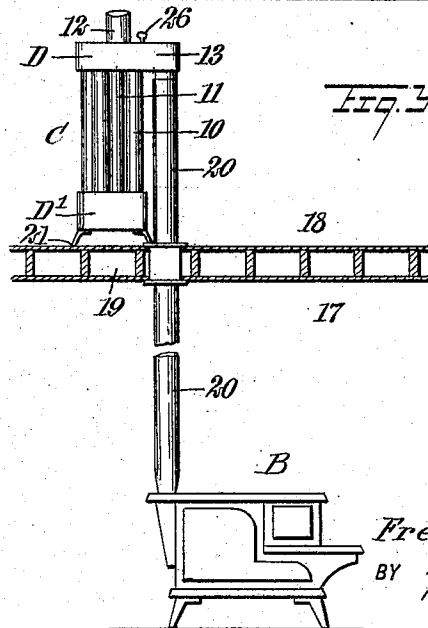
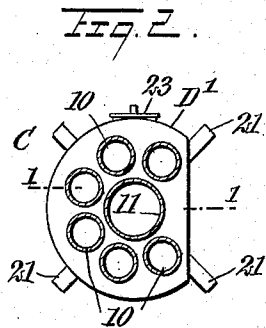
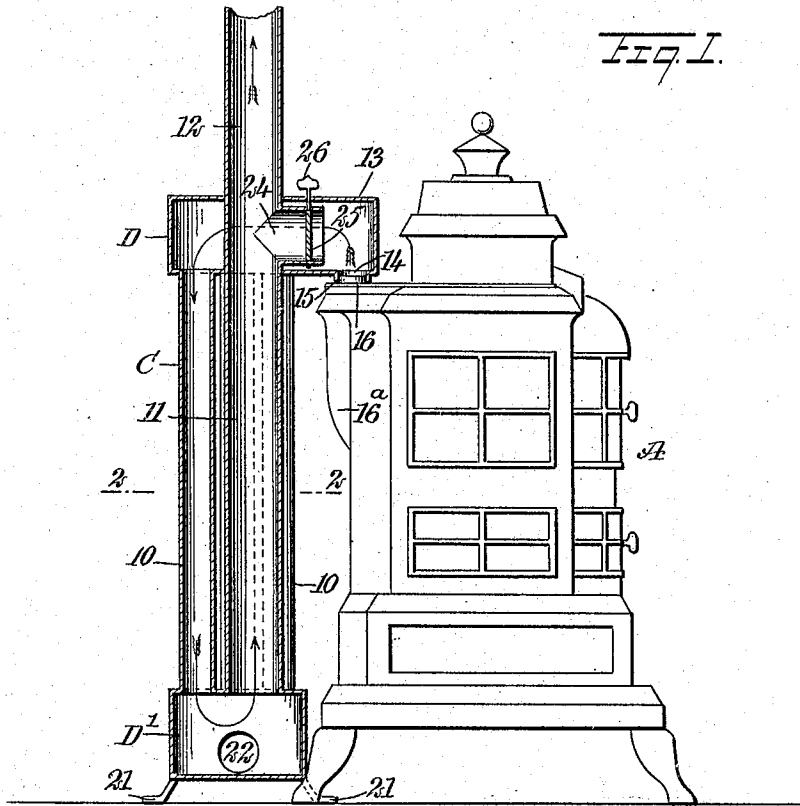


F. W. CONMEY.
FUEL ECONOMIZER.
APPLICATION FILED MAY 26, 1908.

918,970.

Patented Apr. 20, 1909.



WITNESSES
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FRED WILLIAM CONMEY, OF WYOMING, IOWA.

FUEL-ECONOMIZER.

No. 918,970.

Specification of Letters Patent.

Patented April 20, 1909.

Application filed May 26, 1908. Serial No. 435,049.

To all whom it may concern:

Be it known that I, FRED W. CONMEY, a citizen of the United States, and a resident of Wyoming, in the county of Jones and State of Iowa, have invented a new and Improved Fuel-Economizer, of which the following is a full, clear, and exact description.

The invention relates to certain improvements in devices attachable to an ordinary heating or cooking stove, whereby to utilize what are ordinarily waste products of combustion, for heating purposes, thus economizing in fuel.

The object of the invention is to provide a device of the character mentioned, that may be set close to the stove, being practically out of the way, and to provide means for connecting the device directly to the smoke conductor or outlets, and further to provide simple and easily controllable means for causing the heated products of combustion to take first a downward course through series of conductors, and then up through a main conductor to a flue of any description.

It is also a purpose of the invention to provide simple and readily controllable means for accomplishing the above-named results, and yet permitting, at pleasure, a practically direct draft connection between the stove and flue.

My invention consists of a device of the said character, in which a series of radiator tubes of predetermined diameter are connected with upper and lower drums, surrounding a main tube of greater diameter, that is connected with the lower drum and extends out through the upper drum for connection with a flue, which main pipe within the upper drum has valve-controlled connection with the smoke-conductor of the stove.

The invention also contemplates certain novel features of the construction and combinations and arrangements of the several parts of the improved device, whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, that serve to illustrate my invention, I have shown a registering device embodying my improvements, applied for use in connection with

two types of stove, but although the improved device is especially well adapted to be connected directly with a stove, I do not desire to be understood as limiting myself to any special connection, since the invention is capable of use in connection with the smoke-pipes of stoves or other apparatus, with good results, and may be advantageously placed in a room other than that in which the prime heating agent is located.

In said drawings: Figure 1 is a sectional side elevation of an ordinary heating stove and a vertical section on the line 1—1 of Fig. 2, through the auxiliary heater, illustrating the latter applied directly to the stove; Fig. 2 is a horizontal section, taken practically on the line 2—2 of Fig. 1, and Fig. 3 is a section through a portion of the floor, showing the device and a cook stove in different apartments and the device as connected with the smoke-pipe of the stove.

Like characters of reference indicate corresponding parts in all the views.

A represents a parlor or heating stove and B a cooking stove, and the fuel-economizing attachment in each case is the same, which attachment in its entirety is designated by the reference letter C.

In the construction of the attachment C, I employ an upper drum D and a lower and, by preference, smaller drum D'. These drums are connected by a series of circularly-arranged pipes 10, that constitute radiator-tubes, and said radiator-tubes are arranged around a central main conducting-tube 11. This main conducting-tube 11 is directly connected with the said lower drum D', but passes through and beyond the upper drum D, the upper portion 12 of the main tube 11 being adapted for connection with a flue or equivalent conductor of waste products of combustion.

The upper drum D has an overhanging section 13, having an opening 14 in its bottom, surrounded by a collar 15, that fits over the flange 16 at the outlet of the smoke-conductor or discharging member 16^a of a stove when the attachment is fitted directly to the stove, as is shown in Fig. 1. When the attachment is thus fitted, it is placed as near as possible to the stove, preferably at the rear, being in the same apartment with the stove; but as is illustrated in Fig. 3, the stove may be located in one apartment 17 and the attachment C in another apartment 18, said apartments being separated by a floor or par-

tion 19. In this latter arrangement the smoke-pipe 20 from the stove B is carried through the floor or partition 19, and is connected in any suitable manner with the over-

5 hanging section 13 of the upper drum D.

The lower drum D' is provided with legs 21 or their equivalents, and with a hand-hole 22, closed by a suitable cap 23 (see Fig. 2), whereby said drum may be cleaned of ac-

10 cumulated soot and ashes.

The main conducting-tube 11 is provided with a branch 24 within the upper drum D, and extending in the direction of and having its terminal adjacent to the opening 14 com-

15 municating with the stove A or the smoke-pipe 20. A damper 25, operated from the outside of the drum by means of a handle 26, is fitted to the branch 24, as is shown in Fig. 1. When the damper 25 is opened, the draft

20 is practically direct between the stove and the flue, but when the damper 25 is closed, the waste products of combustion, upon entering the upper drum D, pass down through the radiator-tubes 10 and into the lower

25 drum D', and thence up through the main conducting tube 11 to the flue or point of discharge, as indicated by the arrows in Fig. 1. Among the advantages claimed for this device may be mentioned that an ample

30 area and free passageway is provided for the smoke, thereby avoiding clogging with soot and ashes, that occurs where small tubes or baffle-plates are employed. Further, the down-draft through the radiator-tubes 10, since heated gas tends to rise, causes the hot-

35 test smoke to remain in said tubes 10 until forced down by still hotter smoke entering them; thus, as the coolest smoke is constantly forced out, the radiating surface is rendered more effective than where the draft

40 is upward.

The device is shaped to fit near a stove, as is shown in Fig. 1, and rests close to the floor; thus the heat is distributed at a point where

45 it is most needed and not high up in the air.

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

1. A fuel economizer, consisting of an up-

50 per and a lower drum, radiator pipes connecting the drums, a conducting pipe in direct communication with the lower drum and passing through the upper drum, the said pipe forming the outlet for the device, and

valve-controlled means for establishing com- 55 munication between the upper drum and the conducting pipe, the upper drum being provided with an inlet opening.

2. A fuel-economizing attachment for stoves, consisting of an upper drum, means 60 for connecting said drum with a stove, a lower drum, a main conducting-pipe in direct communication with the lower drum which pipe extends through the upper drum, a damper-controlled branch from the said 65 conducting pipe, located within the upper drum, and a series of radiating pipes, grouped around the conducting-pipe and directly connected with both of the drums.

3. A fuel-economizing attachment for 70 stoves, consisting of an upper drum having a section provided with an inlet adapted for connection with the smoke out-take of a stove, a lower drum, a smoke-conducting pipe connected with the lower drum and 75 passed through the upper drum, a branch from the conducting-pipe, located in the upper drum, its inlet facing the inlet for said drum, a damper for the branch pipe, and a series of radiating-pipes, assembled around 80 the conducting-pipe and having free communication with both of said drums.

4. A fuel economizer, consisting of oppos- ing drums, radiator pipes connecting the drums, one of said drums having an inlet 85 opening adapted for connection with the smoke outlet of a stove and the other drum having a normally closed opening for cleaning out purposes, a main conducting pipe leading from the last mentioned drum and 90 forming the outlet for the device, the said conducting pipe being of greater diameter than the radiator pipes and in proximity to the latter, and extending through the drum having the inlet opening and adapted for 95 connection with a flue, and a damper controlled branch from the said conducting pipe, opening into the last mentioned drum for establishing communication between the inlet opening of said drum and the conduct- 100 ing pipe.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED WILLIAM CONNEY.

Witnesses:

GEORGE W. BOTTOMSTONE,
R. FISHWILD,