Feb. 6, 1951

W. D. HARVEY

2,540,877

CABINET HEATER

Filed Aug. 20, 1946

FIG. 2

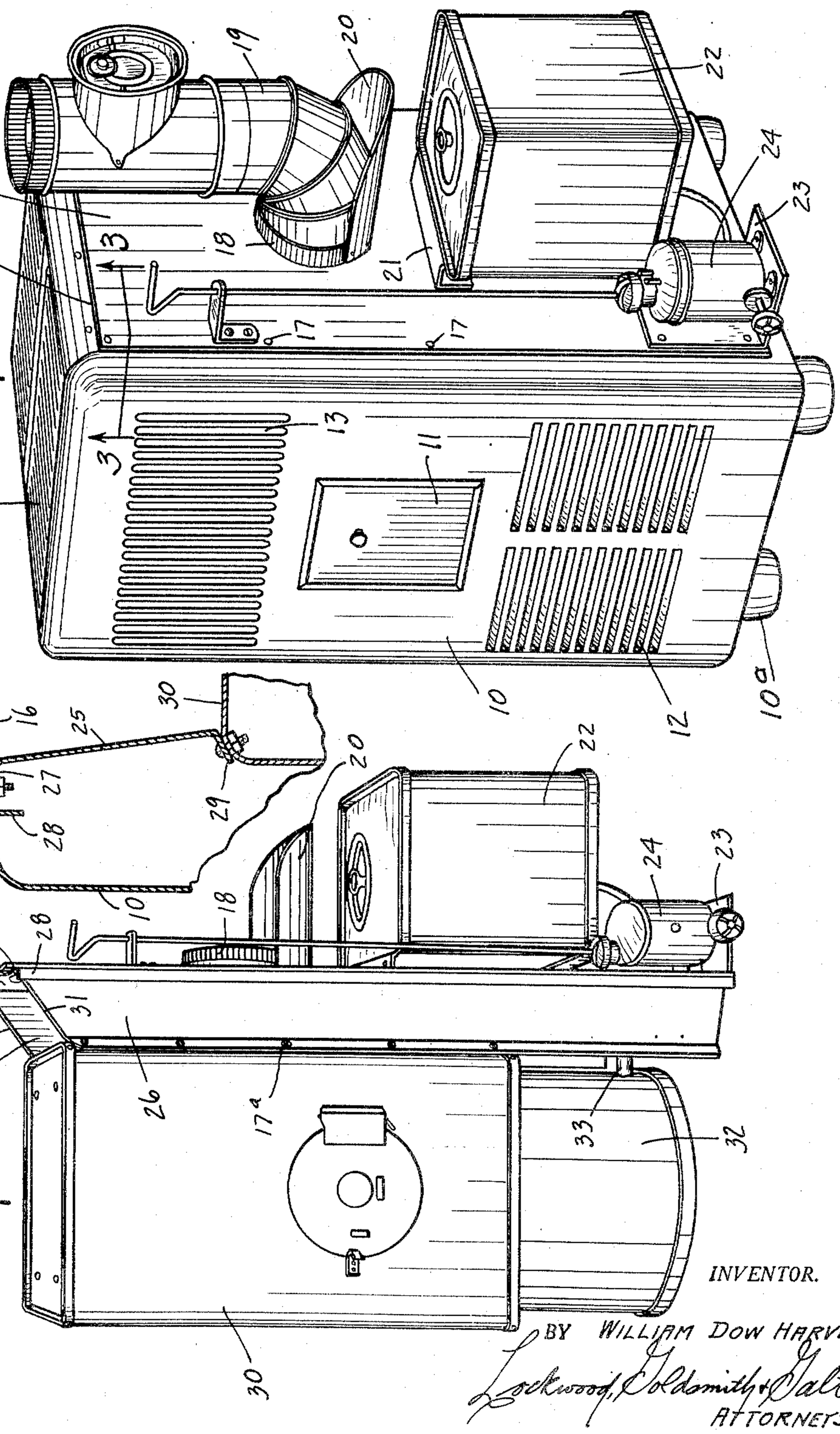

FIG. 3

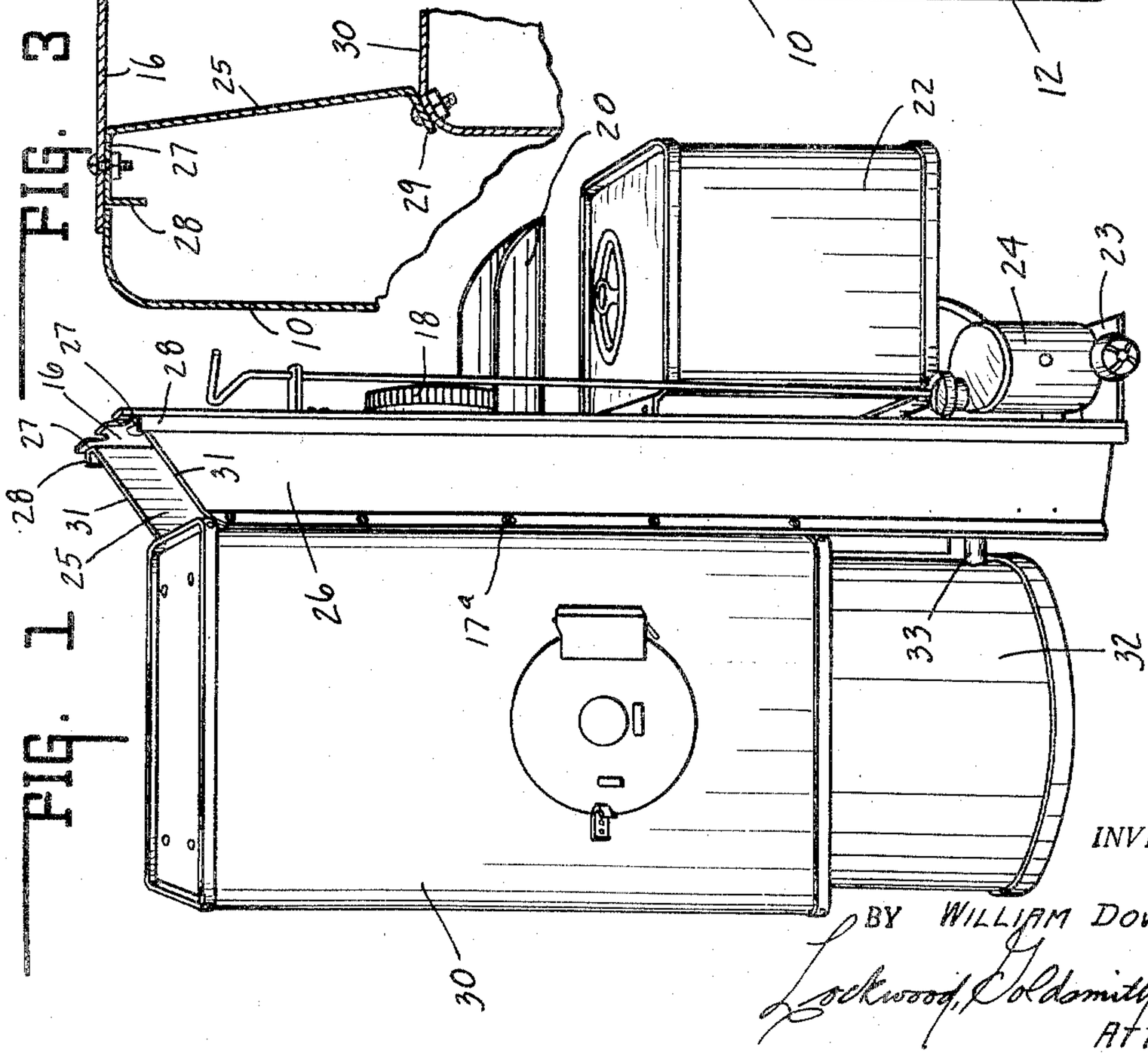

FIG. 1

INVENTOR.

BY WILLIAM DOW HARVEY.

Lockwood, Goldsmith & Galt,

ATTORNEYS.

Patented Feb. 6, 1951

2,540,877

UNITED STATES PATENT OFFICE

2,540,877

CABINET HEATER

William Dow Harvey, Macomb, Ill., assignor to Globe American Corporation, Kokomo, Ind.

Application August 20, 1946, Serial No. 691,820

5 Claims. (Cl. 126—93)

1

This invention relates to an oil burning cabinet heater stove, and more particularly to the structure thereof involving the mounting of the heating stove unit within the cabinet-like outer casing.

It has heretofore been the usual practice to provide an outer cabinet-like casing in which a heating stove was built in with the usual bottom support and lateral bracing connections with the walls of the casing. This involved not only an expensive assembly but to the extent of the lateral bracings, interference with the hot air currents between the heating stove unit and its outer casing. But more particularly, difficulty was encountered after use in servicing the heating stove unit by reason of its built in mounting within the casing.

It is, therefore, the object of this invention to not only simplify the support and mounting of the heating stove unit within the casing but to render it more accessible for servicing by supporting the unit directly and only upon a back plate forming the back panel of the casing. Thus, said unit is made readily and quickly accessible by removing it, including its supporting back plate, from the outer casing and thereby fully exposing it. Inasmuch as certain exterior equipment is necessarily connected with the stove unit such as the smoke pipe connection, oil tank, and line, the unit with its supporting back plate also carries such fittings as a unitary structure independently of the enclosing cabinet-like casing.

The above is accomplished by providing a back panel of sufficient strength and securing vertically and inwardly extending channel plates thereto in spaced relation for supporting the entire heating stove unit directly thereon and at the same time providing a flue for the hot air circulation. This also permits the opposite side of said back plate to mount a pipe connection with its protective pan, and an oil tank as well as a mixing and control valve therefor.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a perspective view of the heating stove unit and associated parts.

Fig. 2 is a perspective view showing the outer cabinet-like casing for receiving the stove unit.

Fig. 3 is a section taken on the line 3—3 of Fig. 2.

In the drawings there is shown a cabinet heater including an outer cabinet-like casing 10 having supporting feet 10a, a fire door 11 and apertured

2

walls forming the cold air intake 12 and the hot air outlets 13, 14. The back side of the casing is provided with an opening 15 extending substantially the full length and width thereof and peripherally reinforced to receive a back plate 16 adapted to be secured thereto by a series of removable bolts 17. The rear exposed surface of the back plate is provided with the usual flanged opening 18 for receiving the smoke pipe 19, carrying a protective pan 20 thereunder. Also bolted to the back plate there are supporting brackets 21 upon which an oil tank 22 is carried. At the bottom portion thereof is the bracket 23 carrying a mixing and control valve housing 24 having an oil connection with the tank 22.

Extending inwardly from the back plate adjacent each lateral edge thereof there are a pair of spaced channel plates 25, 26. Said plates are formed along their inner edges with a bearing flange 27 at a slight angle terminating in an outwardly extending reinforcing flange 28. Their opposite edges are each provided with an angularly formed supporting flange 29 adapted to be secured to a heating stove unit 30. Said unit embodies a fuel and air mixing chamber and burner 32 having a superimposed combustion chamber and heat radiator.

Said channel plates are secured to the back plate 16 adjacent its lateral edges to extend forwardly and inwardly toward the stove unit 30 adapted to be centrally disposed within the casing 10. Inasmuch as the top of said unit is spaced below the top of the casing, the channel plates have their upper ends angled downwardly at 31. Thus, the stove unit when fitted and secured to the supporting flanges 29 of the channel plates, and the back plate 16 is mounted upon the casing 10, said unit will be centrally disposed in proper spaced relation to the casing walls. For that purpose the supporting flanges 29 of the channel plates are rigidly secured along adjacent edges of the unit by the bolts or screws 17a. With the stove unit so mounted upon the back plate by the channel plates the mixing and control valve is connected with the mixing chamber and burner 32 of the stove by the fuel intake line 33 extending through the back plate.

The heating stove unit as shown in Fig. 1 is assembled for placement and mounting within the casing or removable therefrom to permit servicing, or on the other hand the casing may be conveniently mounted upon the back plate and similarly removed therefrom for convenient access to the stove unit. The channel plates serve both as a complete mounting for the stove unit

and as reinforcing webs for strengthening the back plate.

The invention claimed is:

1. A cabinet heater having an outer casing provided with air intake and outlets for circulation of air therethrough, a heating stove unit adapted to be enclosed by said casing in spaced relation thereto, said unit embodying a fuel and air mixing chamber, burner, combustion chamber and heat radiator, a back plate removably secured to said casing as a closure therefor, and a structural support interconnecting said stove unit and back plate for supporting said unit thereon as a unitary structure independently of and not otherwise connected to said casing.

2. A cabinet heater having an outer casing provided with air intake and outlets for circulation of air therethrough, a heating stove unit adapted to be enclosed by said casing in spaced relation thereto, said unit embodying a fuel and air mixing chamber, burner, combustion chamber and heat radiator, a back plate removably secured to said casing as a closure therefor, a pair of spaced supporting plates secured to said back plate adjacent each side thereof to extend inwardly therefrom, and means for securing the inner edges of said supporting plates to said stove unit for supporting it on said back plate as a unitary structure independently of and not otherwise connected to said casing.

3. A cabinet heater having an outer casing provided with air intake and outlets for circulation of air therethrough, a heating stove unit adapted to be enclosed by said casing in spaced relation thereto, said unit embodying a fuel and air mixing chamber, burner, combustion chamber and heat radiator, a back plate removably secured to said casing as a closure therefor, a pair of spaced channel plates extending longitudinally of each side edge of the back plate and secured thereto to extend inwardly therefrom, and flanges formed along the forward edges of said plates secured to said stove unit for supporting it in spaced relation to said back plate as a unitary structure.

4. A cabinet heater having an outer casing provided with air intake and outlets for circulation of air therethrough, a heating stove unit adapted to be enclosed by said casing in spaced relation thereto, said unit embodying a fuel and air mixing chamber, burner, combustion chamber and heat radiator, a back plate removably secured to said casing as a closure therefor, a pair of spaced supporting plates each secured adjacent the side edges of said back plate to extend substantially the full length of and extend inwardly therefrom, and means on the inwardly spaced edges of said supporting plates for securing said stove unit thereto in spaced relation to said back plate to thereby provide a unitary structure having an enclosed vertical hot air passage between said back plate and unit.

5. A cabinet heater having an outer casing provided with air intake and outlets for circulation of air therethrough, a heating stove unit adapted to be enclosed by said casing in spaced relation thereto, said unit embodying a fuel and air mixing chamber, burner, combustion chamber and heat radiator, a back plate removably secured to said casing as a closure therefor, a pair of spaced supporting plates having reinforcing channels formed along one edge thereof and outwardly flared flanges formed along the opposite edge thereof, means for securing the channeled edges of said plates to said back plate adjacent its side edges substantially throughout the length thereof with said supporting plates extending inwardly therefrom in angular converging relation, and means for securing the flanged edges of said supporting plates to said stove unit for supporting said stove unit as a unitary structure with said back plate, said supporting plates being spaced inwardly of the side edges and below the top edge of said back plate, whereby said unit will be supported in spaced relation to said casing when said back plate is mounted thereon.

WILLIAM DOW HARVEY.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,818,723	Lindemann	Aug. 11, 1931
2,131,221	Crary	Sept. 27, 1938
2,241,025	Wedderspoon	May 6, 1941
2,324,010	Meyerhoefer	July 13, 1943
2,365,881	Kahn	Dec. 26, 1944