

March 8, 1932.

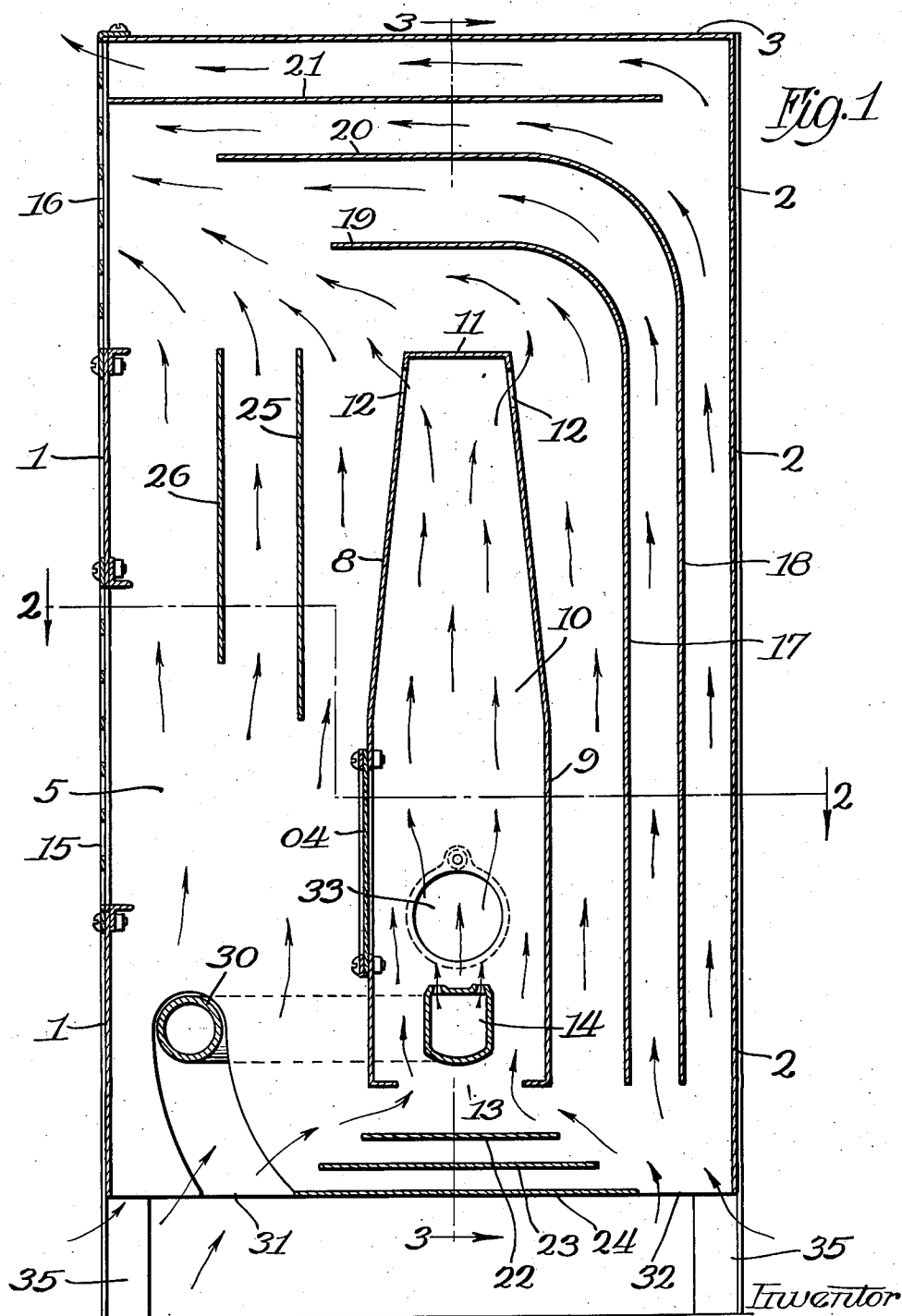
A. W. BECKER

1,848,150

SPACE HEATER

Filed Nov. 15, 1929

3 Sheets-Sheet 1



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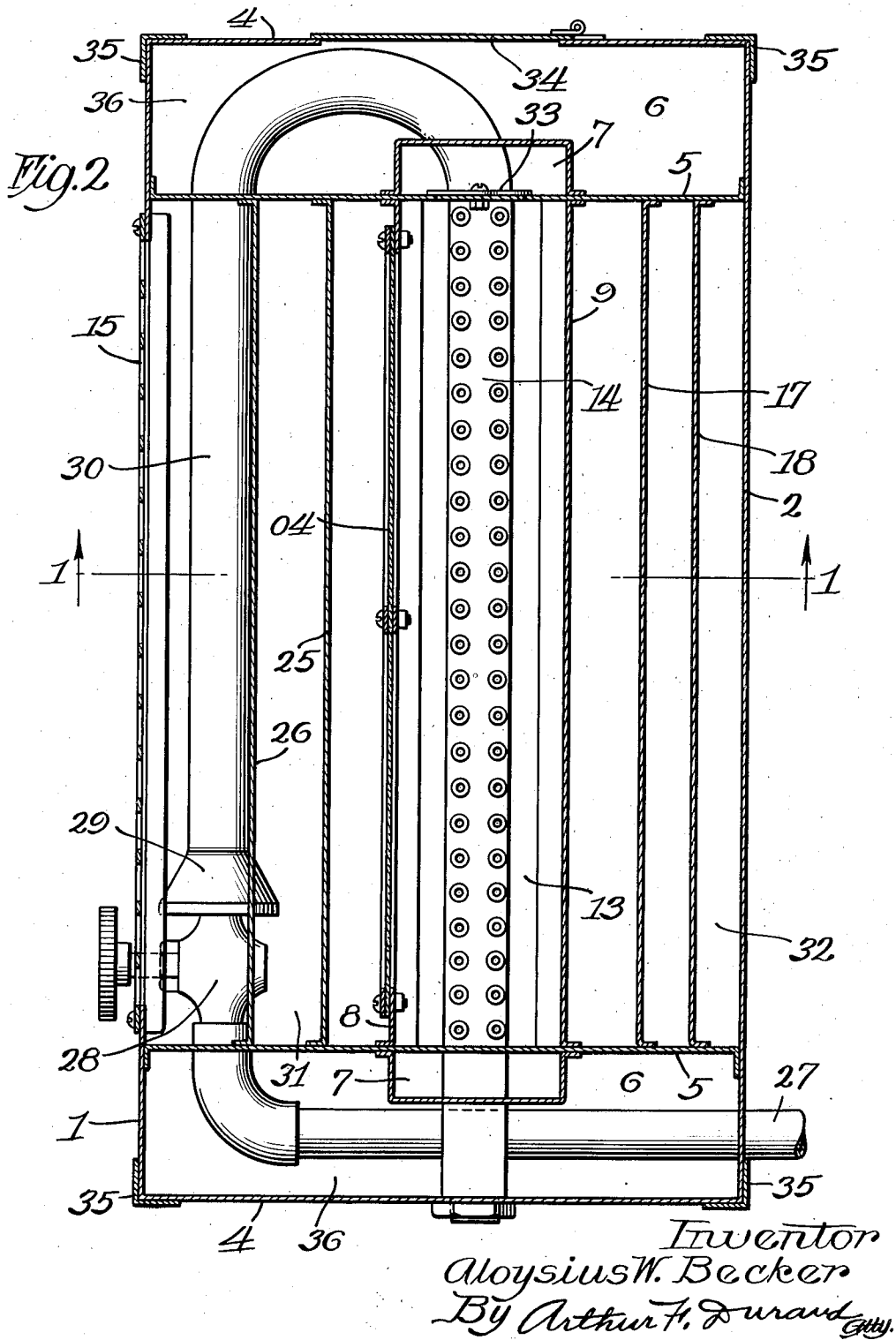
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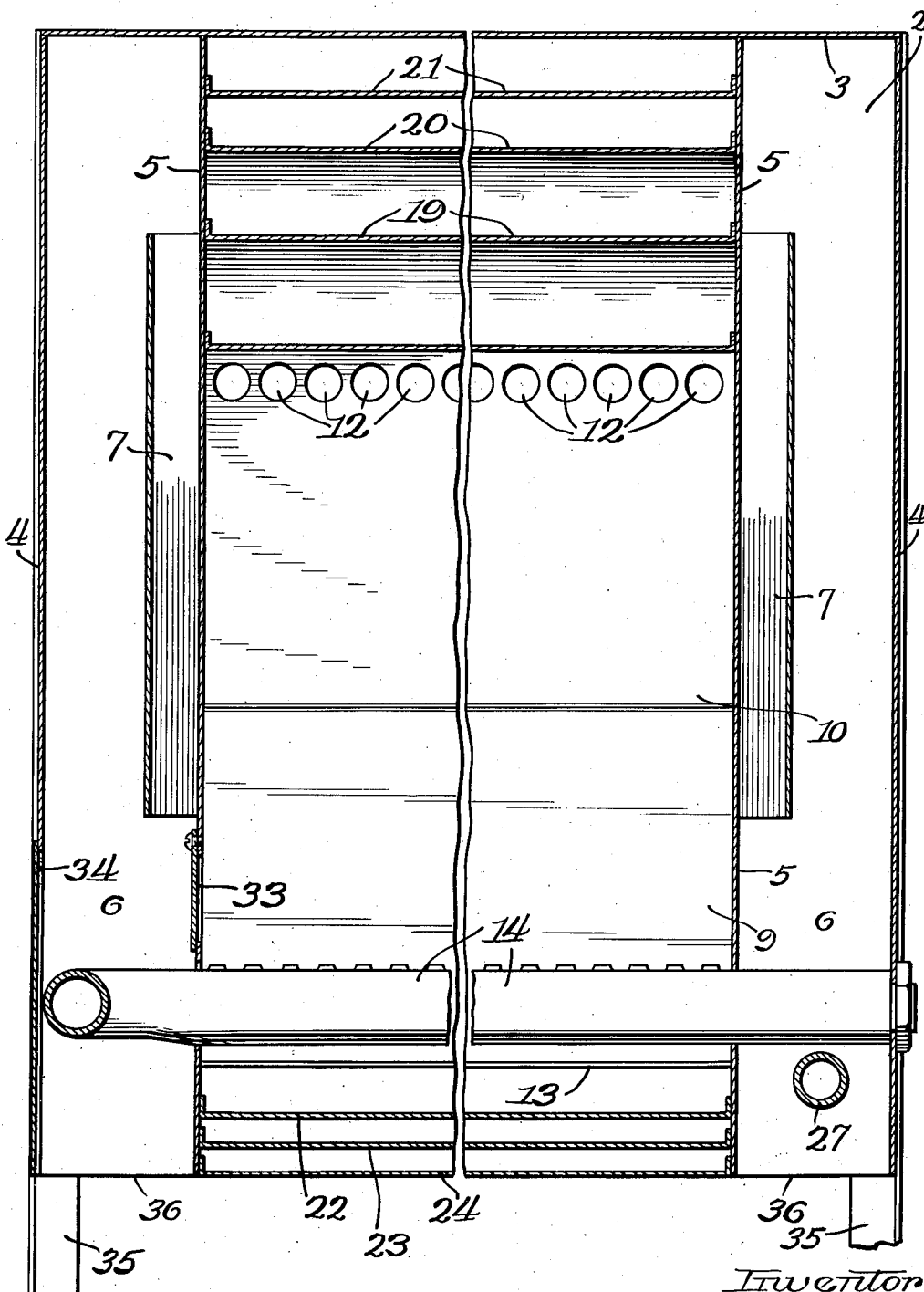


Fig. 3

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UNITED STATES PATENT OFFICE

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SPACE HEATER

Application filed November 15, 1929. Serial No. 407,342.

This invention relates to space heaters, and more particularly to those which employ a gas burner for heating the air, which enters at the bottom of the heater, and which then passes out at the top or upper portion of the heater.

Generally stated, the object of the invention is to provide a novel and improved construction and arrangement whereby the heated air is controlled by a novel arrangement of baffle plates and partitions, as the air moves upwardly within the heater, and whereby the heated air is discharged

In the space between the walls 2 and 9 are the vertical baffle plates 17 and 18, which extend upward and are integral with the horizontal baffles 19 and 20 in the upper portion of the heater, the baffle 20 terminating short of the grille 16, and the baffle 19 terminating a still farther distance away from said grille.

The upper baffle 21 has its rear edge terminating short of the wall 2, but preferably has its front edge at the grille 16, as shown.

The baffle plates 22, 23 and 24 are disposed in the bottom portion of the heater, with space between them, horizontally, immediately below the inlet 13 of the combustion cham-

the arrows, some of this air passes up through the combustion chamber 10, while other quantities of air pass upwardly through the various passages or flues, but the products of combustion and all of the air are intermingled in the discharge from the openwork grille 16 in the upper part of the heater. Pure air is discharged through said grille from between the walls 3 and 21 above, and pure air is also discharged through said grille from the upper portions of the flues 6 previously described. Thus the products of combustion, if any, and the hottest portion of the discharge, escape through the middle lower portion of the openwork grille 16, and this discharge is flanked at each side thereof and above by the discharge of pure air from the flues 6 and the space between the walls 3 and 21, as stated.

Access to the burner, for lighting the gas, may be had through the movable closures 33 and 34, at one side of the heater.

The bottom of the heater may be supported a distance above the floor by suitable legs 35, or by any desired means, whereby the air may enter the heater freely at the bottom thereof.

It will be seen that the air enters the vertical flues 6 at the bottom openings 36, and the heated air passes upwardly in these flues, and in the sub-flues 7, and is then discharged through the discharge means 16 in the upper front portion of the heater.

While a gas burner is shown, it will be understood that this comprehends and includes any kind of a burner that will work with fluid fuel of any suitable or desired character.

What I claim as my invention is:

1. In a heater, the combination of means forming a vertically disposed combustion chamber having front and rear and side walls, outer front and back and side and top walls forming an enclosure with space surrounding said combustion chamber, said combustion chamber having an inlet at its bottom and at points between its side walls an outlet for the upper end thereof, into said space, said front wall having discharge means in the upper portion thereof, baffle means in the space behind and above said combustion chamber to direct heated air upwardly and then forwardly to said discharge means, and means for supplying fuel to said combustion chamber, said baffle means comprising a plurality of baffle plates extending upwardly and then horizontally, said baffle plates terminating short of said discharge means, together with an uppermost baffle in the space above said combustion chamber, this uppermost baffle having its rear edge terminating short of the said back wall of the enclosure and having its front edge disposed at said discharge means.

2. In a heater, the combination of means

forming a vertically disposed combustion chamber having front and rear and side walls, outer front and back and side and top walls forming an enclosure with space surrounding said combustion chamber, said combustion chamber having an inlet at its bottom and at points between its side walls an outlet for the upper end thereof, into said space, said front wall having discharge means in the upper portion thereof, baffle means in the space behind and above said combustion chamber to direct heated air upwardly and then forwardly to said discharge means, and means for supplying fuel to said combustion chamber, comprising inner side walls forming vertical flues for pure air at each side of the heater, these flues having inlets at their bottoms and discharging at their upper portions through said discharge means, and comprising sub-flues in said vertical flues of less height than the latter, whereby to keep the outer walls of the heater at relatively low temperature.

3. In a heater, the combination of means forming a vertically disposed combustion chamber having front and rear and side walls, outer front and back and side and top walls forming an enclosure with space surrounding said combustion chamber, said combustion chamber having an inlet at its bottom and at points between its side walls an outlet for the upper end thereof, into said space, said front wall having discharge means in the upper portion thereof, baffle means in the space behind and above said combustion chamber to direct heated air upwardly and then forwardly to said discharge means, and means for supplying fuel to said combustion chamber, comprising a plurality of baffle plates in the space in front of said combustion chamber, these baffle plates forming spaces open at top and bottom, and windows for said combustion chamber and front wall, with a clear space below said baffle plates between said windows.

4. In a heater, means providing vertical flues at the sides of the heater, for pure air, with inlets for the bottom of said flues and discharge means for the upper portion of the flues, and sub-flues in said vertical flues, of less height than the vertical flues, and upper flues under the top of the heater, whereby to maintain the outer sides and top of the heater at relatively low temperature.

Specification signed this 4th day of June, 1929.

ALOYSIUS W. BECKER.