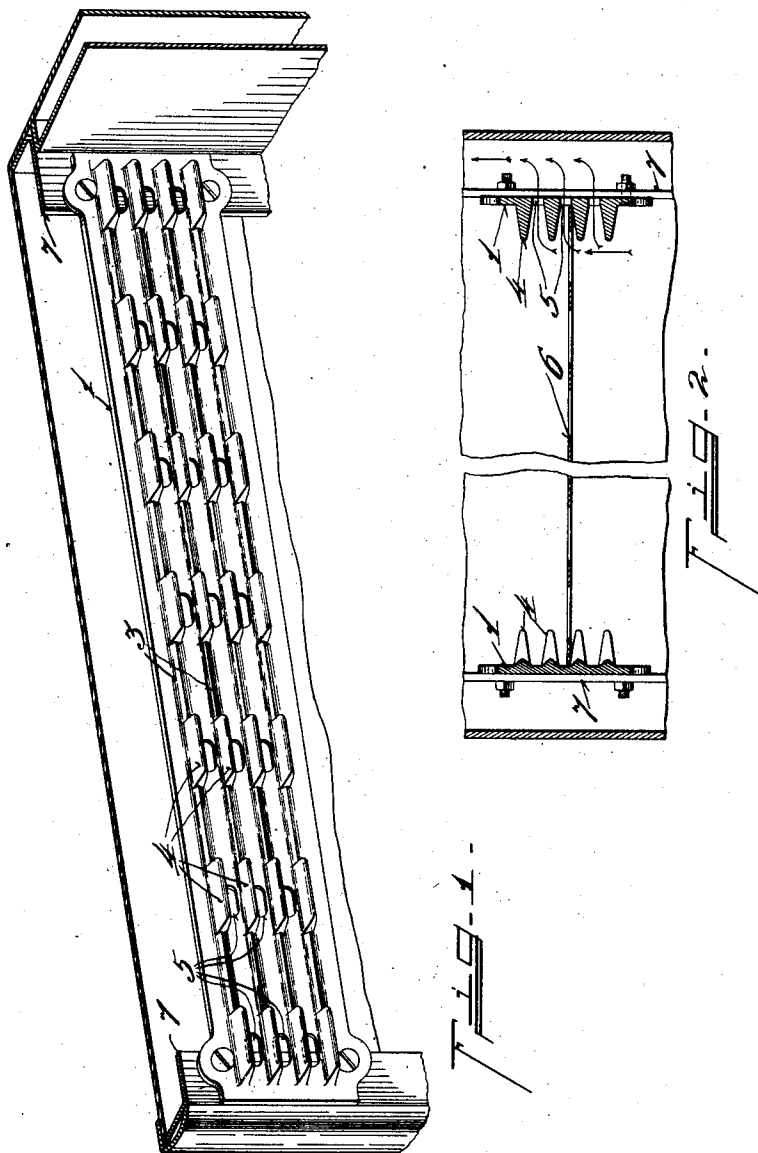


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RACK SUPPORT.
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RACK-SUPPORT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK V. KNAUSS, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented certain new and useful Improvements in Rack-Supports, of which the following is a specification.

My invention relates to an improvement in cast supports for racks and trays, primarily used in stove or range ovens.

The object of my invention is to provide a cast rack support, having one or more longitudinal ribs projected therefrom, each provided with a series of segmental or toothed extensions, with the base plate portion of the support provided with an orifice adjacent to each extension.

Another object of my invention is to provide a cast plate, with a series of longitudinal ribs projected from one face thereof, with each rib having a series of segmental extensions, with orifices through the plate and between the ribs of the series adjacent to the extensions thereof, and with the segmental rib extensions of the series in parallel planes, whereby it is possible to cast a plate without buckling or losing its shape due to shrinkage and strains in the process of casting, and when the supports are used in stove or range ovens, the orifices provide air circulating passages to equalize the temperature of all parts of the oven. The amount of metal eliminated by the orifices approximates the increase by metal projections.

The features of the invention are more fully set forth in the description of the accompanying drawing, forming a part of this specification, in which:—

Figure 1 represents a perspective view of my rack supporting plate, as applied within an oven, and illustrating a section of the oven of a gas stove type. Fig. 2 is a vertical section through a portion of a gas stove oven, with rack supports in position.

It is customary to provide ovens of gas ranges and the like with rack supports, enabling the racks to be adjusted to various positions within the oven, and these supports in common practice have been formed of sheet metal by corrugating the metal or stamping the same to present a series of longitudinal ribs, to receive the racks. These sheet metal racks corrode and deteriorate very rapidly and warp out of

shape, making the removal or adjustment of the racks very troublesome, and especially in the later designs of gas ranges where the interior of the oven is provided with removable lining plates, and wherein the racks and plate have an overlapping engagement with each other, to maintain the same in position.

It has been found that cast iron is the most desirable metal in the manufacture of stoves, as it is not subjected to deterioration from vapors and gases as sheet steel. With my improvement, I am enabled to form a cast iron rack supporting plate of perfect plane and very thin in cross section, with a series of longitudinal ribs projecting therefrom; the construction eliminating warping actions during the process of casting.

The body portion of the rack support is very thin in cross-section to reduce the weight to a minimum, and thereby the cost of the metal, and is strengthened by the longitudinal ribs, and as the cross sectional area of the ribs is small, it is possible to cast them in a perfectly straight longitudinal plane. As greater area of tray support is required than could be furnished by the ribs, they are provided with a series of segmental or tooth-like extensions, and by providing the perforations in the plate adjacent to the rib extensions, which perforations are produced by core-like extensions in the mold, the gases are allowed to escape in the process of manufacture, preventing a distortion of the ribs at such points, which would otherwise occur if the ribs and their extensions were of a continuous nature. The orifices while making a successful casting operation possible, also provide utility as vent openings when the plate is used as a rack support within the oven of the stove or range, to provide a free circulation of the heated air within the oven, advantageous in equalizing the temperature of all parts of the oven.

The rack supporting plate, as illustrated, comprises the body portion 1, provided with a series of longitudinal ribs 3, four in number being shown, and projected in parallel planes relative to each other. The ribs in cross-sectional area are very limited in their lateral projection from the base, so as to insure their alinement relative to each other and throughout their longitudinal plane, they materially strengthen the base and pro-

vide a rack support of great rigidity and with the rib extending practically the entire length of the plate. The rack is provided with a guide in its entire movement in withdrawing or inserting the same, enabling the rack to be conveniently adjusted.

4 represents segmental extensions from each rib, with the relative extensions of each of the ribs of the series alined and in parallel planes, and 5 represents orifices through the base adjacent to the rib extensions.

I regard the essential feature of my invention, broadly, in providing a cast plate, having a longitudinal rib or ribs projected from one face thereof terminating in segmental sections, to provide tooth-like extensions, with the body of the plate perforated adjacent to the tooth-like extensions, to maintain the trueness of the casting during the process of manufacture independent of its utility as a stove oven rack support.

As illustrated in the drawings, the rack supporting plate is secured to sheet metal angle plate 7, to separate the rack plate from the exterior wall of the oven, in which instance, the rack plate serves as a stove lining.

In Fig. 2 of the drawings, a rack 6 is shown in position within an oven, and with one of the plates illustrated in section, through the body portion, intermediate of the tooth extensions, while the opposing plate is illustrated in section through the tooth extensions.

Having described my invention, I claim:—

1. A cast rack support, having a plate,

one or more longitudinal ribs projected therefrom, with each rib provided with a series of segmental extensions in a longitudinal plane with the rib, said plate having orifices adjacent to the segmental rib extensions.

2. A cast plate, having a series of longitudinal ribs projected from one face thereof, each of said ribs having a series of segmental extensions and with said plate provided with orifices intermediate of the ribs and segmental extensions.

3. A cast plate having a continuous longitudinal rib on one face thereof, segments radiating from said rib in a longitudinal plane therewith, and a perforation through the plate adjacent each segment.

4. A cast plate having a series of longitudinal parallel rib extensions radially terminating in segments in the longitudinal plane of each rib and in relative serial alinement with perforations formed through the plate between each parallel series of segments.

5. A thin cast iron plate having a series of longitudinal ribs of small area in cross section with each rib developing radially into segments, with a perforation formed through the plate adjacent each segment to maintain the plane of the plate, rib and segments during the casting thereof.

In testimony whereof, I have hereunto set my hand.

FRANK V. KNAUSS.

Witnesses:

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