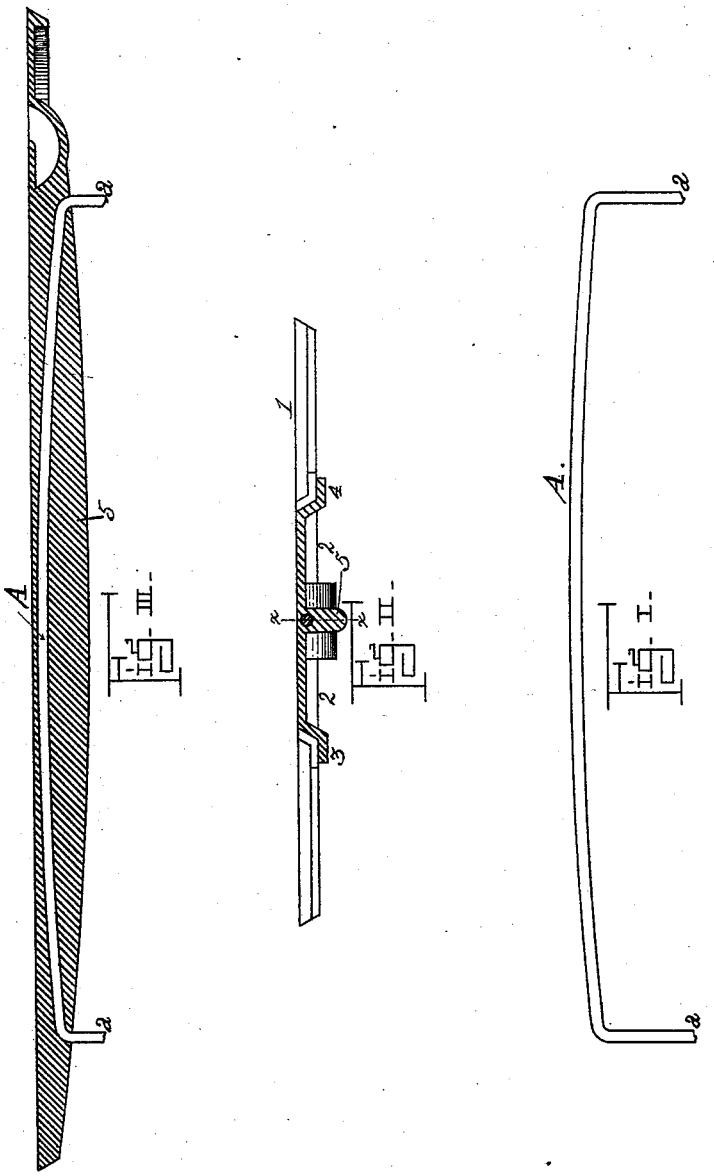
(No Model.)

R. H. WARNEFORD.

STOVE CENTER.

No. 420,368. Patented Jan. 28, 1890.



Witnesses

Wm. F. Ross.

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UNITED STATES PATENT OFFICE.

RICHARD H. WARNEFORD, OF COVINGTON, KENTUCKY.

STOVE-CENTER.

SPECIFICATION forming part of Letters Patent No. 420,368, dated January 28, 1890.

Application filed April 11, 1889. Serial No. 306,797. (No model.)

To all whom it may concern:

Be it known that I, RICHARD H. WARNEFORD, a citizen of the United States, and a resident of Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Stove-Centers, of which the following is a specification.

My invention has for its object the strengthening of stove-castings to prevent them from warping or sagging—as, for instance, the centers of stoves warp or sag under the heat to which the center is subjected. My improvement applied to a stove-center overcomes this action and keeps it straight. It is also adapted to other similar uses, all of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure I is a side elevation of the strengthening-brace. Fig. II is a cross-section of the stove-center containing my improved brace. Fig. III is a longitudinal central section on line *x x*, Fig. II.

1 represents a stove-center; 2 2, a central recess formed between the ribs 3 and 4.

5 represents a center-stiffening rib. Notwithstanding said recess and stiffening-ribs stove-centers warp or sag, and to prevent this I insert the steel or iron brace A, which is made of curved form and the ends preferably downturned with hooks *a*. It is secured to the center as follows: When the mold has been made, the brace A is inserted in the desired position, the hooks *a a* being forced into the sand of the mold a sufficient distance to hold it in an upright position, and the iron is poured around it, so it is cast integral with the center. The ends of the hooks are then cut off. It will be observed that the brace A is completely embedded in the iron and so placed in the casting as to resist the tendency to bend or sag down, for the ends of the steel or iron brace-rod being bent downward and held stationary by the metal of the stove-center, and the brace-rod being curved in the arc of a circle or arched with the highest part toward or nearest the top surface of the stove-center, such brace-rod and its bent ends act as a brace and struts and prevent the possibility of the stove-center sagging, since for the said center to sag the curved or arched brace-rod would necessarily have to assume a right line, which is impossible, as the ends acting as struts are immovable in the metal of the center and the brace-rod cannot straighten without fracturing the center. If the brace between the hooks were made straight, it would support the center to some extent, as it would be difficult to bend this wire when it is completely embedded in the cast-iron; but when it is placed in the curved form its resistance to bending is much greater, as it is impossible to bend the wire without breaking the casting.

The casting is materially strengthened by the use of this brace, as the tensile strength of the wire is uniformly distributed to the casting; hence the casting is strengthened.

I do not broadly claim strengthening-castings by an internal metal core embedded therein during the process of casting, as such of itself is not my invention.

Having described my invention, what I claim is—

1. A cast-metal stove-center having embedded therein a rigid brace-rod curved longitudinally in the arc of a circle, and having its extremities immovably fixed in the metal of the center to form a brace and struts for preventing the center sagging, substantially as described.

2. A cast-metal stove-center having embedded therein a rigid brace-rod curved longitudinally in the arc of a circle and provided with lateral downwardly-extending extremities immovably fixed in the metal of the center to form a brace and struts to prevent the center sagging, substantially as described.

In testimony whereof I have hereunto set my hand.

RICHARD H. WARNEFORD.

Witnesses:

EDWARD BOYD,

T. SIMMONS.