C. J. PHILLIPS.

STOVE.

APPLICATION FILED JULY 15, 1915.

1,176,093.

Patented Mar. 21, 1916.

2 SHEETS—SHEET 1.

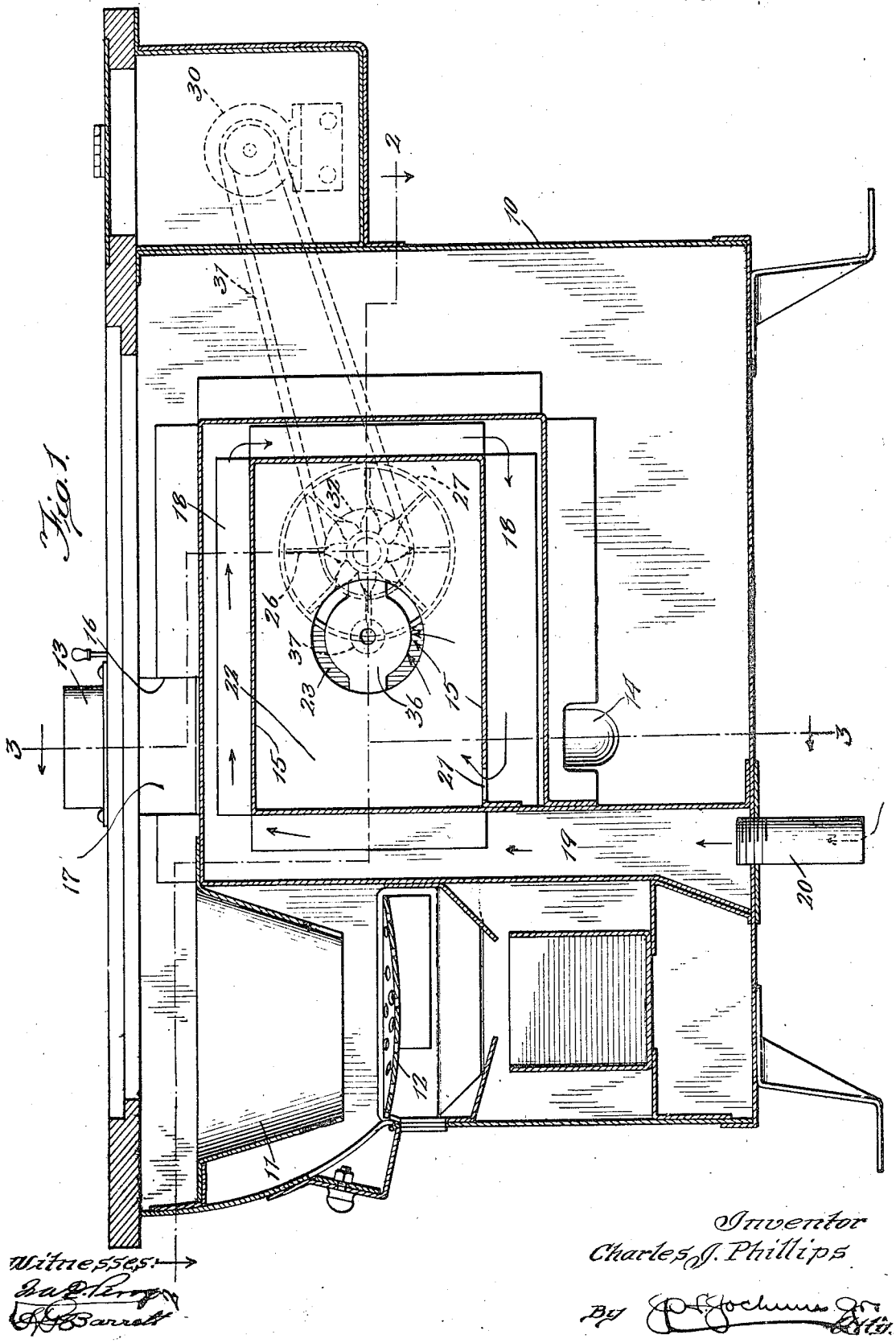


Fig. 1.

Witnesses:

Inventor

Charles J. Phillips

By

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2 SHEETS—SHEET 2.

Fig. 3.

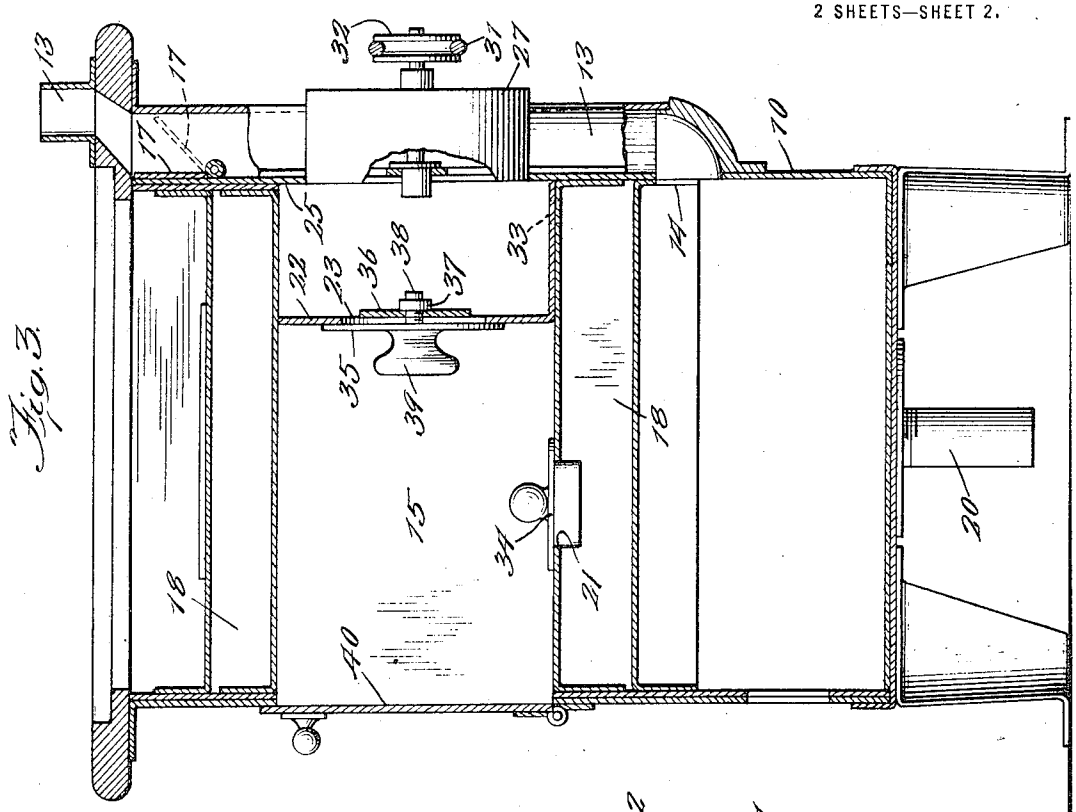
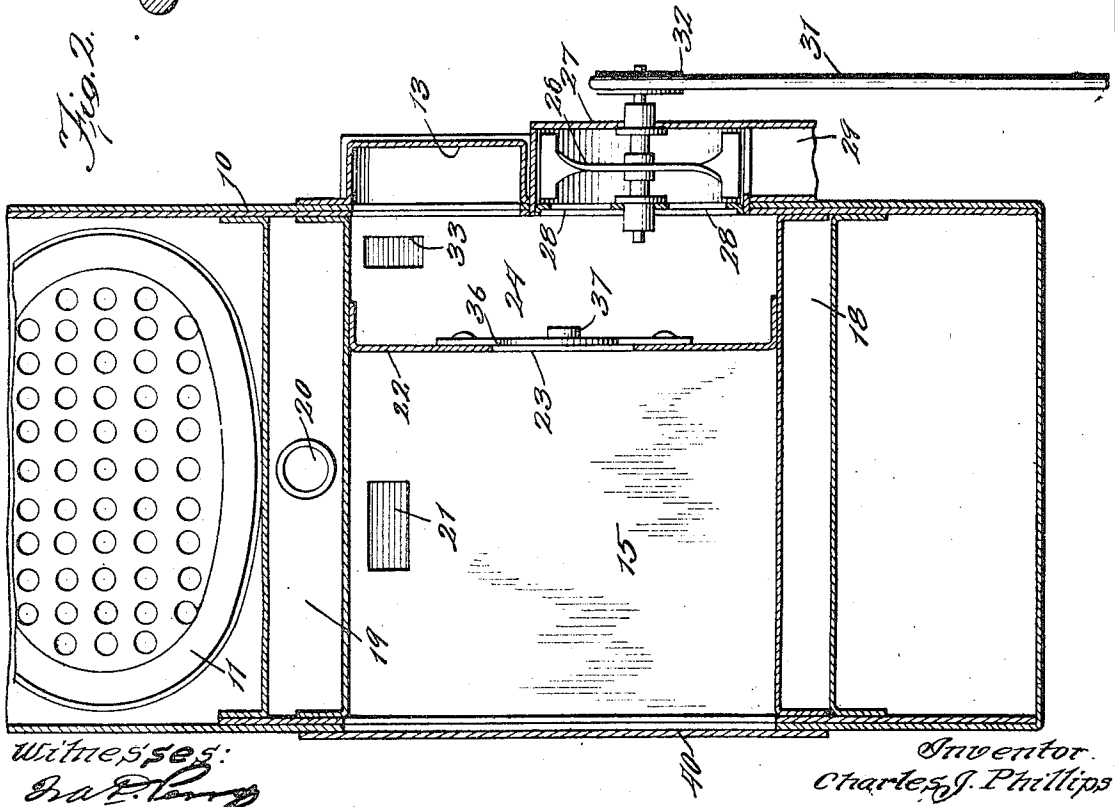


Fig. 2.



Witnesses:

Inventor.

Charles J. Phillips

By

UNITED STATES PATENT OFFICE.

CHARLES J. PHILLIPS, OF NORTH KAUKAUNA, WISCONSIN, ASSIGNOR OF ONE-HALF TO EDWARD H. PHILLIPS, OF NORTH KAUKAUNA, WISCONSIN.

STOVE.

1,176,093. Specification of Letters Patent. Patented Mar. 21, 1916.

Application filed July 15, 1915. Serial No. 39,938.

To all whom it may concern:

Be it known that I, CHARLES J. PHILLIPS, a citizen of the United States, residing at North Kaukauna, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to improvements in stoves, and one of the objects of the same is to provide an improved cooking stove, having means whereby the same may be utilized to circulate heated air through a house or building for heating the same, without interfering with or retarding the baking operation, thereby dispensing with the necessity of providing a special furnace for heating purposes.

A further object is to provide an improved stove of this character having means whereby the heated air distributing or circulating means may be employed simultaneously with the baking operation, without interfering with the latter.

A further object is to provide a stove of this character which will be simple, durable and cheap in construction and effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described, and claimed and shown in the accompanying drawings illustrating the invention and in which:

Figure 1 is a vertical longitudinal sectional view of an improved stove of this character constructed in accordance with the principles of this invention. Fig. 2 is a horizontal sectional view taken on line 2—2, Fig. 1. Fig. 3 is a vertical sectional view taken on line 3—3, Fig. 1.

Referring more particularly to the drawings, the numeral 10 designates generally a stove which may be of any desired size and configuration and is provided with the firepot 11, having the grate 12, and a flue or chimney 13 is also provided for carrying off the products of combustion and has an opening 14 below the oven 15. Another opening 16 is provided in the flue 13 above the oven 15 and through which opening 16 the products of combustion pass over the top of the oven when a direct draft is desired and this opening 16 is controlled by a damper 17.

When the damper 17 is closed the products of combustion will circulate around the oven 15 within the casing 10 and into the flue 13 through the opening 14. The oven 15 is provided with a flue or passage 18 extending therearound and this passage has an entrance 19, into which entrance outside air is admitted through a suitable inlet 20, and this inlet receives its source of supply from any convenient point, preferably outside of the building. The bottom of the oven 15 is provided with a suitable opening 21 forming communication with the passage 18 and the interior of the oven, and the rear wall 22 of the oven is provided with an opening 23 which forms communication between the interior of the oven 15 and a space or passage 24 located in the rear of the wall 22.

Supported in any suitable manner preferably by the rear wall 25 of the stove casing, is a heated air circulating element 26, here shown in the form of a fan, inclosed within a casing 27 and the wall 25 of the stove casing is provided with an opening 28, which forms communication between the space 24 and the fan casing 27, the latter being provided with an outlet 29 and which outlet may be connected with any suitable flue or pipe leading to the point where the heated air is to be discharged.

The fan 26 may be operated in any suitable manner, preferably by means of a motor 30 operating a drive belt 31, which latter passes over a pulley 32 on the fan shaft so that when the motor is operated, the fan will be operated and will draw outside air into the inlet passage 19, as indicated by the arrows in Fig. 1 to cause the air to circulate about the oven 15, through the passage 18 and into the oven 15 through the opening 21, through the oven out of the opening 23 in the wall 22 of the oven into the space 24, and from this space through the opening 28, into the fan casing 27 and out of the fan casing 27 through the outlet pipe 28 to the point to be discharged. At the same time, a portion of the air will be drawn into the space 24 through an opening 33 in the bottom of the space.

The circulation of the products of combustion about the oven will be controlled by

the damper 17 and it will thus be manifest that when the products of combustion are caused to circulate about the oven, the oven will be heated and the passage of the outside air through the oven and into the fan casing will cause the air to be heated.

When it is desired to bake and at the same time employ the heated air circulating means, the opening 21 is closed by a suitable closure which may be either in the form of the usual damper or by means of a removable closure 34. At the same time, the opening 23 in the wall 22 must be closed and this can be accomplished by means of the ordinary and well known damper or by means of a removable closure 35, which is placed over the opening 23 from the inside of the oven and this opening is provided with a spider or web 36, having a threaded portion 37 to receive a threaded shank 38 and the closure is provided with a handle 39 for manipulating it. Thus it will be seen that the baking operation may be performed by shutting off the circulation of the outside air through the oven and at the same time the air which has been heated by circulation about the oven will be drawn into the fan casing 27, through the opening 33. The oven 15 is provided with a suitable door or closure 40.

With this improved construction it will be manifest that when it is desired to use the stove for cooking purposes only, the motor 30 may be stopped, but when it is desired to use the stove as a heating medium for a building, the motor may be started and the closures 34, 35 removed so that a portion of the outside air will circulate through the oven to be more readily and quickly heated, but when it is desired to use the stove for baking purposes while the circulating means is in operation, the openings 21, 23 are closed and the air which has been drawn into the passages 19, 18 will be delivered to the fan casing through the opening 33.

While the preferred form of construction and the arrangement of the several parts have been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts without departing from the spirit of this invention, and while removable closures have been shown for the openings 21, 23, it is to be understood that the ordinary and well known dampers may be used in lieu thereof. It is also to be understood that registers may be provided in the various rooms of the building through which the heated air may be discharged into the room.

What is claimed as new is:

In a stove, an oven therein, the back wall of which is spaced from the adjacent stove wall thereby forming a chamber, an air passage extending around the oven, a constantly open port for said passage open to atmosphere, a constantly open port between said chamber and said passage, a dampered port between said chamber and oven, a dampered port between said oven and passage, a fan casing, a constantly open inlet port between said chamber and casing, an outlet port for said fan casing, whereby a constant current of heated air is supplied directly from said passage to said fan and whereby a portion of the air in said passage may be directed through the oven and thence to the fan.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 12th day of July A. D. 1915.

CHARLES J. PHILLIPS.

Witnesses:
C. DOUGLAS TOWSLEY,
GORDON MULHOLLAND.