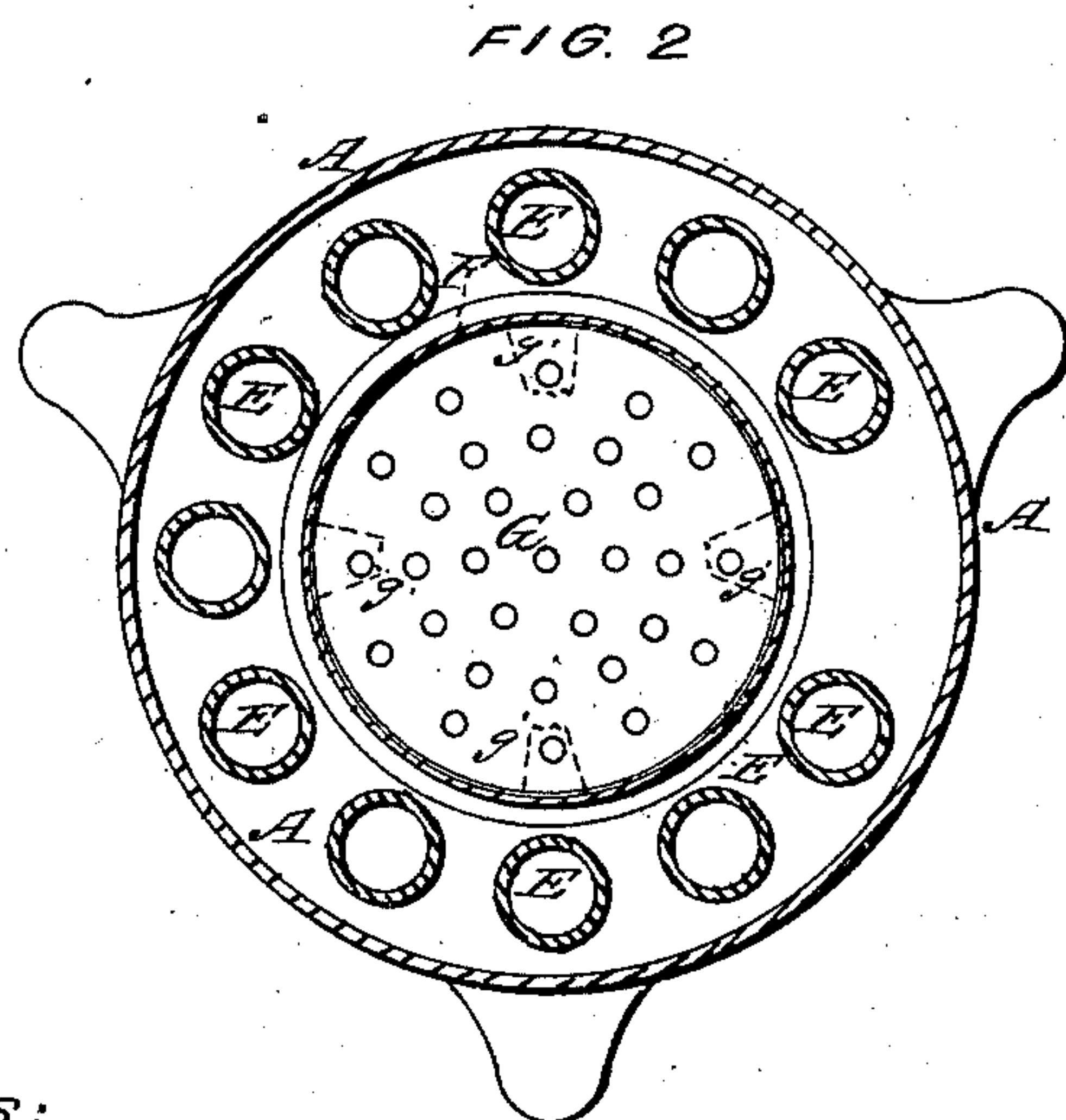
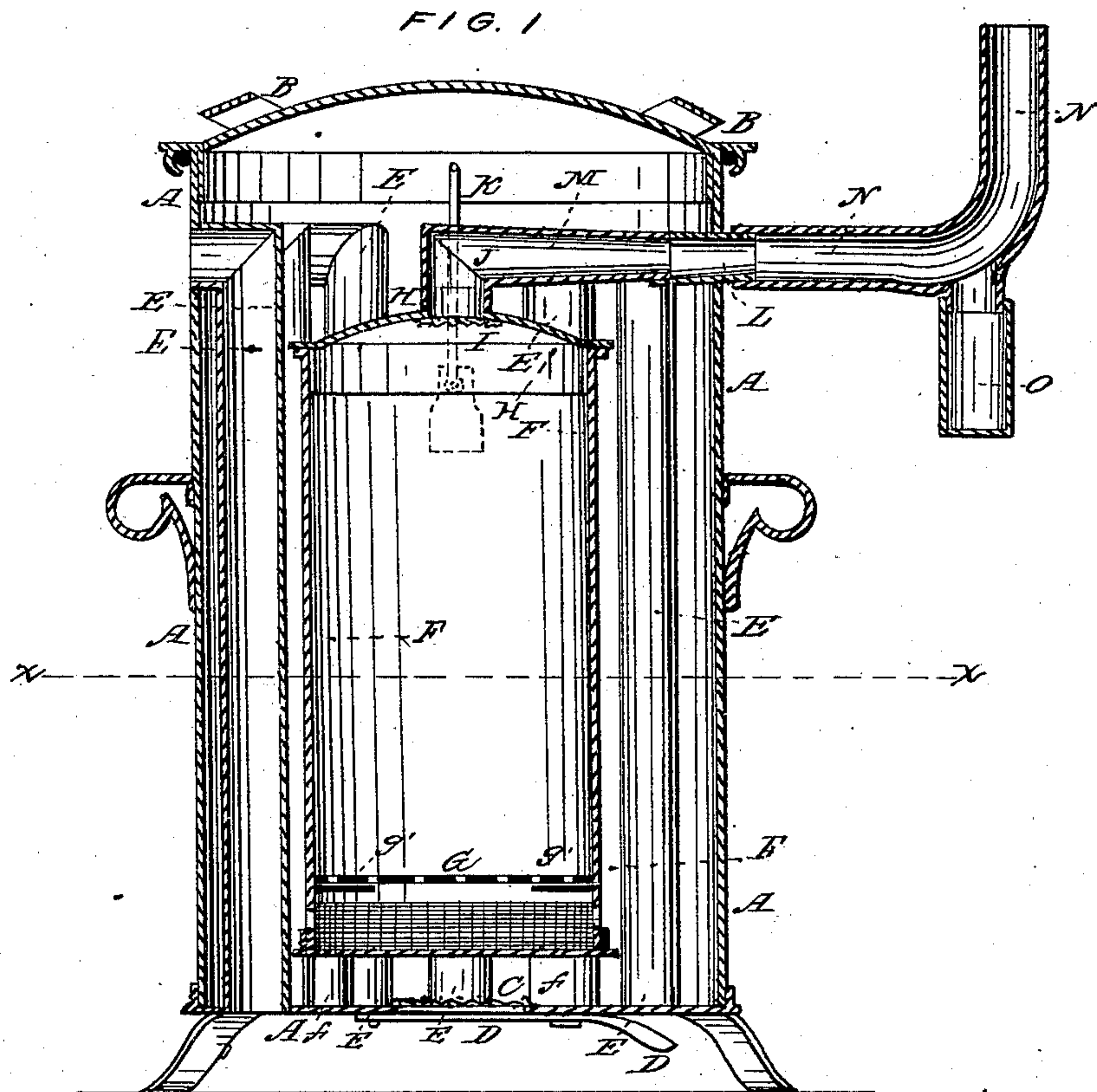


F. S. ZUMSTEIN.

Heating Stove.

No. 79,718.

Patented July 7, 1868.



WITNESSES:

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United States Patent Office.

F. S. ZUMSTEIN, OF EVANSVILLE, INDIANA.

Letters Patent No. 79,718, dated July 7, 1868.

IMPROVEMENT IN HEATING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, F. S. ZUMSTEIN, of Evansville, in the county of Vanderburg, and State of Indiana, have invented a new and improved Stove or Heater; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improved stove.

Figure 2 is a horizontal section of the same, taken through the line *z z*, fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object, to furnish an improved stove for heating railroad-cars, steamboats, hotels, houses, &c., which shall be simple in construction, will keep the fire in full operation from six to twenty-four hours without its being necessary to attend to the fire, and which may be used with perfect safety on railroad-cars, as the stove is so constructed as not to be liable to be broken, and to scatter the fire, should an accident happen to the car.

And it consists in the construction and combination of the various parts, as hereinafter more fully described.

A is the outer casing of the stove, which should be made of Russia or other suitable sheet iron. The top of the case is closed by a cover, B, which should fit air-tight, and which may be secured in place by catches formed upon its edge, and dropping into notches in the upper edge of the sides of the case A, so that by slightly turning the said cover, it may be securely fastened in place. In the centre of the bottom of the case A, is the draught-opening, which is covered upon its inner side with a wire-gauze screen, C, to prevent the possibility of any fire escaping through it. The said opening is also covered upon its outer side by a pivoted slide-door, D, which is held up closely against the said bottom by keepers, thus enabling the draught to be regulated at pleasure.

E is a series of pipes placed all around the interior of the case A, near its sides, as shown in fig. 2. The lower ends of the pipes E open through the bottom of the case A, to which they are securely attached.

The upper ends of the pipes have elbows formed upon them, and pass out through the sides of the case A, near its upper edge, to which case A they are securely attached. By this construction the cold air of the car or room passes into the pipes E, at their lower ends, is heated, and again discharged into the room through their upper ends.

F is the furnace, which should also be made of good sheet iron, and of such a size as to fit into the cylindrical cavity of the case A, being surrounded by the circle of pipes E, and which is provided with three or more short feet, *f'*, to keep its bottom from coming in contact with the bottom of the case A.

G is the grate, which may be formed of perforated sheet iron, and which rests upon lugs, *g'*, attached to the sides of said fire-chamber, F.

In the lower part of the sides of the furnace F are formed the draught-openings, which are covered and protected by wire-gauze screens to prevent the possibility of fire escaping through said openings. The upper end of the furnace F is provided with a cover, H, fitting air-tight, and provided with an opening, through which the products of combustion escape, said opening being covered and protected by a wire-gauze screen, I.

The draught-opening through the cover H may be closed, when desired, by a plug, J, fitting into said opening, as shown in fig. 1.

The furnace F is provided with a bail or handle, K, by means of which it may be conveniently placed in and removed from its place in the case A.

L is a short piece of pipe, passing through and permanently attached to the upper part of the case A, and which is connected with the opening through the cover H by a short pipe, M, having an elbow formed upon it, as shown in fig. 1.

N is a short curved or elbow-pipe connected with the outer end of the pipe L, and which may be connected with a chimney-flue, or may pass out through a window, or through a hole in the side or top of the car, said pipe not being required to be more than an inch and a half or two inches in diameter.

O is a water-receptacle removably attached to an opening in the lower side of the pipe N, to receive the liquid condensed from the products of combustion, and which may be conveniently removed and emptied when required.

In preparing the stove for heating, the furnace F is removed and taken into the yard, or other suitable place, and the ashes or remains of the former fire emptied out.

A small quantity of shavings or other kindling is then placed in it, and lighted. A small quantity of charcoal is then placed in it. When the charcoal has become fully kindled, the furnace is filled half or three-quarters full of charcoal, according to the length of time it is desired to have the fire burn. After the charcoal has become fully on fire, the orifice through the cover H is closed with the plug J, and the furnace is then carried in and placed in the case A. The pipe M is then attached, the cover B is put on, and the heater is in full operation.

Such a fire in a stove thus constructed will last from six to twenty-four hours, according to the capacity of the stove, and the amount of charcoal used, keeping all the time a constant, steady heat.

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

An improved stove or heater, formed by the combination of the outer case A, having a close-fitting cover, B, upon its upper end, and an ingress-draught opening in its bottom, air-pipes E, interior furnace F, having a close-fitting cover, H, with an egress-draught opening in it upon its upper end, and ingress-draught openings at its lower end, the egress-draught pipes M, L, and N, or their equivalent, and the water-receiver O, with each other, said parts being constructed and operating substantially as herein shown and described, and for the purpose set forth.

F. S. ZUMSTEIN.

Witnesses:

ANTON HOFRICHTER,
MORRISS HANFF.