J. B. OLDERSHAW.

AIR HEATING STOVE.

No. 188,400. Patented March 13, 1877.

Fig. 1.

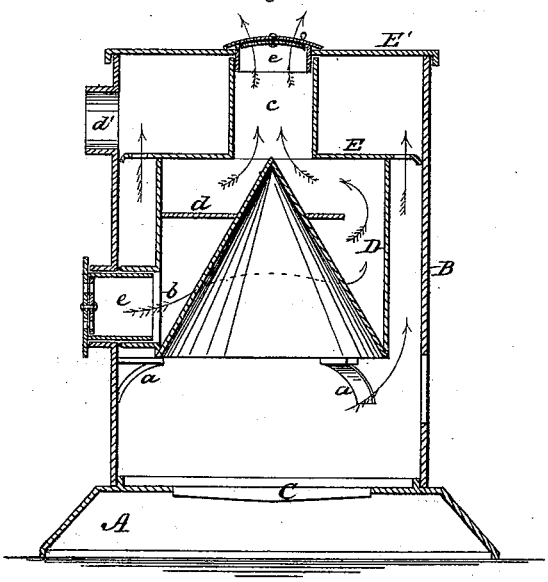


Fig. 2.

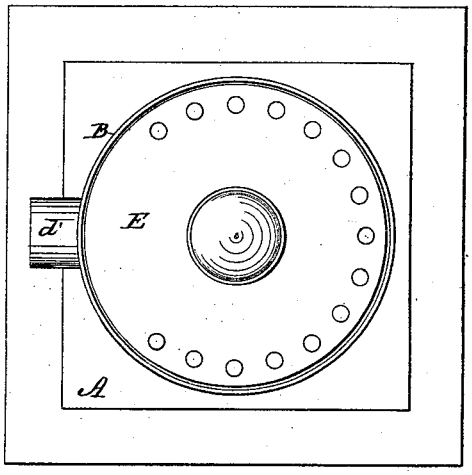
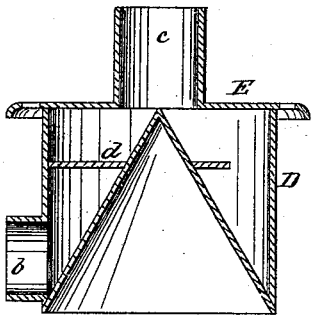


Fig. 3.



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JOHN B. OLDERSHAW, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN AIR-HEATING STOVES.

Specification forming part of Letters Patent No. **188,400**, dated March 13, 1877; application filed February 13, 1877.

To all whom it may concern:

Be it known that I, JOHN B. OLDERSHAW, of Baltimore city, State of Maryland, have invented a new and Improved Air-Heating Stove; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a vertical section. Fig. 2 is a plan view of the stove with the top removed. Fig. 3 is a sectional detail of the removable generator.

My invention relates to certain improvements in air-heating stoves of that class in which a drum is arranged in the upper part of the combustion-chamber, to which drum air is admitted to be heated, and thence escapes into the room. The improvement consists in making the drum detachable, arranging its inlets and outlets to register with corresponding openings in the outer case, and combining with the said drum and outer case detachable sleeves, containing dampers or registers, to regulate the admission and escape of the air, which sleeves form break-joints to the registering openings of the drum and outer case that prevent the gases from the combustion-chamber from commingling with the fresh-heated air and escaping into the room.

In the drawing, A represents the base, B the case or hollow cylinder, and C the grate of an ordinary heating-stove. D is the hot-air drum, made of a less diameter than the outer case, (so as to leave an annular space around the same,) and supported in the fire-chamber between the top of the same and the fire by means of inwardly-projecting lugs, brackets, or arms *a*, arranged upon the inside of the outer case. The drum D is in the nature of a closed chamber, having an inlet, *b*, for the fresh air at the side, and an outlet, *c*, at the top for the heated air, both of which openings are controlled by dampers or registers. As shown, the drum is constructed with a hollow conical base, to present a greater heating-surface to the air inside, but this base may be made flat, if desired. It is also provided with a horizontal partition, *d*, extending from above the inlet-orifice to nearly across the chamber, which partition compels the air in entering at the inlet to pass entirely around the conical bottom of the chamber before it passes into the upper compartment, from whence it issues into the room through the outlet at the top. This partition, it will thus be seen, compels the air to circulate through the drum, and whether the drum be made with a flat or conical bottom it serves to greatly increase the calefactive properties of the same. E is the upper side of the drum, which is made of a larger diameter than the drum itself, and projects as a flange all around the same to the inner sides of the cylinder. The upper side of the drum is perforated near its periphery or flanged portion to permit the smoke, which passes up the annular space, to continue in its course to the space above the drum, and from thence out the smoke-pipe *d'*.

In making the drum detachable it is necessary that some provision be made to prevent the escape of smoke and gases at the joints formed by the inlet and outlet pipes *b c* of the drum with the openings in the outer case. To provide for this the dampers or registers for the inlet and outlet to the drum are constructed in detachable sleeves *e*, which form break joints between the inlet and outlet pipes of the generator and their corresponding holes in the outer case, the top of the stove E' being made detachable, also, to permit the removal of the generator when desired.

From the foregoing description, it will be seen that the stove is constructed with a view to securing the greatest available amount of heat from a given amount of fuel, the hot currents striking the drum in their passage to the smoke-pipe, and, being retarded thereby, are deflected to the annular space, which serves not only to heat the drum but prevent the heat from escaping immediately through the smoke-pipe, and compels it to impinge directly against the sides of the sides stove itself, thereby greatly enhancing the heating properties of the latter.

In making use of my improvements as herein described, I may apply them to both heating stoves and furnaces.

Having thus described my invention, what I claim as new is—

1. The removable drum D, having flanged and perforated upper surface E, in combina-

tion with the outer case B, having supporting-brackets or arms *a* and the removable cover E′, substantially as, and for the purpose described.

2. The removable heating-drum, having an inlet and outlet, *b c*, and the outer case, having corresponding openings registering with said inlet and outlet to the drum, in combination with a detachable sleeve, *e*, containing the damper or register, and arranged to form a break-joint with the said removable drum and outer case, as and for the purpose described.

JOHN B. OLDERSHAW.

Witnesses:
G. E. SANGSTER,
O. GEO. DEAVER.