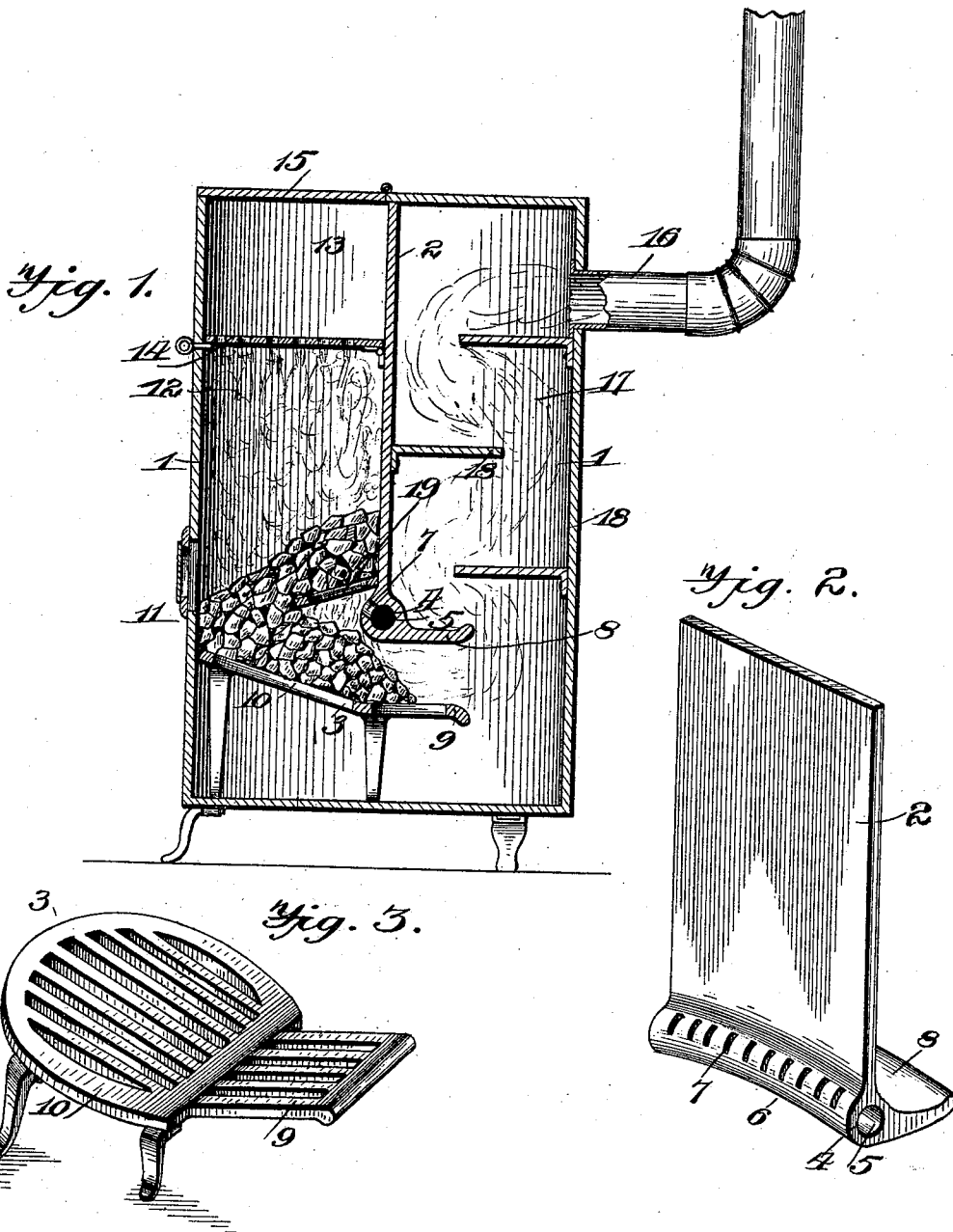


(No Model.)

F. & A. GIRTANNER.
STOVE.

No. 596,028.

Patented Dec. 21, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

FREDERICK GIRTANNER AND ALICE GIRTANNER, OF KANSAS CITY, MISSOURI, ASSIGNORS TO THE SMOKELESS FUEL-SAVING STOVE COMPANY, OF NEW YORK.

STOVE.

SPECIFICATION forming part of Letters Patent No. 596,028, dated December 21, 1897.

Application filed December 31, 1896. Serial No. 617,587. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK GIRTANNER and ALICE GIRTANNER, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Stoves; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stoves, and has for its object to provide, in combination with a stove or furnace, a garbage-consuming device, the arrangement being such that a downdraft is afforded for taking up the gases and odors from the garbage and consuming the same.

It is also the object of the present invention to provide novel means for supplying the draft to the bed of coals and also to employ, in connection therewith, a grate of novel construction, whereby the stove is rendered self-feeding and a material saving in fuel effected.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a vertical section through a stove constructed in accordance with the present invention. Fig. 2 is a detail perspective view of the vertical partition arranged centrally within the stove and embodying an air-duct. Fig. 3 is a detail perspective view of the grate.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates the body of the stove, which may be of any suitable size and capacity, but being shown of cylindrical form.

For the purpose of carrying out the present invention we arrange within the stove a vertical partition 2, arranged in the proximal center thereof and extending from the top of the stove downward, terminating a short distance above the grate, (indicated at 3.) The

bottom edge of the partition 2 is enlarged in substantially cylindrical form, as indicated at 4, and provided with a through-opening 5, which communicates with the outer air through registering openings in the opposite sides of the stove-body 1, whereby a supply of fresh air may circulate freely through the opening 5. The lower edge of the partition 2 is also arched, as indicated at 6, and a plurality of draft-openings 7 are formed in the cylinder 4, the same communicating with the bore or opening 5, so as to allow jets of fresh air to mingle with the coals on the grate 3, just above the ignited fuel, for affording a downdraft. The bottom edge of the partition 2 is also provided with a lateral and horizontally projecting ledge 8, forming between it and the horizontal portion 9 of the grate a contracted throat, through which the products of combustion pass.

The grate 3 comprises a horizontal portion 9, which is located just beneath the bottom edge of the partition 2, and an inclined portion 10, extending from the horizontal portion 9 upward and forward to the front edge of the stove, just beneath the fuel-door 11.

Arranged in the upper portion of the fuel-magazine 12 is a garbage-receptacle 13, having a perforate bottom 14, which is preferably hinged within the stove, so that it may fold downward for dumping the garbage on the coals. At the top of the stove and over said garbage-receptacle is a hinged lid 15, by means of which the garbage will be introduced into the stove. 16 designates a pipe for carrying off the products of combustion, the same communicating with the flue 17 in the stove upon the rear side of the partition 2. After the magazine has been filled or partially filled with fuel the fire is started from the lower end of the grate in the contracted neck between the bottom of the partition and the horizontal portion of the grate. After a good bed of coals is obtained the garbage is placed in the receptacle 13 by opening the lid 15. To prevent the smoke or gases escaping while placing the garbage in the receptacle, the draft-openings of the fuel-door 11 are closed at this time. The draft-openings 7 at the bottom of the central partition admit air over the bed of coals and produce a down-

draft. The fire when once started will necessarily char or coke the fuel at the upper end of the grate and the gases produced by said coking or charring will consequently produce
 5 an immense heat, which can be used for cooking or heating purposes. By having the fire low down it will heat the lower portion of the room. A double heating-surface is also provided which will effect a saving in the fuel by
 10 burning the smoke and gases and by creating a gas-blaze within the stove. By regulating the drafts the fire may be kept under perfect control. The garbage placed in the receptacle
 15 at the same time becomes heated, dry, and charred, the fumes therefrom being carried downward through the magazine and upward through the smoke-flue and outside of the building. After the garbage has been thus charred and dried it may be dumped
 20 upon the bed of coals and consumed.

Within the flue 17 are alternately-disposed baffle-plates 18, secured to and projecting alternately from opposite sides of the flue, for arresting too free and direct draft.

25 19 denotes an auxiliary grate arranged above the neck and inclined so as to deflect the fuel and obviate the choking of the passage between the combustion-chamber and flue.

30 Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a stove, a substantially vertical partition dividing the stove-body into a fuel-chamber and a flue, and an inclined grate arranged at the bottom of the fuel-chamber and extending below and spaced a short distance from the lower end of said partition and terminating at the entrance to the flue, whereby
 35 a contracted throat is formed between a fuel-chamber and flue, substantially as described.

40 2. In a stove, a substantially vertical partition extending from the top downward and terminating at a distance above the grate and

dividing the interior of the stove into a fuel- 45 chamber and a flue, said chamber and flue being in communication with each other below the partition, said partition having at or near its lower end, an air-duct whereby draft is furnished at a point above the bed of coals, 50 and also having a laterally-projecting ledge substantially as and for the purpose described.

3. In a stove, a partition dividing the interior of the stove into a fuel-chamber and a smoke-flue, said partition terminating above 55 and at a distance from the grate and having an enlarged arched lower edge, said enlarged edge being provided with an opening extending through the same longitudinally and communicating with the outer air through the 60 sides of the stove and also provided with a plurality of draft-openings, and a grate arranged under the bottom edge of the partition and spaced apart therefrom, substantially as described. 65

4. In a stove, a substantially vertical partition dividing the interior space into a fuel-chamber and a smoke-flue and connecting at its bottom edge with a substantially horizontal ledge or deflector extending into the smoke- 70 flue, in combination with a grate comprising an inclined portion and a substantially horizontal portion, the inclined portion forming the bottom of the fuel-chamber and the horizontal portion being arranged under the bot- 75 tom edge of the partition and ledge and forming in connection therewith, a contracted throat affording communication between the fuel-chamber and the smoke-flue, substantially as described. 80

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

FREDERICK GIRTANNER.
 ALICE GIRTANNER.

Witnesses:
 H. S. BURGEM,
 I. C. RHODES.