(No Model.)

F. KAEMPEN, Jr. & W. WEWERS.

GRATE FOR COOK STOVES, &c.

No. 539,744. Patented May 21, 1895.

Fig. 1.

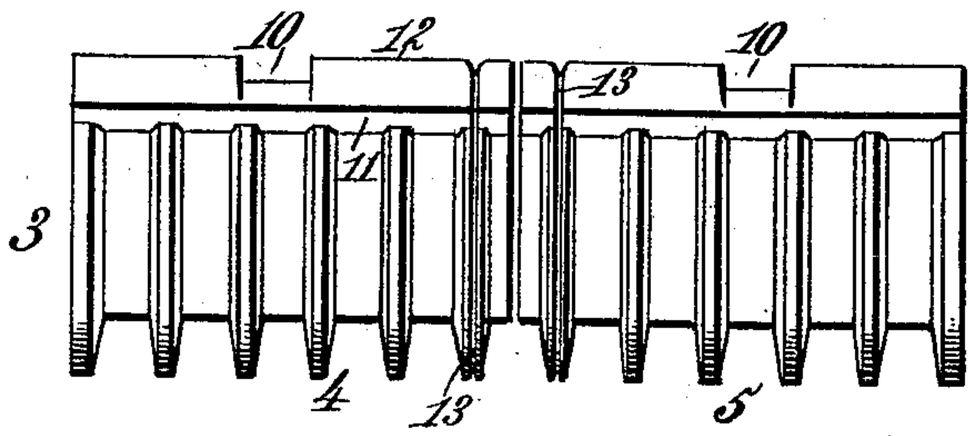


Fig. 2.

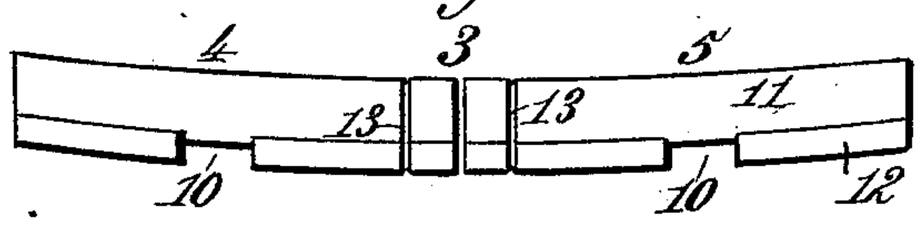


Fig. 3.

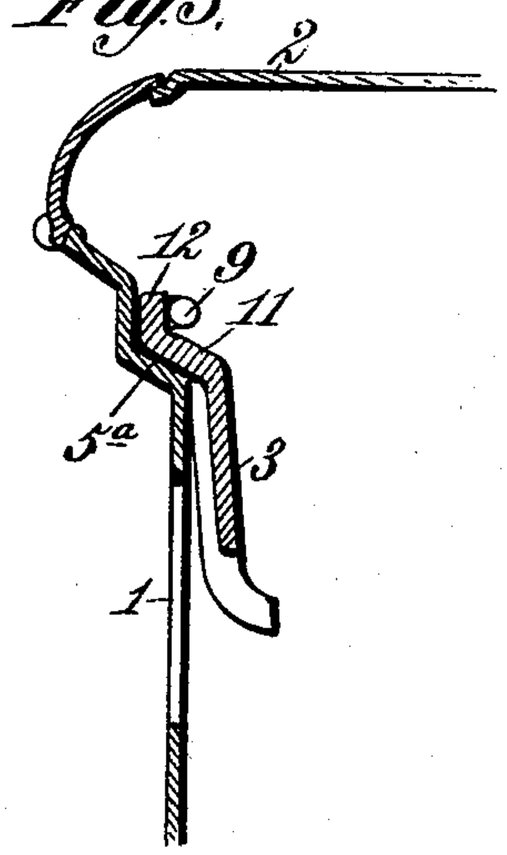
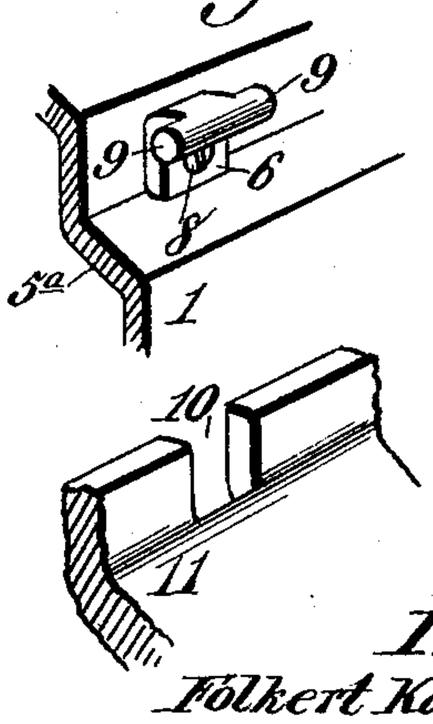


Fig. 4.



Witnesses.
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By James L. Norris.
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UNITED STATES PATENT OFFICE.

FOLKERT KAEMPEN, JR., AND WILLIAM WEWERS, OF QUINCY, ILLINOIS, ASSIGNORS TO THE GEM CITY STOVE MANUFACTURING COMPANY, OF SAME PLACE.

GRATE FOR COOK-STOVES, &c.

SPECIFICATION forming part of Letters Patent No. 539,744, dated May 21, 1895.

Application filed January 23, 1895. Serial No. 535,952. (No model.)

To all whom it may concern:

Be it known that we, FOLKERT KAEMPEN, Jr., and WILLIAM WEWERS, citizens of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented new and useful Improvements in Grates for Cook-Stoves and Ranges, of which the following is a specification.

Our invention relates to an improved grate for cook stoves and ranges, and especially to that type of grates known as front grates, and has for its object to provide a grate of this character that may be readily inserted in place and removed; that is not liable to warp, and that is adapted to be fitted to stoves of different sizes.

To these ends our invention consists in the novel features and in the combination and arrangement of parts hereinafter fully described and afterward pointed out in the claims following the description, due reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a front elevation of our improved grate. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical central section illustrating the manner of hanging the grate. Fig. 4 is a detail perspective view of a part of the stove casing and grate.

Referring to the drawings the numeral 1 indicates the front of a cook stove or range, 2 the top thereof and 3 the front grate. Front grates as ordinarily constructed are extremely liable to warp and bend or buckle inward toward the fire chamber, owing to the unequal heating of the inner and outer sides of the grate bars, the inner sides becoming heated greatly in excess of the outer sides, whereby the inner side of the grate expands faster than the outer side, thus causing the grate to bend or buckle inward. In order to prevent this we form our front gate in two or more sections 4 and 5 and support each section at one point only, a slight space normally existing between the sections, whereby room is afforded for the lateral expansion of the grate sections. Each grate section is provided with a number of downwardly depending grate bars whereby the spaces between said grate bars are always maintained uniform, and by supporting the grate sections at one point only the said sections are free to expand throughout their length. With a view to permitting such expansion, and in order that the grate sections may be placed in position and removed with dispatch and ease, we provide the following means.

The front casing of the stove, near its top, is provided with a rabbet or off-set 5^a upon the upper forward edge of which rest lugs 6, one for each grate section, the bottom edges of which are beveled to correspond with the incline of the rabbet or off-set 5^a, and each of said lugs is provided with a countersunk bolt hole in which is fitted the head of a bolt 8, that at its other end is secured to the front 1 of the stove. The lugs 6, are each provided with offset trunnions 9 that project laterally in opposite directions beyond the body of the lug and overhang the inner face of the latter. Each grate section upon its upper edge is provided with a recess or slot 10 at or near its center, said recess or slot being of approximately the same width, or slightly greater, than the width of the body of the lug 6, and said grate sections at their upper ends are bent outwardly at a slight incline as at 11, to correspond to the inclination of the rabbet or off-set 5^a, and thence upward vertically, as at 12.

To insert the grate sections the latter are held substantially horizontal and the upper edge of each section is inserted over the edge of the rabbet or off-set 5^a in such manner that the recess or slot 10 shall be in juxtaposition to the lug 6. The bottom edge of the grate section is then lowered, when the upper edge thereof will turn up under the trunnions 9 and behind the same, the bottom portion of the lug projecting through the recess 10 and the trunnions thereof lying above and in front of the upper bent portion of the grate section. It will now be seen that the grate section is suspended by said lug and the rabbet or off-set 5^a, the inclined portion 11 of the section resting on the rabbet or off-set, and the vertical portion 12 preventing it from moving or tilting inward by the trunnions 9. Each of the grate sections are in like manner secured in position, and neither of them can be dis-

placed or removed except by pushing their lower edges inward and upward and reversing the operation above described.

It will thus be seen that the grate sections can be removed and replaced with the utmost ease and dispatch, and that by freely suspending them in the manner described all rigid fastenings are dispensed with, whereby the utmost freedom of movement in expanding is afforded the sections, greatly reducing the liability of the grate breaking or cracking.

In order that each grate may be caused to fit different sized stoves, we provide each grate section near its inner edge with one or more vertical grooves 13 upon its outer side, said grooves at their upper and outer terminals being slightly enlarged. The sections in this condition are intended for the larger sizes of stoves. If it is desired to insert the sections in a smaller sized stove the grate sections, one or more, are broken off at the inner edge along the groove by a chisel, or other tool, the grate being weakest at this point and facilitating the operation, and by enlarging the grooves at their terminals, the accurate breaking of the grate at the proper point is insured.

By breaking off the inner ends of one or two sections the grate sections can be made to fit any of the usual sizes of stoves, the different sizes of front grates employed being very limited. We have described the grooves as being formed near the inner edges of the sections, and this for the reason that the outer edges of front grates are usually formed to correspond with and match the sides of the fire chamber, whereas the adjacent edges of the grate sections require no such accuracy of conformation.

Having described our invention, what we claim is—

1. The combination with a stove casing having an offset flange 5^a, of lugs 6 arranged above said offset, secured to the stove casing and constructed with offset trunnions 9, and a front grate composed of independent sections having inclined portions 11, and offset vertical portions 12 provided with vertical slots 10 to receive the lugs, so that the offset vertical portions lie in rear of the said offset trunnions, substantially as described.

2. In a stove the combination with the front thereof provided with an outwardly extending rabbet or off-set as shown, of lugs seated upon said off-set, secured to the stove casing, and provided with oppositely projecting off-set trunnions, and a grate section provided with depending grate bars, said grate section near its upper edge being deflected outward to correspond to the said off-set and at its upper edge extending vertically upward and provided with slots, adapted to receive said lugs, the upper deflected portion of the grate section seating upon the off-set under said trunnions and the upper edge thereof fitting behind the lugs, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

FOLKERT KAEMPEN, JR. [L. S.]
WILLIAM WEWERS. [L. S.]

Witnesses:
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