Aug. 10, 1926. 1,595,280

A. L. ZWISLER

HEATING STOVE

Filed Nov. 7, 1925

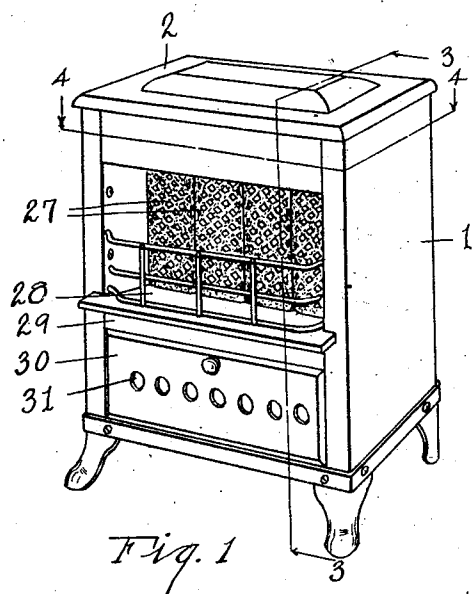


Fig. 1

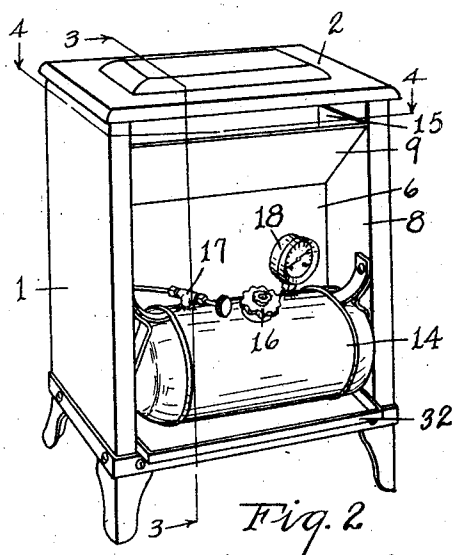


Fig. 2

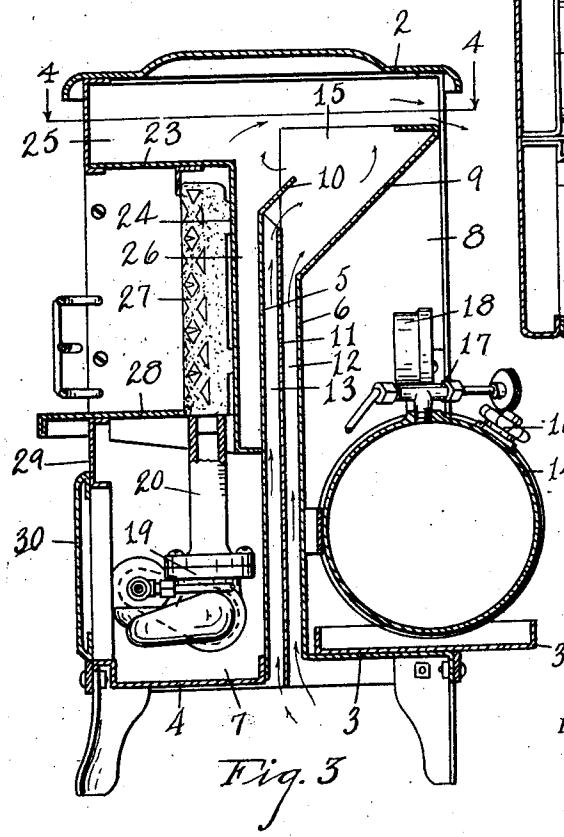


Fig. 3

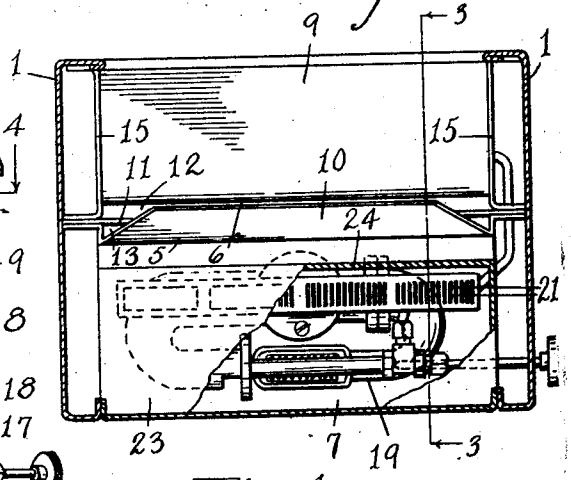


Fig. 4

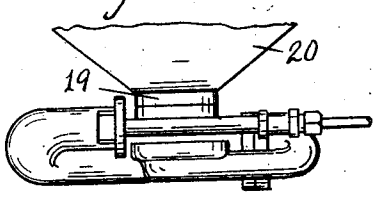


Fig. 5

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UNITED STATES PATENT OFFICE.

ARTHUR L. ZWISLER, OF KALAMAZOO, MICHIGAN.

HEATING STOVE.

Application filed November 7, 1925. Serial No. 67,520.

The main object of this invention is to provide an oil burning heating stove of the type using radiating elements or artificial "fuels" which is assembled as a complete unit with the fuel tank constituting a part thereof and one in which the fuel tank is protected so that the fuel is not likely to become unduly heated.

A further object is to provide a heating stove having these advantages which is quite compact and simple in structure and at the same time very efficient.

Objects pertaining to details and economies of construction and operation of my inveniton will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings forming a part of this application, in which:

Fig. 1 is a front perspective view of a heating stove embodying the features of my invention.

Fig. 2 is a rear perspective view.

Fig. 3 is a vertical section on a line corresponding to line 3—3 of Figs. 1, 2 and 4.

Fig. 4 is a horizontal section on a line corresponding to line 4—4 of Figs. 1, 2 and 3, parts being broken away and sectioned to better illustrate structural details.

Fig. 5 is a fragmentary front elevation of the burner.

Referring to the drawings, I provide a casing comprising end walls 1, a top 2 and a bottom comprising sections 3 and 4. Disposed vertically within the casing are front and rear partition walls 5 and 6. These walls are spaced and the front wall extends upwardly from the rear edge of the bottom section 4 while the rear partition wall 6 extends upwardly from the front edge of the bottom section 3. These partition walls provide a burner chamber 7 at the front and a tank chamber 8 at the rear of the casing.

The rear partition wall 6 has a rearwardly inclined top portion 9 constituting a top for the chamber 8 while the front partition wall 5 has a rearwardly inclined top portion 10 for directing the air circulating between the partitions rearwardly, the partitions terminating in spaced relation to the top of the casing.

A vertical flue plate 11 is disposed between the partition walls 5 and 6 coacting therewith to provide air circulating flues 12 and 13 which are open at the top and bottom for the free circulation of air. The fuel tank 14 is mounted in the chamber 8 which is provided with inner end walls 15. This tank is provided with a filling plug 16, an air pump 17 and a gauge 18 so that the liquid fuel may be delivered under pressure.

A burner designated generally by the numeral 19 is mounted in the chamber 7 and has an upwardly flaring tip member 20 with a plurality of series of slot-like jet orifices 21. The burner is a generating burner. The details of the burner, however, are not described as they form no part of this invention.

Above the burner is a radiating element housing 23 and a rear wall 24, the top being spaced from the top of the casing providing an air chamber 25 above the housing communicating with the space to which the circulating flues described deliver. The rear wall 24 is spaced from the wall 5 providing an insulating chamber 26.

The radiating elements 27 are arranged upon the burner within this housing. A hearth plate 28 extends forwardly from the lower ends of the burner. The burner chamber below this hearth plate is provided with a front wall 29 having a removable panel 30 with air inlet openings 31 therein. The burner chamber is thus closed from any direct connection with the fuel tank chamber, the circulating flues preventing the tank from becoming unduly heated.

The air space 26 also serves as an insulating space between the radiating elements and the fuel tank chamber.

My improved heating stove is highly efficient and at the same time is quite compact and may be moved about or transported as a unit, that is, the fuel tank as a part of the structure. A drip pan 32 is preferably provided below the fuel tank.

I have illustrated and described my improvements in an embodiment which I have found very practical. I have not attempted to illustrate or describe certain embodiments or adaptations which I contemplate as I believe the disclosure made will enable the embodiment or adaptation as may be desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a heating stove, the combination of a casing comprising end walls, a bottom and a top, front and rear partitions disposed vertically in spaced relation providing a burner chamber at the front and a tank chamber at the rear, said partitions terminating in spaced relation to the casing top having rearwardly extending top portions, the rearwardly extending top portion of the rear partition extending above and constituting a top for said tank chamber, a burner disposed in said burner chamber, a radiating element housing disposed above said burner with its rear wall spaced from the front vertical partition providing an air space between them, said housing being closed at the rear, top and ends and open at the front, radiating elements mounted above said burner, a hearth plate extending forwardly from said radiating elements, a front panel for said burner chamber disposed below said hearth plate and having air inlet openings therein, and a fuel tank mounted in said tank chamber.

2. In a heating stove, the combination of a casing comprising end walls, a bottom and a top, front and rear partitions disposed vertically in spaced relation providing a burner chamber at the front and a tank chamber at the rear, said partitions terminating in spaced relation to the casing top having rearwardly extending top portions, the rearwardly extending top portion of the rear partition extending above and constituting a top for said tank chamber, a burner disposed in said burner chamber, a radiating element housing disposed above said burner with its rear wall spaced from the front vertical partition providing an air space between them, said housing being closed at the rear, top and ends and open at the front, radiating elements mounted above said burner, and a fuel tank mounted in said tank chamber.

3. In a heating stove, the combination of a casing comprising end walls, a bottom and a top, front and rear partitions disposed vertically in spaced relation providing a burner chamber at the front and a tank chamber at the rear, said partitions terminating in spaced relation to the casing top having rearwardly extending top portions, the rearwardly extending top portion of the rear partition extending above and constituting a top for said tank chamber, a flue plate disposed in spaced relation between the partitions providing circulating flues between said burner and tank chambers, said flues being open at the top and bottom for the free circulation of air therethrough, and a burner disposed in said burner chamber, a radiating element housing disposed above said burner with its rear wall spaced from the front vertical partition providing an air space between them, said housing being closed at the rear, top and ends and open at the front, radiating elements mounted above said burner, and a fuel tank mounted in said tank chamber.

4. In a heating stove, the combination of a casing comprising end walls, a bottom and a top, partitions disposed vertically in spaced relation providing a burner chamber at the front and a tank chamber at the rear, said partitions terminating in spaced relation to the casing top, a burner disposed in said burner chamber, a radiating element housing open at the front disposed above said burner, radiating elements mounted above said burner, a hearth plate extending forwardly from said radiating elements, a front panel for said burner chamber disposed below said hearth plate and having air inlet openings therein, and a fuel tank mounted in said tank chamber.

5. In a heating stove, the combination of a casing, partitions disposed vertically in spaced relation and terminating in spaced relation to the casing top and providing a burner chamber and a tank chamber, a flue plate disposed in spaced relation between the partitions providing circulating flues between said burner and tank chambers, said flues being open at the top and bottom for the free circulation of air therethrough, a burner disposed in said burner chamber, radiating elements mounted above said burner, a hearth plate extending forwardly from said radiating elements, a front panel for said burner chamber disposed below said hearth plate and having air inlet openings therein, and a fuel tank mounted in said tank chamber.

6. In a heating stove, the combination of a casing, partitions disposed vertically in spaced relation and terminating in spaced relation to the casing top and providing a burner chamber and a tank chamber, a flue plate disposed in spaced relation between the partitions providing circulating flues between said burner and tank chambers, said flues being open at the top and bottom for the free circulation of air therethrough, a burner disposed in said burner chamber, radiating elements mounted above said burner, and a fuel tank mounted in said tank chamber.

7. In a heating stove, the combination of a casing, partitions disposed vertically in spaced relation and terminating in spaced relation to the casing top and providing a burner chamber and a tank chamber, a burner disposed in said burner chamber, radiating elements mounted above said burner, a hearth plate extending forwardly from said radiating elements, a front panel for said burner chamber disposed below said

hearth plate and having air inlet openings therein, and a fuel tank mounted in said tank chamber.

8. In a heating stove, the combination of a casing having vertical partitions disposed in spaced relation providing an air circulating flue between them open at the top and bottom for the free circulation of air and a burner chamber in front of said flue and a tank chamber at the rear thereof, a burner arranged in said burner chamber, a radiating element housing closed at the top, rear and sides and open at the front arranged above said burner, radiating elements disposed in said housing above said burner, and a fuel tank mounted in said tank chamber.

9. In a heating stove, the combination of a casing, spaced partition walls providing a burner chamber and a tank chamber and a plurality of vertical air circulating flues between said chambers, said flues being open at the top and bottom for free circulation of air, a burner arranged in said burner chamber, and a tank mounted in said tank chamber.

10. In a heating stove, the combination of a casing, vertical partitions disposed in spaced relations providing a burner chamber at the front and a fuel tank chamber at the rear with an air circulating flue open at the top and bottom between said chambers, a burner arranged in said burner chamber, a radiating element housing above said burner, said housing having top, rear and side walls and being open at the front, the rear wall being disposed in spaced relation to the said front partition wall providing an air space between them, radiating elements mounted in said housing above said burner, and a fuel tank mounted in said tank chamber.

11. In a heating stove, the combination of a casing having vertical partitions disposed in spaced relation providing an air circulating flue between them open at the top and bottom for the free circulation of air and a burner chamber in front of said flue, a burner arranged in said burner chamber, a radiating element housing closed at the top, rear and sides and open at the front arranged above said burner, and radiating elements disposed in said housing above said burner.

12. In a heating stove, the combination of a casing, vertical partitions disposed in spaced relations providing a burner chamber at the front and an air circulating flue open at the top and bottom, a burner arranged in said burner chamber, a radiating element housing above said burner, said housing having top, rear and side walls and being open at the front, the rear wall being disposed in spaced relation to the said front partition wall providing an air space between them, and radiating elements mounted in said housing above said burner.

13. In a heating stove, the combination of a casing having a burner chamber at the front and a tank chamber at the rear, said chambers being separated by a vertical air circulating flue open at the top and bottom for free circulation of air, a burner arranged in said burner chamber and a tank mounted in said tank chamber.

14. In a heating stove, the combination of a casing, a flat air circulating flue open at the top and bottom for the free circulation of air disposed to provide a burner chamber in front of said flue, a burner arranged in said burner chamber, a radiating element housing closed at the top, rear and sides and open at the front arranged in said burner, and radiating elements disposed in said housing above said burner.

In witness whereof I have hereunto set my hand.

ARTHUR L. ZWISLER.