

No. 817,286.

PATENTED APR. 10, 1906.

W. H. VOSS.
SEGMENTAL RACK.
APPLICATION FILED JAN. 2, 1906.

Fig. 1.

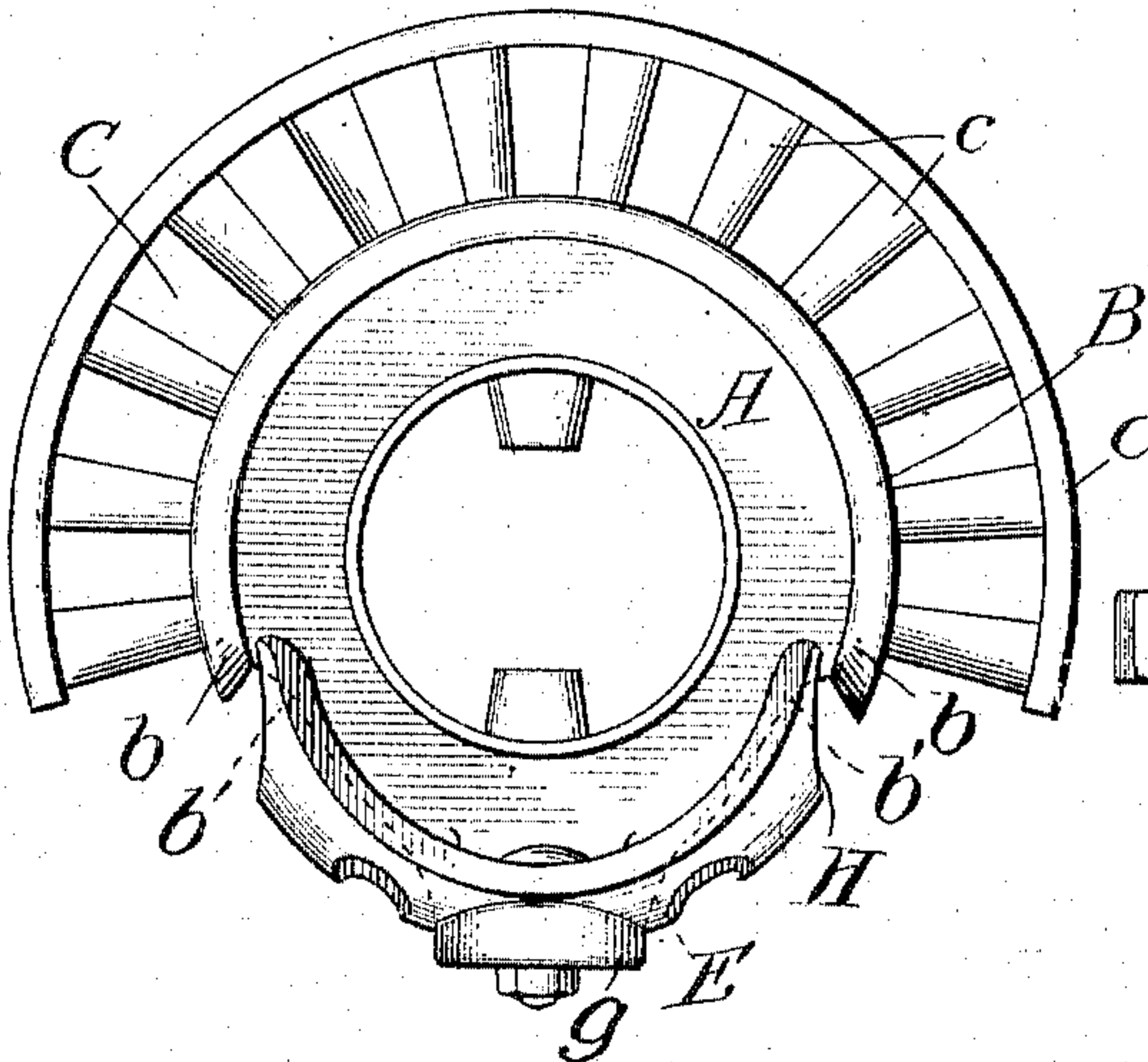


Fig. 2.

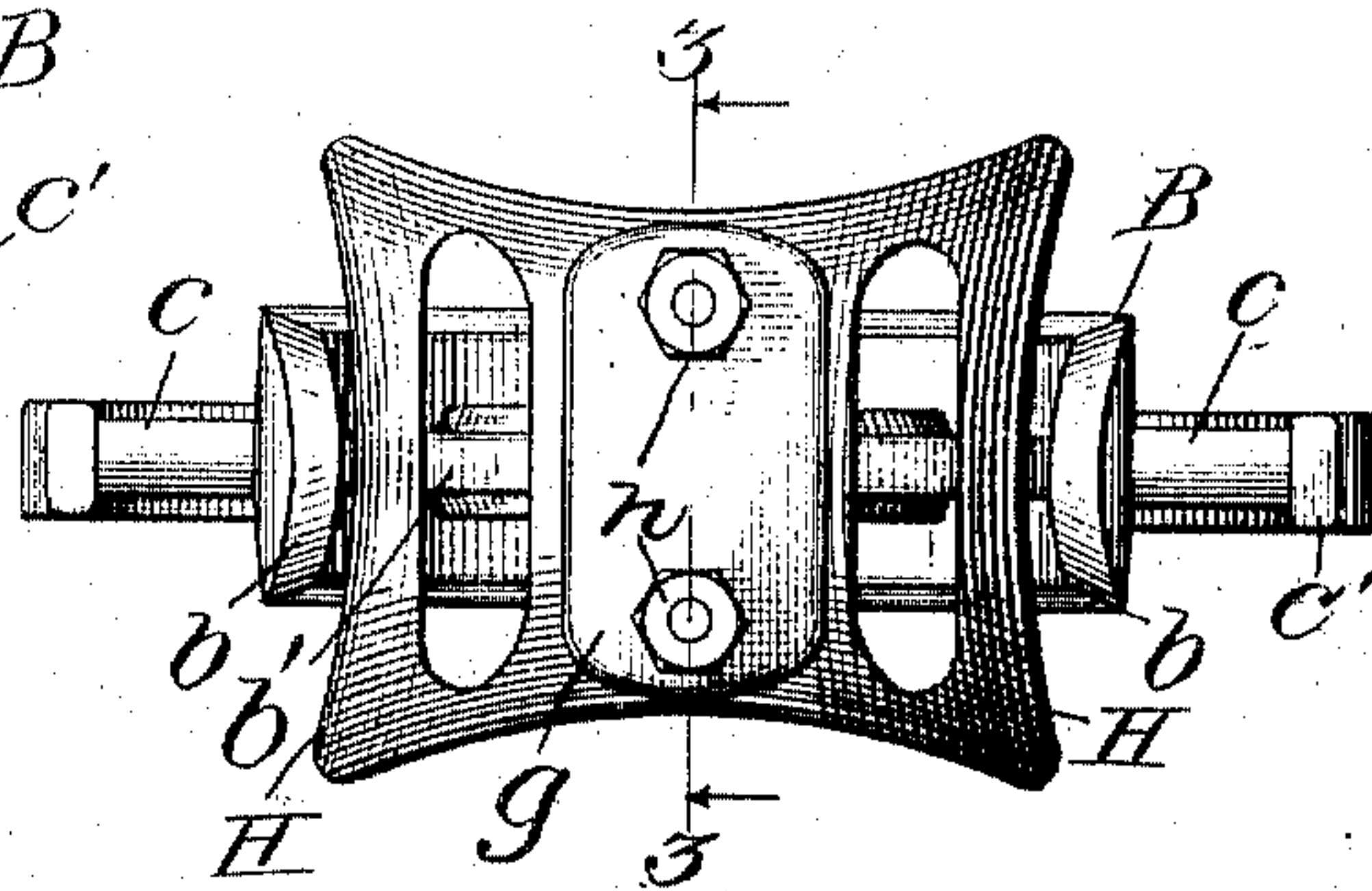


Fig. 3.

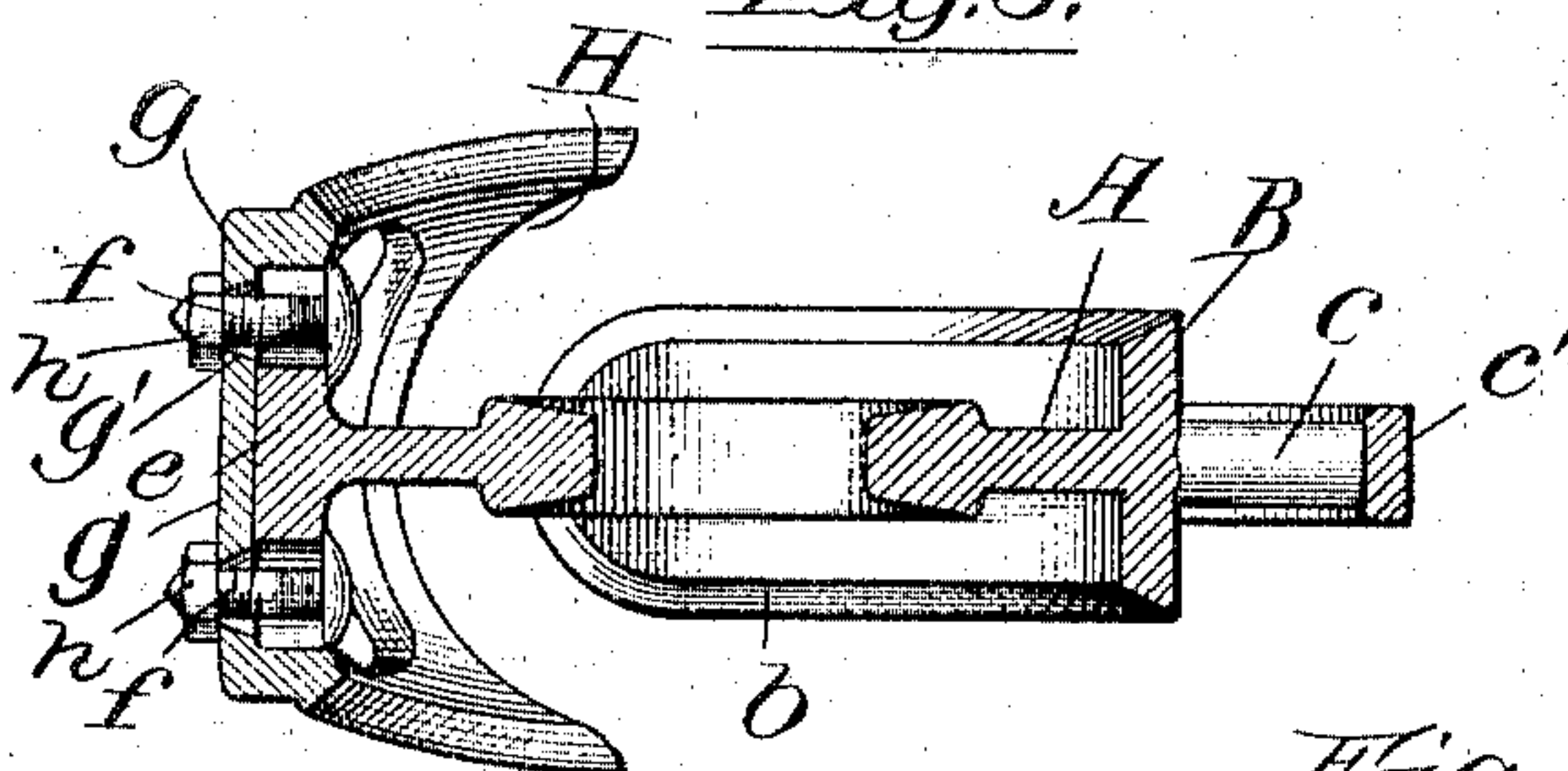


Fig. 4.

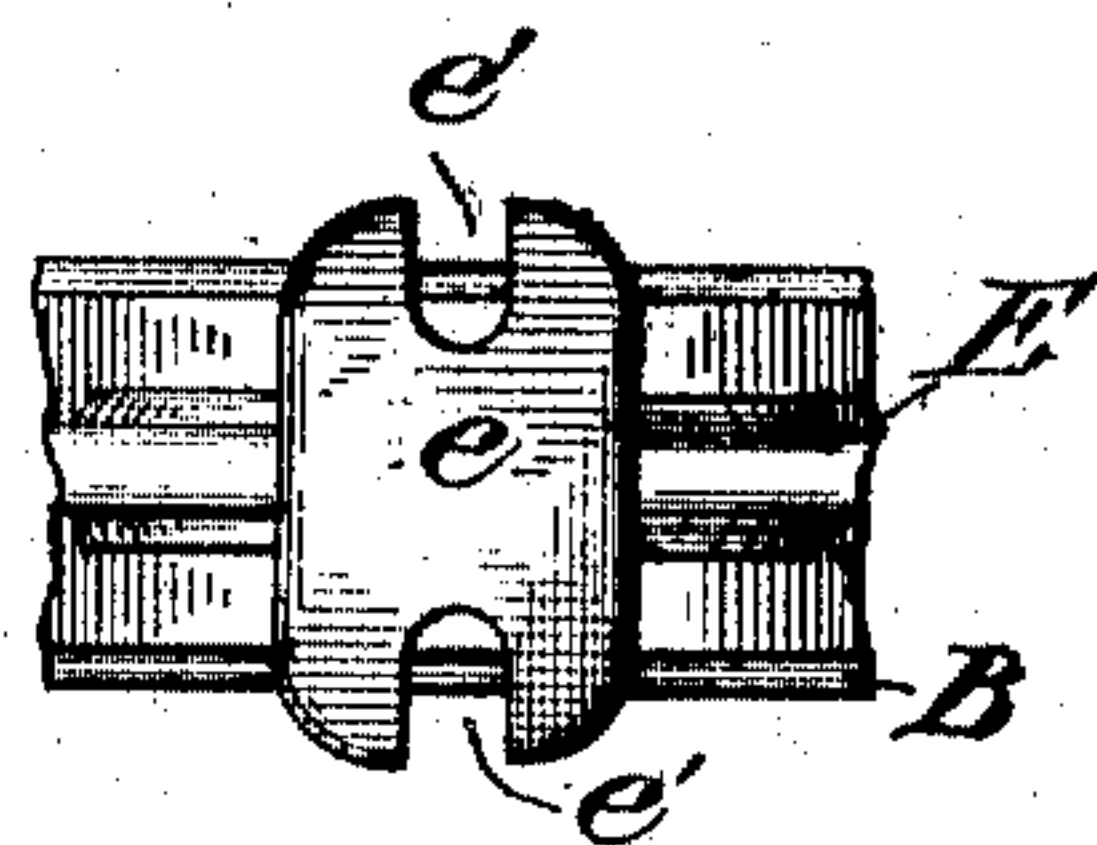
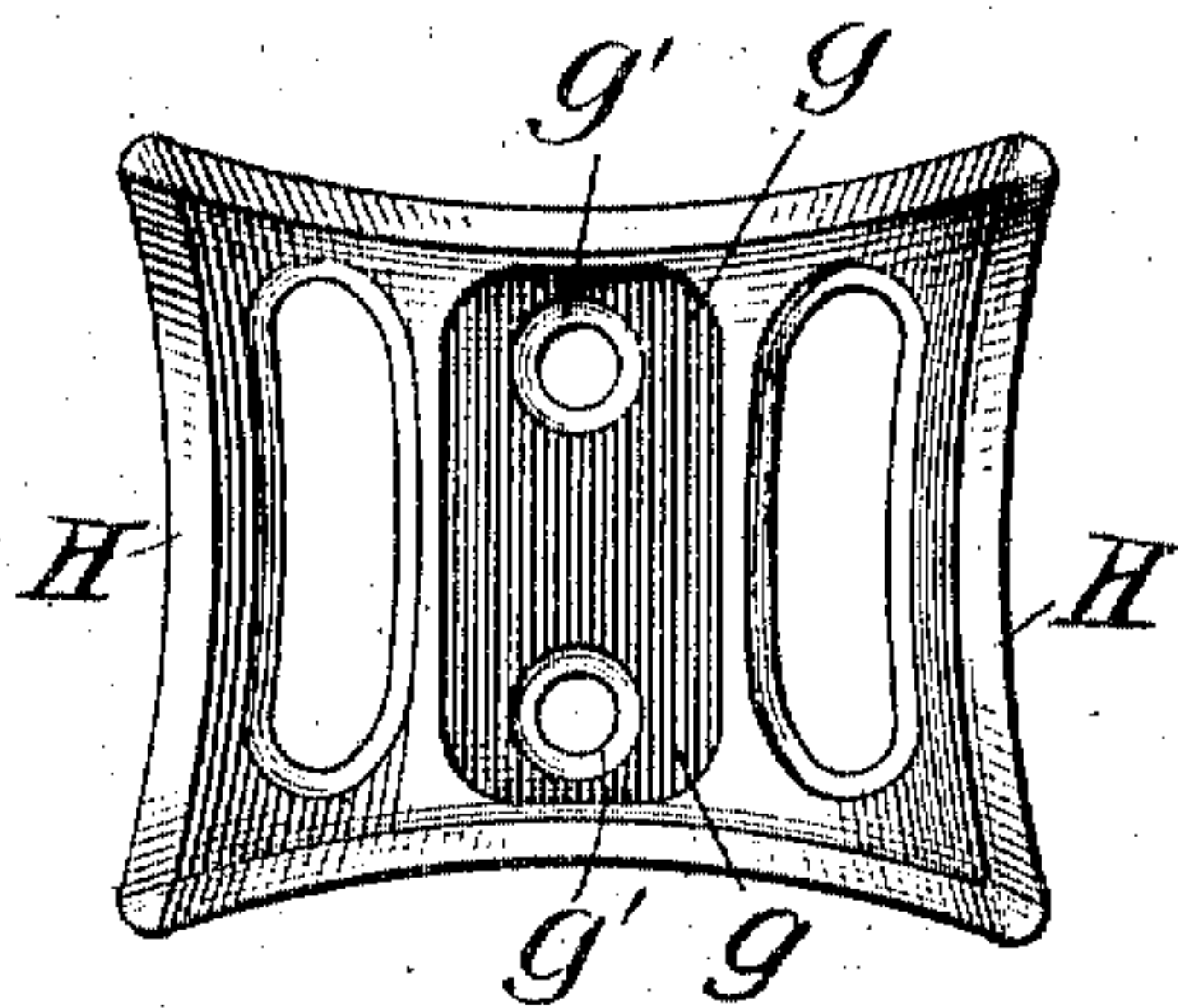


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM H. VOSS, OF DAVENPORT, IOWA.

SEGMENTAL RACK.

No. 817,286.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed January 2, 1906. Serial No. 294,190.

To all whom it may concern:

Be it known that I, WILLIAM H. VOSS, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Segmental Racks, of which the following is a clear, full, and exact description.

My invention relates to the construction of the segmental racks used in mechanical movements for the purpose of operating washing-machines, churns, &c. While it is particularly adapted for use in connection with a washing-machine of the type illustrated and described in United States Letters Patent No. 664,911, granted to me January 1, 1901, it may also be employed in other movements—such, for example, as that set forth in United States Letters Patent No. 750,136, granted to me January 19, 1904.

The object of my invention is to provide a simple yet effective means for connecting the reversing horns or crescents, upon which the greatest strain and wear of mechanism of this kind comes, securely to the segmental rack, so that the possibility of the bolts used to fasten it in place will not shear and in case of it working loose it will not get out of co-operative relation with the rest of the mechanism and can be easily and quickly tightened and when broken can be readily replaced. This I accomplish in the manner hereinafter more fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a transversal section taken on dotted line 3 3 of Fig. 2 looking in the direction indicated by the arrows. Fig. 4 is a view of a portion of the rack, showing in detail the boss for attaching the guide-block; and Fig. 5 is a detail view showing the construction of said guide-block.

Referring to the drawings, A represents a suitable annulus, preferably constructed as shown in the drawings and provided with a central opening through which the stirrer or rotary reciprocal shaft extends. The perimeter of this annulus is surrounded by a vertically-disposed flange B, that extends around, say, three-fifths of the circumference thereof and has its ends *b* rounded. Projecting radially from the outer face of this flange is a segmental rack C, comprising a series of equidistant teeth *c*, that have their outer ends connected by a surrounding rim

c'. The edge of the annulus A between the rounded ends of the flange B is preferably cut away at *b' b'*, as shown in Fig. 1 of the drawings, and midway between the ends of the flange said edge is projected outward to form a blunt apex E. Cast upon this apex E is a bracket comprising a vertically-elongated plate *e*, preferably rectangular in shape and having suitable vertically-elongated slots or bolt-holes *e' e'* cut in its upper and lower edges.

All of the parts above described are preferably made or cast in one piece with the annulus, although it is quite obvious that the same could be cast in several pieces, if found more desirable.

The plate *e* is adapted to support the removable reversing-plate that is cast in the shape shown in Fig. 5 of the drawings and which is secured thereto by means of bolts or rivets *ff*. This reversing-plate has its vertically-disposed side edges H H curved to conform to a segment of a circle struck from the center of the rounded ends of the flange B and is of such dimensions that when in proper position a semicircular guide-channel is formed between its side edges and the ends of said flange. It is cast in one piece of metal, and it is provided with a centrally-located socket or depressed seat *g* in its inner surface of such depth and dimensions as to fit over and surround the plate *e* of the bracket. If desired, this seat *g* may be made by bulging the central portion of the reversing-plate outward, although it is obvious said plate may be made thicker at this point, if desired. In either event bolt-holes *g' g'* are made for the bolts or rivets *ff*, which latter have their headed ends on the inside of the bracket-plate *e* and have their shafts extend through the slots *e' e'* and through holes *g' g'* and are provided with nuts *h h* on their outer ends. The squared portions of the barrels of the bolts rest in the slots *e' e'*, which latter are made deep enough so that when securing the reversing-plate to the bracket any slight variation in the shape of the bracket or reversing-plate due to defective castings will not prevent the proper assembling of the parts.

What I claim as new is—

1. In a segmental rack for mechanical movements a bracket between the ends of the rack having suitable bolt-openings therein; and a reversing-plate having a depressed seat in its inner surface into which said bracket is fitted, and suitable bolts extend-

ing through the openings in said bracket and through said reversing-plate for fastening the latter to the former.

2. In a segmental rack for mechanical movements a bracket between the ends of the rack; a reversing-plate having a depressed seat in its inner surface into which said bracket is fitted; and means for securing said reversing-plate to said bracket.

3. In a segmental rack for mechanical movements a bracket between the ends of the rack; a reversing-plate having a depressed seat in its inner surface into which said bracket is fitted; and means passing through said bracket and reversing-plate for securing the latter to the former.

4. In a segmental rack for mechanical movements a bracket consisting of a vertically-disposed rectangular plate located between the ends of the rack; a reversing-plate having a depressed seat in its inner surface into which said bracket is fitted; and means for securing said reversing-plate to said bracket.

5. In a segmental rack for mechanical movements a bracket between the ends of the rack; a reversing-plate having a depressed seat in its inner surface corresponding in shape to the contour of said bracket into which the latter is fitted; and means for securing said reversing-plate to said bracket.

6. In a segmental rack for mechanical movements a bracket consisting of a vertically-disposed rectangular plate located midway between the ends of the rack; a reversing-plate having a depressed seat in its inner

surface corresponding in shape to the contour of said plate into which the latter is fitted; and means for securing said reversing-plate to said rectangular plate.

7. In a segmental rack for mechanical movements a bracket consisting of a vertically-disposed rectangular plate located midway between the ends of the rack; a reversing-plate having a depressed seat in its inner surface corresponding in shape to the contour of said plate into which the latter is fitted; and means passing through said bracket and reversing-plate for securing the latter to the former.

8. In a segmental rack for mechanical movements a bracket consisting of a vertically-disposed rectangular plate located between the ends of the rack and having suitable bolt-openings therein; a reversing-plate having a depressed seat in its inner surface having bolt-openings therein registering with those in said rectangular plate, said seat corresponding in shape to the contour of said rectangular plate into which the latter is fitted; and suitable bolts extending through the openings in said bracket and said reversing-plate for fastening the latter to the former.

In testimony whereof I have hereunto set my hand this 8th day of December, A. D. 1905.

WILLIAM H. VOSS.

Witnesses:

WILLIAM E. PULS,
ARTHUR CLIFFORD.