(Model.)

# G. R. RICKETTS.

## Fireplace.

**No. 241,720.** **Patented May 17, 1881.**

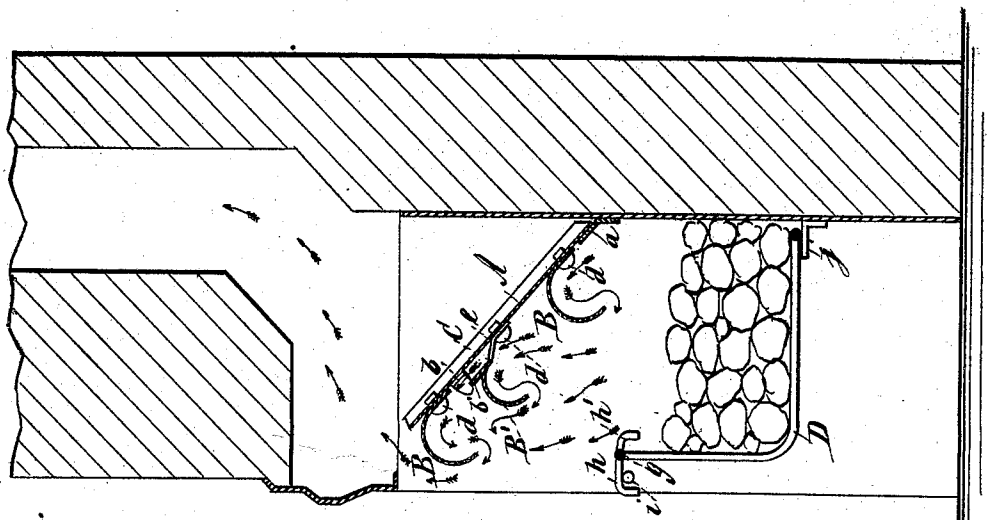



Fig. 1.

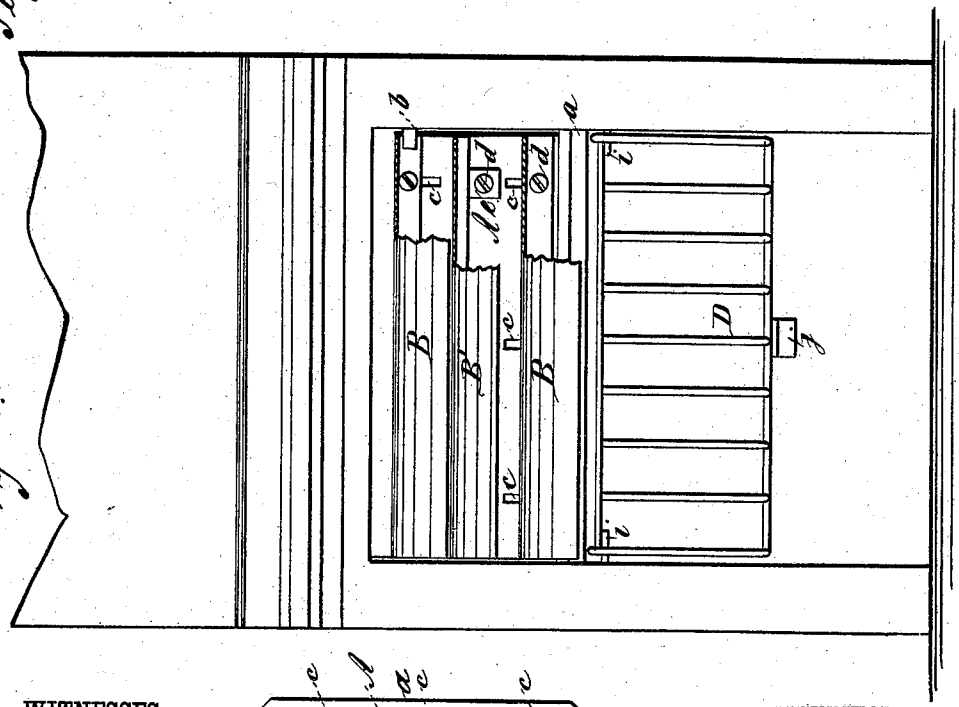



Fig. 2.

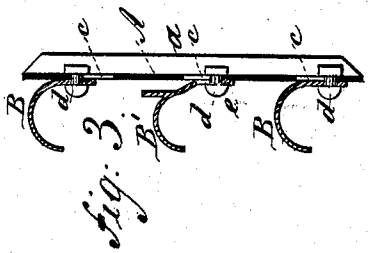



Fig. 3.

WITNESSES:

A. Schehl.

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# UNITED STATES PATENT OFFICE.

GERARD R. RICKETTS, OF QUAKER BOTTOM, OHIO.

## FIRE-PLACE.

SPECIFICATION forming part of Letters Patent No. 241,720, dated May 17, 1881.

Application filed February 8, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, GERARD R. RICKETTS, of Quaker Bottom, in the county of Lawrence and State of Ohio, have invented a new and useful Improvement in Fire-Places, of which the following is a specification.

The object of my invention is a fire-place which will cause complete, or nearly complete, combustion of the gases and smoke produced by the burning fuel, and at the same time radiate the heat in a downward direction to heat the lower stratum of air.

The invention consists in the construction and arrangement of an inclined radiator having current or gas arresters or deflectors on its front face, one of which may have a suitable draft-passage, the said arresters serving to retain the ascending gases and smoke and cause them to become highly heated, and finally carry them near the front of the fire-place, where they are ignited and consumed, furnishing additional amount of heat.

In the accompanying drawings, Figure 1 is a sectional view of a fire-place containing my improved grate and radiator. Fig. 2 is a front view of the same with a portion of the deflectors broken away, and Fig. 3 is a section of the radiator removed from the fire-place.

Similar letters of reference indicate corresponding parts.

The back of the fire-place is provided with the rib or projection *a*, and the sides of the fire-place are provided with the projections *b b*, by which the radiator is held in an inclined position within the fire-place, as shown.

The radiator A is of cast or other metal and is formed with the slots *c c*.

The semi-cylindrical deflectors B B are cast or otherwise formed separately from the radiator, and are secured to the front face of the radiator by the bolts *d d*, passing through the lower edges of the deflectors and the slots *c c*, and are adjustable therein.

The deflector B′ is secured to the center of the radiator and between the deflectors B B. The deflector B′ is bent out from the place of fastening and provided with an upwardly-projecting flange, *b′*, so as to form the passage C between the reflector and radiator.

The grate D is provided at its upper portion, at both ends, with the hooks *h h′*, one on each side of the upper cross-bar, *g*, which are adapted to fit over the studs *i i* on the sides of the fire-place. The rear of the grate is supported on the projection *j* on the back of the fire-place, and this projection is of such length as to permit the adjustment of the grate forward or back, by means of the hooks *h h′* and studs *i i*, in such relation to the inclined radiator that more or less of the ascending smoke and gases will be arrested and retained by the deflectors, as desired. The smoke and gases thus arrested become highly heated, and are finally carried out near the front of the fire-place, where they will be ignited and consumed, furnishing an increased amount of heat.

The throat or passage C, formed between the deflector B′ and the radiator, is ordinarily from two to three inches in width, which creates sufficient underdraft to cause the smoke and gases to be drawn under the deflectors, a portion of the same passing through the passage or throat. The radiator being inclined and the deflectors curved downwardly, the heat is radiated in a downward direction, and thus heats the lower stratum of air in the room.

The radiator may be placed in ordinary fire-places without my adjustable grate, the deflectors being adjustable to adapt the radiator to any depth of fire-place.

I am aware that a front corrugated plate has been arranged over the grate of a fire-place, so as to increase the radiating and deflecting surface; but my curved plates B retard and detain the gas and products of combustion, becoming highly heated, and consuming to a great extent the lighter and more volatile products.

What I claim as new and of my invention is—

In a fire-place, the inclined radiator A, provided on the under side with the deflectors B B′ B, the middle one being provided with a draft-passage, substantially as shown and described.

GERARD ROBINSON RICKETTS.

Witnesses:

JOS. W. PRITCHARD,

D. B. MAUCK.