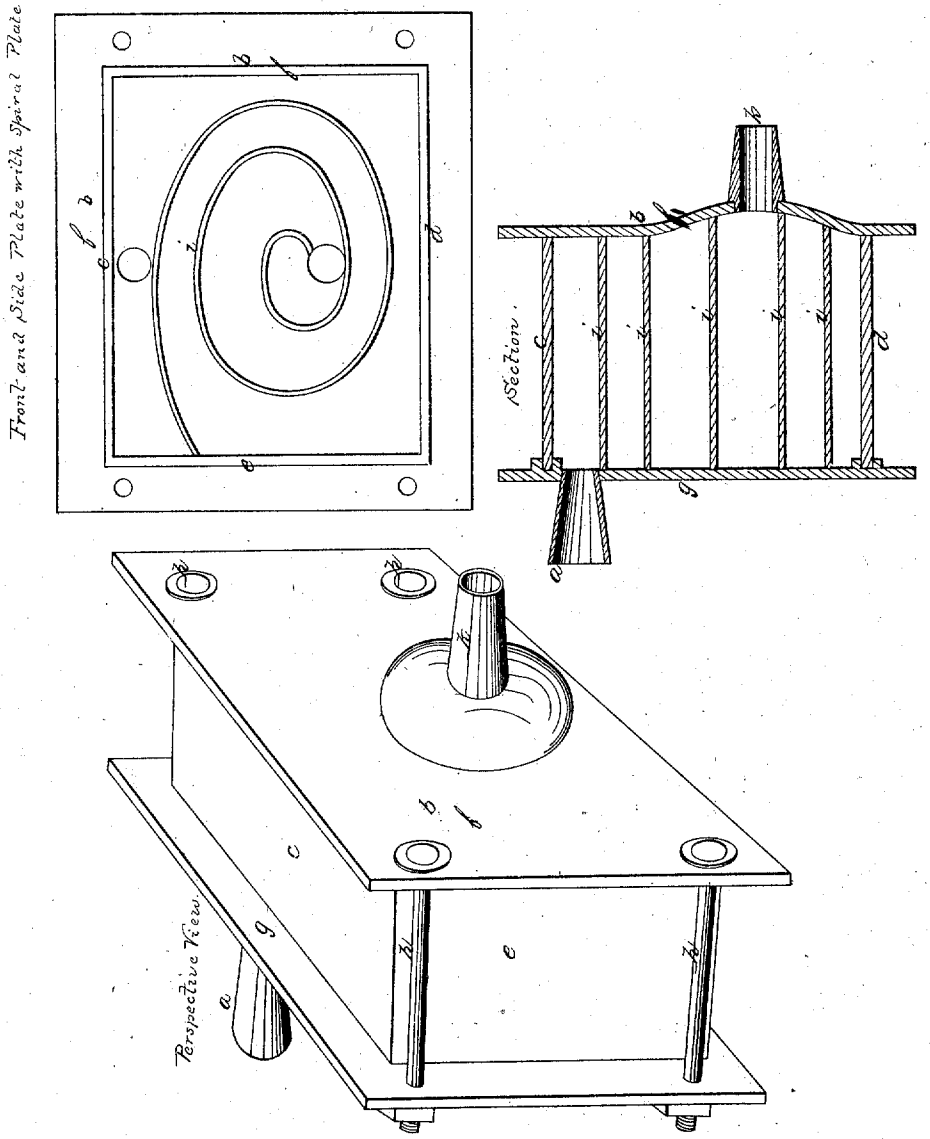
C. RICHARDSON.

9501X

FORGE BACK.

Patented Mar. 12, 1836.



9501X

Mar. 12, 1836

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Charles Richardson of Greenfield New Hampshire

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Charles Richardson himself of his improvement in Blacksmiths Cast Iron hollow forge backs.

To all to whom these presents shall come

Be it known that I Charles Richardson of Greenfield in the County of Hillsboro and State of New Hampshire have invented a new and useful improvement in the mode of constructing Blacksmiths cast iron Forge Backs and furnace backs for the purpose of blowing heated air upon the coal and likewise the great durability over other cast iron forge backs heretofore in use and that the following is a full and exact description thereof. The forge back consists of a square or oblong box or air chamber in the upper part of the back side of which the bellows nose is inserted through a round hole in the back plate of the box, and the air after making one or more revolutions round the outer part of the box, escapes through a round aperture in the front towards the bottom of the box in a heated state directly upon the coal thereby heating the coal faster But making a more mild and mellow heat, adapted to taking around welds and not burning the iron so much as by Blacksmiths common backs. The front part of the box ... towards the lower part around the aperture is considerably scalloped out or convex, in order to the great er durability when the heat is intense. The front side, top and bottom of the box are cast in one piece The front plate being about twelve inches square and about seven eighths of an inch thick and the top side and bottom being horizontally about four inches deep and about three eighths of an inch thick and about nine inches across from side to side to side, and from top to bottom, and the top bottom and side are cast to the front plate at equal distance from each of its four edges. The back plate is cast square with a flange or projection near the edge of which shall lightly upon

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the outside of the sides top and bottom. and is fastened closely to the box by four wrought iron bolts, which pass from the four corners of the front plate through the four corners of the back plate and are fasten'd with screws at the ends opposite to the heads. On the inside of the box and connected with the front and left hand side is a thin wide spiral plate of cast iron connected with the left hand side and front of the box just below the hole in the back plate and proceeding from the left hand side towards the right, and describing a curve downwards in such a manner that the air in coming into the box through the hole in the back above this spiral plate will describe a circle to the right around the outer part of the box, going about once round the box in order to obtain a proper degree of heat through the front and sides of the stove, and after having described the curve the spiral plate ends near the hole in the front part so that the air may escape through the hole upon the coal. This spiral piece of cast iron fills up the box from the front to the back piece and may be made quite thin, as there is not great draft upon it, and it will not be heated much more than the air is as it escapes in front. In order to make it perfectly air tight so that no air shall escape over the edge of this spiral plate of cast iron but shall follow around to the right about the circumference of the box as before described, Lime, plaster of paris or other cement is to be used to fill up any crevices or cracks that might remain on the edge of the spiral plate or round the edges in contact with the back plate to the box. What I claim as my own invention and not previously known in the above described machine is the above described spiral plate of cast iron and the peculiar form and size of the scrolled front or concave part of the front part of the box as applied to the hollow fire backs

Witnesses
Albert Richardson
Cyprus Richardson

Charles Richardson

(762 words