L. T. WILCOX.

GRATE FOR GAS AND OIL STOVES.

APPLICATION FILED JUNE 17, 1920.

1,408,235. Patented Feb. 28, 1922.

3 SHEETS—SHEET 1.

Fig. 1

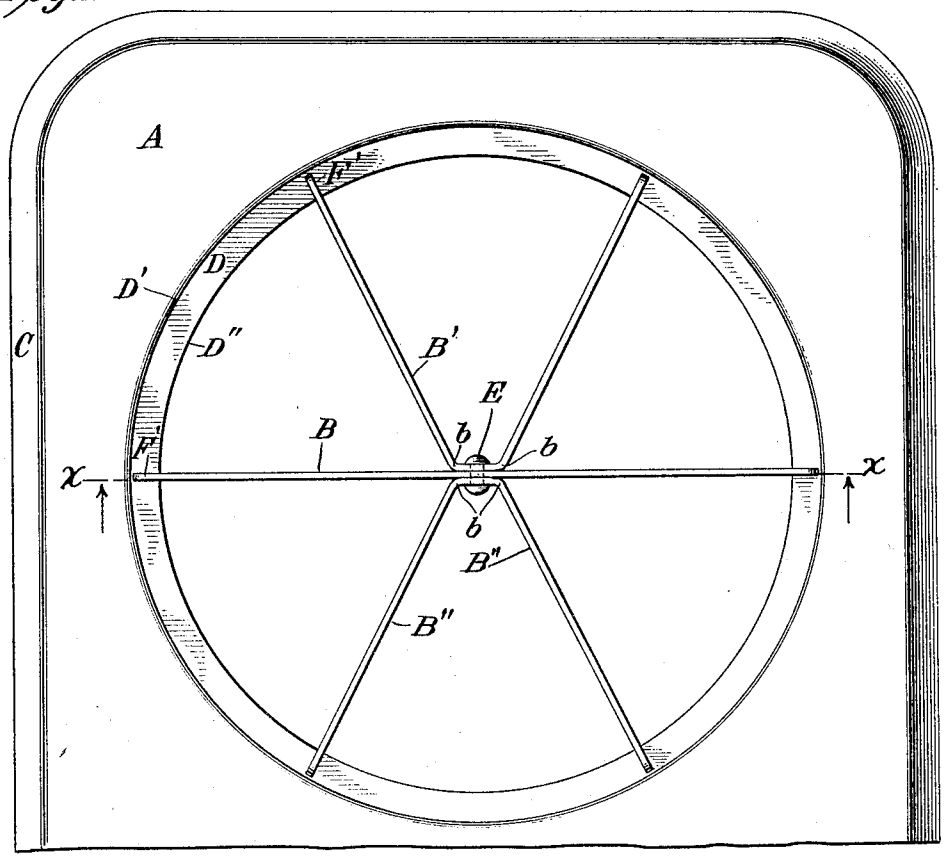


Fig. 2

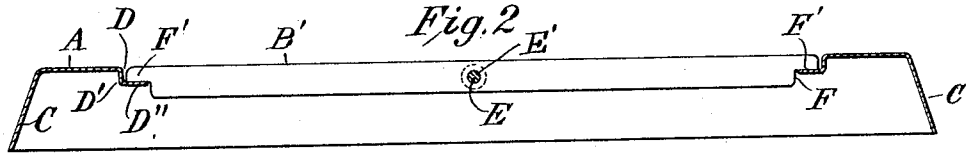


Fig. 3

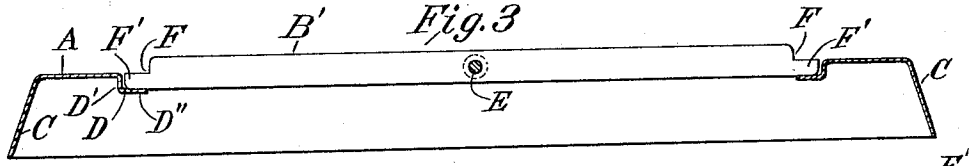


Fig. 5

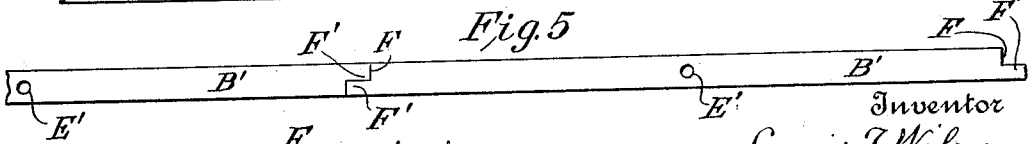
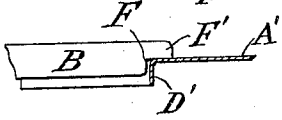


Fig. 4



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3 SHEETS—SHEET 2.

Fig. 6

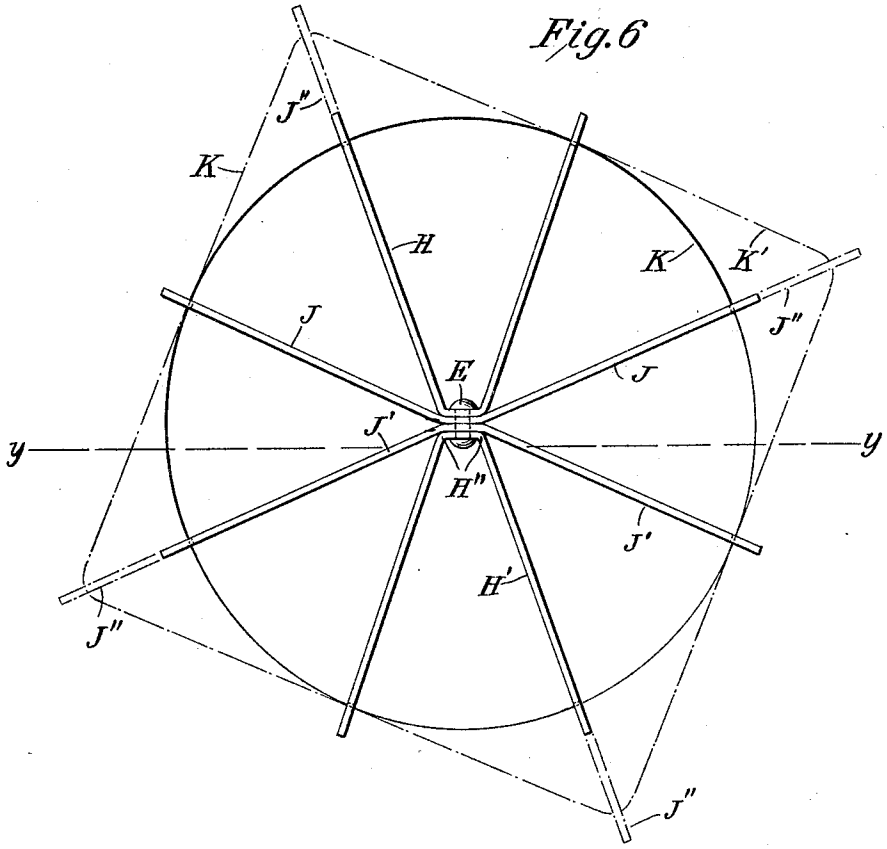


Fig. 7

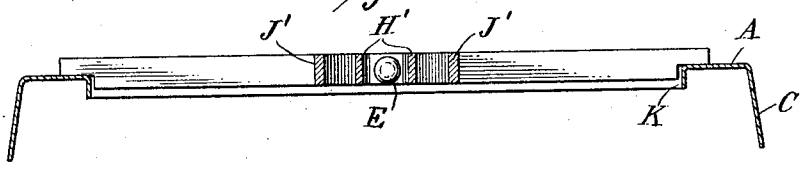
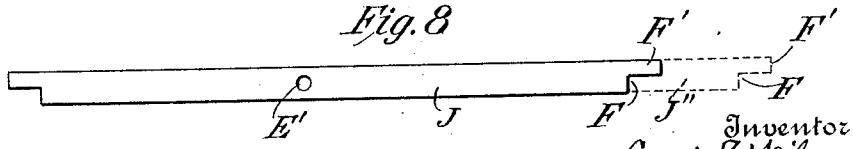


Fig. 8



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3 SHEETS—SHEET 3.

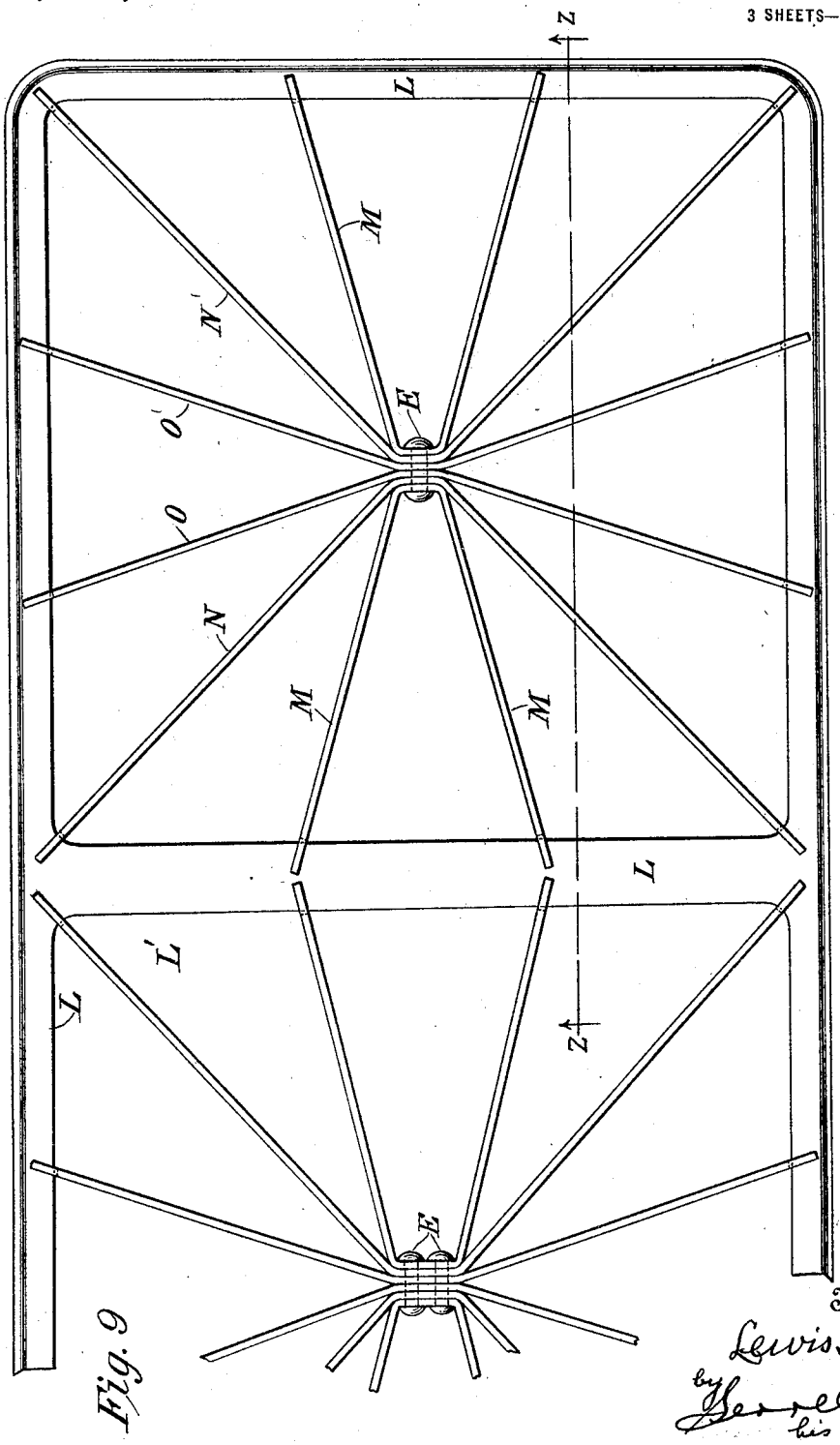


Fig. 9

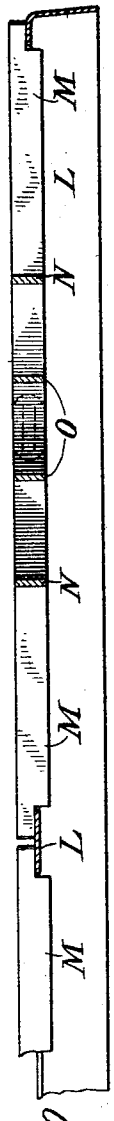


Fig. 10

Inventor

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by [illegible]

his atty.

UNITED STATES PATENT OFFICE.

LEWIS T. WILCOX, OF PEEKSKILL, NEW YORK.

GRATE FOR GAS AND OIL STOVES.

1,408,235. Specification of Letters Patent. Patented Feb. 28, 1922.

Application filed June 17, 1920. Serial No. 389,555.

To all whom it may concern:

Be it known that I, LEWIS T. WILCOX, a citizen of the United States, residing at Peekskill, in the county of Westchester and State of New York, have invented an Improvement in Grates for Gas and Oil Stoves, of which the following is a specification.

Heretofore as commonly constructed grates for oil stoves, gas stoves and various forms of vapor stoves have been constructed of cast metal, generally iron, so as to include two or more concentric metal rings and radially placed arms integrally connected therewith. The outermost ring in this construction of grates is usually made to fit the flanged opening of the top of a stove and the radially placed arms extend from positions exteriorly of the outermost ring toward the center of the grate leaving an open space at its center. In practice these grates are disadvantageous in many respects, for example, due to the opening in the center it is impossible to place small vessels directly on the grate and in using larger vessels the flame from the burner is deflected downwardly around the said rings so that it cannot impinge directly against the entire under surface of the vessel on the stove, these rings being made of cast metal are relatively expensive and exceedingly fragile and due to the latter objection many of them are broken in transit and many more frequently broken through accidental use. Still another objection to this form of grate is the fact that the outer ring fitting the flange provided therefor in the top of the stove leaves an annular space between this ring and the adjacent portion of the stove top into which frequently, when the food in a vessel boils over, the food passes and lodges soiling the top of the stove which is difficult to keep clean due to this structure and thereby making the same unsanitary.

The object of my present invention is to overcome these difficulties and in doing so the grate made in accordance with my invention is preferably constructed of steel bars so that the same is substantially unbreakable, and each grate made of a plurality of bars connected approximately centrally and each bar shaped so as to provide two radially disposed and similarly placed arms adapted to extend across the opening in the top of the stove and so constructed that the extremities rest upon the same and are reversible thereon as will be hereinafter more particularly described.

In the drawing:

Fig. 1 is a plan view of a portion of a top of a gas or oil stove illustrating the use of one form of my improved grate.

Fig. 2 is a cross section on line *x*—*x*, Fig. 1.

Fig. 3 is a similar view showing the grate reversed in position.

Fig. 4 is a partial cross section showing a modified form of the stove top and extremity of a grate bar.

Fig. 5 is an elevation of parts of grate bars illustrating the manner in which the said grate bars may be formed.

Fig. 6 is a plan of another form of grate bar.

Fig. 7 is a cross section on line *y*—*y*, Fig. 6.

Fig. 8 is an elevation of one of the grate bars shown in Figs. 6 and 7.

Fig. 9 is a plan of still another form of grate, and

Fig. 10 is a cross section on line *z*—*z*, Fig. 9.

Referring to the drawing and particularly to Figs. 1 to 3 inclusive, the top of an oil or gas stove is indicated at A. As is customary, this top includes a side member C which may be inclined as clearly illustrated in the drawing and centrally the top is provided with an opening defined by a shoulder D, an upright wall D′ and preferably a flange D″. As illustrated in these figures the grate bar to which the present invention more particularly relates is made of a plurality of steel bars or bands indicated at B, B′ and B″. The bar B is a straight bar and the bars B′ and B″ are bars similarly bent at *b* adjacent their central portions into corresponding angles so that when these central portions of the bars B′, B″ are connected to the central portion of the bar B the grate includes a plurality of radially disposed arms adapted to extend across the burner opening in the top of the stove and to rest upon the same. As illustrated in these figures the central portions of the bars are provided with a hole E′ adapted to receive a rivet E, although the bars may be welded or otherwise secured to one another without departing from the nature and spirit of the invention.

At its extremity the arms of each bar are

cut so as to provide a shoulder F and an extension F′ forming an angular extremity of the arm and as illustrated in Fig. 2 the grate hereinbefore described may be placed in position in the top of the stove so as to have the shoulder F fitted within the flange D″ with the extension F′ resting upon the flange D″ so that the top or upper surface of the grate is substantially in the same plane as the top of the stove; or as shown in Fig. 3 the grate may be reversed so that the extension F′ rest upon the flange D″ in a reversed position in order that the top of the grate may be raised an appreciable distance above the top of the stove.

Referring to Fig. 4 it will be seen that the stove top may include only the substantially vertical wall D′ and in such an instance, as will be understood, the arms of the grate must be made sufficiently long to permit the extensions F′ thereof to rest upon the top of the stove with the shoulder F extending into the opening in the top as shown in this figure or in the reversed position if so desired.

Referring to Fig. 5 it will be seen that the bars of which the improved grate is made, as hereinbefore described, may be constructed from a continuous band of steel or other similar material by a punch and dies for cutting the same along the lines as indicated to form the shoulders F and the extensions F′ as well as to provide the same centrally with the rivet holes indicated at E′. As will be understood, of course the bar must be reversed if but one end is formed at a time, although the dies may be so constructed in reversed positions as to simultaneously cut both ends at one and the same time.

Referring to Figs. 6, 7 and 8, it will be seen that the improved grate may consist of the bars H, H′ and the bars J and J′ connected at their central portions by a rivet E or otherwise. The bars H, H′, are bent at corresponding angles adjacent their central portions as are also the parts J, J′ so that when assembled and connected by the rivet or otherwise they form equally spaced radially disposed arms with the extremities thereof constructed in a manner similar to that hereinbefore described so as to be adapted to fit the top of a gas or oil stove. In these figures the top of the stove is provided with a square opening indicated at K and of course in such a structure the various arms forming the grate must be made sufficiently long as indicated at J″ to reach the parts of the top in which the opening is made, or without departing from the nature of the invention suitable extensions may be provided for being connected to the arms to make the same of sufficient length for this purpose.

Referring to Figs. 9 and 10, it will be seen that a still greater number of bars and a correspondingly increased number of arms may be employed in the manufacture of my improved grate. In these figures the arms are indicated at M, M′, N, N′ and O, O′, the bar M and M′ being similarly constructed and employed in oppositely disposed positions as is also the case with the arms N, N′ and O, O′, the bent portions of the bars adjacent the central parts thereof being of such an extent that when the bars are connected by the rivet or rivets E the arms thereof assume substantially equally spaced positions. In these figures of the drawing the opening in the top of the stove is indicated at L′ and the stove top at L and the extremities of the arms forming the grate are constructed as hereinbefore described so as to be adapted to fit within the upright wall defining the opening in the stove or to rest upon the top of the same as may be desired.

From the foregoing it will be understood that the grate made in accordance with this invention is substantially unbreakable; that it does not in any way prevent the flame from the burner impinging directly upon all parts of the bottom of a cooking vessel; that any cooking vessel irrespective of its size may be placed on the grate, and that when in position the grate eliminates any space between the same or any part thereof and the top of the stove so that there can be no accumulation of the food in boiling over from the cooking vessel so as to make the stove unsanitary.

I claim as my invention:

1. A grate for gas and oil stoves and the like comprising a plurality of metal bars standing on edge and connected centrally to each other, with one bar extending across the grate so as to be supported at substantially diametrically opposite positions to relieve the strain at the point of connection between the same and the other bars which are substantially U-shaped and extend in radial directions from the point at which the bars are connected.

2. A grate for gas and oil stoves and the like comprising a plurality of bars, a riveted connection for securing the said bars centrally to each other so that the same stand on edge, one of the bars extending substantially diametrically across the grate so as to be supported at opposite positions to relieve the strain on the rivet connection point between the bars, with the other bars bent to U-shaped form to provide arms which extend in radially disposed positions from the central rivet point.

3. A grate for gas and oil stoves and the like comprising a plurality of bars set on edge, one of which is substantially straight and the others bent to U-shaped form, and a rivet for connecting the central portions

of the said bars to one another whereby radially disposed arms are formed from each bar, the substantially straight bar reaching across and adapted to be supported at diametrically opposite positions to relieve the strain at the pivotal connection between the same and the other bars.

4. A grate bar for gas and oil stoves and the like, comprising sets of bars, each standing on edge and connected centrally to provide radially extending arms with one of the arms of each set lying substantially parallel to an oppositely disposed arm in another set.

5. A grate bar for gas and oil stoves and the like, comprising sets of U-shaped bars standing on edge and connected centrally to provide radially extending arms with the arms of one U-shaped bar lying substantially parallel to the oppositely disposed arms of another U-shaped bar.

6. A grate bar for gas and oil stoves and the like, comprising a plurality of U-shaped bars, and means for connecting the U-shaped bars centrally thereby providing radially extending arms with each of the arms of each U-shaped bar lying in a position substantially parallel to an arm of an oppositely disposed U-shaped bar.

Signed by me this 15th day of June, 1920.

LEWIS T. WILCOX.