

(No Model.)

J. A. CARROLL & W. BROOKS.
STOVE.

No. 543,291.

Patented July 23, 1895.

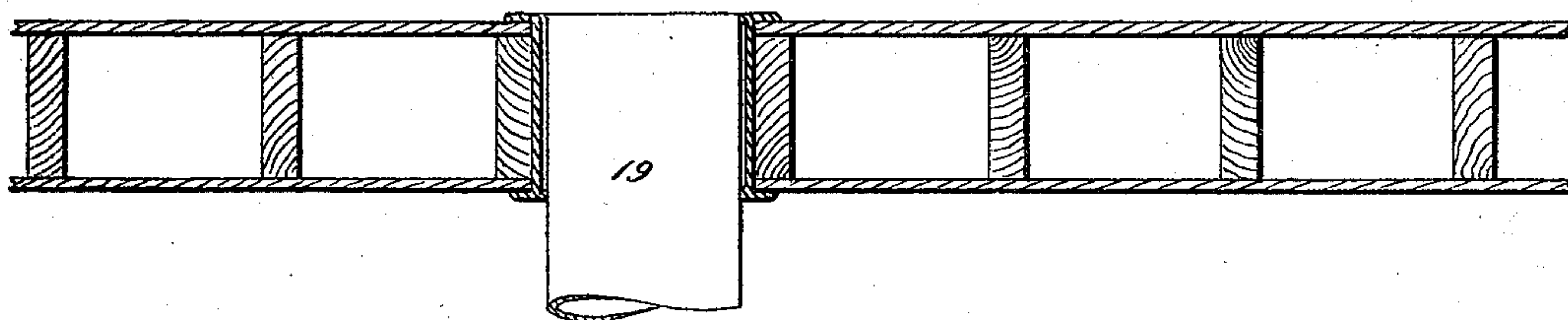


Fig 1

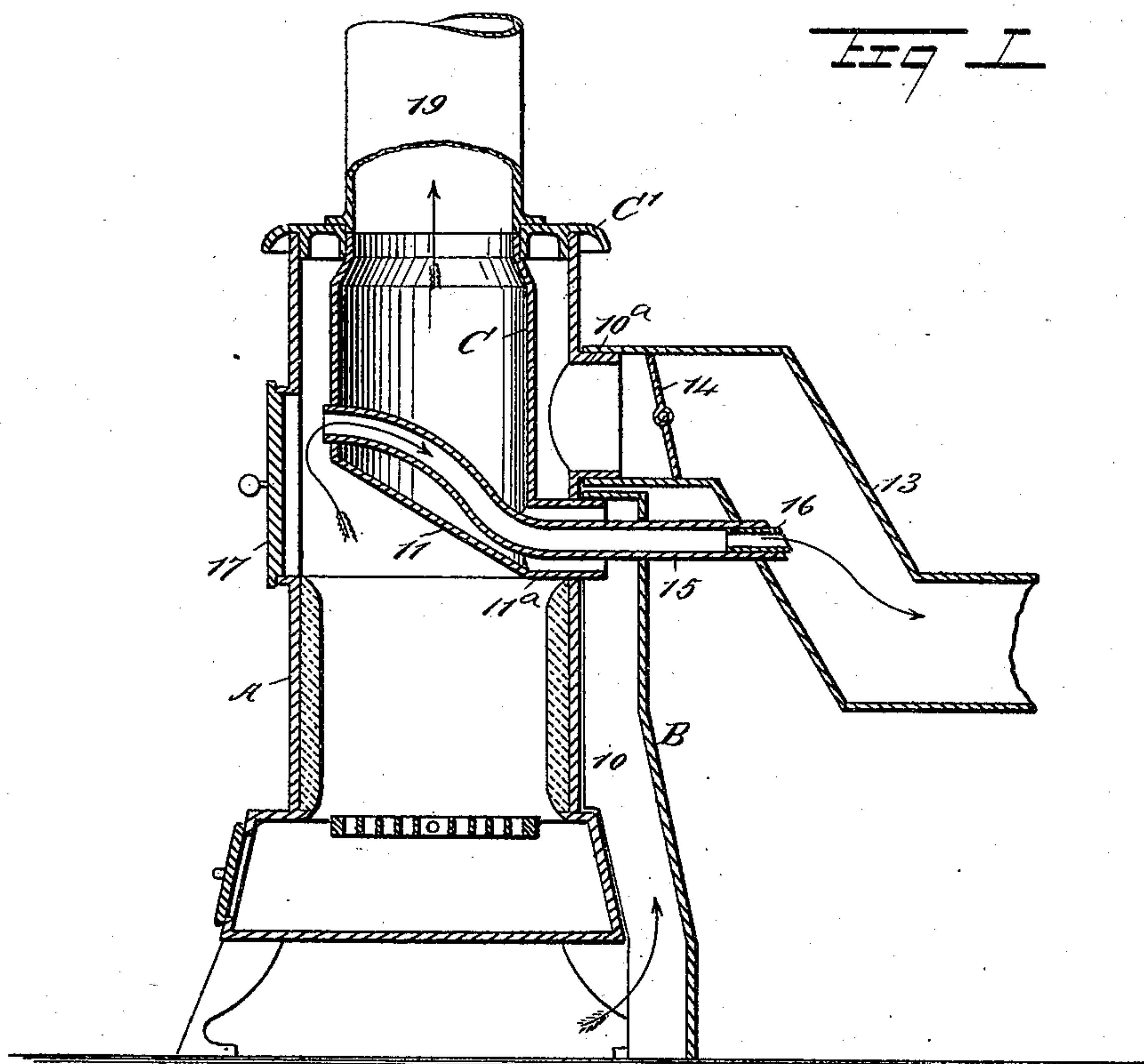
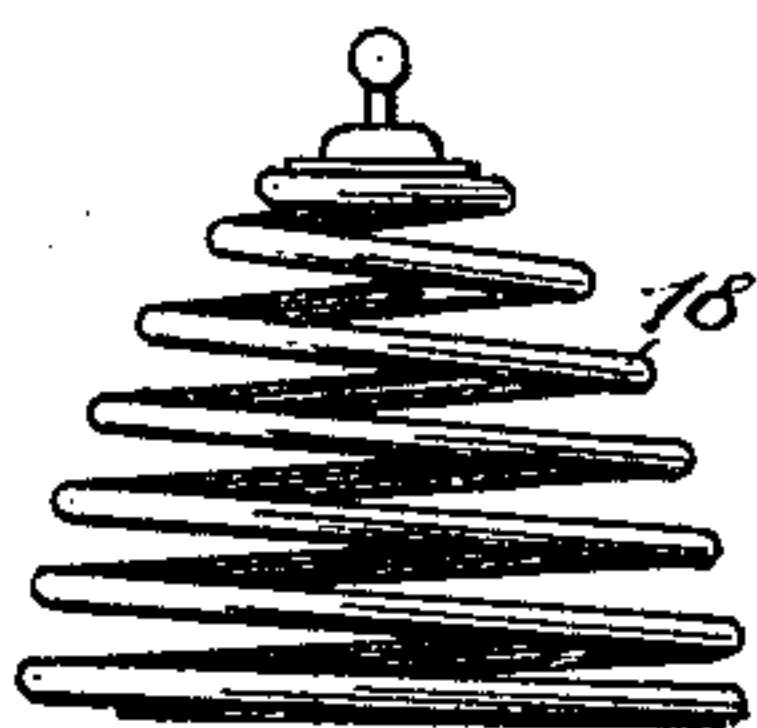


Fig 2

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES A. CARROLL AND WILLIAM BROOKS, OF BROOKLYN, NEW YORK.

STOVE.

SPECIFICATION forming part of Letters Patent No. 543,291, dated July 23, 1895.

Application filed April 16, 1895. Serial No. 545,885. (No model.)

To all whom it may concern:

Be it known that we, JAMES A. CARROLL and WILLIAM BROOKS, of Brooklyn, in the county of Kings and State of New York, have
5 invented a new and useful Improvement in Stoves, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in direct-draft stoves; and the object of the
10 invention is to provide for an economy in fuel and to secure a maximum of heat from a given amount of fuel; furthermore, to provide a means whereby a direct-draft stove may be used as a single or as a double heater; and an-
15 other object of the invention is, instead of opening the fire-door in direct-draft stoves in order to cool the same, to provide a means for reducing and controlling the fire without danger of gas escaping into the room and at the
20 same time to afford a complete circulation of air over the body of the fire.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth,
25 and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the
30 views.

Figure 1 is a longitudinal vertical section through a direct-draft stove having the improvements applied thereto, and Fig. 2 is a side elevation of a top particularly adapted
35 for said stove.

In carrying out the invention the stove A may be of any direct-draft type, that shown in the drawings being the ordinary cylinder stove, and at the back of the stove an air-supply chute B is located, being fitted closely to the stove and extending down to the floor, the
40 end portion of said chute being open, whereby a chamber 10 is provided to conduct cold air from the floor upward, and the upper end
45 of the chute B is made to surround an opening in the back of the stove below the stove-pipe collar 10^a thereof.

A drum or radiator C is located in the top portion of the stove, being over the fire-pot,
50 and the bottom 11 of this drum or radiator is beveled from the front downwardly and rearwardly, and the drum or radiator at its bot-

tom portion is provided with a neck 11^a, which extends outward through the back of the stove within the chamber of the air-chute B, as is
55 best shown in Fig. 1. Preferably a cap-ring C' is placed upon the top of the stove and the upper end of the radiator or drum is fitted in the said cap-ring in any suitable or approved manner.

The smoke-pipe 13 is given an elbow shape where it connects with the collar 10^a of the stove, and in this pipe at or near said collar a damper 14 is located, being made to fit
60 closely and snugly in the pipe when the damper is closed, so as to prevent the exit of hot air directly through the smoke-pipe, and this damper may be made of any approved material and provided with a packing of asbestos or equivalent material.

A gas-escape pipe 15 is made to pass through the lower portion of the drum or radiator C, one end of the said gas-escape pipe passing out through the radiator immediately back of the fire-door 17 of the stove, while the oppo-
75 site end of the gas-escape pipe is carried through the cold-air-supply chute B and into the smoke-pipe 13 back of the damper 14; and the exit of the gases and waste products of combustion through the gas-escape pipe may
80 be controlled by inserting nipples 16 of any desired size into the exit end of the gas-escape pipe to regulate the opening at that point.

When the stove is to be used for heating a
85 room or rooms on the same floor, the open top 18 is fitted over the upper end of the radiator or drum C, and in this event the top is preferably made as shown in Fig. 2, consisting of a coil of stout wire suitably ornamented, in
90 order that the air passing from the bottom of the room up through the air-supply chute B and into the drum or radiator C may find an exit in a heated state into the room through the openings in the top 18; but if in practice
95 it is found desirable to heat a room on an upper floor, all that is necessary is to remove the top 18 and introduce one end of the pipe 19 into the upper end of the drum or radiator C, the other end of the pipe being carried up-
100 ward into the room to be heated, and it will be understood that an adjoining room may be heated in this manner as well as a room above that in which the stove is placed.

It is evident that in this form of stove the cold air is taken from the floor. It is carried up into the drum or radiator, heated and delivered therefrom without passing over or in contact with the fuel, and also it is evident that the damper 14 may be completely closed, and the fire will still burn slowly and uniformly by reason of the gases and waste products of combustion passing off into the flue through the escape-pipe 15, the rapidity with which the exit is made being regulated by the reduced nipple 16 placed in the delivery end of the gas-escape pipe. Again, it is evident that there is no necessity whatever of opening the fire-door in order to cool the fire; therefore there will be no possibility of persons in the room with the stove being subjected to the influence of escaping gases.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a stove, a drum, a cold air supply therefor, and a gas escape pipe extending through the drum from side to side and communicating with a smoke flue as and for the purpose set forth.

2. In a stove of the character described, a drum located above the bed of the fire and provided with an extension extending through the outside of the stove, a cold air supply trough communicating with the said drum, a smoke pipe, a damper located therein capable of entirely closing the said pipe, and a gas escape flue leading transversely through the drum and communicating with the smoke pipe as and for the purpose specified.

3. In a stove, a drum, a radiator secured in the said drum above the fire pot, a cold air supply trough or chamber connected with the said drum, a smoke pipe provided with a damper capable of closing the same, and a gas escape pipe extending transversely through and entirely across the drum and communicating with the said smoke pipe, as and for the purpose specified.

4. In a stove, a drum held over the fire pit thereof, having communication with the outside, a cold air supply chamber in communica-

tion with the said drum, and a gas escape pipe passing through the drum and through the cold air chamber and communicating with the flue at its outer end, as and for the purpose set forth.

5. In a stove, a drum held over the fire pit thereof, having communication with the outside, a cold air supply chamber in communication with the said drum, and a gas escape pipe passing through the drum and communicating with the flue at its outer end and provided with adjustable reducing devices at its outlet end, as and for the purposes specified.

6. The combination, with a stove, a drum suspended therein over the fire pot and communicating with the exterior, a cold air chute communicating with the said drum, a smoke pipe located above the receiving end of the drum and provided with a damper capable of closing the same, and a gas escape pipe extending from the forward portion of the drum through the drum and into the said smoke pipe at the rear of its damper, as and for the purpose specified.

7. The combination with a stove, of an air heating drum suspended therein above the fire chamber, and having its lower wall inclined downward and rearward from the side adjacent to the stove door, an air flue communicating with the interior of the drum, a smoke flue communicating with the interior of the stove, a damper in the smoke flue and a gas escape pipe extending entirely across the lower portion of the drum and having its inlet adjacent to the stove door and its outlet in the smoke flue as and for the purpose specified.

8. In a stove, the combination with an air heating drum suspended therein, of an open top piece therefor consisting of a metal rod or bar extended spirally upward, as and for the purpose specified.

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Witnesses:

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