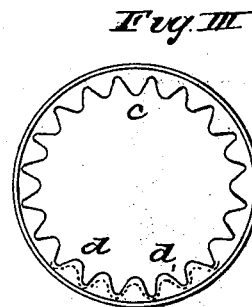
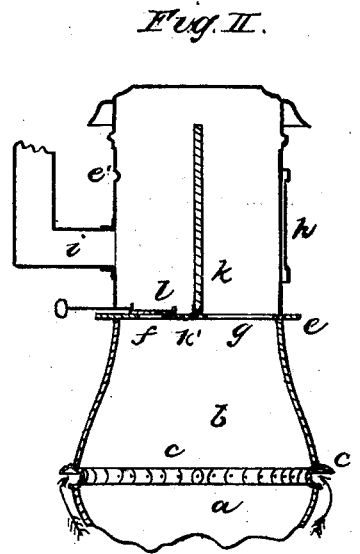
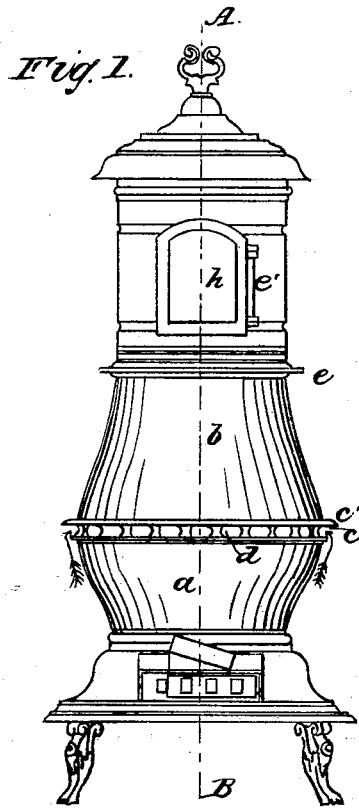


T. YOUNG.  
Heating Stove.

No. 110,104.

Patented Dec. 13, 1870.



*Witnesses*  
Charles Legge  
Charles G. Simpson

*Inventor*  
Thomas Young

# United States Patent Office.

THOMAS YOUNG, OF MONTREAL, CANADA, ASSIGNOR TO IVES & ALLEN,  
OF SAME PLACE.

Letters Patent No. 110,104, dated December 13, 1870.

## IMPROVEMENT IN HEATING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, THOMAS YOUNG, of the city of Montreal, in the district of Montreal, in the province of Quebec, iron-founder, have invented new and useful "Improvements on Smoke and Gas-consuming Stove;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, where—

Figure I represents an elevation of the stove.

Figure II represents a section on line A B, Fig. I.

Figure III represents a detail of ring.

This invention has reference to the improvement of smoke and gas-consuming stoves, for the purpose of accomplishing the same in a simple and convenient manner, by the use of an arrangement for introducing oxygen into the flame-chamber without complicating and multiplying the number of parts required in forming the stove, as is the case with other inventions for this purpose.

In the drawing similar letters of reference indicate like parts.

Letter *a* is the fire-pot of the stove, of ordinary form, or as shown in the drawing, and provided with the usual attachments, as ash-pit, damper, legs, &c.

*b* is the ordinary combustion-chamber.

Between the two parts *a* and *b* a corrugated and perforated ring, *c*, is placed.

The detail plan of this is shown in Fig. III, with the horizontal section partly indicated by the dotted lines in the same figure, having a perforation, *d*, in each of the corrugations.

The upper edge, *c'*, of this rim projects somewhat beyond the lower rim, for the purpose of catching the heated burnt air in contact with the metal of the stove on its lower outside, and drawing the same into the apertures *d*, as shown by the arrows in Fig. I. This vitiated air is in this manner consumed.

On the top of the chamber *b* an ordinary ring, *e*, is placed; again, on the top of the ring *e* a sheet-iron drum, *e'*, is placed, provided with a suitable door, *h*, for the purpose of admitting fuel; or, if preferred, this door may be situate in the combustion-chamber, on the opposite side of the stove to the attachment and stove-pipes *i*.

Within the drum *e'* is a division-plate, *k*, extending across the width of the drum, and for a distance up, as indicated in the drawing, dividing it into two parts.

The division-plate *k* is provided with a flange, *k*,

extending toward the side on which the stove-pipe is situated, and fitting closely around it.

In this an opening, *f*, is formed, while on the other side of the division *k* the opening *g* remains.

The flange *k*, although shown in the drawing at right angles to the division *k*, may be made at any desired angle preferred.

The opening *f* is provided with a suitable damper, *l*, with any suitable handle for operating the same.

Although the ring *c* is shown in the drawing as situate between the fire-pot and the combustion-chamber, it may be placed on the top of the latter, and, if preferred, two rings may be used, one at each of these points, or at any other point or points found most suitable.

The operation of the stove is as follows:

It having been filled with fuel to any required height below the ring *c*, and ignited, the various parts becoming heated, the air entering by the perforations *d* with the vitiated burnt air, is heated, and combining with the air entering the stove by the ash-pit, and passing through the fire in the ordinary manner, causes the smoke and gas contained in it to ignite and be consumed.

By the use of the damper *f* the products of combustion may be made to pass through the opening *g*, and up one side of the division *k* and down the other to the pipe *i*.

Having now described the construction and operation of my invention, to which I have given the name of Young's smoke and gas-consuming stove, I beg to state that I disclaim all other forms of smoke and gas-consuming stoves now in use.

What I claim as my invention is the new and useful improvement on smoke and gas-consuming stoves, as follows:

1. The novel combination of the fire-pot *a*, combustion-chamber *b*, corrugated and perforated ring *c*, prolongation of edge *c'*, perforations *d*, ring *e*, drum *e'*, openings *f* and *g*, door *h*, stove-pipe *i*, division-plate *k*, flange *k*, and damper *l*, all working together substantially in the manner and for the purpose described.

2. The novel combination of the corrugated ring *c*, with perforations *d*, and edge *c'*, substantially as described.

Montreal, 23d day of September, A. D. 1870.

Witnesses:

THOMAS YOUNG.

CHARLES LEGGE,

CHARLES G. C. SIMPSON.