provided with projecting handles *m*, by means of which they may be adjusted at will.

When in use this cone A is fixed, as shown, centrally within the stove or furnace, a little above the grate thereof, and is connected with the hot-air boxes G G by means of the pipes or flues K K, that extend from the radial pipes C C of said cone A. A fire is then made on the grate E around said cone A, which consequently quickly becomes heated. Air is then admitted beneath the grate E into the cone A, and through the connecting-pipes into the hot-air boxes G, becoming highly heated in its passage. Then, by adjusting the registers H, this heated air may be admitted into the room in which the furnace or stove is located, or by simple arrangement of pipes may be conducted to any other room in the house. A contrary movement of the register H will direct the current of hot air from the boxes G into the stove or furnace itself.

When raking down or replenishing the fire in the said stove or furnace F the inner perfo-

rations, *c c*, of the hot-air boxes G should be closed by the register H, to prevent the entrance therein of dust and ashes.

In a stove or furnace this cone A occupies the space that would otherwise be occupied with coal, so that with an equal amount of coal placed in a stove or furnace about the cone A more extensive heat-radiating surface is secured than there would be in the absence of the cone. Hence, as the economic value of coal in a house furnace or stove is in a great measure controlled by its exposed radiating-surface, it follows that this cone A must serve to increase the value of the coal in a great degree, while at the same time it serves to divert any desired portion of the heat of the stove or furnace away from the stove or furnace.

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

1. An improved cone attachment for stoves and furnaces, constructed substantially as herein shown and described, consisting of hollow cylindrical cone A, provided with radial tubes C C, hot-air boxes G G, provided with registers H H, and pipes or flues K K, as set forth.

2. The combination, with the hollow cone A, provided with radial lugs *a a*, of the supporting-ring D, provided with radial arms *b b*, substantially as herein shown and described, whereby said cone is supported above the grate E, as set forth.

3. In a cone attachment for stoves and furnaces, the hot-air boxes G G, provided with registers H H, and connecting pipes or flues K K, substantially as herein shown and described.

4. The combination, with the stove or furnace F, of the interior hot-air boxes, G G, provided with registers H H, substantially as herein shown and described.

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Witnesses:
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