

W. S. BRONSON.

Fire Grate.

No. 77,445.

Patented May 5, 1868.

Fig. 1.

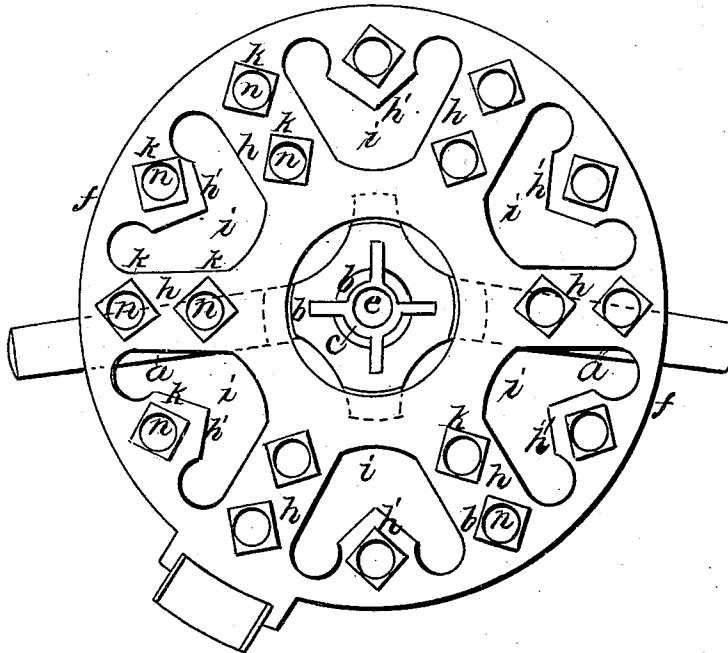
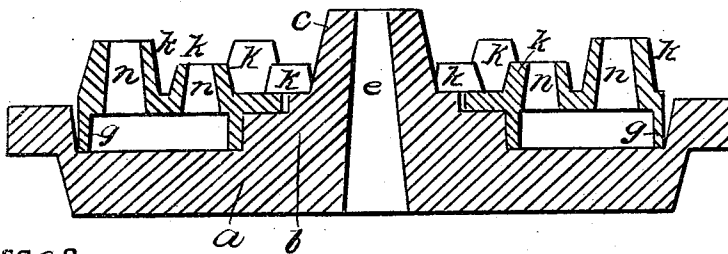


Fig. 2.



Witnesses.

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WILLIS S. BRONSON, OF HARTFORD, CONNECTICUT.

Letters Patent No. 77,445, dated May 5, 1868.

IMPROVEMENT IN FIRE-GRATES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIS S. BRONSON, of the city and county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Fire-Grates; and to enable others skilled in the art to make and use the same, I will proceed to describe, by referring to the drawings, in which the same letters indicate like parts in each of the figures.

The nature of this invention consists in arranging an oscillating-grate upon a stationary cross-bar having an elevated pronged or winged air-circulating hub, to which the central orifice of the grate is fitted and vibrates, while at the same time said grate has its bearing-support upon said cross-bar.

It further consists in arranging between the openings, and upon the surface of said grate, breakers elevated more or less, as desirable, and provided with orifices or air-passages, to prevent them from burning out, also to break the cinder, and to facilitate the escape of cinders and ashes from the surrounding coal, and thus keep the coal in a perfect state of combustion.

In a great portion of the grates now in use, after the coal has been burning any considerable time, they burn out or become so badly warped as to be nearly or quite worthless, for want of some effectual means of giving a free circulation of air, and to remove the worthless material lying near the bottom of the coal and surface of the grate.

To obviate these objections is the object of this invention. In the accompanying drawings—

Figure 1 is a top view of this improvement.

Figure 2 is a vertical section view of the same.

a is a supporting-bar.

b is a hub, secured or formed near the centre of said bar, susceptible of being made of various forms, either pronged or winged, only that it must hold or support the grate, and allow it to vibrate freely thereon. It (the hub *b*) is also provided with an elevated stationary hub, *c*, made or formed with prongs *d*, having a vertical orifice, *e*.

The object of this orifice is to allow a free circulation of air, exit of ashes and cinders, aid in breaking the cinders, and also to form a hub for the grate to vibrate upon.

f is the grate proper, having a rim, *g*, arms and projections *h h'*, six in number, more or less, between which are formed openings *i*, for the escape of coal and cinder. Upon these arms and projections are formed square or angular elevations or breakers *k*, having orifices *n*, the object of which is to allow air-circulation, the exit of cinder and ashes, and last, though not least, in connection with the hub *b*, to break the cinder, and, by shaking the grate in the usual way, to produce a free exit of the cinder and ashes, and leave the coal or fuel in a perfect state of combustion, and at the same time perfectly protect the grate from injury.

I believe I have thus shown the nature, construction, and advantage of this invention, so as to enable others skilled in the art to make and use the same therefrom.

What I claim, therefore, and desire to secure by Letters Patent, as of my invention, is—

The hollow stationary hub *b c*, constructed and arranged upon the supporting-bar *a*, substantially as and for the purpose described.

I claim the grate *f*, as constructed, in combination with said supporting-bar *a*, substantially as and for the purpose described.

WILLIS S. BRONSON. [L. s.]

Witnesses:

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