J. HACKER.

STOVE-DRUM.

No. 188,622. Patented March 20, 1877.

Fig. 1.

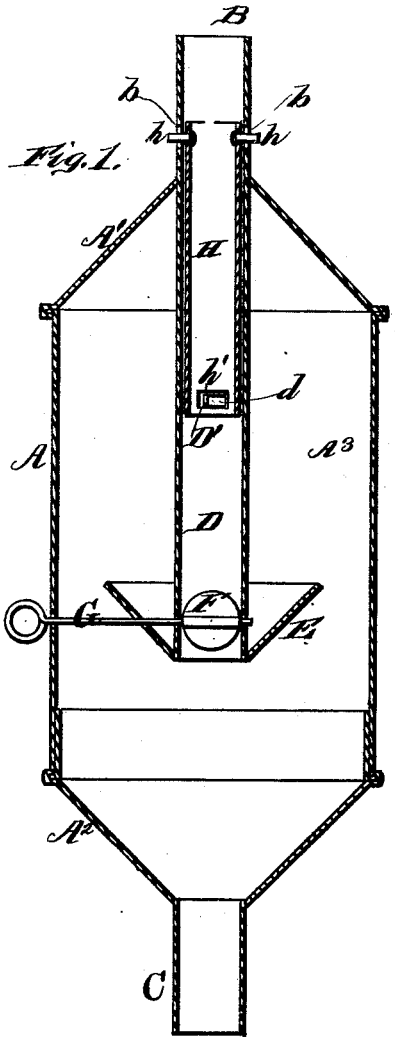


Fig. 2.

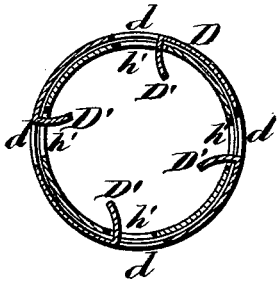
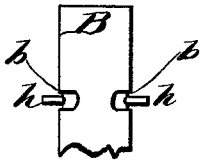


Fig. 3.



WITNESSES

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IMPROVEMENT IN STOVE-DRUMS.

Specification forming part of Letters Patent No. **188,622**, dated March 20, 1877; application filed February 10, 1877.

To all whom it may concern:

Be it known that I, JOSEPH HACKER, of Waterloo, in the county of Black Hawk and State of Iowa, have invented a new and valuable Improvement in Stove-Drums; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my stove-drum, and Fig. 2 is an enlarged transverse sectional view thereof. Fig. 3 is a detail view of the same.

This invention relates to stove-drums; and it consists, mainly, in the combination therewith of a regulating-cylinder provided with openings, and an exit-flue provided with openings, flanges, and a deflector, substantially as hereinafter described.

In the annexed drawings, A designates a stove-drum, consisting of an upper conical part, A^1, a lower inverted conical part, A^2, and an intermediate cylindrical part or body, A^3, connecting the bases of said cones or cone-frustums. Upper end A^1 is provided with an upwardly-extending exit pipe or flue, B, and lower end A^2 is provided with a similar downwardly-extending flue, C, which communicates with the stove. The said upper flue B is extended down within the said drum A, forming an internal flue, D, which has at its lower end a deflector, E, in the form of an annular upwardly-flaring flange or inverted hollow cone-frustum. F designates a damper turning in the lower end of said flue D, and operated by a transverse shaft or rod, G, that extends through the side of said drum A.

Within the upper part of said continuous pipe B D is a loose regulating-cylinder or telescoped pipe, H, the upper end of which is provided with two opposite studs or pins, *h h*, which extend outward through horizontal slots *b b* in said exit-flue B, as shown in Fig. 3. These studs and slots serve both to support said regulating-cylinder and as means to give it partial rotation. The lower end of said inner regulating pipe or cylinder H is provided with several openings, *h'*, at various points around its circumference, which register with similar openings *d* in the middle part of flue D, as shown in Fig. 2. Said flue D is also provided with stop-flanges D', arranged respectively near each one of the openings *d*, and passing through the corresponding openings *h'* in said cylindrical regulator H. Said flanges prevent the said cylinder or regulator H from being turned too far, and insure the entire registering or closing of openings *d h* when said cylinder is turned to its limit. By turning said cylindrical regulator H in one direction, the said openings are made to register; by turning it in the other direction they are closed. The said openings may also be left only partly open by turning said cylinder only part of the way to its limit.

When the lower damper F is open the smoke, hot air, and products of combustion pass directly up through flue D B, and the drum A is not in use; but when said damper F is closed the hot air is deflected by device E, and passes up to the top of said drum, thoroughly heating the same. Thence it escapes through the openings *d* into flue D, and out through upward extension B of said flue. By regulating the escape of said hot air, as already indicated, the heating action may be varied. If only a slight degree of heat is required, damper F may be partly opened, and the upper openings *d* adjusted to their greatest capacity. If a high degree of heat is required, damper F is entirely closed, and the upper openings are adjusted, so as to allow the escape of only a small volume of heat until it becomes necessary to enlarge them, in order to prevent bursting or the escape of smoke.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a stove-pipe drum with inwardly-extending pipe D, having openings *d*, and regulating-cylinder H, having openings *h'* and supporting-studs *h*, substantially as and for the purpose set forth.

2. The combination of drum A, with flue D,