

(No Model.)

F. CLARE.  
RADIATOR.

No. 420,437.

Patented Feb. 4, 1890.

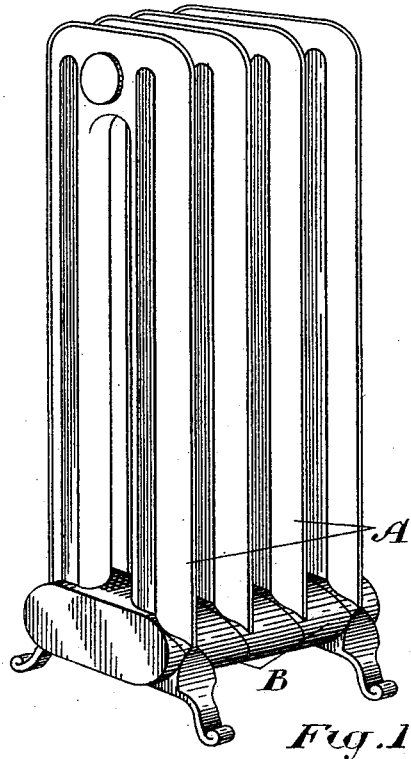


Fig. 1

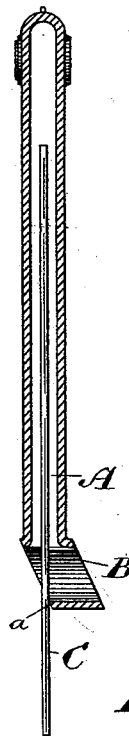


Fig. 2

Witnesses

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# UNITED STATES PATENT OFFICE.

FREDERICK CLARE, OF PRESTON, ONTARIO, CANADA.

## RADIATOR.

SPECIFICATION forming part of Letters Patent No. 420,437, dated February 4, 1890.

Application filed June 7, 1889. Serial No. 313,459. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK CLARE, of the village of Preston, in the county of Waterloo, in the Province of Ontario, Canada, manufacturer, have invented a certain new and useful Improvement in Radiators, of which the following is a specification.

The object of the invention is to construct a steam or hot-water radiator in such a manner that the loops forming the radiator may be cast in green sand; and it consists, essentially, of a radiator composed of a series of loops, each loop having the walls of its bottom connecting-chamber set at such an angle that a straight stick may be passed up the vertical portion of the loop, substantially as and for the purpose hereinafter explained.

Figure 1 is a perspective outside view of my improved radiator. Fig. 2 is a vertical section of one of the loops.

In order to cast radiator-loops as now made, the cores are baked, and when set in position they must be chapleted or pinned, making the process of casting the loops both tedious and expensive.

By the adoption of my invention I am en-

abled to dispense with the chapleting, and also to use, if I wish, a green-sand core.

On reference to Fig. 2 it will be noticed that the walls of the connecting-chamber B are set at an angle, so that the inner edge of the bottom portion *a* of the said chamber shall be opposite to the mouth of the vertical portion A of the loop, leaving a clear passage-way leading to the said vertical portion of the loop, so that a straight stick C may be inserted up into the loop. By this form of loop a stick C may be employed for the purpose of supporting the core while the loop is being cast, and when the said loop is completed the stick C may be readily withdrawn.

What I claim as my invention is—

A radiator-loop having the walls of its lower connecting-chamber A set at an angle, so as to leave a clear passage-way leading into the vertical portion *a* of the said loop, substantially as and for the purpose specified.

Preston, May 9, 1889.

FREDERICK CLARE.

In presence of—

C. DOLPH,  
GEO. A. ROOS.