

• 1997 • 20 • 1

PATENTED MAY 5, 1908.

J. W. WOLCOTT.

GRATE.

APPLICATION FILED AUG. 24, 1906.

Fig. 1.

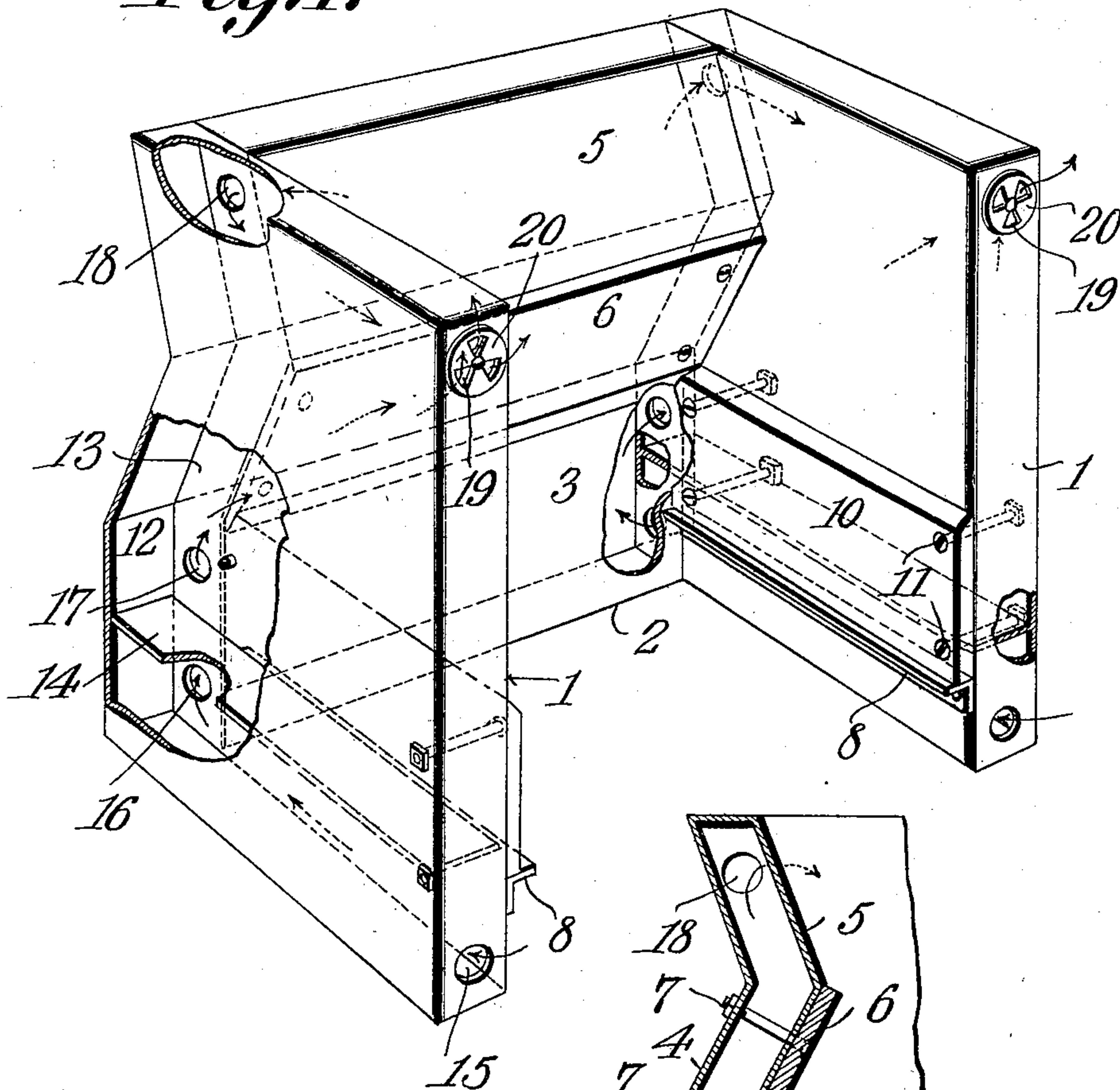
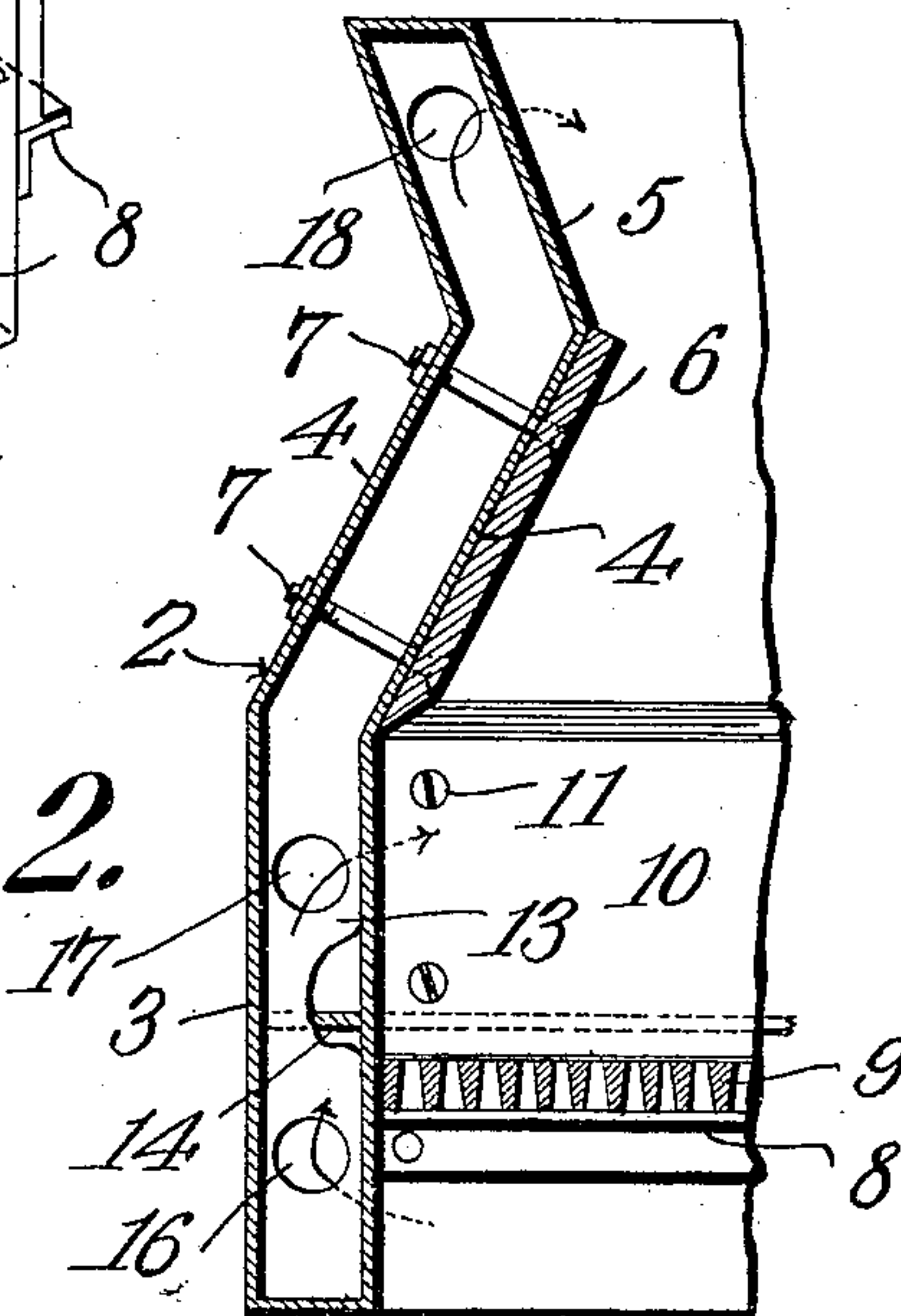


Fig. 2.



WITNESSES:

E. J. Stewart
Arthur D. Lawson.

John W. Wolcott, INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN W. WOLCOTT, OF GRIFFIN, GEORGIA.

GRATE.

No. 886,453.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed August 24, 1906. Serial No. 331,909.

To all whom it may concern:

Be it known that I, JOHN W. WOLCOTT, a citizen of the United States, residing at Griffin, in the county of Spalding and State of Georgia, have invented a new and useful Grate, of which the following is a specification.

This invention relates to devices of that character known as open grates and its object is to provide a grate of this character in which are combined the features of an air heater whereby a large percentage of the heat ordinarily wasted in an open grate is utilized.

Another object is to provide a device of this character designed to be placed upon the market as an article of manufacture and which can be placed in the ordinary open fire place without the necessity of changing the construction of said fire place, said device being so formed that the products of combustion will readily pass therefrom into the outlet flue.

With the above and other objects in view the invention consists of an open grate the sides and rear wall of which are hollow, the compartments therein communicating and there being air inlets and outlets whereby cool air may be caused to enter the compartment and circulate therethrough to the outlets, this circulation of the air bringing it into contact with the surfaces of the walls and causing it to be heated.

The invention also consists of certain other novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view of the grate, portions thereof being broken away; and Fig. 2 is a vertical section through the back wall of the grate.

Referring to the figures by characters of reference, 1—1 are the side walls of the grate and between the rear portions of these walls is interposed an integral rear wall 2. The lower portion of this rear wall is perpendicular as shown at 3 and merges into an overhanging portion 4 from which extends an upper rearwardly inclined portion 5. A protecting strip 6 of metal or fire brick is secured by means of bolts 7 or in any other preferred manner to the overhanging portion 4. Cleats 8 are arranged longitudinally along the lower portions of the sides 1 and support a grate 9. Protecting strips 10 of

metal or firebrick are secured to the sides 1 close to the cleats 8 and these strips as well as the strip 6 serve to prevent the walls of the grate from being burned. Bolts 11 or other suitable means are employed for fastening the strips 10 to the side walls.

The walls 1 and 2 are hollow throughout the extent thereof and the compartments 12 formed within the side walls 1 are divided from the interior of the wall 2 by partitions 13. Horizontal partitions 14 are disposed within the side walls and form non-communicating upper and lower compartments within said side walls. An air inlet port 15 opens into each side wall at the front thereof and below the partition 14 and another port 16 is formed within the partition 13 below partition 14. Ports 17 and 18 are also formed in the partition 13, the port 18 being disposed adjacent the top of the grate while the port 17 is preferably located close to and above the partition 14. An air outlet 19 is arranged in the front of the upper portion of each side wall 1 and a rotatable damper 20 or other suitable device is employed for regulating the escape of air.

It is believed that the operation and advantages of this device will be clearly apparent to those acquainted with the art to which it relates. After a fire has been started upon the grate 9 cool air will circulate through the ports 15 and within the side walls beneath partitions 14 after which it will pass through the ports 16 and into the rear wall 2. From these points the air circulates through the wall 2 and a portion of it reenters the side walls through the ports 17 while the remainder enters said side walls through the ports 18. The various courses pursued by the air have been designated by arrows in the drawings. The air escapes from the walls through the outlet ports 19 and the circulation can be controlled or stopped by means of the dampers 20. It will of course be apparent that this air will be thoroughly heated while passing through the hot walls of the grate and therefore the efficiency of the grate for heating purposes is greatly enhanced. Obviously a large percentage of heat which would otherwise be wasted in an open grate becomes utilized in a device of this character.

The device herein described can be used for heating rooms other than the one in which it is located simply by connecting air distributing pipes to the outlet openings 19 and extending said pipes to the rooms to be heat-

ed. This construction is so obvious that illustration thereof is deemed unnecessary.

It is to be understood that as the device is open throughout the top thereof it can be readily slipped into an open fire place and the products of combustion rising from the grate will be free to pass into the chimney flue, no matter where the same may be located in the top of the fire place.

10 What is claimed is:

As an article of manufacture a grate attachment for open fireplaces comprising hollow back and side walls, said attachment being open at the top, front, and bottom to permit the direct passage of products of combustion into the flue of a fireplace, means upon the side walls for supporting a grate, said hollow back wall having a portion overhanging the grate, protecting strips upon

said overhanging portion and upon the side walls, said strips being detachable, the side and hollow back walls of the attachment constituting communicating air-conducting means, the side walls being sub-divided into non-communicating compartments communicating with the hollow back wall, one compartment of each side wall having an inlet and the other compartment having an outlet, and means for regulating the passage of air through the outlets.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN W. WOLCOTT.

Witnesses:

W. S. WHEELY,

M. J. JANES.