

W. D. GUSEMAN.
FIRE-PLACE HEATER.

No. 171,612.

Patented Dec. 28, 1875.

Fig. 1.

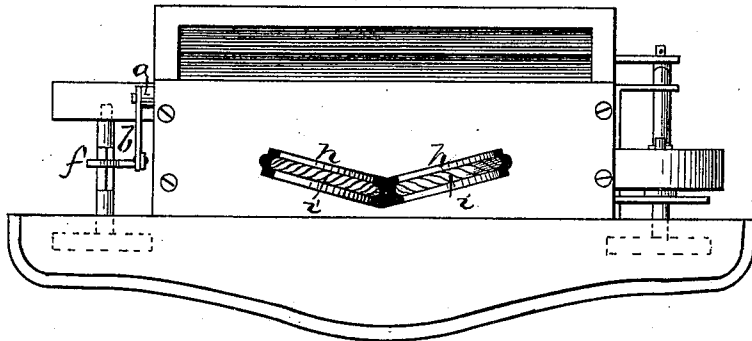
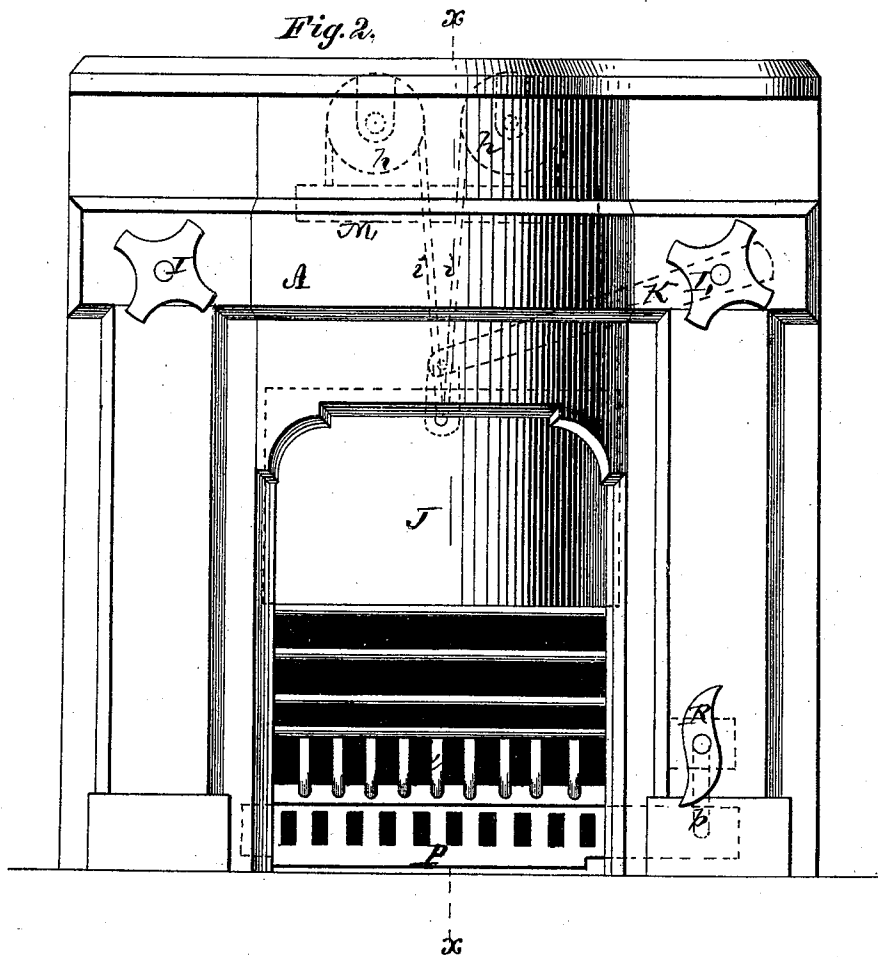


Fig. 2.



WITNESSES

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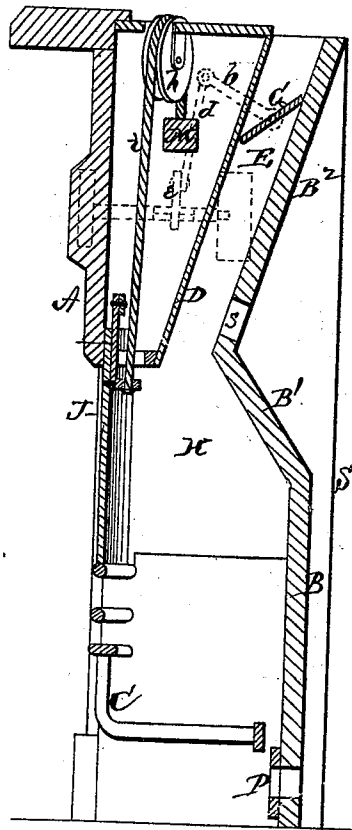
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Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM D. GUSEMAN, OF MORGANTOWN, WEST VIRGINIA.

IMPROVEMENT IN FIRE-PLACE HEATERS.

Specification forming part of Letters Patent No. **171,612**, dated December 28, 1875; application filed November 24, 1875.

To all whom it may concern:

Be it known that I, WILLIAM D. GUSEMAN, of Morgantown, in the county of Monongalia and in the State of West Virginia, have invented certain new and useful Improvements in Fire-Place Heater; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a fire-place grate, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view, and Fig. 2 a front elevation, of my improved fire-place grate. Fig. 3 is a transverse vertical section of the same through the line *x x*, Fig. 2.

A represents the front of my fire-place grate, and B the back thereof, the latter being formed above the fire-grate C with the forward incline B¹, and from the top of the same a rearward incline, B². Parallel with this incline B² runs a plate, D, forming between them the throat or flue E. In this flue is located the damper G, hung upon pivots in the center of its ends. One of these pivots, *a*, is extended through the side H of the fire-place grate, and provided with an arm or crank, *b*, which is, by a rod, *d*, connected with an arm, *e*, upon a shaft, *f*, that passes through the front A, and has a knob, I, on its front end. The object of this damper is to afford a means of controlling the draft, either separately or in conjunction with the blower. When the coal is in a state of rapid combustion the damper should be left open to its fullest extent, to afford a free and rapid escape for the smoke and gas, but should be closed as soon as the coal is thoroughly ignited, in order to prevent the further escape of the heat up the chimney and throw it into the room. J represents the blower to close the space above the grate C. This blower is operated by a lever, K, moved by a knob or projection, L, on the front of the fire-place

grate, and the blower is counterbalanced by a weight, M, suspended by one or two wire cords, *i i*, passing over one or two pulleys, *h h*. These pulleys are placed at a slight angle with the blower, as shown in Fig. 1, so as to throw the weight back and clear from the blower as they pass each other in raising or lowering the blower. The blower J is curved from a horizontal line to correspond with the front of the grate, and moves vertically up and down. By this construction and arrangement of the blower and pulleys the blower will not bind when it becomes warped by the heat from the fire. The object of the sliding blower is to form a hot-air chamber, and, by preventing the air from passing over the fire, to cause it to pass through the mass of coals, thereby insuring a speedier and more perfect combustion, and also effectually preventing the smoke and gas from escaping into the room. Under the fire-grate C, in the back wall B, is a register, P, operated by means of a crank-shaft, *p*, having a knob, R, on its front end at the front of the fire-place. By means of this register the dust caused by the raking of the fire will be prevented from passing into the room, and be compelled to ascend the hot-air flue S back of the cast-iron back B, and pass into the chimney-flue through apertures *s* in the part B² of said cast-iron back above the grate.

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

1. The blower J, formed of a single sheet of metal, and curved from a horizontal line, counterbalanced by means of a weight, M, and operated by a lever, K, and knob I in front of the heater-frame, substantially as and for the purposes herein set forth.

2. The pulleys *h h*, set at an angle, as shown and described, in combination with the wire cords *i*, blower J, and counterbalancing-weight M, substantially as and for the purposes herein set forth.

3. The combination of the inclined throat or flue E, centrally-pivoted damper G, with arm or crank *b*, connecting-rod *d*, arm *e*, shaft *f*, and knob I, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination, in a fire-place heater

having a heater-frame, A, and open grate in the same, of the register P, under the grate and in front of the dust-flue, operated by the knob R on the end of a shaft extending through the fire-place, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I

have hereunto set my hand this 22d day of November, 1875.

WM. D. GUSEMAN.

Witnesses:

H. D. McGEORGE,

JAS. N. PICKENPAUGH.