

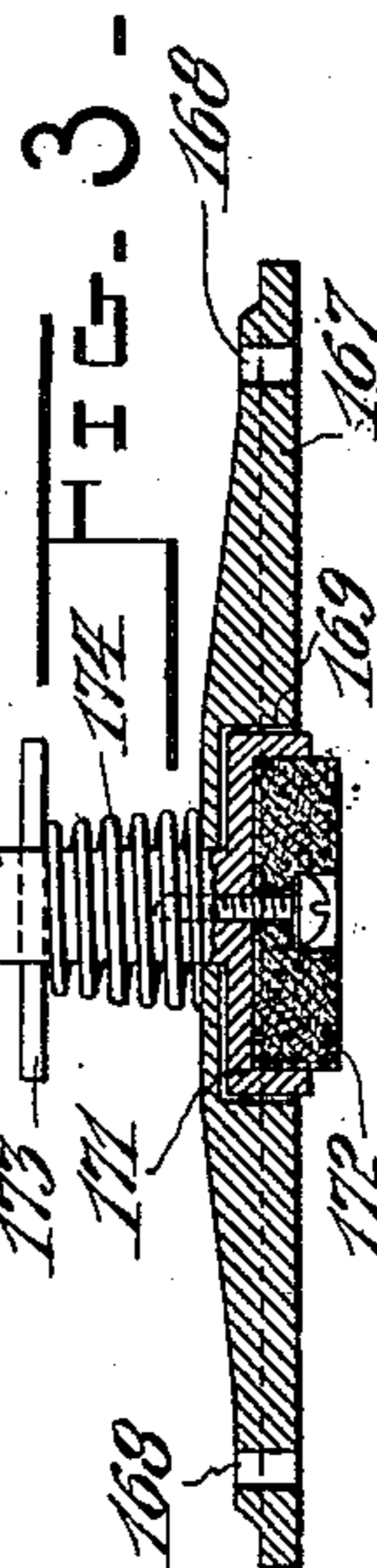
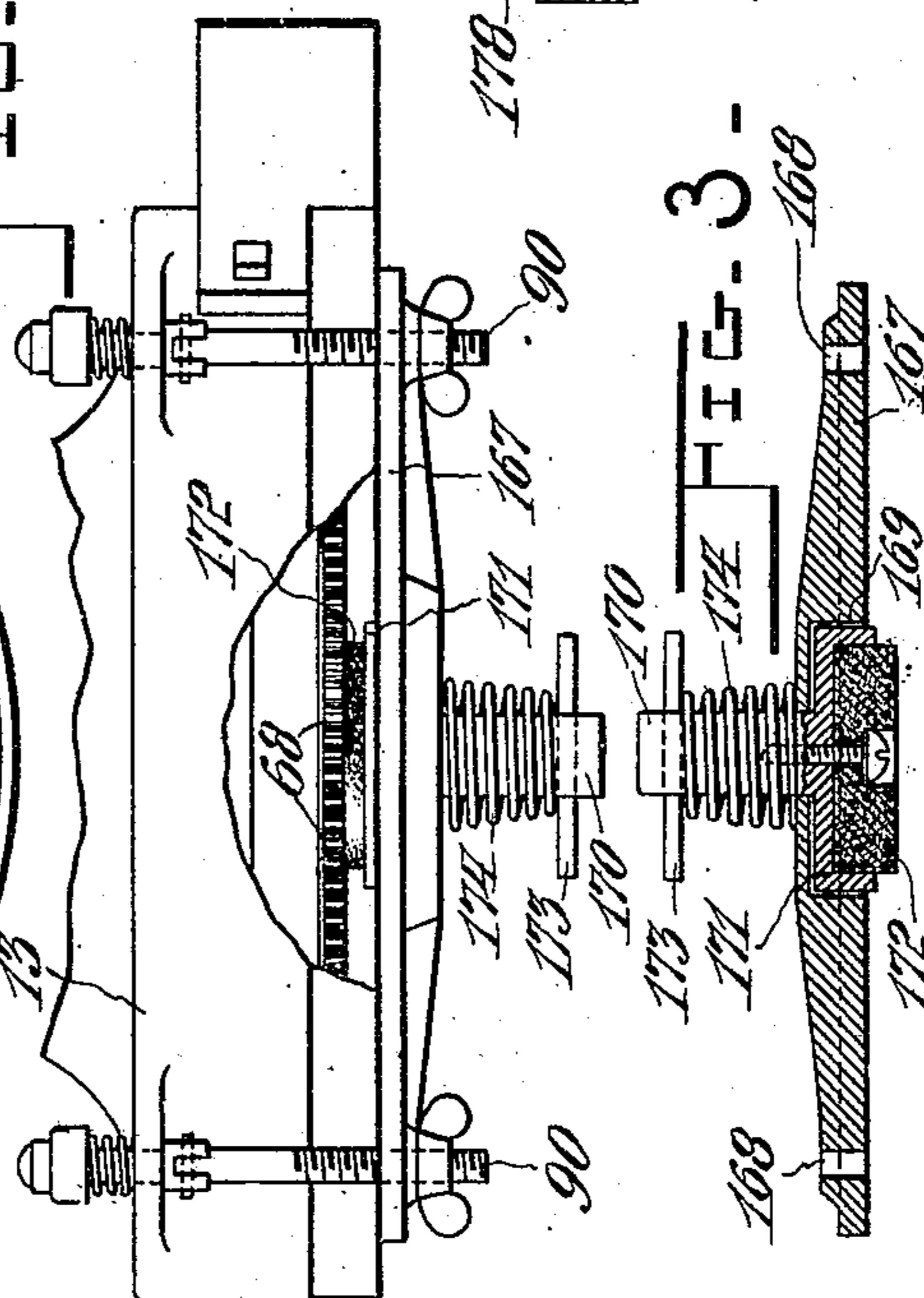
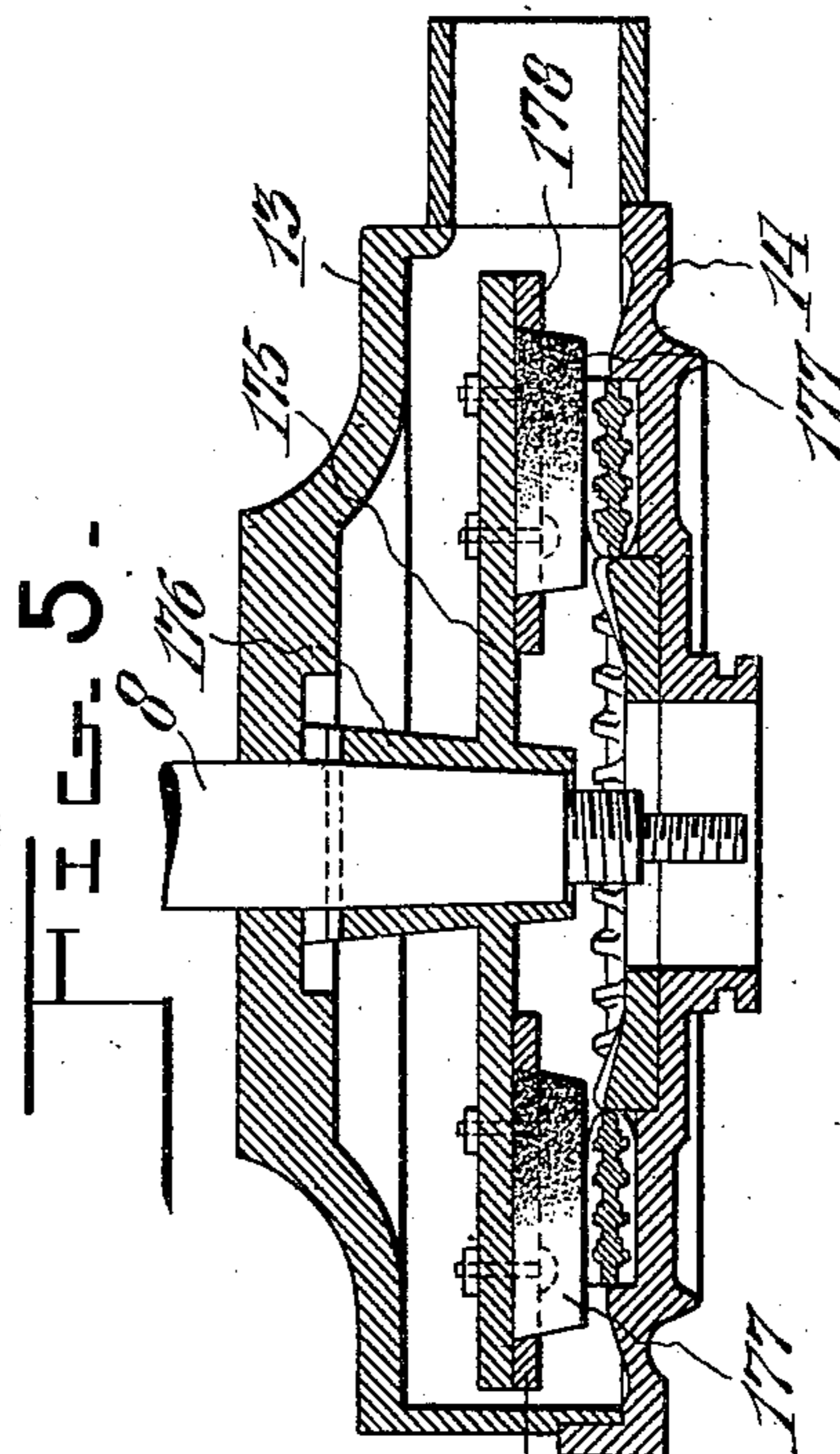
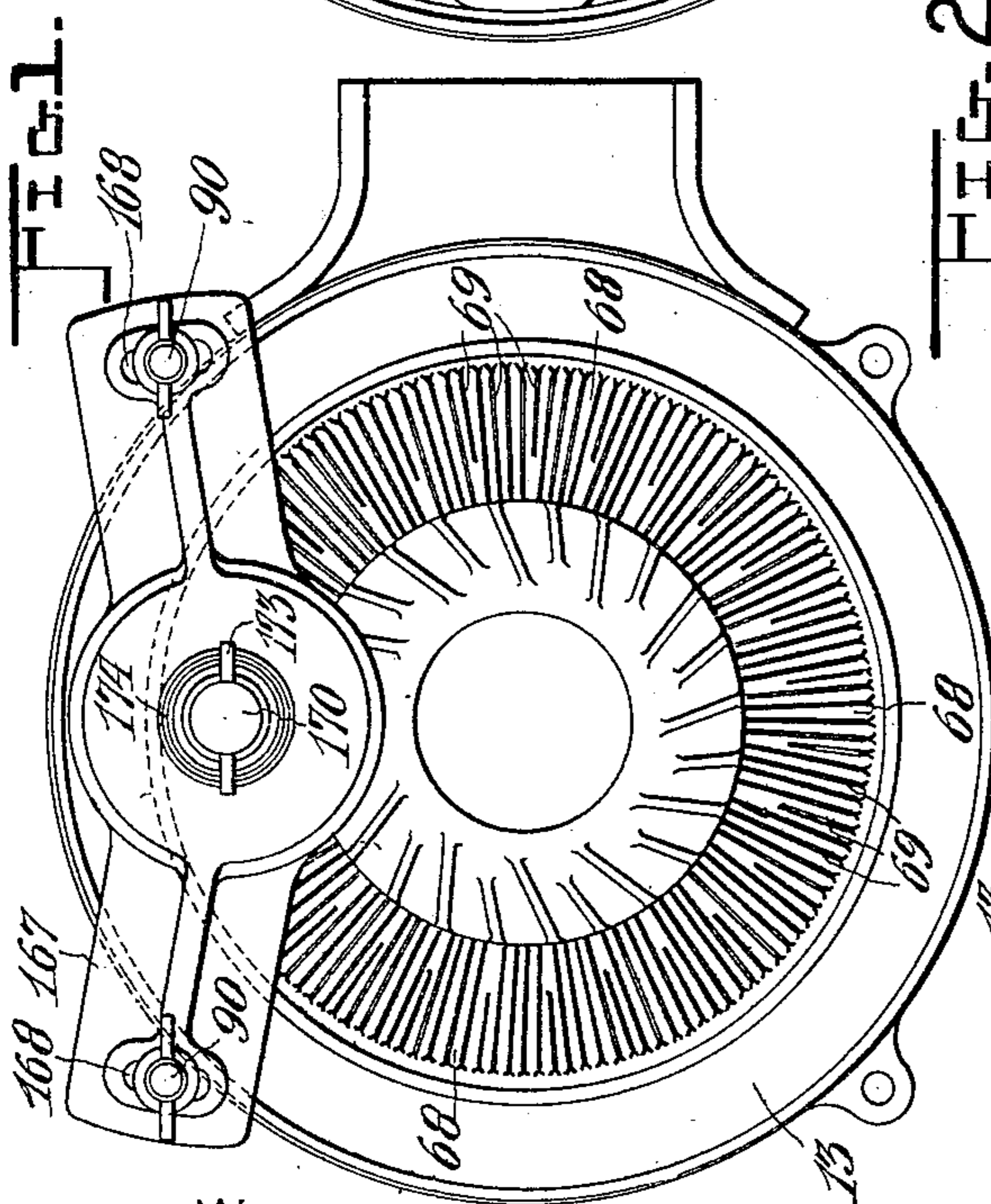
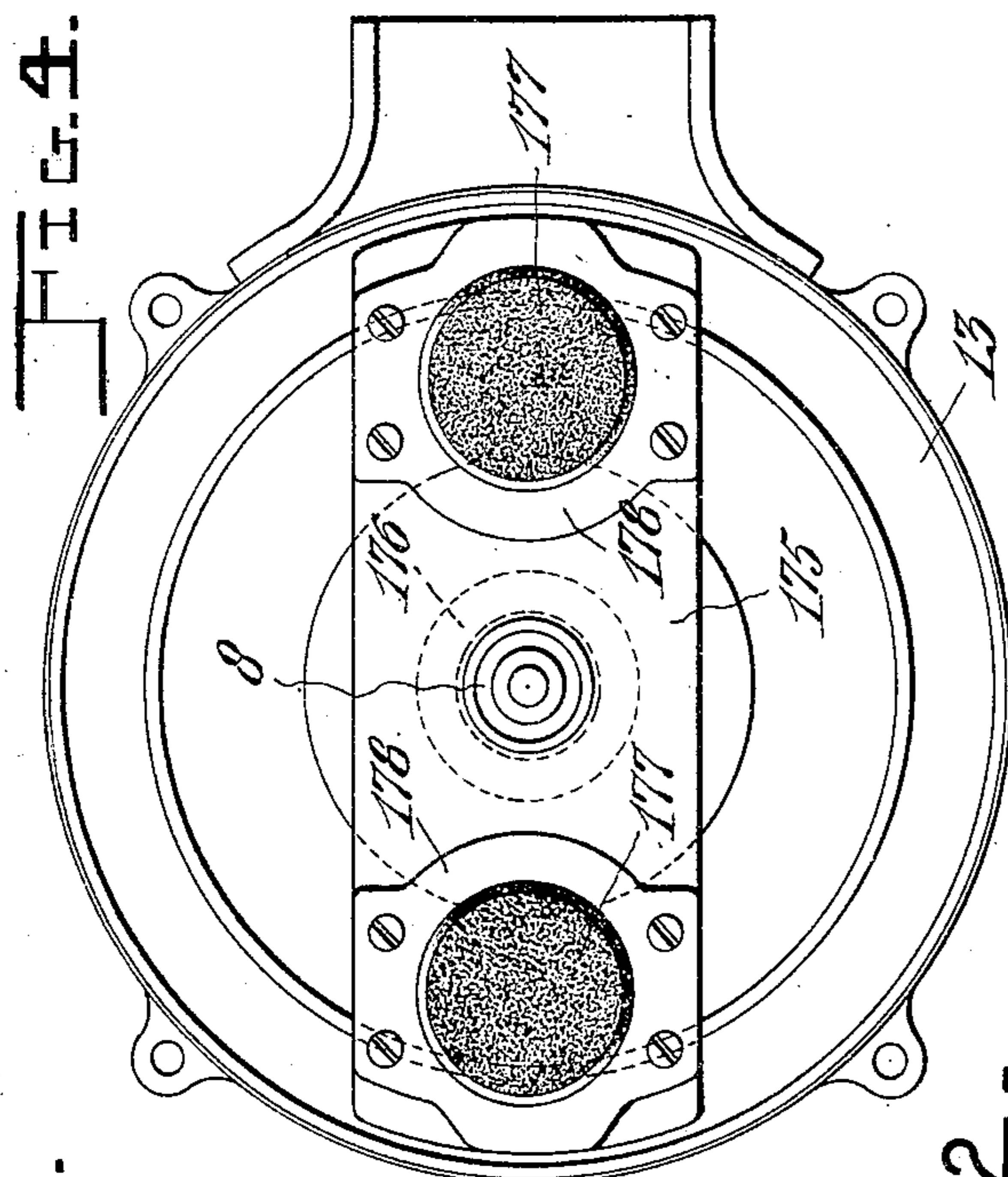
No. 841,287.

PATENTED JAN. 15, 1907.

S. VESSOT.

SHARPENING DEVICE FOR GRAIN MILLS.

APPLICATION FILED JUNE 19, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL VESSOT, OF JOLIETTE, QUEBEC, CANADA.

SHARPENING DEVICE FOR GRAIN-MILLS.

No. 841,287.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Original application filed May 16, 1904, Serial No. 208,185. Divided and this application filed June 19, 1905. Serial No 265,930.

To all whom it may concern:

Be it known that I, SAMUEL VESSOT, a subject of the King of Great Britain, residing at Joliette, county of Joliette, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Sharpening Devices for Grain-Mills; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in sharpening devices adapted to be used in sharpening the faces of grinding-rings such as are illustrated in a grinding-mill upon which an application for United States Letters Patent was filed May 16, 1904, known as Serial No. 208,185, from which application the present application is divided, this invention comprising means adapted to be applied to both the rotatable rings and the fixed rings of said grinding-mill.

The object of the invention is to provide simple, compact, and convenient means adapted to be applied to said mill for sharpening the said rings, all as hereinafter described.

The invention consists in the combination and arrangement of parts which are shown in the accompanying drawings, all as hereinafter more fully described, and particularly pointed out in the claims, it being understood that said drawings illustrate the preferred construction, which may be departed from in the form, proportion, and minor details of parts therein shown within the scope of the claims without sacrificing any of the advantages of the invention.

In the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views, Figure 1 is an elevational view representing a casing of a grinder with a removable grinding-plate and representing the sharpening device which is used for sharpening said grinding-plates. Fig. 2 is substantially a plan of the parts shown in Fig. 1, in this view portions being broken away to illustrate the application of the grinding-pad. Fig. 3 is substantially a longitudinal vertical sectional view taken approximately centrally of the device shown in Fig. 2. Fig. 4 is a view somewhat similar to Fig. 1, representing a casing, showing a modified form of the sharpening device mounted upon the shaft which carries the grinding-plates in order to facilitate the sharpening of

the fixed grinding-plate, which is held stationary in the grinder-casing. Fig. 5 is a central section through the grinder-casing, representing the device shown in Fig. 4 in the act of sharpening fixed grinding-plates in a grinding-mill of the character referred to.

Referring especially to Figs. 1 to 3, inclusive, the manner of applying a sharpening device for the rotatable plates is illustrated. This device consists of a specially-formed plate 167, which is adapted to be held in place upon a grinder-casing by an adjacent pair of bolts 90 after the cover 14 of the grinder-casing has been removed, it being understood that the device is intended for sharpening the teeth or ribs of a movable grinding-ring held in said casing. The bolts 90 pass through elongated openings or slots 168, which facilitate the lateral adjustment of the plate 167 with relation to the face of said grinding-rings, as will be readily understood. The plate 167 is provided with a centrally-disposed opening or recess 169, of circular form, and a shank 170 passes through said opening. Said "shank" is integral with an enlarged head 171, which occupies the said recess. This head constitutes substantially a cup to receive a cake or pad 172 of emery or similar abrading material. In the outer extremity of the shank 170 a cross-pin 173 is held in a transversely-extending perforation, and against this pin a spring 174 thrusts, the inner extremity of said spring seating upon the rear face of the plate 167. In addition to normally maintaining the emery away from the grinding-ring and keeping the head 171 normally seated in the recess 169 this construction permits the ready removal of the shank 170 by removing the pin 173, so that the parts may be renewed. The head 171 being loosely seated in the recess 169, which forms a bearing therefor, it is free to rotate when the grinding-ring 68 is pressed against it and rotated. The grinding-ring is moved toward the emery by any ordinary means, but preferably by the means described in my co-pending application, Serial No. 208,185. By having the emery pad 172 rotate any imperfection in the grinding-ring 68 will not strike exactly in the same place on the emery pad when it is rotated, so that the ring is ground true.

Arrangement is made for sharpening the fixed grinding-plates, which arrangement is shown most clearly in Figs. 4 and 5. The sharpening device in this instance comprises

a plate 175, having a hub 176, which enables the same to be attached to the shaft 8 of the mill. The plate 175 is preferably of substantially rectangular form and adapted to be received within the body of the grinder-casing 13. Emery pads 177 are attached to the outer face of the said plate 175 by means of keepers 178, which are beveled to lock said pads in position, the said emery pads being conically formed to facilitate the manner of attachment illustrated. It should be understood that when the sharpening device of this form has been attached as illustrated in Fig. 5 the usual adjusting devices of the mill would enable the said emery pads 177 to be brought against the face of the grinding-ring, whereupon the continued rotation of the shaft as before would produce the desired grinding or sharpening action.

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

1. In combination with a grinding-mill, a plate rigidly secured to the mill, an abrading element carried by the plate, and means adapted to normally maintain the abrading element away from the grinding members of the mill.

2. In combination with a grinding-mill, a plate rigidly secured to the mill, an abrading element carried by the plate, and resilient means adapted to normally maintain the abrading element away from the grinding members of the mill.

3. In combination with a grinding-mill, a plate provided with slots therein, bolts disposed through the slots and adapted to rigidly secure the plate to the mill, an abrading element carried by the plate, and means adapted normally to maintain the abrading element away from the grinding members of the mill.

4. In combination with a grinding-mill, a supporting member rigidly secured to the mill, a revoluble abrading element carried by the plate, and means adapted to normally maintain the abrading element in position.

5. In combination with a grinding-mill, a supporting member provided with a recess, a rotatable head disposed in the recess and provided with a shank projected through the supporting member, and means adapted to maintain said head seated in the recess.

6. In combination with a grinding-mill, a plate rigidly secured to the mill and provided with a central recess, a rotatable head disposed in said recess and provided with a shank projected through the plate, a spring disposed around said shank, a pin disposed transversely through said shank and adapted to receive the thrust of the spring, and a body of abrading material carried by the head.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

SAMUEL VESSOT.

Witnesses:

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JOS. A. GENEUREUX.