

(No Model.)

G. W. & H. S. BENNETT.  
GRATE.

No. 551,252.

Patented Dec. 10, 1895.

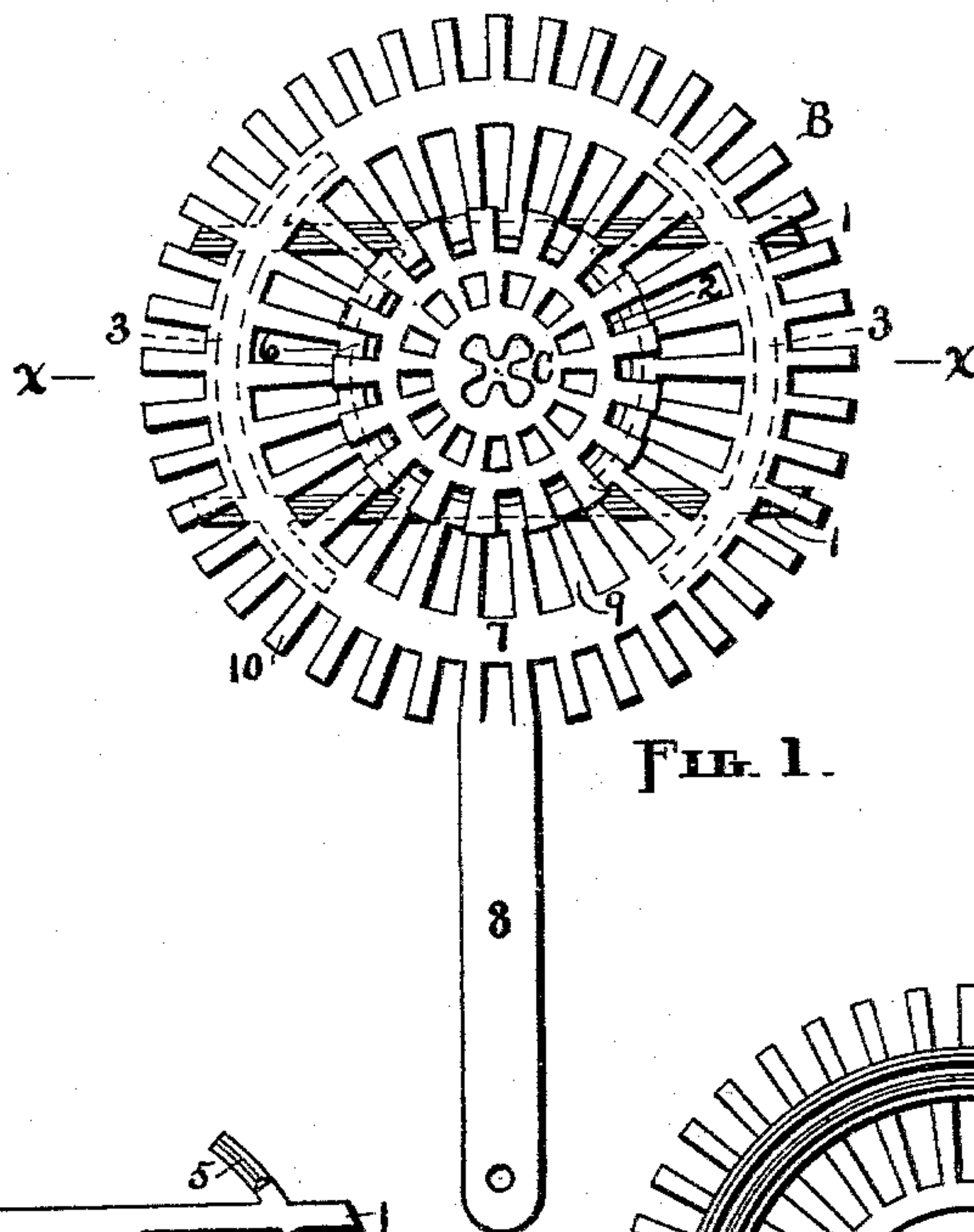


FIG. 1.

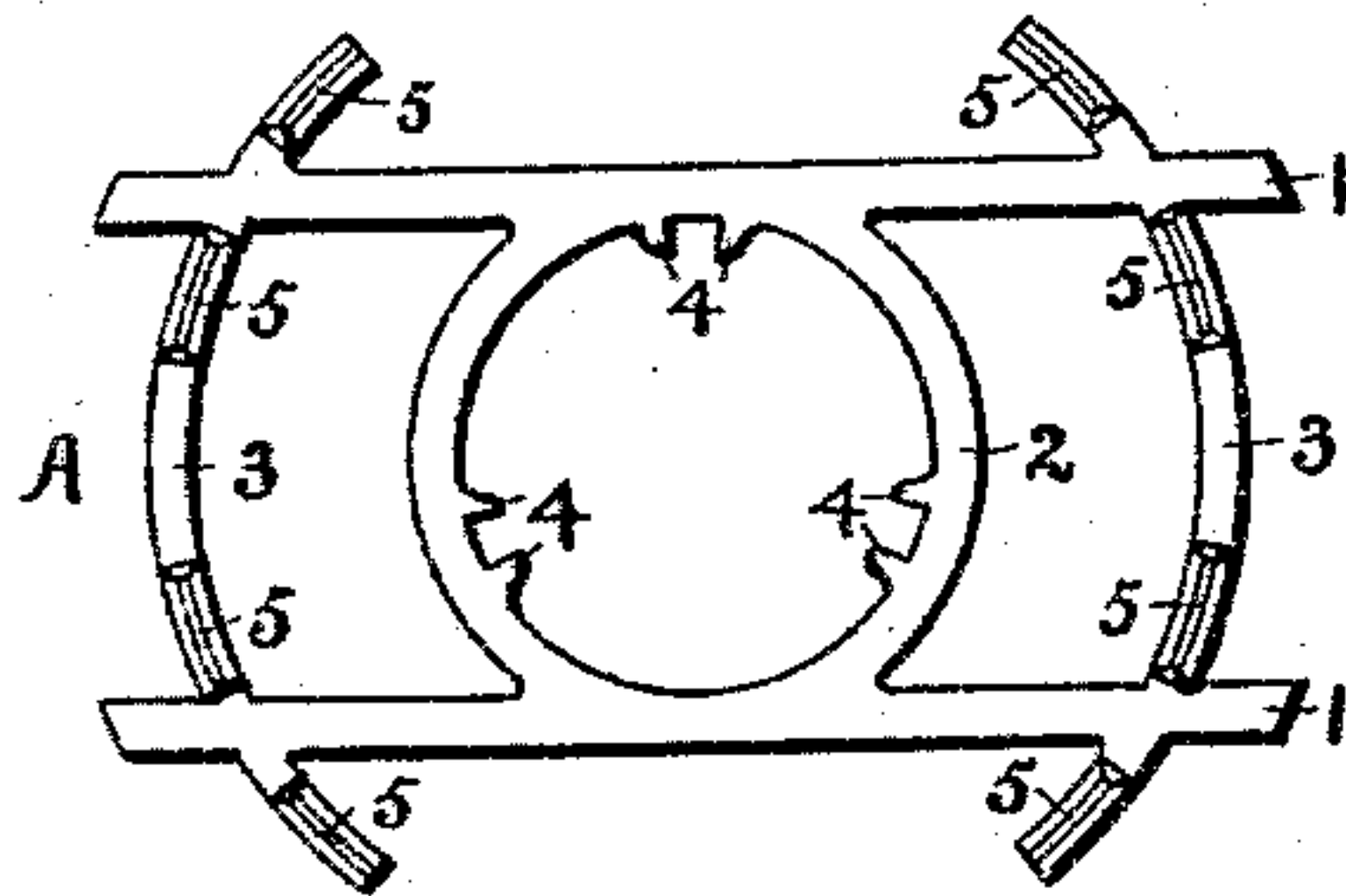


FIG. 2.

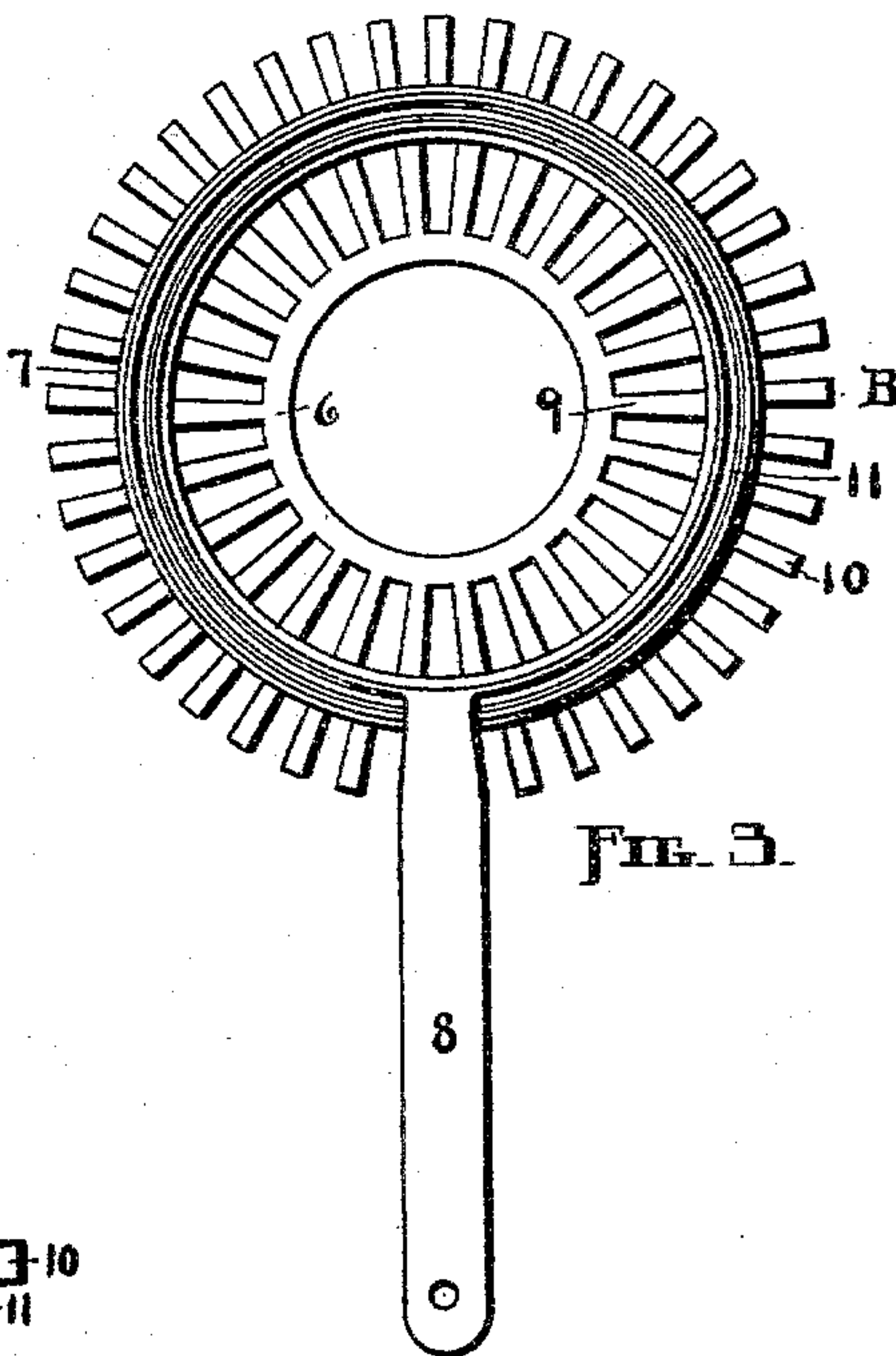


FIG. 3.

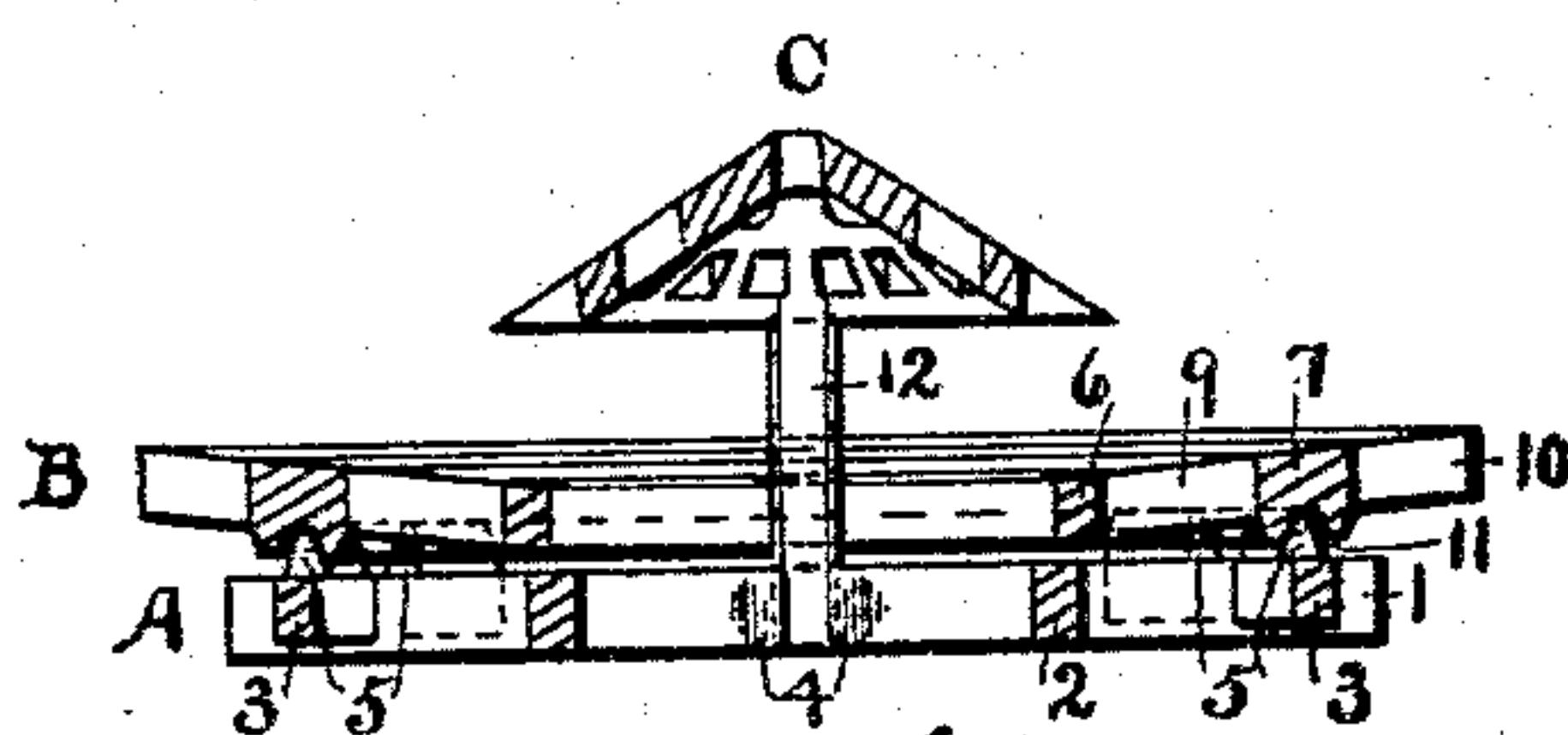


FIG. 4.

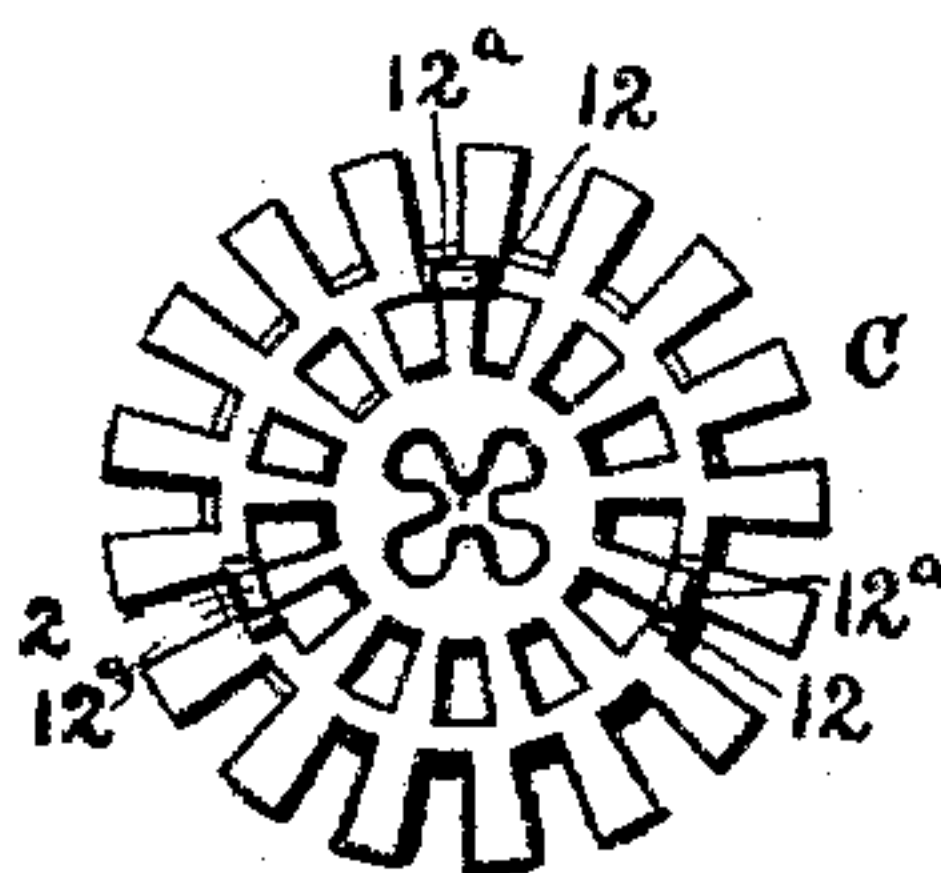


FIG. 5.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. BENNETT AND HORATIO S. BENNETT, OF CLEVELAND, OHIO,  
ASSIGNORS TO THE BENNETT FURNACE COMPANY, OF SAME PLACE.

## GRATE.

SPECIFICATION forming part of Letters Patent No. 551,252, dated December 10, 1895.

Application filed August 24, 1895. Serial No. 560,338. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE W. BENNETT and HORATIO S. BENNETT, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Grates, of which the following is a full, clear, and exact description.

Our invention relates to grates for stoves and furnaces, but more particularly the latter; and it consists of a peculiarly-constructed support, the grate proper, and an elevated central perforated dome, as hereinafter fully described and especially claimed.

The object of our improvement is to produce a grate of the class designated above, which excels in ease of manipulation and provides for the introduction of air directly into the center of the burning fuel, thereby driving the carbon generated from said fuel to the sides for the purpose of enhancing combustion. Not only is more perfect combustion produced with our grate, but its construction renders it less liable to become clogged by clinkers while furnishing a ready means for getting rid of the same than those in common use.

That our invention may be seen and fully understood by others, reference will be had to the following specification and annexed drawings, forming a part thereof, in which—

Figure 1 is a plan view of our invention; Fig. 2, a plan view of the support; Fig. 3, a bottom view of the grate proper; Fig. 4, a section on lines *x x*, Fig. 1, and Fig. 5 a bottom view of the dome.

Similar letters and figures of reference designate like parts in the drawings and specification.

Our invention consists of the support A, the grate proper B, and the dome C. The support A comprises the parallel bars 1 1 connected at the center by the ring 2 and, a little remote from the ends, by the segments 3 3, all of said parts being preferably integral. On the inside of the ring 2 are the three pairs of lugs 4. The segments 3 are provided on top with the bearings 5. The ends of the bars 1 are intended to rest upon lugs or brackets on the inside of the furnace fire-pot where the support A is held stationary.

The grate B is made up of the central ring 6, the wide outerring 7, the shaker-bar 8, the bars 9 between said rings, and the peripheral bars 10. The bars 9 and 10 incline downward from the periphery of the grate B to the ring 6, as shown in Fig. 4, for the purpose of directing the contents of said grate always toward the center. The under side of the ring 7 is provided with the groove 11 which is of the right diameter to receive the segment-bearings 5, the grate B being designed to rest upon the support A and to turn on said bearings. It will now be seen that the grate B can be turned or shaken above the support A with very little friction to overcome and small chance of becoming clogged by clinkers. The friction between the bearings 5 and the ring 7 is lessened by making said bearings A-shaped and having the groove 11 so wide that, when its center rests on the apices of said bearings, no other parts will touch. The bearings 5 may be continuous on each segment 3, if desired, but this would necessarily augment the friction.

The perforated dome C has the three legs 12 extending from the under side thereof and each of said legs is provided with the shoulder 12<sup>a</sup>, Fig. 5. The base of each leg 12 is received between the corresponding pair of lugs 4 and each shoulder 12<sup>a</sup> rests upon the top of the support-ring 2. The grate-ring 6 is large enough to allow the legs 12 to pass through the same, and said legs sustain the dome C above the center of the grate B, said dome being large enough to cover the central opening in both grate and support. The elevated position of the dome C, with the perforations therein, enables a supply of air to penetrate the center of the burning fuel on the grate B, and clinkers are removed from said grate by being thrust beneath said dome and through the rings 6 and 2 to the ash-pit below with a poker.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination in a grate, of a support consisting of the parallel bars 1 connected by a central ring and the segments 3 provided with the top bearings 5, and a grate proper consisting of a central ring, an outer ring grooved on the underside to receive said bear-



ings, and the bars 9 and 10, substantially as and for the purpose set forth.

2. In combination, a grate provided with a central ring and an outer grooved ring, a support having bars connected by a ring and segments with bearings thereon adapted to be received into the groove in said grate ring, lugs on said support ring, a perforated dome, and legs sustaining said dome above said grate by said lugs, substantially as and for the purpose set forth.

3. In combination, a grate provided with a central ring, an outer grooved ring and bars inclining downward from the periphery, a

support having bars connected by a ring and 15 segments with bearings thereon adapted to be received into the groove in said grate ring, lugs on said support ring, a perforated dome, and legs sustaining said dome above said grate by said lugs, substantially as and for the pur- 20 pose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. BENNETT.

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Witnesses:

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