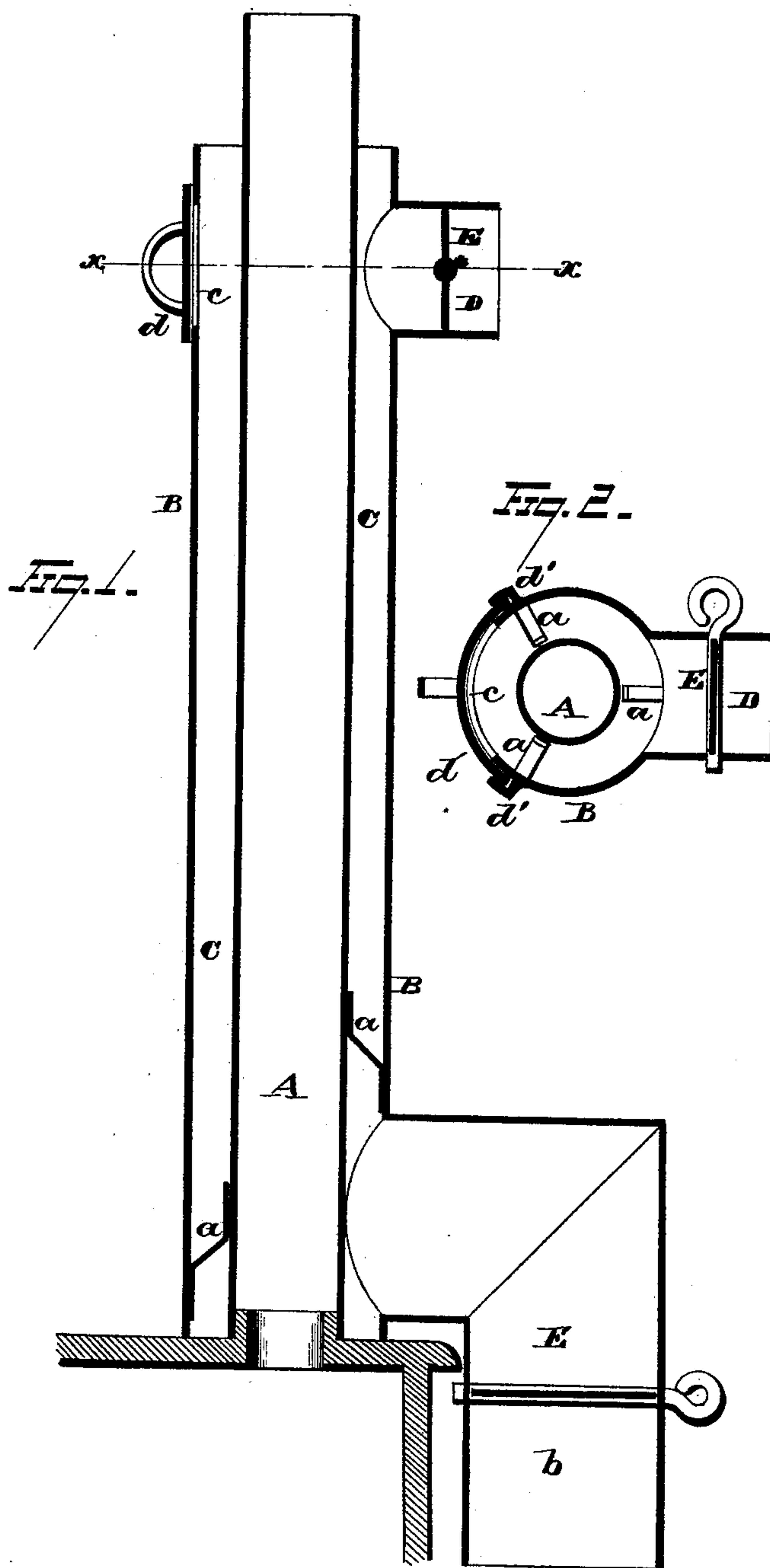


W. SUMAN.
Heating Attachment for Stove-Pipes.

No. 221,750.

Patented Nov. 18, 1879.



WITNESSES
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IMPROVEMENT IN HEATING ATTACHMENTS FOR STOVE-PIPES.

Specification forming part of Letters Patent No. **221,750**, dated November 18, 1879; application filed August 15, 1879.

To all whom it may concern:

Be it known that I, WILLIAM SUMAN, of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Heating Attachments for Stove-Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to heating attachments for stove-pipes, and is designed to provide improved means for utilizing the heat of smoke-pipes by inclosing them within air-pipes and conducting the air thus heated into any desired room or compartment.

Heretofore stove-pipes have been formed to inclose air-pipes, the latter having openings respectively below and above their points of inclosure, whereby air introduced into the inner pipe has been heated by the surrounding outer pipe, and then finally discharged into the room or rooms desired. The objection to this construction is that, by reason of the smoke-pipe being located outside of the air-pipe, only a portion of the heat which it gives off is imparted to the air-pipe. A portion of this heat is imparted by radiation to the air of the room, and the remaining portion is imparted to the air within the inclosed pipe. The room in which the stove is located is thereby unduly warmed in comparison with the compartments to which heat is conducted by pipes.

My improvement contemplates surrounding the stove-pipe itself with a sheet-metal pipe, forming an annular passage-way between the two, the lower extremity of said inclosing-pipe being seated upon the stove or heating apparatus, and provided with a valve-opening which admits cold air, while the upper extremity of the same pipe is provided with one or more valve-openings for the discharge of heated air. This construction causes the smoke-pipe to impart all the heat given off therefrom to the air within the surrounding air-pipe; and hence the entire heating capacity of the smoke-pipe is utilized to heat the compartments to which the warm air is conducted by pipes.

Prior to my invention a hot-air stove has had its smoke-pipe extended up into the chimney, the construction being such that air fed into the stove enters the chimney and passes upward therein, surrounding the smoke-pipe. Register-openings in said chimney conduct the heated air from the latter into upper compartments, and suitable means are employed to keep the said heated air from the products of combustion. This arrangement of parts necessitates peculiarities of construction, and is not adapted to be used under such circumstances as is the case with my invention. The chimney also prevents the heated air from acting in a certain degree upon the air of the room in which the stove is located, while the sheet metal of my air-pipe permits a moderate quantity of heat to be radiated into said room.

Referring to the drawings, Figure 1 is a vertical sectional view of my improvement. Fig. 2 is a transverse section through line *xx* of Fig. 1.

The smoke-pipe *A* passes upward within the air-pipe *B*, so as to form an annular hot-air passage-way, *C*, between the two. Said air-pipe is maintained in due position by vertical spring-strips *a*, whose lower extremities are respectively secured in practically the same horizontal plane to different points of its interior side. One or more sets of these springs may be used. The main portions of these springs extend vertically upward, and their upper extremities are free from connection with the air-pipe. They thus serve to bear laterally against the stove-pipe, and prevent the air-pipe from inclining too near the same on any side.

A cold-air inlet, *b*, is provided at the lower portion of the air-pipe, and one or more hot-air outlets are provided at suitable upper portions of the pipe. Each air-outlet consists of an opening, *c*, formed in the side of the air-pipe opposite any suitable point of the smoke-pipe, and a vertically-moving slide, *d*, governs said opening or openings. These slides have movement in guideways *d'*, formed on the exterior side of the smoke-pipe. Hot-air connecting-pipes *D* lead from any desired points of the air-pipe to rooms other than those into which the openings *c* conduct the heated air.

Any number of the described openings *c* and pipes *D* may be employed, corresponding, re-

spectively, to the number of rooms into which the hot air is to be directly and indirectly discharged from the air-pipe B. Dampers E are placed within the air-inlet *b*, and also within the connecting-pipes D.

The air-pipe B is constructed to rest upon the stove or heater with which it is connected, and thus is retained in a firm unyielding position, and obviating all strain on the pipe A.

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

The combination, with the air-pipe B, the lower end thereof resting upon a stove or heat-

ing apparatus and provided with an elbow which projects outside the stove, and having damper E in its open end, said pipe B having a sliding damper, *d*, at its upper end, of a smoke-pipe, A, and spring-strips *a*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of August, 1879.

WILLIAM SUMAN.

Witnesses:

WILLIAM H. PRICE,
THOMAS C. FISHER.