

No. 860,280.

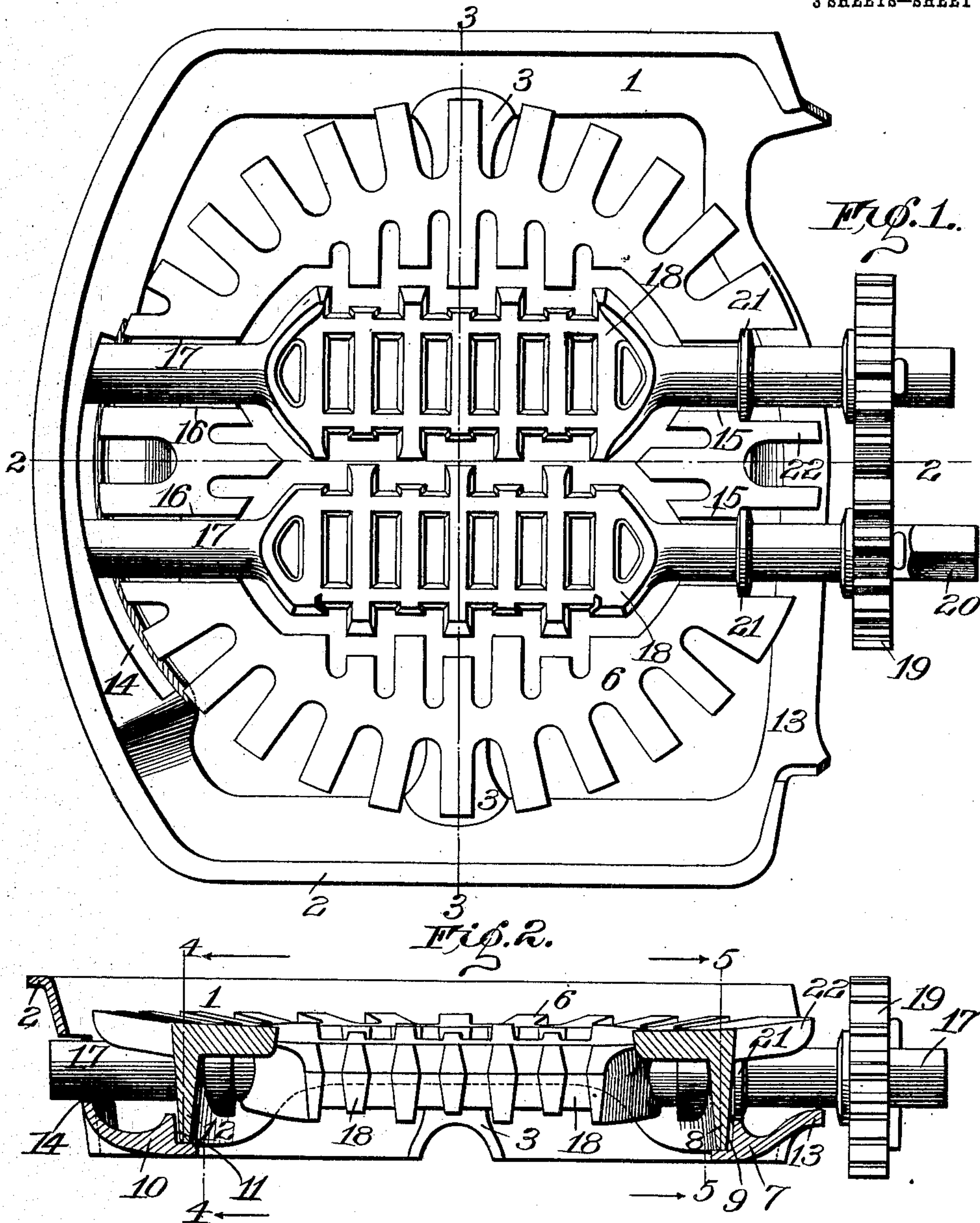
PATENTED JULY 16, 1907.

A. B. CLUNIES.

GRATE.

APPLICATION FILED JULY 1, 1903.

3 SHEETS—SHEET 1.



Witnesses.

Walter D. Payne

Clarence A. Dutton

Inventor.

Arthur B. Clunies
by Edmund Selchuck

his Attorney.

No. 860,280.

PATENTED JULY 16, 1907.

A. B. CLUNIES.

GRATE.

APPLICATION FILED JULY 1, 1903.

3 SHEETS—SHEET 2.

Fig. 3.

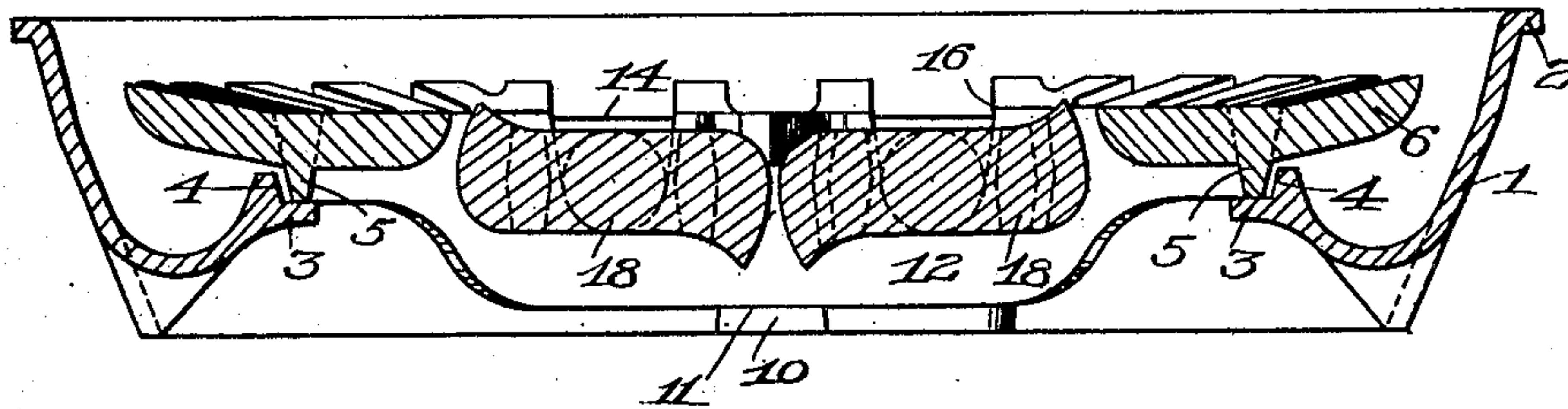


Fig. 4.

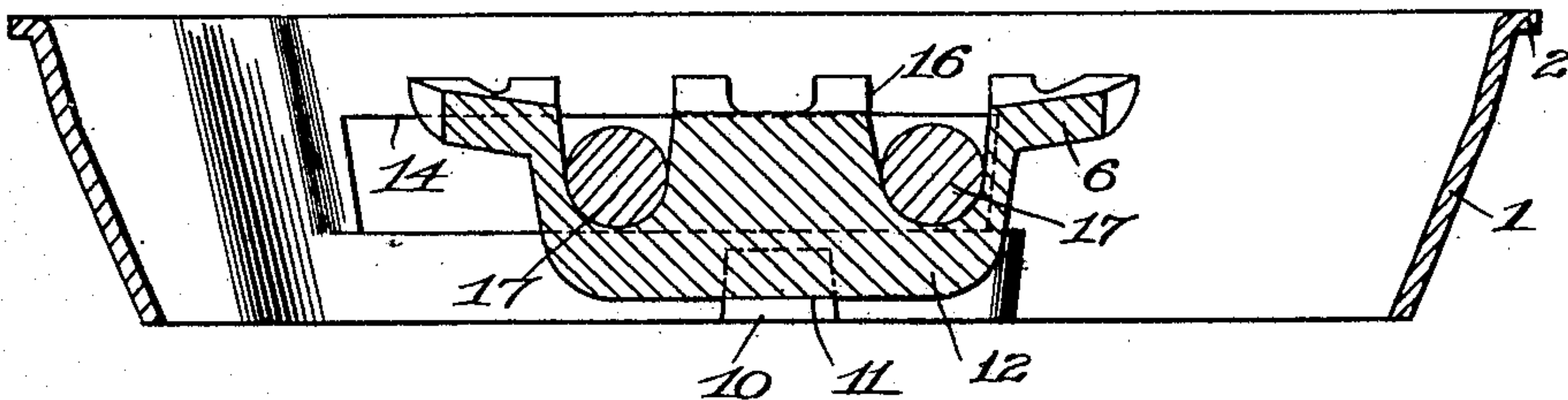
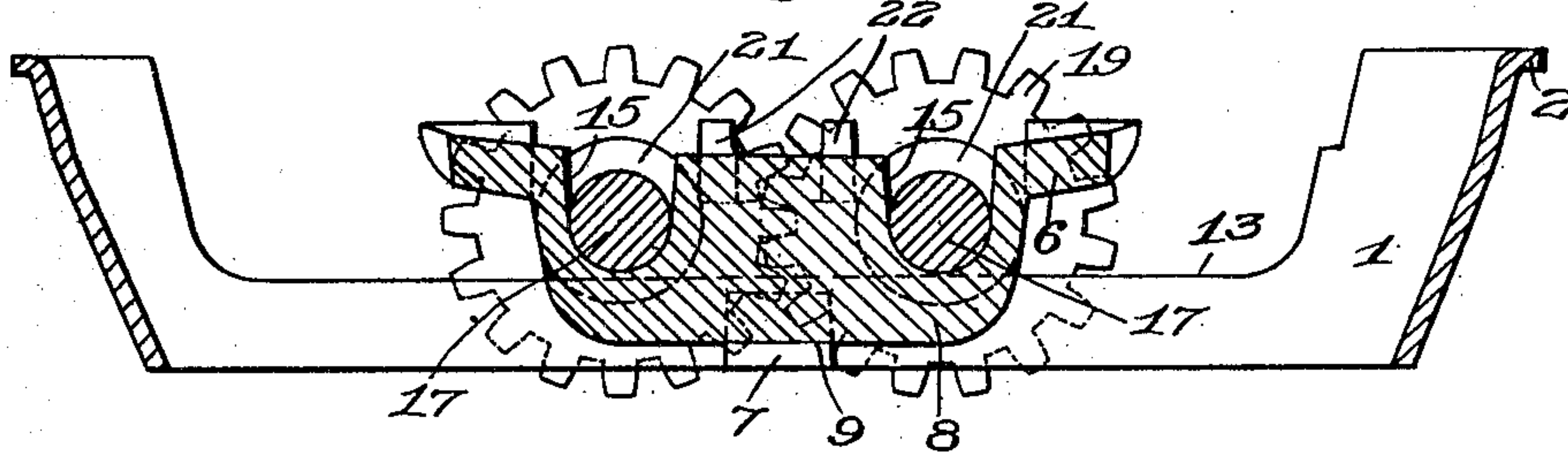


Fig. 5.



Witnesses

Walter B. Payne
C. Ketchum

Inventor

Arthur B. Clunies

By

Indemnity Co.
Attorney

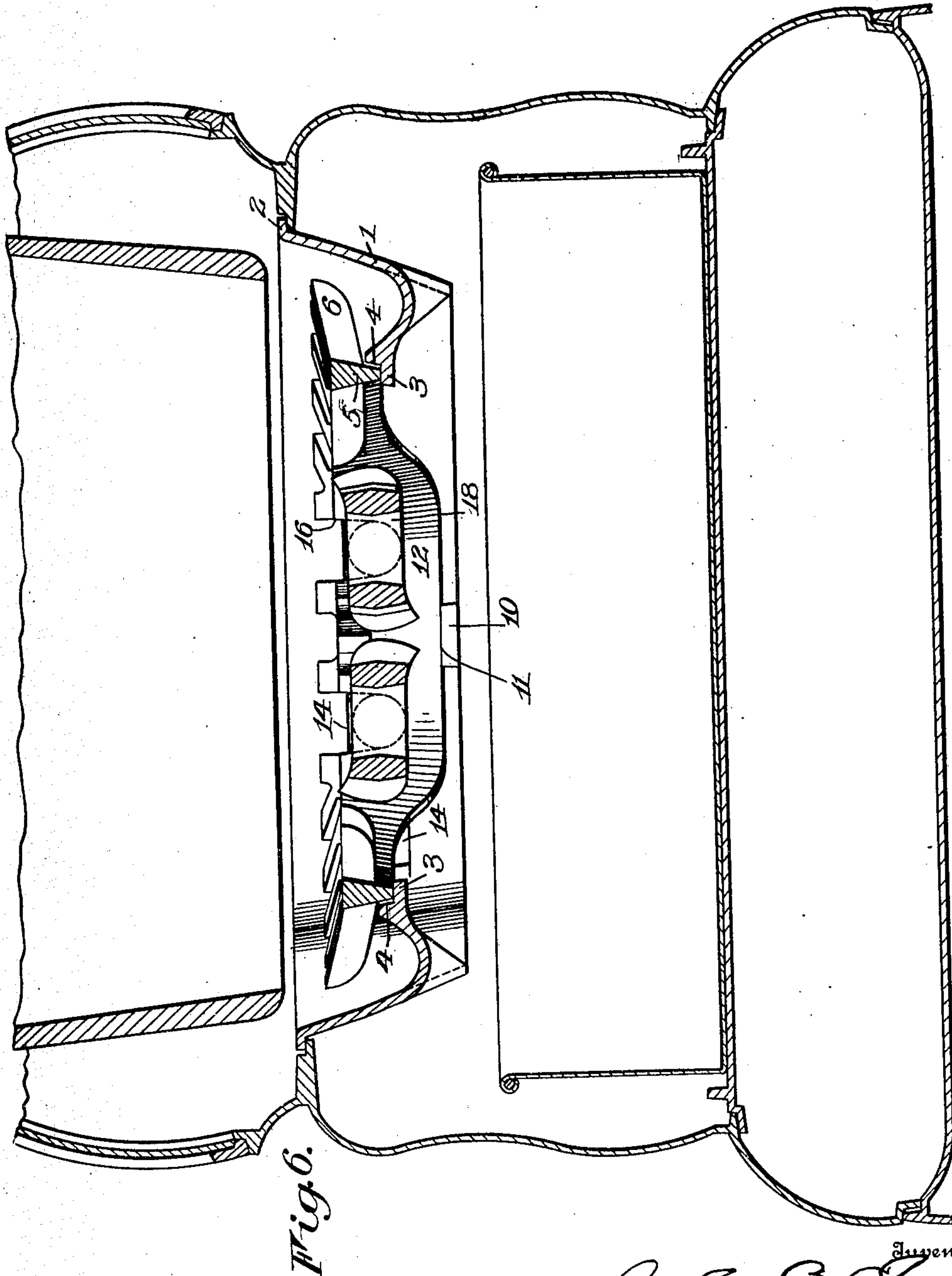
No. 860,280.

PATENTED JULY 16, 1907.

A. B. CLUNIES.
GRATE.

APPLICATION FILED JULY 1, 1903.

3 SHEETS—SHEET 3.



Witnesses

Walter B. Payne
Clarence A. Bateman

By

Arthur B. Clunies
his Attorney

UNITED STATES PATENT OFFICE.

ARTHUR B. CLUNIES, OF ROCHESTER, NEW YORK, ASSIGNOR TO SILL STOVE WORKS, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

GRATE.

No. 860,280.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed July 1, 1903. Serial No. 163,879.

To all whom it may concern:

Be it known that I, ARTHUR B. CLUNIES, of the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to improvements in grate structures for stoves and analogous uses, and has for its object the production of a grate and support wherein the parts may be readily inserted and locked in position to avoid displacement and which is also adapted to form an ash chute.

Other features of novelty and advantage will be hereinafter more fully described and pointed out in the claims hereunto annexed.

In the drawings:—Figure 1 is a plan view of a grate and support embodying my invention. Fig. 2 is a central vertical sectional view of the same, upon the line 2—2 of Fig. 1. Fig. 3 is a sectional view upon the line 3—3 of Fig. 1. Fig. 4 represents a section upon the line 4—4 of Fig. 2, looking in the direction of the arrow, Fig. 5 is a similar view upon the line 5—5 of Fig. 2, looking in the direction of the arrow, and Fig. 6 is a sectional view of a stove showing the improved method of removably supporting the grate and ash chute.

Similar reference numerals in the several figures indicate similar parts.

In the present embodiment of my invention, 1 designates the grate support, formed in any suitable manner, preferably provided with a flange 2 by means of which it may be supported within the stove or other receptacle beneath the fire pot. This support is removable, and may be shaped to conform to the contour of the stove or other receptacle and is preferably made conical with its lower end slightly smaller than its upper end the ash chute thus formed being of a depth to extend both above and below the grate supported therein. Supporting lugs 3—3, recessed, as at 4, are provided in the support to receive the lugs 5—5 of the grate frame 6, to retain the latter in position and prevent it from lateral tilting. At the front of this support is formed a lug or projection 7 upon which rests the extension or flange 8 of the grate ring, a groove or recess 9 being formed therein to guide said extension. At the rear of the support, a similar lug 10, is formed, having a recess 11 to receive the extension or flange 12 of the grate ring 6. These lugs or projections on the support 1, and said extensions of the grate ring are preferably curved to permit rotary motion of the grate in a horizontal plane. At the front

of this support 1 is formed a ledge 13, and at the rear is formed an elongated slot 14, the purposes of which will hereinafter appear.

The grate ring 6 in the present embodiment of my invention is circular in general outline, and is provided with depressions 15—15 at the front thereof and the depressions 16—16 in alinement therewith at the rear of said grate ring, and in these depressions rest the trunnions 17—17 of the rotatable grate bars 18—18 arranged in the central portion of the grate ring 6. The trunnions at the rear end of the grate bars 18—18 extend through the horizontal slot 14 in the support 1, in such manner as to permit rotary motion of said grate frame and also to hold the latter on the lugs or projections while those at the outer ends of the grate bars extend over the notched or depressed portion of the support 1, as shown in Fig. 2 and they are provided with the intermeshing gear wheels 19—19 and one of said ends is made angular in cross section as indicated at 20, to receive a shaking handle by means of which the grate bars and the grate ring may be rotated. Thrust bearing collars 21, 21, are provided upon the forward ends of these grate bars, to limit their rearward movement and retaining lugs 22—22 are formed upon the grate frame to prevent the lateral displacement of said grate bars.

In the present embodiment of my invention, the extensions 8 and 12 of the grate frame pass beneath and form supports for the journals 17—17 of the grate bars 18—18, as shown most clearly in Figs. 4 and 5.

In placing the grate in position, the grate ring 6 is so located within the support or ash chute that the lugs or members 3—3 will support the corresponding extensions 5—5 of the said ring, and the members 7—10 will support the extensions or flanges 8—12 respectively of the grate in such manner as to permit a rotary movement thereof. The grate bars 18—18 may now be inserted from the top in such manner that the inner ends or journals 17—17 thereon enter the elongated aperture 14 in the support, after which the grate bars are lowered until the journals thereon rest in the depressions 15, 15 of the grate ring, the parts then occupying the position shown in Figs. 1 and 2.

A grate constructed in accordance with my invention consists of few parts which are simple in form and capable of being easily made of cast metal. The tapering or inwardly extending sides of the grate support form a chute serving to direct the ashes and dust dropping through or around the grate into a suitable receptacle which may be located beneath it. By arranging the grate support so that it extends around the grate the latter is held on suitable projections which are included between the planes of the top and bottom of the frame thereby obviating the inconvenience either in

securing the latter in position beneath the fire pot or in removing or inserting an ash pan beneath the grate. Further the ends of the grate bars projecting through opposite sides of the frame lock it against accidental displacement.

Moreover, by forming the support 1 in the shape of an ash chute which is made separately and removable from the stove casing, the manufacture of the stove will be simplified and cheapened, and when it becomes necessary to repair or replace the chute or support this may be readily and inexpensively accomplished without the necessity of taking the stove casing apart as this chute rests upon suitable projections within the stove casing and is therefore easily removable.

I claim as my invention:

1. In a grate, a support adapted to be inserted in a stove casing and having a horizontal slot formed in its rear side, a grate mounted to rotate in a horizontal plane within the support, said grate comprising a grate ring and rocking grate bars mounted thereon, said bars being provided with extensions arranged to enter said horizontal slot of the support to prevent displacement of the grate parts.

2. In a grate, a support adapted to be inserted in a stove casing, and having inclined sides forming an ash chute the rear side of which is provided with a horizontal slot, a grate mounted to rotate in a substantially-horizontal plane within the support, said grate comprising a grate ring and rocking grate bars mounted thereon, said grate bars being provided with extensions which enter said horizontal slot and are thus adapted to limit the amount of rotation of the grate and to prevent displacement of the parts thereof.

3. The combination with the stove casing, of a support mounted therein having substantially solid or imperforate inwardly inclined sides forming an ash chute, the rear side of the support being provided with an elongated horizontal aperture, inwardly extending lugs or projections formed within the sides of the support and between the upper and lower edges thereof, a grate ring mounted to rotate in a horizontal plane and resting upon said lugs, and grate bars carried by the said ring having extensions projecting into the aperture of the support for retaining the grate bars and ring in position on the supporting lugs while permitting a rotary motion of the grate ring relatively to the support.

ARTHUR B. CLUNIES.

Witnesses:

G. WILLARD RICH,
CLARENCE A. BATEMAN.