

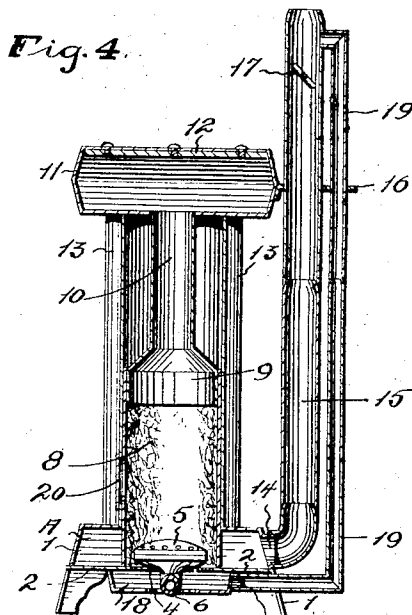
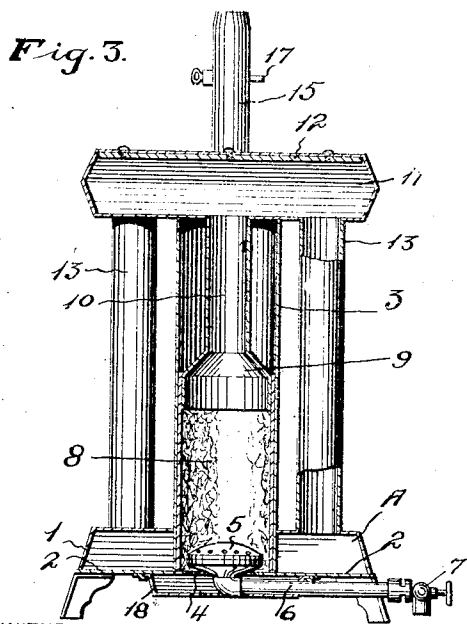
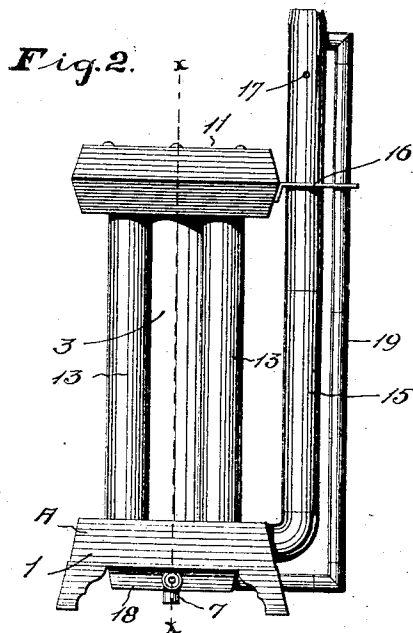
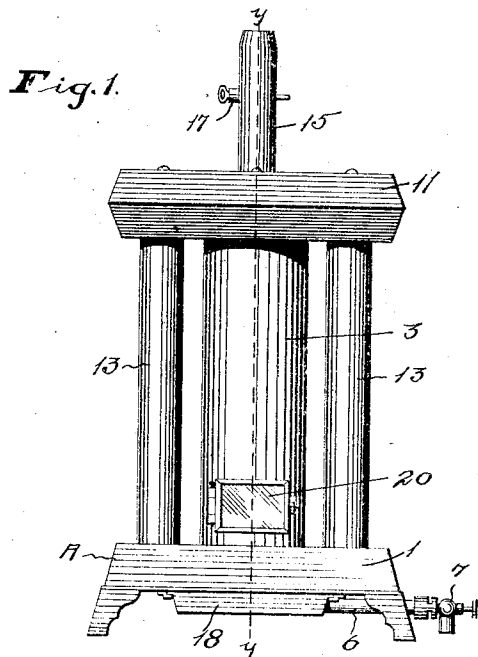
No. 814,280.

PATENTED MAR. 6, 1906.

L. B. FRENCH & T. SHEETS.

GAS HEATING STOVE.

APPLICATION FILED MAR. 20, 1905.



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UNITED STATES PATENT OFFICE.

LEROY B. FRENCH AND TOM SHEETS, OF COLUMBUS, OHIO.

GAS HEATING-STOVE.

No. 814,280.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed March 20, 1905. Serial No. 251,132.

To all whom it may concern:

Be it known that we, LEROY B. FRENCH and TOM SHEETS, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Gas Heating-Stoves, of which the following is a specification.

Our invention relates to a new and useful improvement in gas heating-stoves.

The object of the invention is to produce a simple stove of superior construction wherein the products are caused to pursue an up-and-down course before escaping from the stove, and thus being thoroughly deprived of their heat.

Another feature resides in collecting the products as they pass upwardly from the burner, then distributing the same into a drum, from which they are drawn down on opposite sides of the heater to a compartment at the bottom, where they are again collected and allowed to escape into the fume-pipe.

Still another feature lies in the provision of means for taking care of the back draft or pressure and drawing off the fumes, which would otherwise escape from the heater into the compartment in which it is used.

Finally, the object of the invention is to provide a heater of the character described that will be strong, durable, and efficient, simple, and comparatively inexpensive to make.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation. Fig. 2 is a side elevation. Fig. 3 is a longitudinal vertical sectional view taken on the line $x x$ of Fig. 2, and Fig. 4 is a transverse vertical sectional view taken on the line $y y$ of Fig. 1.

In the drawings the numeral 1 designates the base in which a chamber or compartment A is formed by a bottom plate 2, extending horizontally across the base below its top. A central tube or flue 3 passes snugly through the top of the base 1 and rests upon the bottom plate 2, which latter is formed with a central opening 4, concentric with the flue 3 and slightly smaller than the same. A burner 5 projects through the opening and into the lower end of the tube. The burner may be of any suitable construction and is con-

nected with a horizontal fuel-supply pipe 6, which extends from beneath the base and carries at its outer end an ordinary mixing-valve 7. The flue 3 is provided with a lining of asbestos or other suitable material 8, which extends from the bottom to about midway the height thereof. Fitted within the upper end of the lining is an inverted funnel 9, from which extends a short pipe 10 of smaller diameter than the flue 3. The upper end of the flue 3 is closed by the bottom of a flat drum 11. The short pipe 10 communicates with and enters the drum through its bottom, so as to deliver the products thereto. The drum supports on the under side of its top a deflecting-plate 12, which causes the products to spread and also prevents overheating of the drum-top. It will be apparent that the products passing up through the lining 8 will be prevented from coming into direct contact with the flue 3, so as to avoid overheating the same, and upon entering the funnel 9 will be collected or directed into the short pipe 10, by which they will be conveyed upwardly into the drum 11. The drum extends some distance on each side of the central flue and has extending from its bottom downwardly vertical tubes or side flues 13, there preferably being two on each side. These flues communicate at their lower end with the chamber A, which chamber is formed at its rear side with an outlet or escape opening surrounded by a collar 14. A vertically-extending fume-pipe 15 is connected with the collar and is supported at its upper end by a bracket 16, which is suitably secured to the rear side of the drum 11. It will be obvious that the products of combustion delivered into the drum 11 will be drawn down through the several side tubes or flues 13 into the chamber A, from which they will pass out through the collar 14 and into the fume-pipe 15. The fume-pipe 15 is provided a short distance above the top of the drum 11 with a suitable damper 17, which may be turned to retard the draft or upward flow of the products, and thus cause the said products to thoroughly circulate through the heater. When the damper 17 is turned horizontally in the fume-pipe 15, it may at some times retard the draft or passage of the products to such an extent as to force the same backward and cause a back pressure or back flow of the fumes, and should any portion of the fumes be forced below the burner through the opening 4 they will enter into a pan 18, supported on

the bottom plate 2, and pass out of the same into a by-pipe 19, which extends up the rear side of the fume-pipe 15 and enters the same at a point above the damper, thus causing the said fumes to be delivered into the fume-pipe and drawn off. By this arrangement the fumes are prevented from escaping into the compartment or room in which the heater is used, and the same may be employed with perfect safety.

The central tube 3 is provided a short distance above the top of the base 1 with a transparent door 20, whereby access may be had to the burner 5 for lighting and cleaning the same and also for the purposes of inspection.

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

1. In a heater of the character described, the combination with a central flue and a burner associated therewith, of means arranged in the flue for collecting and directing upward the products of combustion from the burner, a drum communicating with the said means, side flues for carrying the products downward from the drum, a compartment provided with an outlet and communi-

cating with the lower ends of the side flues, and means for leading off the back pressure or retarded fumes which pass below the burner.

2. In a heater of the character described, the combination with a central flue and a burner, of a collecting device arranged in the central flue above the burner, a drum having communication with the said device, vertical side flues extending downwardly from the drum on each side of the central flue, a compartment communicating with and connected to the lower ends of the side flues, a fume-pipe leading from said compartment, means arranged in the fume-pipe for retarding the draft and the passage of the fumes, and means for conveying the back-pressure fumes from about the burner and delivering them into the fume-pipe above the said retarding means.

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

LEROY B. FRENCH.
TOM SHEETS.

Witnesses:

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