No. 619,919. Patented Feb. 21, 1899.

F. W. WINNER & T. F. MARTIN.

STOVE ATTACHMENT.

(Application filed Apr. 6, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

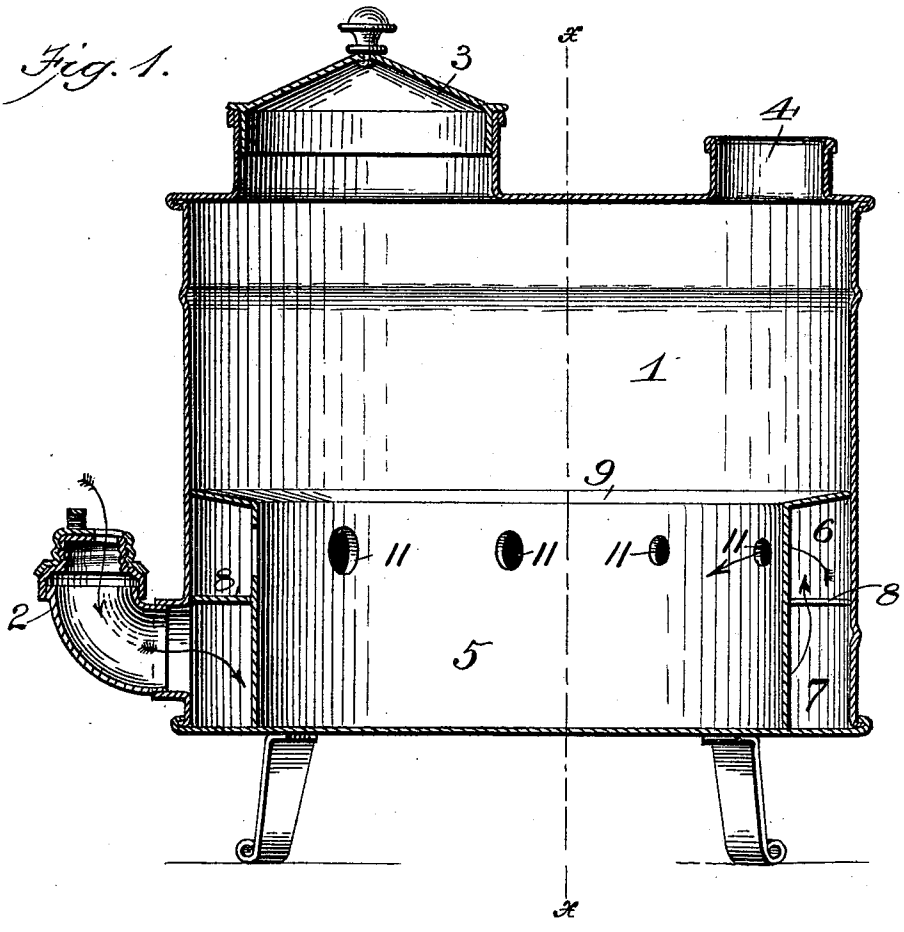
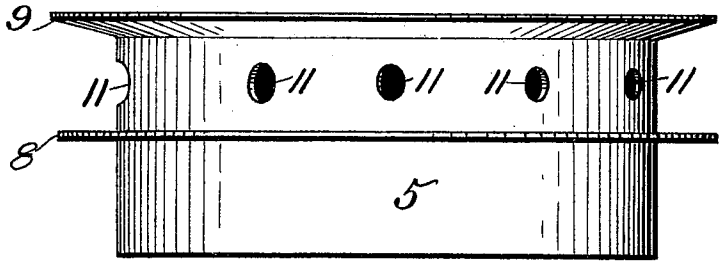



Fig. 3.




Witnesses
Franck L. Ourand.
A. G. Miller.

Inventors
F. W. Winner &
By T. F. Martin
by W. FitzGerald & Co.,
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 619,919. Patented Feb. 21, 1899.

F. W. WINNER & T. F. MARTIN.

STOVE ATTACHMENT.

(Application filed Apr. 6, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

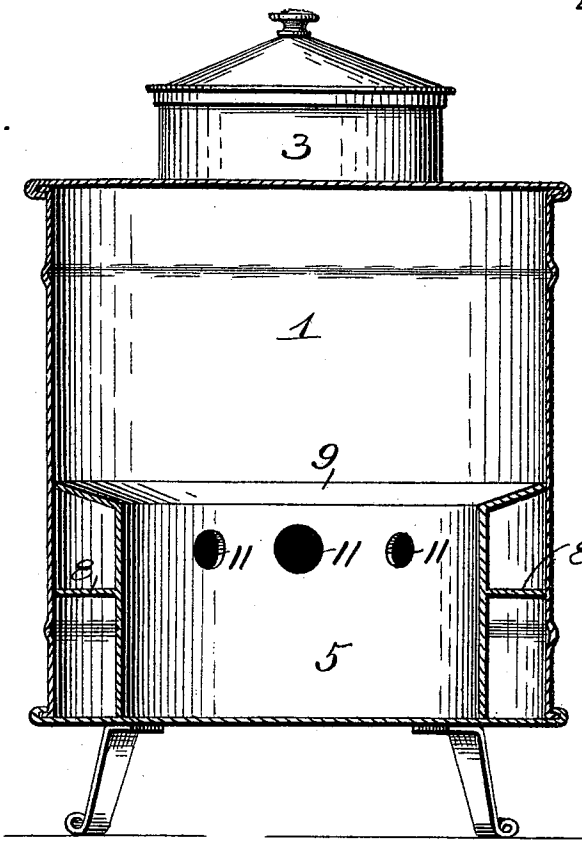



Fig. 4.

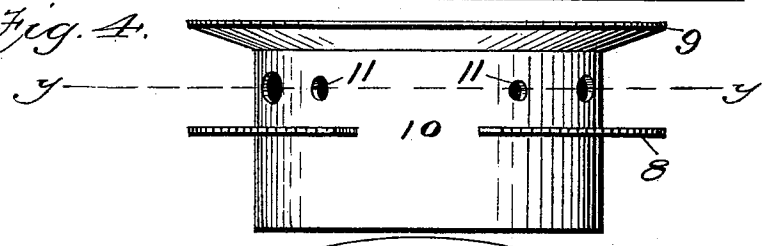
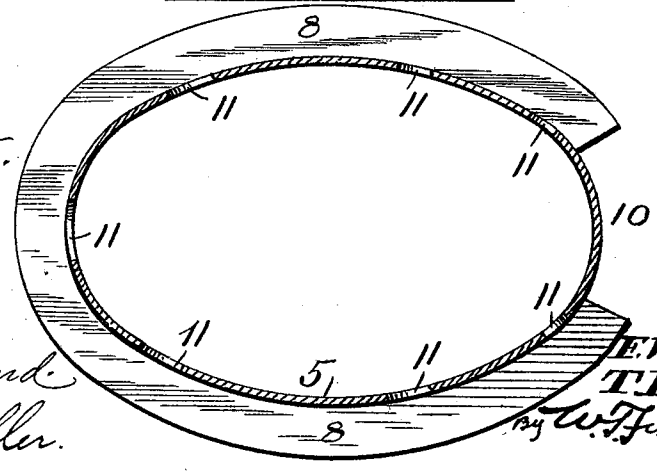



Fig. 5.




Witnesses
F. L. Ourand.
A. W. Miller.

Inventors
F. W. Winner.
T. F. Martin
by Wm. Fitzgerald & Co.
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

FREDERICK W. WINNER AND TORRENCE F. MARTIN, OF CARMI, ILLINOIS.

## STOVE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 619,919, dated February 21, 1899.

Application filed April 6, 1898. Serial No. 677,104. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK W. WINNER and TORRENCE F. MARTIN, citizens of the United States, residing at Carmi, in the county of White and State of Illinois, have invented certain new and useful Improvements in Stove Attachments; 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.

Our invention relates to stove construction and is designed more particularly as an adjunct to that variety having no ash-pit and wherein wood is used as fuel.

The object of our invention, among others, is to provide means for introducing a uniform draft throughout the fire-box, whereby the combustion will be more perfect and will not be confined to the forward end of the stove, as is now the case in stoves of the usual construction.

In carrying out our invention we incidentally provide means for superheating the draft-air before it is introduced into the combustion-chamber.

These and other results will be made fully apparent in the following specification, considered in connection with the accompanying drawings, made a part of this application, in which—

Figure 1 is a vertical central section of a stove, showing our improved attachment applied to use. Fig. 2 is a transverse vertical section thereof on line *x x*. Fig. 3 is a detail showing our improved attachment in side elevation. Fig. 4 is an end view of Fig. 3, taken from the right side. Fig. 5 is a horizontal section of Fig. 4 on line *y y*.

Briefly stated, our invention may be said to consist in providing an attachment designed to form the fire-box or lining of a stove of the usual or any preferred construction, which is provided with a series of graduated apertures and flanges or ribs designed to control and direct the draft to the desired point.

Referring in detail to the several parts of our invention and the accessories deemed necessary to illustrate the use thereof, 1 is the body of a wood-burning stove of the usual construction, the same being provided with the damper constructed as indicated by numeral 2 or in any way deemed most acceptable, and further provided with the lid 3 for introducing the fuel and having the pipe-throat 4. From this construction it will be clear that without the coöperation of our improved attachment or fire-box the draft would enter the damper 2 and thence take a direct course to the pipe-throat 4, thus leaving the rear part of the stove practically unaffected by the draft, and thus render it necessary for the attendant to constantly draw the fuel forward. It is for the purpose of avoiding the necessity of thus replacing or moving the fuel to the forward part of the stove that we provide our attachment, as by the use use thereof we introduce the draft in graduated predetermined quantities radially throughout the entire surface of the fire-box, and thereby insure that the combustion will be equal at all points therein, thus rendering it entirely unnecessary to replace the fuel after it has been placed within the combustion-chamber.

Our fire-box consists of the wall or collar 5, which is concentrically placed within the body of a stove, and being of less diameter than said body an annular space is provided extending entirely around the fire-box, which chamber may be divided into two separate chambers—as indicated, 6 and 7—by means of the radial flange 8, or said flange may be omitted, and thus leave one chamber surrounding the fire-box.

Integrally formed with the wall of the fire-box 5 or otherwise secured thereto is the radial flange 9, which we prefer to incline slightly upward in order that ashes or cinders will always be directed into the combustion-chamber and prevented from falling into either of the chambers 6 or 7.

When our improved fire-box is provided with the partition formed by the radial rib or flange 8, it will be seen that the lower annular chamber 7 only is in direct communication with the damper 2, and in order that the draft may pass into the annular chamber 6 we cut away the flange 8 upon the rear side thereof, as indicated by the opening 10 in Figs. 4 and 5. The opening thus provided permits the draft to pass upward into the annular or upper chamber 6, and from thence

it is introduced into the combustion-chamber by means of the series of apertures 11, which, it will be observed, are graduated in size, the smallest apertures being located in the rear end of the chamber 6 and gradually increase in size until the largest apertures are disposed in the forward end thereof, the result being that the draft will enter through the damper 2, and thence pass around the wall of the fire-box under the flange 8 until the open section 10 is reached, when it will extend upward and thence pass into the annular chamber 6 and take the direction of the least resistance, a small portion of it entering the small apertures nearest the open section 10, while the larger portion thereof will pass around the fire-box and into the same through the larger apertures located in the forward end thereof, as will be readily apparent. The air when passing around the fire-box, it will be clearly understood, becomes more or less heated and is thus in a better condition to insure perfect combustion.

By making the flanges 8 and 9 of a greater diameter than the interior of the body of the stove the fire-box thus provided will readily fit into stoves of varying sizes, since said flanges may be left in an inclined position. All that is necessary in order to insure a perfect fit of these parts is that the outer edges of said flanges may be forced downward sufficiently to insure close contact with the interior wall of the body of the stove, though it is thought that the natural resiliency of the flanges will cause them to spring outward into engagement with the inner surface of the stove-body, and thereby produce a tight and perfect fit, it being understood that the entire fire-box and the flanges thereof are preferably formed of suitable sheet metal. It will be apparent that satisfactory results will follow should the central flange 8 be entirely omitted, in which case we prefer to locate the graduations in the upper edge of the fire box or wall 5, though we simply reverse the position of the smaller and larger holes, the smaller apertures being located in the forward end, while the larger ones are located toward the rear end thereof, and it will be clear that the draft taking the point of least resistance will enter the larger apertures in the rear portion and also the smaller ones in the forward end, thus providing a uniform radial draft for the interior part of the fire-box, each aperture directing its portion of the draft substantially toward the center of the fire-box, thus insuring perfect combustion of the contents of the fire-box without any further attention on the part of the attendant, it being understood that the amount of draft permitted to enter the stove is to be controlled in the usual way by the damper 2.

It will be seen that we have provided a complete article of manufacture which may be readily introduced into the interior of a stove and as readily removed therefrom when it is desirable to repair or replace the same, and, believing that the advantages and use of our invention have been made fully apparent from the foregoing description, we will dispense with further reference to the details thereof.

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

1. The herein-described attachment for stoves consisting of a removable chamber designed to fit concentrically within the body of a stove and having yielding flanges and a series of graduated openings, the lower flange being entirely cut away upon its rear side to provide an opening which will permit the draft to pass from the lower chamber formed by said flange, to the upper chamber extending around said fire-box between said flanges, said graduated openings being located between the upper and lower flanges and designed to introduce the draft into the combustion-chamber in increasing quantities from rear to front, as specified and for the purpose set forth.

2. As an article of manufacture, a removable integrally-formed fire-box consisting of the body-section proper, a flange attached to the upper edge of said body and extending outward in an upwardly-inclined direction, a horizontally-disposed flange located midway upon the outer side of said body-section, whereby two annular chambers will be formed around the fire-box, both of said flanges being of greater extent than the interior diameter of the stove and of resilient material, said lower flange being entirely cut away upon its rear end to provide communication between the annular chambers formed around the fire-box by said flanges, and a series of apertures formed in the body between the upper and the lower flanges, the smallest aperture beginning at the rear side of the body and gradually increasing toward the front side thereof, substantially as specified, and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FREDERICK W. WINNER.
TORRENCE F. MARTIN.

Witnesses:
JOHN B. JESSUP,
WILLIAM WINNER.