

Feb. 21, 1939.

W. H. LEFICK

2,147,658

STOVEPIPE HEATING SYSTEM

Filed Feb. 5, 1937

2 Sheets-Sheet 1

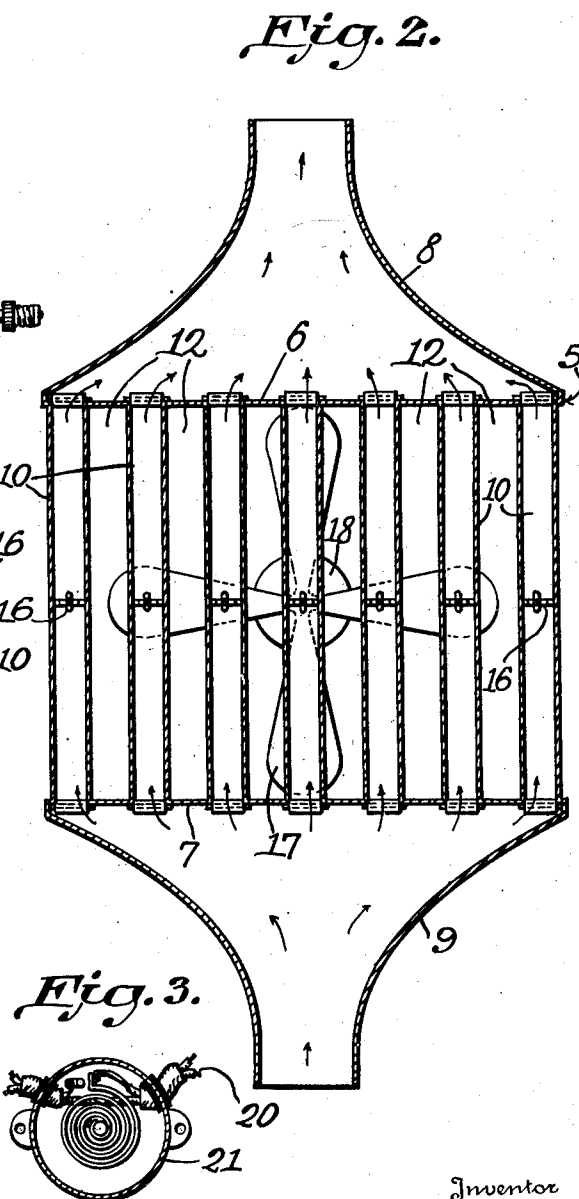
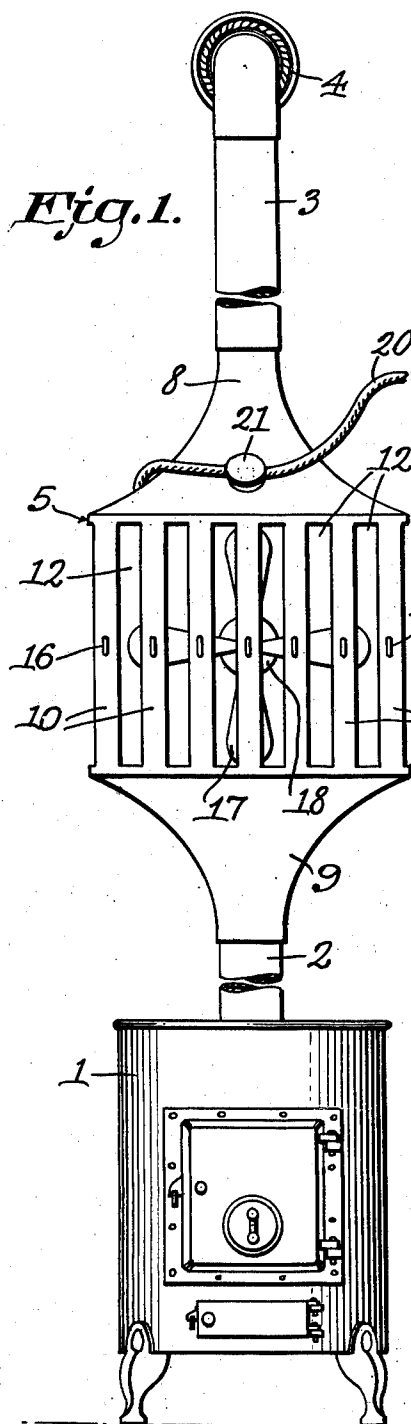
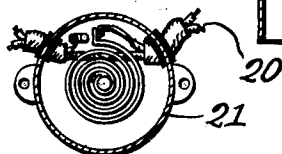


Fig. 3.



Inventor
William H. Lepick

By *Chas. Snow & Co.*
Attorneys.

Feb. 21, 1939.

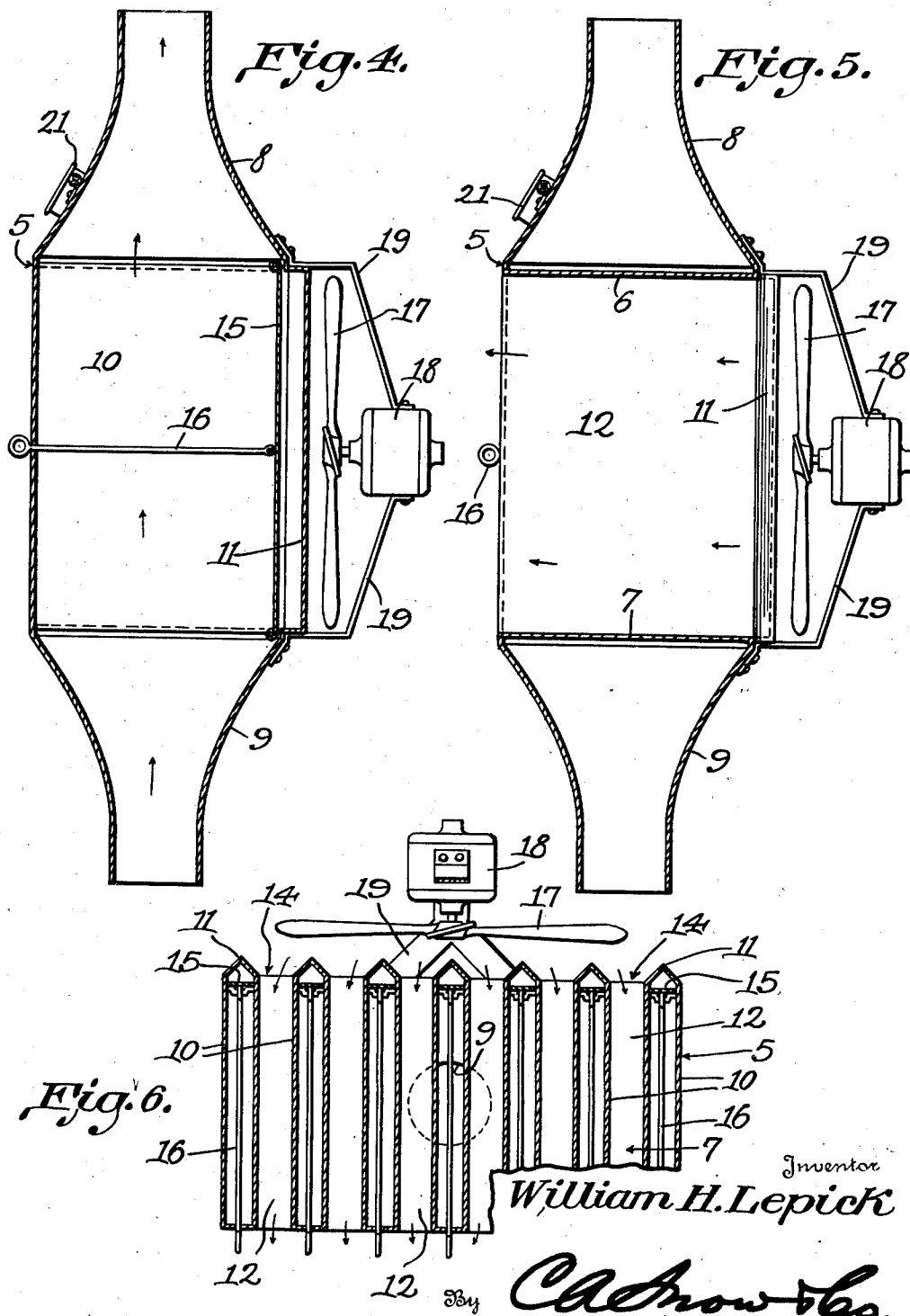
W. H. LEPICK

2,147,658

STOVEPIPE HEATING SYSTEM

Filed Feb. 5, 1937

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,147,658

STOVEPIPE HEATING SYSTEM

William H. Lepick, Moscow, Idaho

Application February 5, 1937, Serial No. 124,304

1 Claim. (Cl. 257—175)

Broadly speaking, this invention aims to provide novel means for making use of the heat which would otherwise go to waste in the products of combustion proceeding from a stove or similar heater.

Another object of the invention is so to construct the device that the air may be forced through it advantageously. Another object of the invention is to supply novel means for cleaning the conduits through which the products of combustion pass.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 shows in elevation, a device constructed in accordance with the invention, parts being broken away;

Fig. 2 is a vertical section taken through the body of the device which forms the subject matter of this application;

Fig. 3 is a transverse section showing the thermostat;

Fig. 4 is a vertical section taken through the conduits for the products of combustion;

Fig. 5 is a vertical section taken through the passages through which the air is forced by the fan;

Fig. 6 is a horizontal section.

The numeral 1 indicates a heater, represented for the sake of illustration as a very simple type of stove, from which the products of combustion pass, by way of the parts 2 and 3 of a stove pipe, to a stove pipe thimble 4, and thence into the chimney or flue (not shown).

The device forming the subject matter of this application preferably is made of metal throughout and comprises a casing, denoted as a whole by the numeral 5, the casing comprising an upper partition 6 and a lower partition 7, the upper partition being connected by an upper tubular outlet neck 8 with the part 3 of the stove pipe, and the lower partition being connected by a lower outlet neck 9 with the part 2 of the stove pipe, the necks 8 and 9 being tapered toward their outer ends.

The partitions 6 and 7 are connected by conduits 10 for the products of combustion. These conduits 10 are of the transversely elongated form shown in Fig. 6, but each of them has, at one end, an angular portion 11, the portions 11 of the conduits forming flared inlet mouths 14 for the air to be heated, as Fig. 6 will show. The conduits 10 open at their upper ends into the neck 8, and at their lower ends into the neck 9. Between the conduits 10 exist air passages 12 which are closed horizontally, at their upper and lower ends, by the partitions 6 and 7. Horizontally considered, the air passages 12 between the conduits 10 are closed at their upper and lower ends, as Figs. 6 and 2 will make manifest.

Movable scraper plates 15 are mounted for horizontal reciprocation within the conduits 10 for the products of combustion. The scraper plates 15 are operated by handle rods 16, slidable in one end wall of each conduit, as can be seen in Figs. 5 and 1. The scraper plates 15 fit closely but slidably in the conduits 10, and the operator may lay hold of the exposed portions of the handle rods 16 and reciprocate the scraper plates. In this way, the inner surfaces of the vertical walls of the conduits 10 may be freed of soot, and the soot will drop down readily through the inlet neck 9 and the stove pipe section 2 into the stove 1 or other heater that may be provided.

Air is forced through the passages 12 by a fan 17, driven by an electric motor 18. The motor may be supported in accordance with the conditions that are dictated by the place of use or the tastes of the operator, but, as depicted in the drawings, the motor 18 is shown as connected to the neck 8 and to the neck 9 by brackets 19. The circuit for the motor 18 is designated by the numeral 20, and in it a thermostat 21 is interposed. The thermostat 21 preferably is mounted on the neck 8.

The operation of the device is simple, the products of combustion proceeding upwardly from the stove 1 or equivalent device move through the stove pipe section 2, the neck 9 and the conduits 10, into the neck 8 and proceed away by the stove pipe section 3 and the usual parts connected thereto. The products of combustion heat the conduits 10. The fan 5 drives air through the air passages 12, and in this way, heat is made to serve a useful purpose, and the heat otherwise would be lost. The tapered or flaring mouths 14, afforded by the angular portions 11 of the conduits 10, facilitate the passage of the air into the air spaces or passages 12. The thermostat 21 governs the operation of the motor 18. When

temperature conditions require, the thermostat 21 will put the motor 18 and the fan 17 into operation, but the fan does not run continuously, with a corresponding waste of current.

- 5 As has been intimated hereinbefore, the handle rods 16 may be used to reciprocate the scraper plates 15 upon occasion, thereby freeing the inner walls of the conduits 10 from soot and the like, the walls of the conduits never being so insulated
- 10 by the soot that they will not serve as effective radiators for heat that otherwise would go to waste.

Having thus described the invention, what is claimed is:

- 15 In a device of the character described, a casing having a funnel-shaped lower inlet and an aligned funnel-shaped upper outlet on its ends, partition

plates extending crosswise of the casing between the casing on the one hand, and the inlet and the outlet on the other hand, a plurality of spaced conduits between the partition plates and extending therethrough, the conduits being rectangular in cross section and extending the full width of the casing and having tapered portions at one side of the casing to provide flared inlets for air passages formed between adjacent conduits, scraper plates in the conduits, shaped to correspond with the cross sections of the conduits, and means extending through the walls of the conduits and connected to each of the scraper plates, whereby the same may be operated independently of each other to scrape the entire inner surface of each conduit.

5

10

15

WILLIAM H. LEPICK.