Aug. 2, 1966 G. W. KAMIN 3,263,676

RANGE GRATE CLIP

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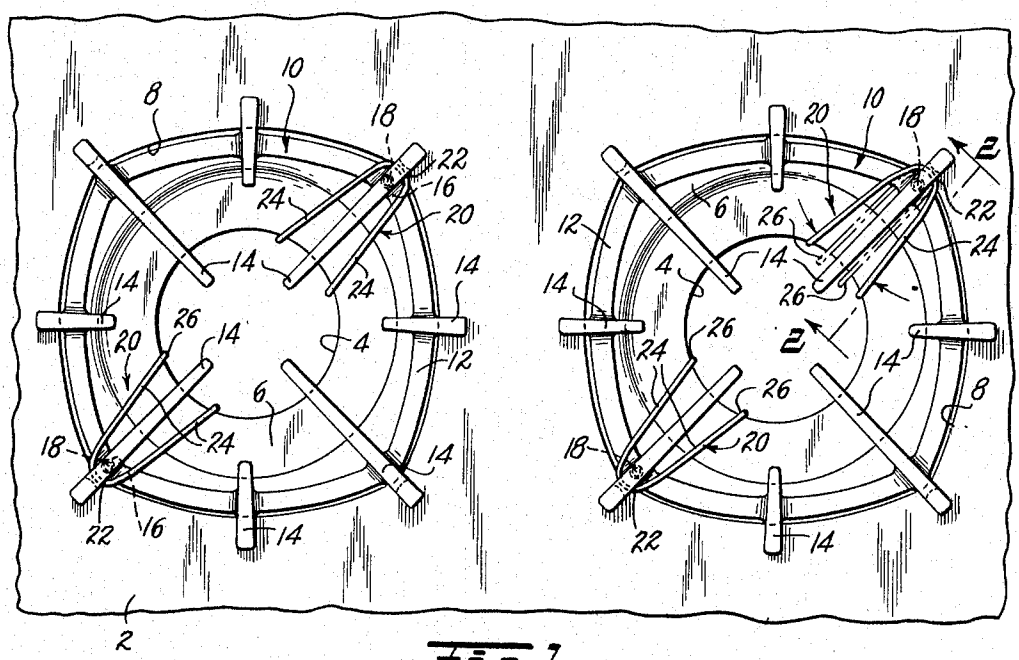


Fig. 1.

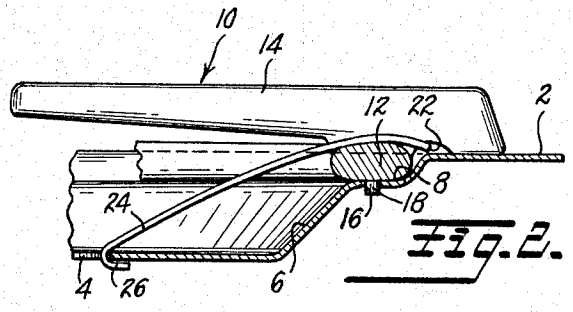
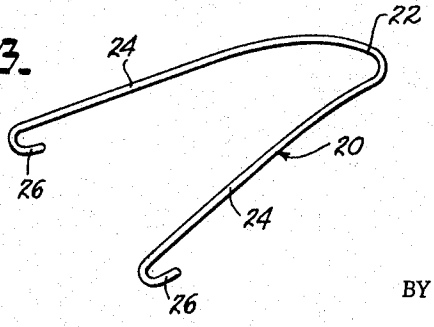


Fig. 2.

Fig. 3.



INVENTOR

George W. Kamin

BY Bacon & Thomas

ATTORNEYS

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RANGE GRATE CLIP

George W. Kamin, Arcadia, Calif., assignor to Magic Chef, Inc., Cleveland, Tenn.

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This invention relates to a spring clip for holding a removable grate on a range top to prevent displacement or rattling of the grate during transport of the range. The invention is particularly directed to a clip for use with such a range grate on ranges installed in travel trailers or mobile homes or one boats.

In brief, the invention comprises a generally V-shaped clip of spring wire for use with a grate which rests loosely on a seat on a range top in surrounding relation to a burner opening therein. The clip is arranged to engage under a grate bar at the outer side of the grate and to then be flexed downwardly and inwardly then allowed to spring out to engage hooked inner ends of the legs to the periphery of the burner opening. The stress in the spring resiliently holds the grate in place on the range top, prevents undue rattling or vibration and prevents unwanted displacement of the grate. The clip is so constructed that it can be readily and rapidly installed or disengaged.

It is, therefore, an object of the invention to provide a range grate clip of the type set forth and which is of extremely simple construction and inexpensive to manufacture yet reliable and efficient in operation.

It is another object to provide a clip as set forth above which is easily and rapidly applied to or removed from a grate on a range top.

Still another object is to provide a grate clip of the type set forth that may be used with conventional range grates without the necessity of making any changes or modifications therein.

An additional object is to provide a clip of the type set forth which can easily be applied and removed without raising the range top.

Further and additional objects and advantages will become apparent to those skilled in the art as the description proceeds with reference to the accompanying drawings wherein:

FIG. 1 is a top plan view of a portion of a range top showing conventional grates thereon and with clips of the present invention applied thereto;

FIG. 2 is an enlarged fragmentary sectional view taken along the line 2—2 of FIG. 1; and

FIG. 3 is a perspective view of one of the spring clips.

As illustrated, a range provided with a top wall 2 is provided also with a plurality of burners (not shown) positioned therebelow and projecting into openings 4 in the range top. The openings 4 are formed in depressed portions 6 of the range top and the outer peripheral portion of each depressed portion 6 defines a generally annular seat 8 for a removable grate denoted generally at 10. The grate 10 comprises a generally annular portion 12 resting loosely on the seat 8 and a plurality of radially extending grate bars 14 formed integrally with the annular portion 12 and extending across the top thereof inwardly toward the center of the opening 4 and slightly outwardly of the annular portion. The particular outline or shape of the annular portion 12 shown in the drawings is merely illustrative and the invention is not limited thereto. Customarily, the seat 8 is provided with one or more openings 16 to receive small projections or bosses 18 formed on the annular portion 12 to hold the grate 10 in a fixed position of orientation.

Since the grate 10 merely rests loosely on the seat 8, the installation of such a range in a mobile home or trailer results in considerable vibration and rattling of the grate

during transport of the trailer from place to place. Such vibration and rattling is not only unpleasant but may actually damage the finish of the range top and may even result in displacement and breakage of the grate itself. According to the present invention a plurality of spring clips 20 are provided to hold the grate firmly against its seat. Each of the spring clips 20 is preferably formed of spring wire such as stainless steel or the like and each is of generally V-shape comprising a bight portion 22 and diverging side legs 24. The legs 24 are normally substantially straight and lie in a common imaginary plane. The region of the clip around the bight portion 22 is preferably slightly curved outwardly of the plane containing the legs 24, as clearly shown in FIG. 2 and 3. The outer ends of the legs 24 are reversely bent out of the plane containing the legs and on the same side thereof as the curved bight portion 22, to form return bend hooks 26. As shown in the drawings, the clips are applied to the grate by positioning the bight portion 22 under the outer portion of a grate bar 14, outwardly of the annular portion 12 with the legs 24 extending inwardly over that annular portion. The legs 24 are then flexed downwardly and inwardly toward each other to the position shown in dotted lines in the upper right-hand portion of FIG. 1. In this position the reversely bent hook portions 26 are clear of the periphery of the opening 4 so that the legs can be flexed downwardly until the hooks 26 are below the edge of the opening 4 whereupon the clip is released and the legs 24 spring outwardly to the full line position in which the hooks 26 engage under the edge of the opening 4 and the clip is held in a resiliently stressed condition whereby to hold the grate 10 firmly on its seat. Preferably, a pair of clips is applied to each grate at substantially diametrically opposite positions, as shown. The opening 4 is illustrated as being circular in shape but it is to be understood that it may be of any suitable shape so long as the spring clip may be flexed in the manner described to engage and disengage the periphery thereof. Obviously, the clips may be readily released from their installed position by first squeezing the diverging legs 24 together from the full line to the broken line of FIG. 1 and while being held in that relative position the inner ends of the clip may be permitted to rise due to their own resilience and the clip is thus released from the grate and range.

While a single specific embodiment of the invention has been shown and described herein, it is to be understood the same is merely illustrative of the principles involved and that other embodiments may be resorted to within the scope of the appended claims.

I claim:

1. In combination; a range having a top provided with a burner opening therethrough; a grate comprising a generally annular portion seated loosely on said top in surrounding relation to said opening and having generally radial grate bars extending over said annular portion; at least one spring clip having a first portion releasably engaging over said annular portion and a second portion extending under one of said grate bars outwardly of said annular portion and having a resilient leg extending from said first portion toward said opening in a direction diverging from said one grate bar; said leg having hook means at its inner end releasably engaging the periphery of said opening and holding said leg in resiliently flexed condition to thereby resiliently hold said grate firmly against said range top.

2. In combination; a range having a top provided with a burner opening therethrough; a grate comprising a generally annular portion seated loosely on said top in surrounding relation to said opening and having generally radial grate bars extending over said annular por-

tion; at least one generally V-shaped spring clip having its bight portion engaged under one of said grate bars outwardly of said annular portion and having its legs extending inwardly over said annular portion toward said opening and in inwardly diverging relation; each of said legs being resiliently flexed downwardly and having a reversely bent hook at its inner end engaging the periphery of said opening, said opening being of generally circular shape and said reversely bent hook being of such length that flexure of said legs toward each other will disengage said hooks from the periphery of said opening.

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FREDERICK L. MATTESON, JR., *Primary Examiner.*

E. G. FAVORS, *Assistant Examiner.*