

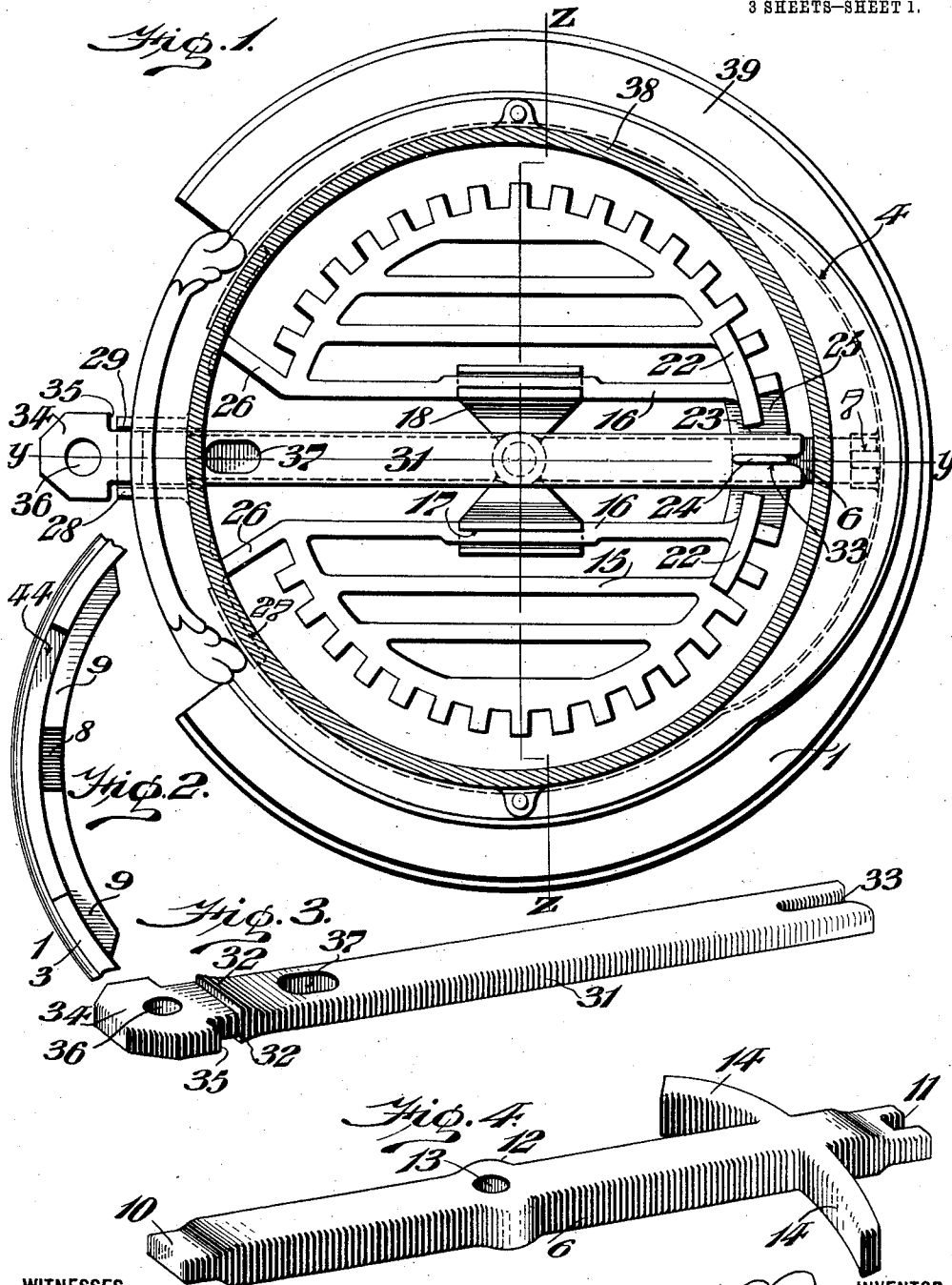
S. V. REEVES.
STOVE.

APPLICATION FILED FEB. 27, 1912.

1,063,732.

Patented June 3, 1913.

3 SHEETS—SHEET 1.



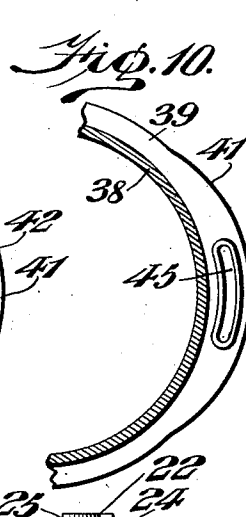
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3 SHEETS—SHEET 2.



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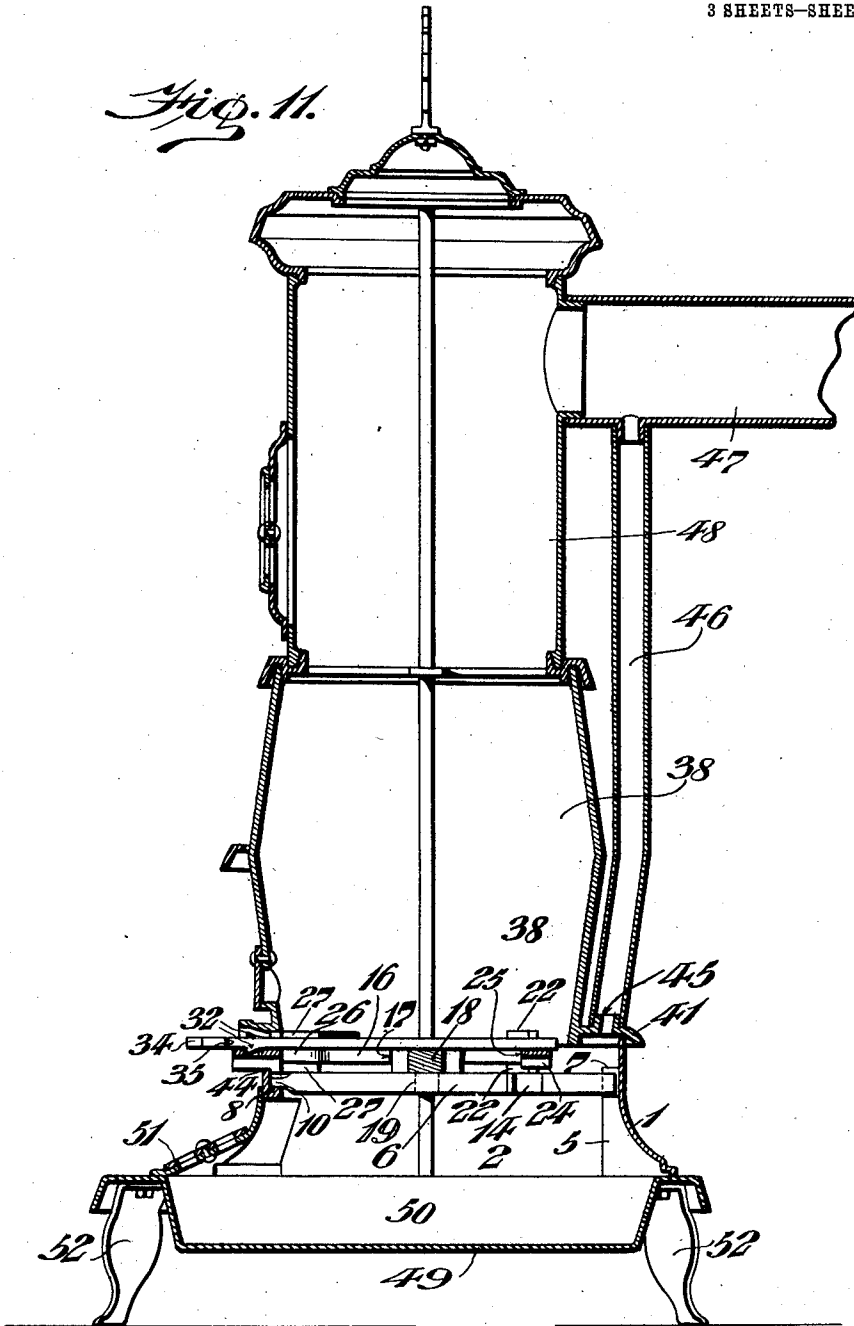
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3 SHEETS—SHEET 3.

Fig. 11.



WITNESSES

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STOVE.

1,063,732.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SAMUEL V. REEVES, a citizen of the United States, residing at Haddonfield, county of Camden, State of New Jersey, have invented a new and useful Stove, of which the following is a specification.

My present invention relates to a novel construction of a stove wherein provision is made for reducing to a minimum the clogging of the rear part of the grate and provide a better circulation of the air beneath the grate.

My invention in its board and generic scope consists of a novel stove wherein provision is made for the free circulation of air along the rear fire line, a novel construction of grate and grate support being provided, and also a novel arrangement of dust pipe.

It further consists of a novel construction of a base or ash pit and a novel construction of the cylinder forming the lower fire chamber, wherein the cylinder is cylindrical but at the lower portion below the fire line, is made oblong or outwardly deflected at its rear portion in order to cooperate with the oblong or pouched section of the case upon which it rests, the lower portion of the cylinder being adapted to be used on either a circular base or on an oblong pouched base, such as is herein shown.

It further consists of a novel construction of a base, the rear portion of which is oblong and preferably removable, such oblong portion forming a chamber in rear of the grate to collect the ashes, such sections also being provided with means adapted to interlock with the grate rest while the forward portion of the base portion is provided with means cooperating with the grate to guide the same in its movement.

It further consists of a novel construction of a reversible rest or support whereby, in case the same becomes warped or distorted, it may be readily reversed, such rest being adapted to carry the movable grate and being provided with means for interlocking with the base of the stove at points exterior of the fire zone, thereby greatly increasing the durability and life of the rest or support and incidentally the grate and fire cylinder.

It further consists of a novel construction of a grate, the top and bottom of which are constructed in a similar manner whereby, in case one side of the grate becomes dis-

torted due to the heat then such grate may be readily reversed.

It further consists of a novel construction of a grate provided with a journal removably connected therewith and adapted to be rotatably mounted on the reversible rest or support for the grate.

It further consists of a novel manner of interlocking a reversible draw or shaking bar with the grate and also a novel construction of draw or shaking bar wherein provision is made for preventing the ashes or cinders being carried along the top of the draw or shaking bar, and escaping into the room or place in which the stove is installed.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings those embodiments thereof which are at present preferred by me, since the same have been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a transverse section on line $x-x$ of Fig. 5, of a stove embodying my invention. Fig. 2 represents a plan view of a portion of Fig. 1. Fig. 3 represents a perspective view of the reversible shaking bar in detached position. Fig. 4 represents a perspective view of the rest in detached position. Fig. 5 represents a sectional elevation on line $y-y$ Fig. 1. Fig. 6 represents a sectional elevation on line $z-z$ Fig. 1. Fig. 7 represents a plan view of a portion of the grate showing more clearly certain details of construction. Fig. 8 represents a bottom plan view of the fire pot or cylinder. Fig. 9 represents a sectional view of the grate in detached position. Fig. 10 represents a sectional plan view of another embodiment of my invention, wherein the fire pot or cylinder is provided with an opening which may be closed in practice in any desired manner. Fig. 11 represents a sectional elevation of a complete stove embodying my invention.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: 1 designates the base of the stove which may be supported in any desired manner, and which forms the ash pit 2 in the usual manner.

5 The upper flange 3 of the base portion 1 is cylindrical, except at its rear portion, at which place it is outwardly deflected to provide an oblong or pouched portion 4, as will be clearly understood by reference to Fig. 1, and such oblong portion is provided on its
10 inner face with a reinforcing rib 5, the upper end of which forms a support for the rest bar 6, and is provided with an upwardly extending lug 7.

15 The front portion of the base 1 is provided on its inner face with a recess 8 from which extend the guides or tracks 9. The forward end of the rest bar 6 may have any desired contour but, in the present instance, I have shown the same as having a rectangular
20 shape as indicated at 10, thereby adapting the same to be seated in the recess 8, while the opposite end of the rest bar 6 is slotted, as is indicated at 11, thereby adapting the same to interlock with the lug 7 and
25 rest upon the reinforcing rib 5, as will be clearly understood by reference to Fig. 5.

The rest bar 6 is preferably provided with a boss or enlargement 12 which is apertured
30 as is indicated at 13. 14 designates curved ribs extending from the rest bar 6 and preferably integral therewith and forming tracks and, in the present instance, the same are shown as of the same diameter as the
35 rest bar, it being understood that the rest bar 6 is constructed in such a manner that the top and bottom faces thereof are alike in order that the same may be readily reversed when desired, as will be more clearly
40 set forth in the description of the operation.

15 designates my novel grate the contour of which may vary as desired but which, in the present instance, is shown as substantially cylindrical and having the central
45 bars thereof removed. The inner grate members 16 have one side thereof recessed, as indicated at 17, thereby adapting the same to interlock with the journal member 18, which latter is provided with a depending
50 boss or stud shaft 19, which is adapted to extend into the aperture 13 of the rest bar 6 and be journaled therein. The journal member 18 has its side walls 20 faced off in order to adapt the same to engage with
55 the walls of the recess 17 and is provided near its bottom with the grooved portions 21 on which the grate members 16 are seated when the parts are in assembled condition.

The grate bar at its rear end is provided
60 on opposite sides with outwardly extending curved bearing lugs 22 which are cut away as indicated at 23 and on which are located the lugs 24, it being best understood by reference to Fig. 9 that a top and bottom lug
65 24 is secured on opposite sides of the plate

25, which preferably form an integral part of the grate structure. The front end of the grate is provided with the outwardly extending grate members 26 which are connected with a curved bar or bearing 27 provided with an outward extension 28, which
70 latter is recessed from front to rear on its upper and lower faces, as is indicated at 29, and slotted, as indicated at 30.

It will be understood from the above description that the top and bottom faces of the grate bar are constructed in a similar
75 manner so that the same may be reversed when desired.

The purpose of the aperture 30 is to interlock with the draw or shaker bar 31 which
80 is preferably constructed of an integral piece of material and provided with a shoulder 32 on its upper and lower face, in order that such shoulder may be interlocked with the aperture 30, it being seen that the opposite end of the draw or shaker bar 31 is
85 slotted, as is indicated at 33, thereby adapting the same to interlock with a lug 24 carried by the grate 15. The forward end of the draw or shaker bar 31 is provided with an enlarged head 34 forming a shoulder 35
90 and this enlarged head 34 is preferably apertured, as is indicated at 36, thereby adapting the same to be connected with any desired mechanism for actuating the draw or shaker bar 31.

37 is an aperture through the draw or shaker bar near its forward end in order that any ashes or cinders which tend to
100 travel along the upper surface of the draw or shaker bar will pass through the ash pit instead of passing exterior of the furnace.

It will be seen that the central portion of the journal member 18 is suitably recessed
105 or cut away in order that the draw or shaker bar 31 may pass thereover and be supported thereon.

38 designates the fire cylinder which is adapted to be seated on the base 1 and the
110 lower portion of the fire cylinder is provided with a flange 39 having a groove 40 in its under face thereby adapting the same to be employed without change in conjunction with the usual construction of a base, attention
115 being directed to the fact that the rear portion of the flange 39, is outwardly deflected, as is indicated at 41, thereby forming an oblong or pouched portion which is provided with a groove 42, thereby adapting
120 the same to be seated on the outwardly deflected portion 4 of the flange 3 of the base 1. The wall of the flange 39 is cut away at its front portion, as is indicated at 43, in order to provide a compact construction, it
125 being understood from Fig. 5 that the flange 3 is cut away, as is indicated at 44, in order to permit the travel of the end of the draw or shaker bar 31 and the extension 28 of the grate.
130

In some cases arising in practice it is advantageous to have an aperture 45 through the flange 41, as seen in Fig. 10, in order that a dust pipe 46 may be connected therewith, as indicated in Fig. 11, said pipe communicating with a pipe 47 which communicates with the upper cylinder 48 in order that the products of combustion may escape therefrom. The base 1 may be mounted on any desired type of a support and, in the present instance, I have shown the same as mounted on a base plate 49 which is depressed to form an ash receiving chamber 50 and provided with a door 51 of any desired type, whereby the admission of air beneath the grates may be controlled as desired, it being understood that in practice the base plate 49 is carried by legs 52.

In the operation of the grate it will be seen that when the draw or shaker bar 31 is moved, in either direction, the bearing members 27 of the grate will travel on the guides or tracks 9 of the base portion 1 while the bearing members 22 of the grate will travel on the flanges or tracks 14 of the rest 6 and owing to the chamber formed in rear of the ash pit beneath the grate it will be seen that the likelihood of ashes or clinkers collecting near the rear portion of the grate, such as occurs in devices of this character, as heretofore constructed, is practically eliminated since such ashes will pass from the grate through such chamber into the ash pit.

In so far as I am aware, I am the first in the art to devise a stove wherein the base portion and the cylinder are provided with an outwardly extending portion thereby forming a chamber in rear of the grate to provide a space outside of the fire zone of the fire, in order to retain the usual wall or pocket of ashes that remains when taking ashes from the ash pit by the common and usual manner of a shovel and a free circulation of the air along the rear fire line is provided with consequent increase in the life of the grate and its support and the rear portion of the fire pot, and it is to be understood that my claims to such features are to be interpreted with corresponding scope.

Special attention is directed to the novel location of the dust collar which is at the top of the base ring of the fire pot which is the highest point possible to place a dust pipe in a stove of the type illustrated thus rendering it impossible for the dust pipe to become clogged at any time, attention also being directed to the fact that the cylinder forming the fire pot is constructed in such a manner that it may be employed either on stoves of the usual type or base or in conjunction with my novel construction of base as herein described. Special attention is also directed to the novel manner of construction and arrangement of the grate and

the other adjuncts coacting therewith, it being noted that the reversible rest bar is constructed in a similar manner on its top and bottom faces so that the same may be readily reversed when desired, the ends of such rest bar being constructed in such a manner that they will interlock with the cooperating portions of the base 1. If it is desired to reverse the grate mechanism it will be apparent that it is simply necessary to slightly raise the outer end of the draw or shaker bar 31 so that the shoulder 32 will be released from the aperture 30 whereupon such draw or shaker bar may be readily withdrawn. The grate 15 may then be removed from the journal member 18 and reversed, whereupon the grate members 16 will interlock with the journal members 18 so that the bottom face of the grate will now become the top face and will present a new grate surface for the bed of fuel. The rest bar 6 is also given the same conformation on its top and bottom faces in order that it may be readily reversed when desired.

It will be apparent that in the broad scope of my invention the contour of the base and of the cylinder is immaterial as long as the base and said cylinder are extended to provide a chamber in rear of the grate and thus provide a free circulation of air to such point at all times. It will also be apparent that the dust aperture 45 may be closed in any desired manner and in some cases arising in practice it is unnecessary to employ the same and this may be dispensed with if desired.

It will be apparent that by employing the chamber in rear of the grate, as herein disclosed, the support or journal for the grate rest is located in such a position that it is not liable to become affected by the heat of the fire.

In rest supports and grates as heretofore constructed there has been undue wear on the upper portion of the base and the lower portion of the cylinder owing to the rocking or tilting movement permitted and, in my present invention, owing to the employment of the tracks 14 carried by the rest bar 6 and the guides 9 carried by the base 1, it will be seen that as the grate is rocked back and forth it will travel in a substantially horizontal plane and no binding of the parts is permitted.

It will now be apparent that I have devised a novel and useful construction of a stove which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various par-

ticalars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a stove base, of a rest bar carried thereby and provided on opposite sides with lateral flanges, a journal rotatably carried by said rest bar, a grate adapted to interlock with said journal and provided with bearing lugs adapted to travel on the flanges of the rest bar, said grate having a portion thereof extending exterior of the base, and a draw bar having means for interlocking with said grate.

2. The combination with a stove base, of a grate rotatably mounted thereon, and a draw bar adapted to extend across said grate and interlock therewith, and having an aperture near its forward end to prevent ashes traveling along said grate exterior of the stove.

3. In a stove, a base provided with a rib forming a support, a rest bar having one end interlocking with said support, and the other end with the opposite side of said base, said rest bar having guides extending from opposite sides thereof, a journal rotatably mounted on said rest bar and having spaced grooves therein, and a grate having members adapted to interlock with said grooves.

4. In a stove, a base, a rest bar carried thereby, a journal carried by said base and provided with grooves on opposite sides thereof, a grate having members interlocking with said grooves to prevent distortion of said members, said rest bar having a lateral extension on each side thereof cooperating with the grate to cause the latter to travel in a substantially horizontal plane, and actuating means for said grate.

5. In a stove, a base, a rest bar carried thereby having curved tracks, said base being provided with flanges at its front portion, a grate having on both its top and bottom, at its front and rear portions, bearing lugs, said bearing lugs adapted to cooperate with the flanges of said base and said tracks respectively, and a draw bar adapted to pass between said grate bearing lugs and interlock with said grate.

6. A grate comprising parallel grate members on opposite sides of its longitudinal diameter, provided with bearing lugs near the front and rear portions of the outer periphery on each side of the grate body portion, and spaced apart, a lug located between the bearing lugs at the rear portion, a draw bar adapted to cooperate with said lug, and a plate connecting the bearing lugs at the forward portion and provided with means for interlocking with the grate actuating mechanism.

7. A grate comprising a grate body having curved bearing lugs on opposite sides thereof, and a lug on each side of the body intermediate said curved bearing lugs, in combination with a draw bar cooperating with said lug.

8. The combination with a grate, of a draw bar having an aperture therethrough near its outer end to prevent ashes traveling along said draw bar, said draw bar being removably carried by said grate.

9. As a new article of manufacture, a rest bar comprising a rectangular bar having an open slot at one end and provided intermediate its ends with an aperture and having in proximity to said aperture curved bearing guides extending laterally from opposite sides thereof and substantially flush with the upper and lower faces thereof, the upper face of said rest bar having the same contour as the lower face thereof.

10. As a new article of manufacture, a draw bar having a slot at one end, and an aperture therethrough near the opposite end, and provided with a groove on opposite sides thereof, thereby forming outwardly extending shoulders on opposite sides of the draw bar.

11. A grate having its upper and lower faces of the same conformation, each of such faces being provided with curved bearing lugs spaced apart, and a lug therebetween, and having at its opposite end a curved track forming flange, and an apertured extension connected with said flange, in combination with a draw bar adapted to cooperate with said lug.

12. As a new article of manufacture, a grate having its upper and lower faces of the same conformation, each of such faces being provided with curved bearing lugs spaced apart, and a lug therebetween, and having at its opposite end a curved bearing flange, an apertured extension connected with said flange, in combination with a draw bar having means at one end to interlock with the lug between said curved bearing flanges, and having near its other end means to interlock with the aperture of said apertured extension.

13. The combination with a rest bar suitably mounted, of a journal member rotatably mounted on said rest bar and provided on its upper face with spaced grooves, of a grate having spaced central members adapted to interlock with said grooves, and a draw bar removably secured between the spaced central members of said grate.

14. The combination of a base having a rib forming a support on one side thereof, and provided on the opposite side thereof with a curved bearing having a recess therein, of a rest bar having its upper and lower faces of the same conformation and provided at one end with a slot adapted to interlock

with said support and having its other end adapted to interlock with said recess, said rest bar being provided with laterally extending flanges on opposite sides thereof, a gate
5 having its upper and lower faces of the same conformation and rotatably mounted on said rest bar and having curved bearings engaging the bearings of said rest bar and provided with a curved flange engaging the
10 flange of said base, and a draw bar passing centrally through said grate and interlocking therewith.
15. A grate having its upper and lower faces of the same conformation, each of such

faces having curved bearings near its outer 15 periphery spaced from each other, and a lug intermediate said bearings and having near its opposite side a curved bearing having a recessed extension extending outwardly therefrom, in combination with a draw bar 20 having one end seated in said recessed extension and its other end interlocking with the lug between said spaced bearings.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."