

R. M. SHERMAN.

Fire Place.

No. 249.

Patented June 30, 1837.

Fig. 1

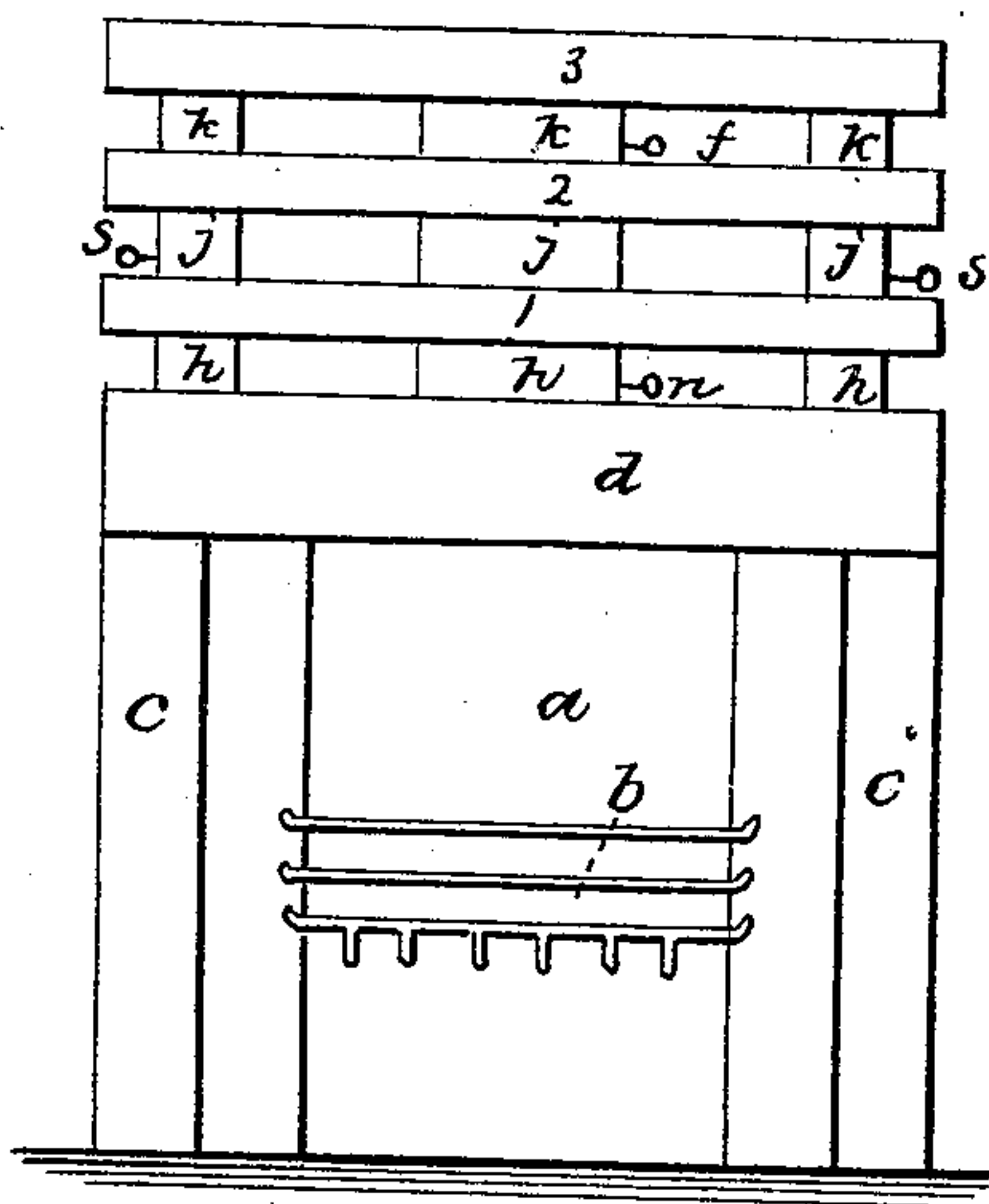
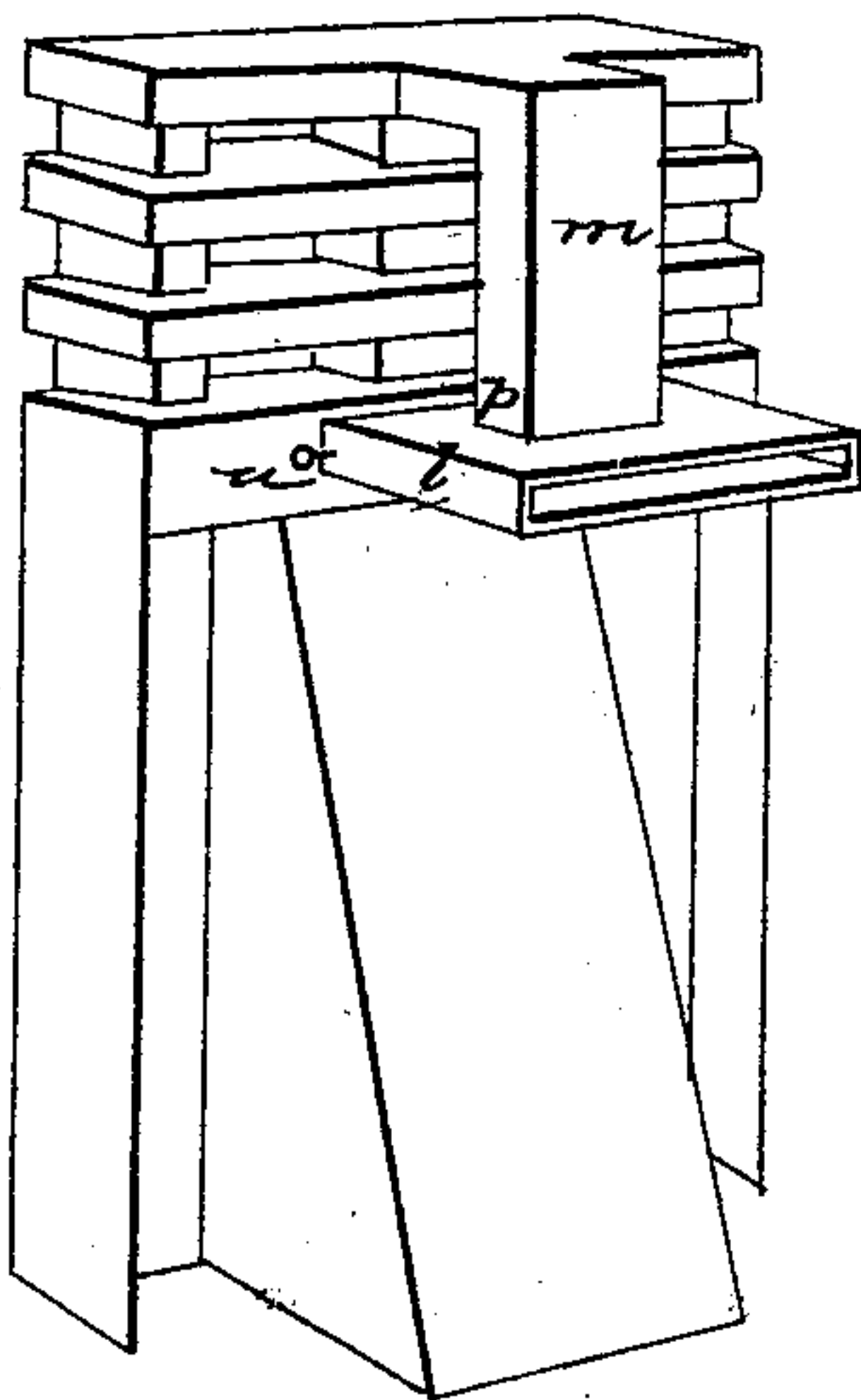


Fig. 2



Witnesses,  
Thomas H. Stone,  
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# UNITED STATES PATENT OFFICE.

ROGER M. SHERMAN, OF FAIRFIELD, CONNECTICUT.

## OPEN FIREPLACE OR GRATE.

Specification of Letters Patent No. 249, dated June 30, 1837.

*To all whom it may concern:*

Be it known that I, ROGER M. SHERMAN, of Fairfield, in the county of Fairfield and State of Connecticut, have invented Improvements in Open Fireplaces or Grates, of which the following is a description.

This stove or grate consists of the following parts, as represented in the annexed drawing—first, an open fireplace (*a*) of cast or sheet iron, or any suitable material, lined with firebrick, soapstone, or other proper nonconductor of heat, with a grate (*b*) for fuel. The dimensions of this fireplace may be varied as circumstances require. I will assume that it is eighteen inches wide and three feet high. On each side is a jamb or pillar (*c, c,*) supporting a mantel piece (*d,*) over the fireplace, in the form in which parlor grates, for anthracite coal, are often made. This mantel piece constitutes the front of an open chamber into which the heat and smoke ascend, and thence pass up through the flues into the radiators; the back and ends of the chamber being closed. This structure is surmounted by several hollow radiators (1, 2, 3,) extending from side to side in a position about parallel with each other and with the chamber, and, in a stove of the dimensions here assumed about two inches apart, and six inches in width by three in depth. There are three flues (*h, h, h,*) between the chamber and the first or lowest radiator; one in the middle, which is about half the width of the fireplace (or nine inches in this stove) and one at each end of half the same width, by which the heat and smoke are conducted from the chamber into the first radiator. The number of radiators may be varied at pleasure. They are connected, successively, by three flues, passing from each to the next, of the same dimensions and structure as those already described (*j, j, j, k, k, k.*)

From the back of the chamber, passing into the chimney of the apartment where the stove is set, or other avenue for carrying off the smoke, is a flue (*l,*) called the direct flue, which has a valve or damper (*u,*) close to the chamber, by which it is opened or closed at pleasure. This flue ought to be of the same width as the fireplace, and of sufficient capacity. When open, it causes a strong

draft, and kindles the fire. When closed, the heat and smoke ascend into the radiators.

Passing out of the back side of the upper radiator, at its center, is a flue called the back flue (*m,*) which descends so as to enter the direct flue beyond its damper, as at *p*. If there are three radiators above the chamber, as in the annexed drawing, valves or dampers should be interposed in particular flues in the following manner; one in the middle flue, (*n,*) below the first radiator; one in each of the end flues between the first and second radiators, (*s, s,*) and one in the middle flue (*t,*) between the second and third radiators. By closing these valves, after the fire is kindled, the stove will have its greatest power; and by them the heat may be regulated at pleasure. If the location is favorable to a strong draft, the back flue, especially if the stove is small, or if there is but one radiator, may pass directly into the chimney, and no direct flue will be necessary. The stove should be placed a little distance from the wall, so as to permit the air to pass freely behind it.

The object of this invention is to unite, in the manner described, a pleasant, open fireplace, with the warmth and economy of the close stove. The stove and radiator may be made to present a handsome perpendicular front, susceptible of any degree of ornament. It may be adapted to the use of any kind of fuel. Sheet iron is a proper material for the radiators. Their ends should be made in the form of caps, to be taken off at pleasure, for the purpose of cleaning them of soot. The radiators, in like manner, may be separated at the flues for the same purpose.

All I claim as my invention, and for which I ask Letters Patent, is—

The combination of the open fireplace with the radiators placed over it horizontally, connected by several flues with the chamber, and with each other, as aforesaid.

Dated at Fairfield, Connecticut, the 8th day of June A. D. 1837.

ROGER M. SHERMAN.

Witnesses:

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JEREMIAH T. DENISON.