

No. 730,527.

PATENTED JUNE 9, 1903.

R. GARDNER.

ABRADING MATERIAL AND MOUNTING THEREFOR.

APPLICATION FILED JUNE 9, 1902.

NO MODEL.

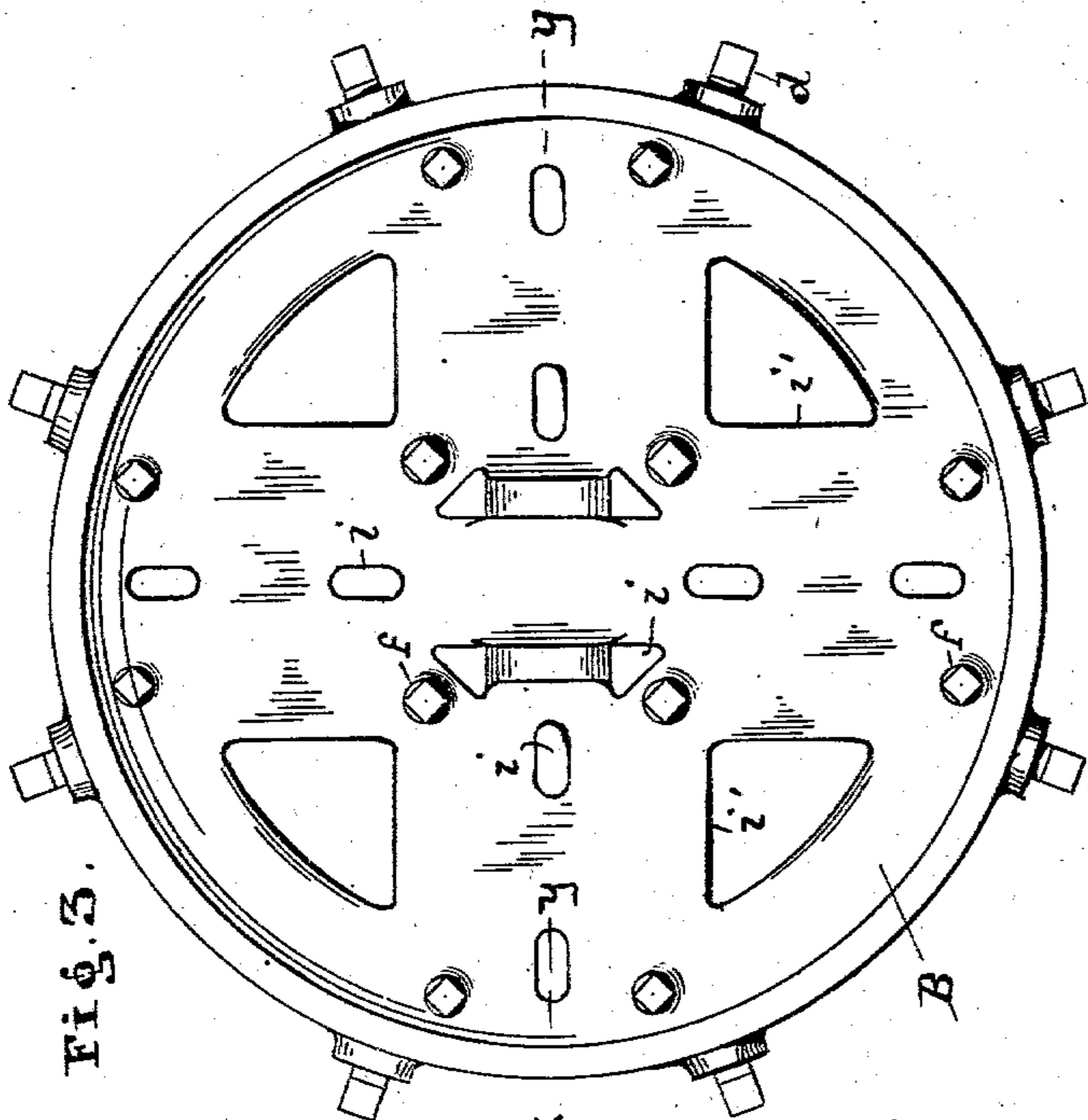


Fig. 3.

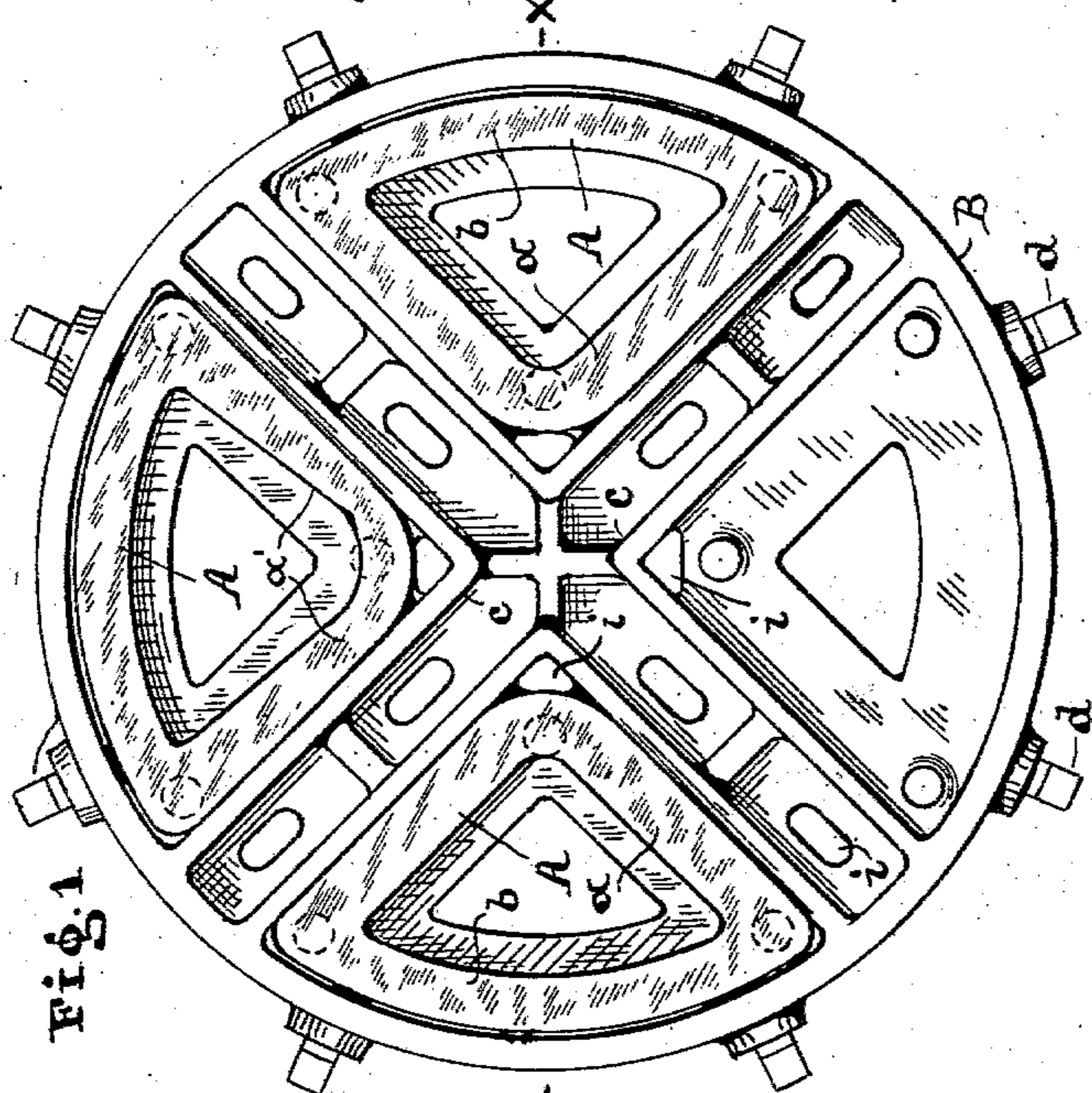


Fig. 1.

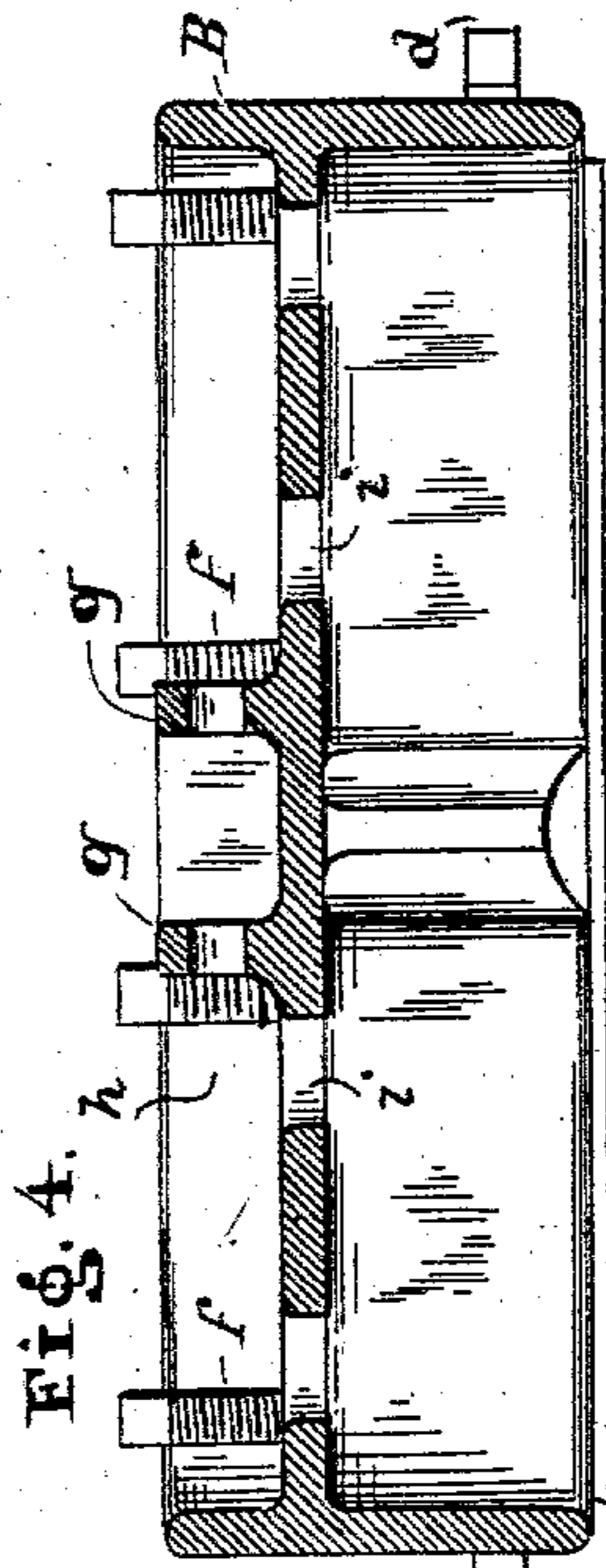


Fig. 4.

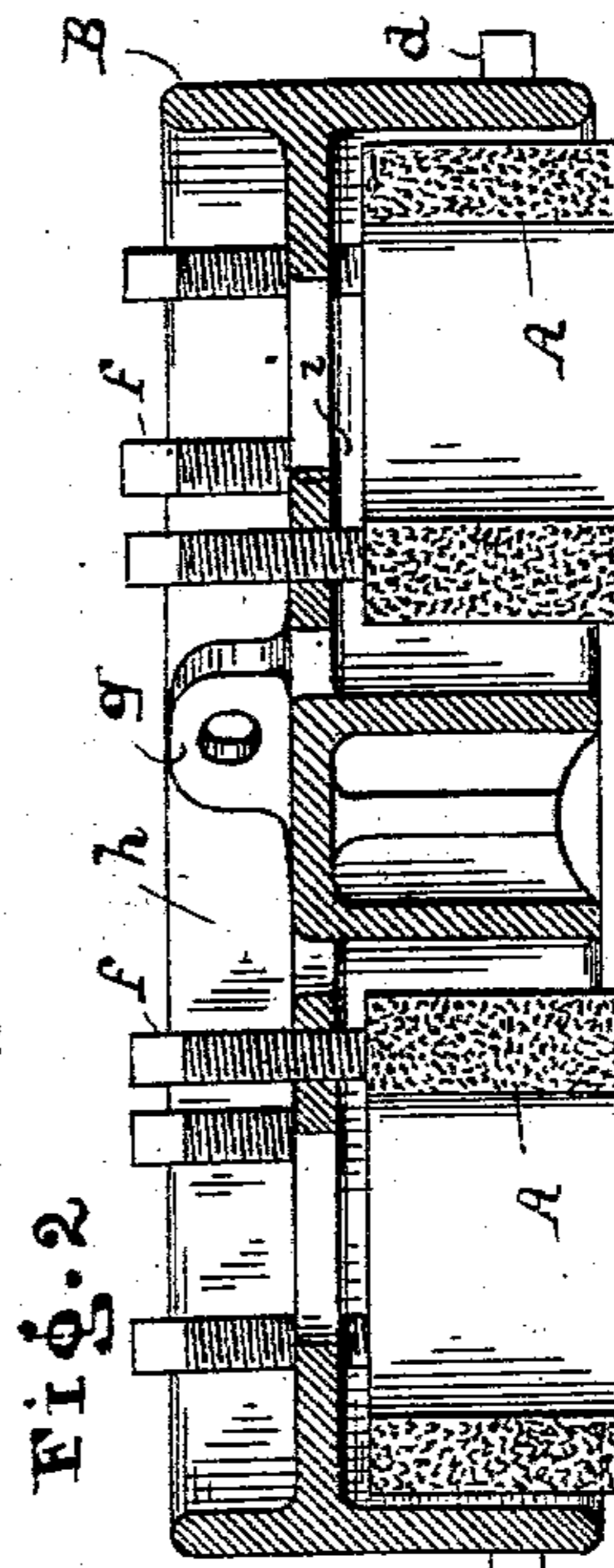


Fig. 2.

WITNESSES

Dora Heckler.

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UNITED STATES PATENT OFFICE.

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ABRADING MATERIAL AND MOUNTING THEREFOR.

SPECIFICATION forming part of Letters Patent No. 730,527, dated June 9, 1903.

Application filed June 9, 1902. Serial No. 110,810. (No model.)

To all whom it may concern:

Be it known that I, ROLAND GARDNER, a subject of the King of England, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio; have invented certain new and useful Improvements in Abrading Materials and Mountings Therefor, of which the following is a specification.

My invention relates to improvements in abrading materials and means for mounting same in adjustable operative condition.

The object of my invention is, first, to provide and arrange the abrading material in such form and condition so as to effect a uniform wear of the working surface of said material; second, to leave ample space for the disposal of the waste material; third, to provide for an efficient effectual distribution of water around the working surface of such material. I attain this object with abrading material formed substantially as shown in the accompanying drawings, in which—

Figure 1 represents a face view of such material and the mounting therefor. Fig. 2 is a vertical sectional view of same on line *x x*. (See Fig. 1.) Fig. 3 is a face view of the mounting, and Fig. 4 is a vertical sectional view on line *y y*.

Like letters of reference denote like parts in the drawings and specification.

The main feature of this my present invention consists in the form and application of the abrading material and the improved housing therefor.

As shown in Fig. 1, the abrading material A consists of hollow blocks, A resembling segments of a circle. A plurality of such segments is equally distributed over a circular area or rather a casing, leaving ample space between each and every one of said blocks. While four blocks are shown, there may be, however, more or less than four blocks, say three or five. The sides *a a* of the blocks may be of uniform thickness or tapering, as shown at *a' a'*. The circular part *b* is chiefly instrumental in causing an even wear of the working surface of such blocks, since it furnishes abrading surface proportionate to the increase in speed under which the outer portion of the blocks is performing work subject to wear. The hollow form of the blocks and the arrangement of same admit of sup-

plying water inside and around the working surfaces. The entire surface can thus be cooled and the waste material readily flushed away, both conditions being essential in order to expedite the grinding operation and to assure of a smooth surface of the stone which is to be smoothed down and polished.

As shown, the casing B, within which the blocks are mounted, is divided into four compartments by means of the spider *c*. A number of set-screws *d d* and *f f* are provided to enable clamping and adjustment of said blocks, which with such construction can be done most readily and accurately. The lugs *g g* afford connection with and for the driving (rotating) mechanism of the casing or wheel. Usually such wheels are rotated by belt-power, and by manual exertion they are moved about over the surfaces which are to be ground and polished.

Water is supplied to the upper part *h* of the casing and conveyed to and between the working faces of the blocks by way of openings *i i'*. (See Figs. 1, 2, and 3.)

What I claim, and desire to secure by Letters Patent, is—

1. An abrading-block approximately triangular shaped in horizontal section, one of the sides of the block being curved in the arc of a circle, a vertical opening being formed centrally of the block the sides of the opening being substantially parallel with the periphery of the block, the vertical faces of the block being at right angles to the operating-face, whereby the operating-face will not be varied under wear.

2. In an abrading-tool, the combination with a carrier, of segmental abrading-blocks spaced relatively to each other, the spaces between the blocks extending radially of the tool, openings being formed in the carrier leading to said spaces.

3. In an abrading-tool, the combination with a carrier, of segmental abrading-blocks spaced relatively to each other, the spaces between the blocks extending radially of the tool, said blocks being adjustably held in position on said carrier.

4. In an abrading-tool, the combination with a carrier, of a plurality of independently-removable segmental abrading-blocks spaced relatively to each other, the spaces between

the blocks extending radially of the tool; and means for adjustably retaining said blocks in position.

5 In an abrading-tool, the combination with a carrier, of segmental abrading-blocks spaced relatively to each other, the spaces between the blocks extending radially of the tool, said blocks being hollow; and openings

in said carrier for the passage of water to the inner and outer sides of said blocks. 10

Signed at Cleveland, Ohio, this 8th day of May, 1902.

ROLAND GARDNER.

Witnesses:

B. F. EIBLER,

C. A. GIBBS.