

R. GARDNER.
 ABRADING BLOCK AND CARRIER THEREFOR.
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970,619.

Patented Sept. 20, 1910.

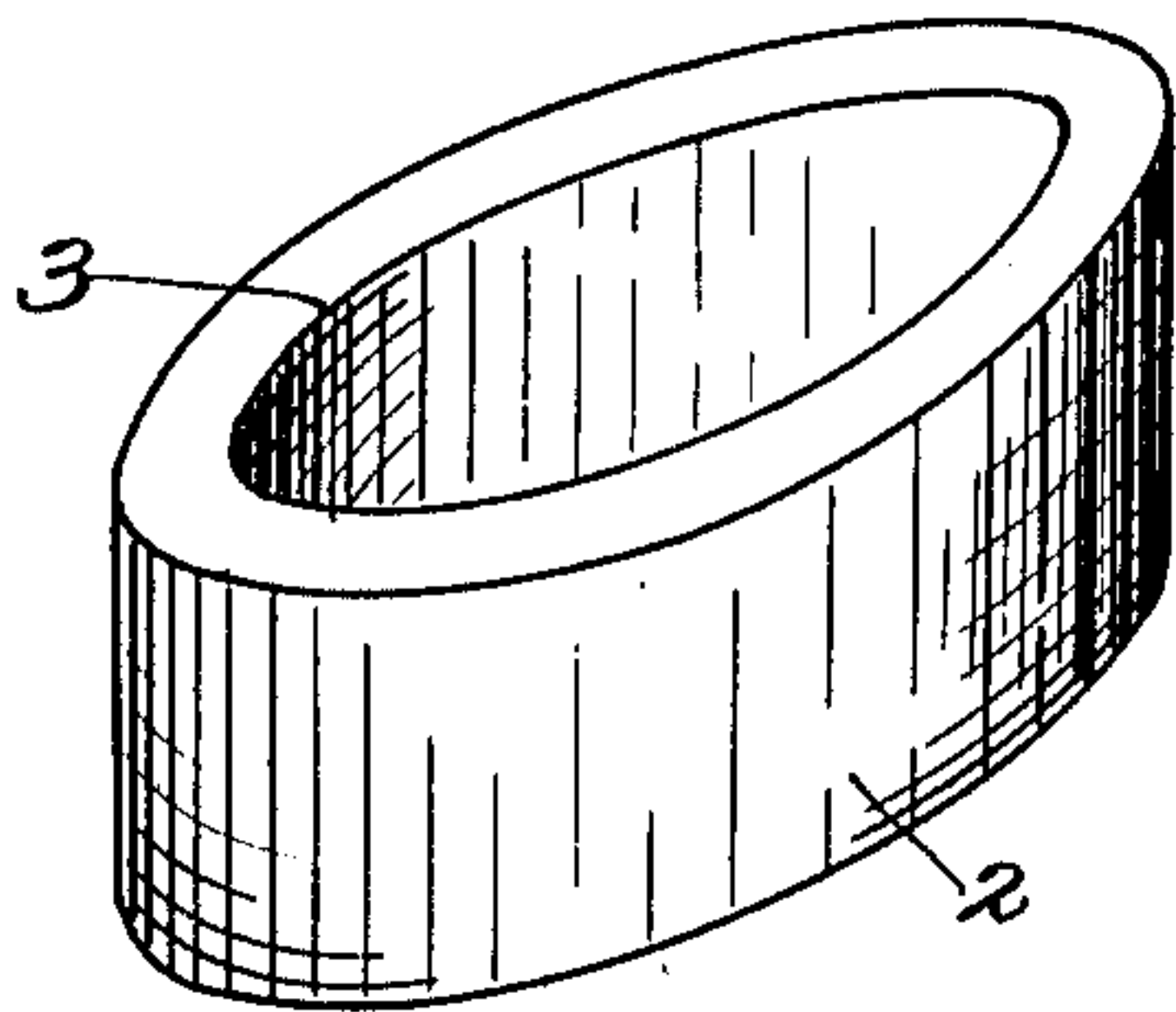


Fig. 1.

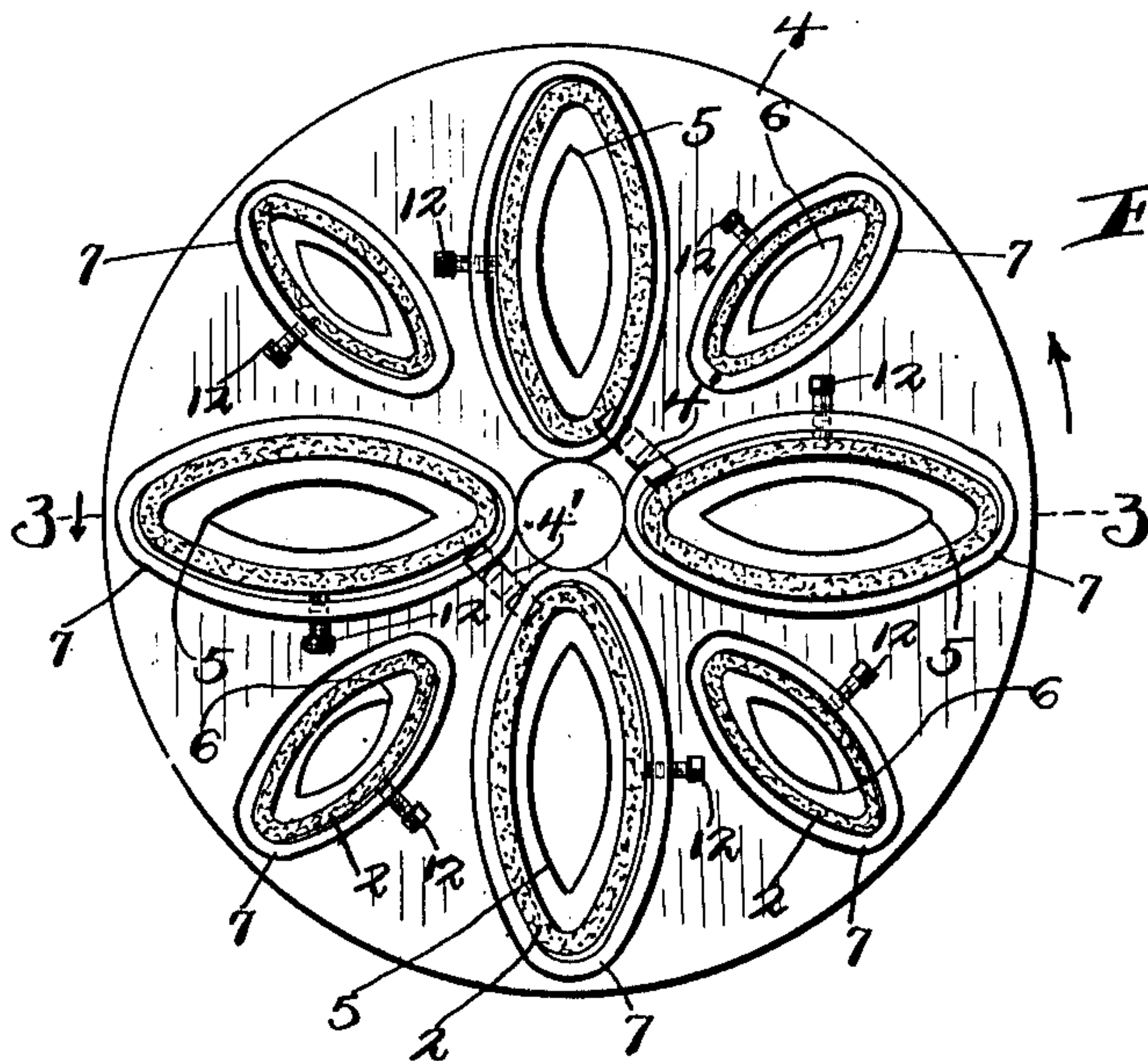


Fig. 2.

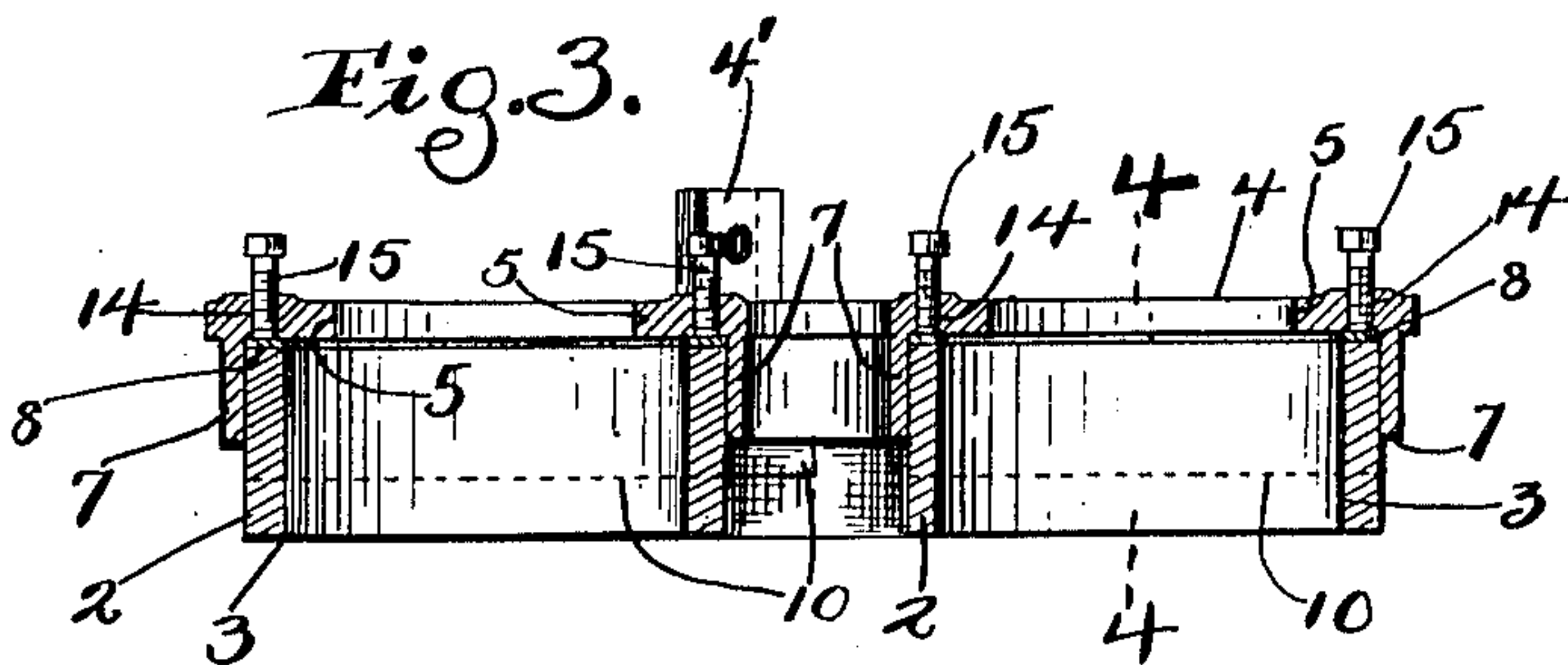


Fig. 3.

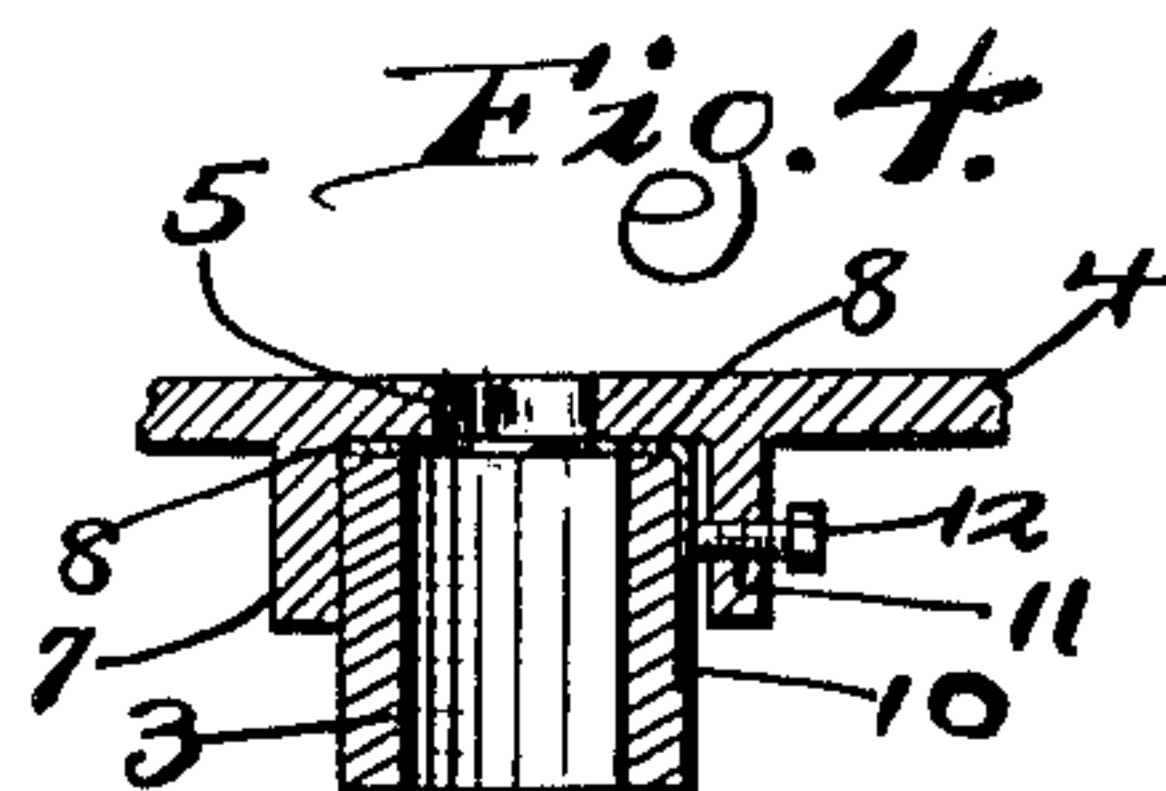


Fig. 4.

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UNITED STATES PATENT OFFICE.

ROLAND GARDNER, OF CLEVELAND, OHIO.

ABRADING-BLOCK AND CARRIER THEREFOR.

970,619.

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To all whom it may concern:

Be it known that I, ROLAND GARDNER, a subject of the King of England, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Abrading-Blocks and Carriers Therefor; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in abrading blocks for dressing marble, plate-glass and the like.

The object of this invention is to provide a block of such form that it will be both suitable for use as a hand block and for mounting on a wheel or carrier.

A further object of my invention is to provide a block which will facilitate the dressing of the material, enabling the same to be accomplished in much shorter time than is possible with the ordinary form of block.

My invention also consists in the features of construction and combination of parts as described in the specification, pointed out in the claim and illustrated in the accompanying drawings.

In the accompanying drawings Figure 1 is a perspective view of one of the blocks as used for dressing a surface by hand. Fig. 2 shows a plurality of blocks mounted on a wheel or carrier. Fig. 3 is a section on line 3—3, Fig. 2. Fig. 4 is a section on line 4—4, Fig. 3.

Again referring to the drawings, and especially to Fig. 1, 2 represents one of the blocks, which is elliptical-shaped in cross section, and has a central opening or aperture 3 extending therethrough which is also preferably elliptical in shape, so that the walls of the block are everywhere of the same thickness. The shape of this block permits it to be readily grasped in the hand and when held flat on the surface which is to be smoothed or polished the outer edge serves to cut off any projections on the surface of the material which is being dressed and the face of the block smooths and polishes the same. The comparative narrowness of the face of the block causes the same to wear evenly and proportionately with the outer edge so that the block is always in condition to do effective work.

When a machine is used for dressing the material which is to be smoothed or polished a plurality of the blocks are mounted on a carrier or wheel. The blocks are arranged in two series, the blocks in one series being smaller than the blocks in the other series. The larger blocks extend radially from near the center to the perimeter of the carrier and the smaller blocks are arranged in the spaces between the larger blocks and near the perimeter of the carrier. The portions of the larger grinding blocks near the perimeter of the carrier, of course, travel over a greater surface than the portions near the center of the carrier and therefore do more work and would wear away proportionately faster, but by providing the smaller blocks near the perimeter between the outer portions of the larger blocks the wear on the larger blocks is to a certain extent equalized so that the blocks wear evenly.

Referring particularly to Figs. 2, 3 and 4 of the drawings, 4 represents the wheel or carrier which is provided with ears or lugs 4' by means of which the carrier may be secured to a driving shaft (not shown). In the carrier are formed a series of large elliptical-shaped openings 5 which preferably extend radially from near the center of the perimeter of the carrier, and a series of smaller elliptical-shaped openings 6, which are arranged between the larger openings and nearer to the perimeter of the carrier. These openings of course are for permitting water to pass through the wheel to the surface which is being ground or polished. On the face of the wheel around each opening is formed an elliptical-shaped ridge or flange 7 which constitutes a pocket for receiving an abrading block. In the bottom of each pocket is arranged an elliptical-shaped plate 8 having an opening corresponding to the opening in the bottom of the pocket. The plate 8 has formed integral therewith a flange 10 which extends down at one side, adjacent to the wall of the pocket which is in advance when the wheel is rotated and said flange 10 projects a distance below said wall. In the wall of each pocket where the flange 10 extends down is formed a screw-threaded opening 11 for a clamping screw 12, which when screwed in engages the flange and thereby clamps the block between the flange and the opposite wall of the pocket. In the back of each pocket are

formed screw-threaded openings 14 in which are arranged adjusting screws 15 by means of which the abrading block can be adjusted outwardly to compensate for the wear on the working face thereof.

When operating the wheel the faces of the abrading blocks are brought into contact with the marble or other surface which is to be ground or polished and the wheel revolved in the direction indicated by the arrow. As the wheel is revolved the material removed from the surface which is being ground will of course be driven in front of the blocks and in the ordinary construction would act to uselessly wear away the front sides of the blocks but the flanges 9 serve as shields which protect the abrading blocks from the action of the refuse material. Also owing to the curvature of the blocks the waste material is shed or driven to either side thereof leaving the path of the block comparatively free from the refuse material.

The blocks are shown arranged radially on the carrier but the disposition of the

blocks can be changed without departing from the essential features of my invention.

What I claim is,—

In an abrading wheel the combination of a carrier plate provided with a series of openings extending from near the center of the plate to the perimeter thereof and a series of smaller elliptical-shaped openings arranged near the perimeter of the plate between said first-mentioned openings, each opening having its longer axis extending radially, a pocket formed around each opening and an elliptical-shaped abrading block provided with an opening extending centrally therethrough mounted in each pocket, for the purpose set forth.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

ROLAND GARDNER.

Witnesses:

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