

(No Model.)

2 Sheets—Sheet 1.

H. J. PIRON.
SLOW COMBUSTION STOVE.

No. 603,967.

Patented May 10, 1898.

Fig. 1.

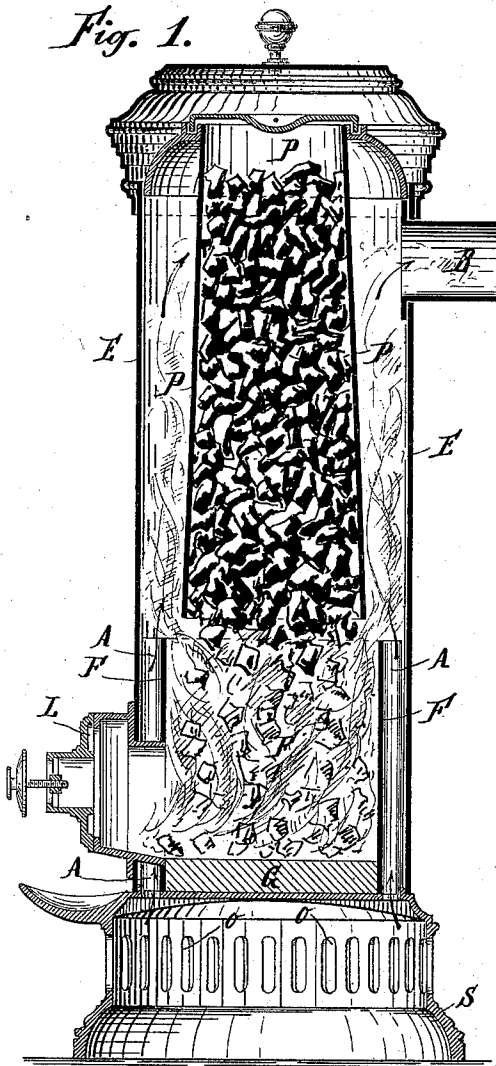


Fig. 3.

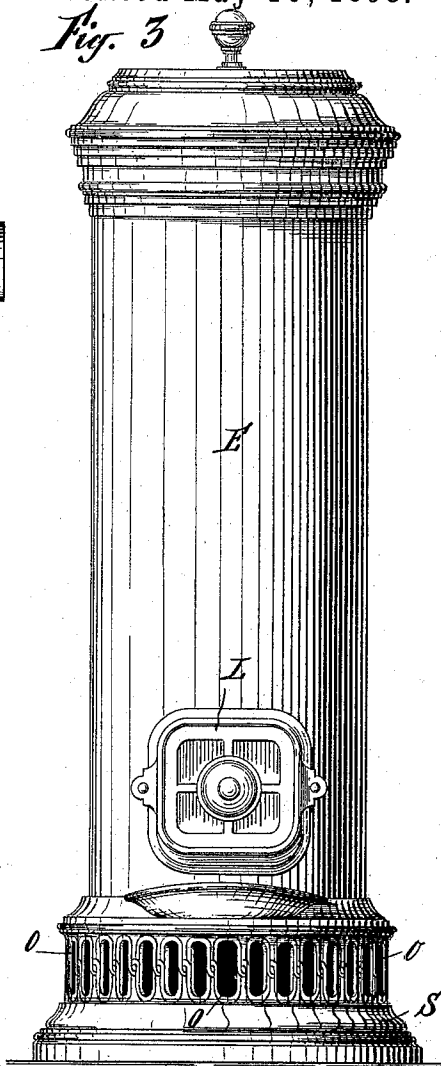
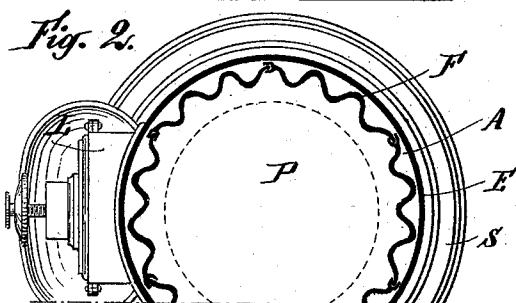


Fig. 2.



Witnesses:

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Inventor:
Henri Joseph Piron.

By Knight Bros
Atty's.

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Fig. 4.

Fig. 6.

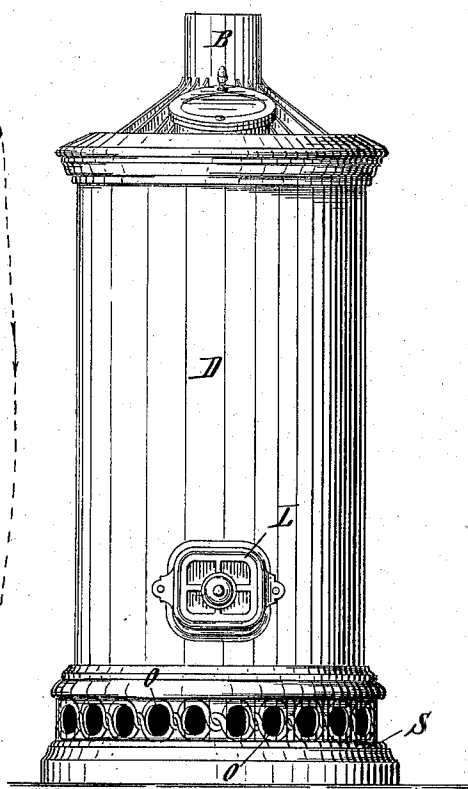
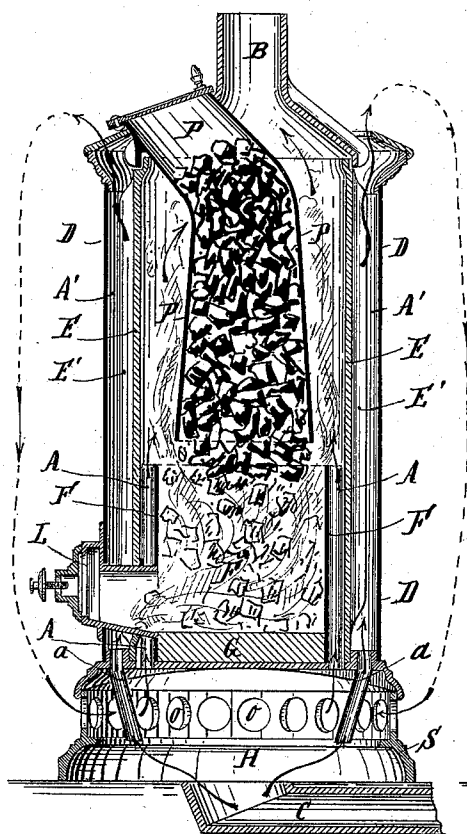
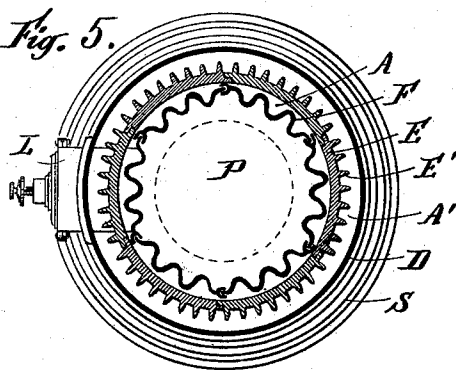


Fig. 5.



Witnesses:

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By *Knight*
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UNITED STATES PATENT OFFICE.

HENRI JOSEPH PIRON, OF BRUSSELS, BELGIUM.

SLOW-COMBUSTION STOVE.

SPECIFICATION forming part of Letters Patent No. 603,967, dated May 10, 1898.

Application filed October 16, 1896. Serial No. 609,138. (No model.) Patented in Belgium August 17, 1892, No. 100,987; in France September 20, 1892, No. 224,439; in Austria September 26, 1892, No. 45,230; in Germany October 11, 1892, No. 70,729; in Spain May 3, 1893, No. 14,560, and in Switzerland September 25, 1896, No. 14,245.

To all whom it may concern:

Be it known that I, HENRI JOSEPH PIRON, manufacturer, a subject of the King of Belgium, residing at Brussels, in the Kingdom of Belgium, have invented a new and useful Improved Slow-Combustion Stove with Constant Renewal of Air in the Heated Apartment, (for which patents have been obtained in Belgium August 17, 1892, No. 100,987, and August 6, 1893, No. 104,186, addition; in France September 20, 1892, No. 224,439; in Spain May 3, 1893, No. 14,560; in Germany October 11, 1892, No. 70,729; in Austria September 26, 1892, No. 45,230, and in Switzerland September 25, 1896, No. 14,245,) of which the following is a full, clear, and exact description.

The object of the present invention is to provide a slow-combustion stove containing an improvement of the very greatest importance, according to which the vitiated air of the apartment which is heated is drawn off by the stove, serving at the same time to complete the combustion, the improved stove uniting thus at the same time the advantages of stoves with quick combustion and those having slow combustion in such manner as to admit of the general application of these apparatuses, more or less discouraged on account of their anti-hygienic nature. These results, so important in their effects, are attained by a very simple method of construction, consisting in forming around the receptacle which contains the fuel an annular space or passage communicating on the one hand with the apartment and on the other in the interior of the furnace at about the height of the fire, where the air of the apartment drawn into this passage becomes superheated and mixes with the products of combustion, causing complete consumption of the same and thus improving the yield of heat while effecting an economy of fuel.

The improved construction can be effected in two modifications, as follows: According to the one the fresh air reaches the apartment in any desired manner—for instance, through the doors or windows in the usual manner—while according to the other modification the fresh air is drawn in from outside by a special

conduit and heated by the stove before it is discharged into the apartment. The two modifications are represented in the accompanying drawings, in which—

Figure 1 is a vertical section of the improved stove without special inlet for fresh air. Fig. 2 is a transverse section of the same. Fig. 3 is a view in elevation of the stove. Fig. 4 is a vertical section of the improved stove with conduit for fresh air coming in from the outside. Fig. 5 is a transverse section of the same. Fig. 6 is an elevation of this modification of the stove.

As usual in slow-combustion stoves, the improved stove is provided with a feed-hopper P for the fuel, suspended in such a manner that its lower aperture is placed at a given distance above the upper edge of the fire-holder or fireplace F, in which the ordinary grate is replaced by a closed bottom of refractory material G, so that the air can have no access into the fireplace through the bottom G, as usually happens in the ordinary pattern through the grate thereof; but the air, on the other hand, passes through the side door L, which is operated in such a manner as to control the draft, as usual, and through which the ashes and cinders can be withdrawn when requisite. To this difference of construction from ordinary slow-combustion stoves there is added, moreover, the most essential, which relates to the arrangement of the outer envelop E of the stove. This envelop is placed of being directly connected to the fire-holder or fireplace F, as is usually the case, is of a greater diameter and is placed concentrically around the fire-holder or fireplace F upon a suitable foot-plate or hollow base S in such manner as to form around the fireplace an annular passage A, communicating with the interior of the hollow base, of which the side wall is perforated with ornamental openings O, through which the air of the room passes into the annular passage and in order to mix above the fire-holder or fireplace and around the feed-hopper P with the combustion products after superheating against the walls of the fireplace and to influence thereby the perfect combustion, at the same time removing

from the room the vitiated air which it contains, because the same escapes with the products of combustion by the lateral aperture B into the chimney. The advantageous effect is further increased if the heating-surface of the fire-holder or fireplace be increased, which is obtainable by the wavy construction of the wall of the fire-holder or fireplace, as shown in Fig. 2. By bringing these projections in contact with the outer envelop E, as shown in the drawings, the annular passage A is divided into numerous separate channels, and it is this form of construction of the air-passage which is preferably employed.

15 In the modification represented in Figs. 4, 5, and 6 the outer air is drawn in through a conduit G in the lower half of the base S, separated from the upper half thereof by a horizontal plate H, which communicates with a second annular space A' (formed by a double envelop D, concentric to the envelop E, the heating-surface whereof is increased by gills E') through the passages *a a*. The air becoming heated by the envelop E and the gills E' flows upward through the double envelop D into the air-chamber, from whence it follows the course above described in connection with the openings O in the upper half of the base S, which course is indicated by the arrows. This arrangement increases again the heating power of the stove. In this modification the mouth of the feed-hopper is turned

to one side and the outlet B is placed at the axis of the stove.

This slow-combustion stove is eminently hygienic and also economical. It may evidently receive all suitable forms of construction without change of principle and remaining within the principle of the invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A slow-combustion stove comprising a fire-holder provided with a closed bottom and a vertically-corrugated wall, and a casing fitting against the corrugated wall, providing vertical conduits open at top and bottom between the wall and the casing; substantially as described.

2. A slow-combustion stove comprising a fire-holder provided with a closed bottom and a vertically-corrugated wall, an envelop having exterior vertical gills and fitting against the corrugated wall providing vertical conduits open at top and bottom between the wall and the envelop and the casing surrounding the gills and providing vertical hot-air conduits open at top and bottom; substantially as described.

HENRI JOSEPH PIRON.

Witnesses:

AUG. JOERISSEN,
GREGORY PHELAN.