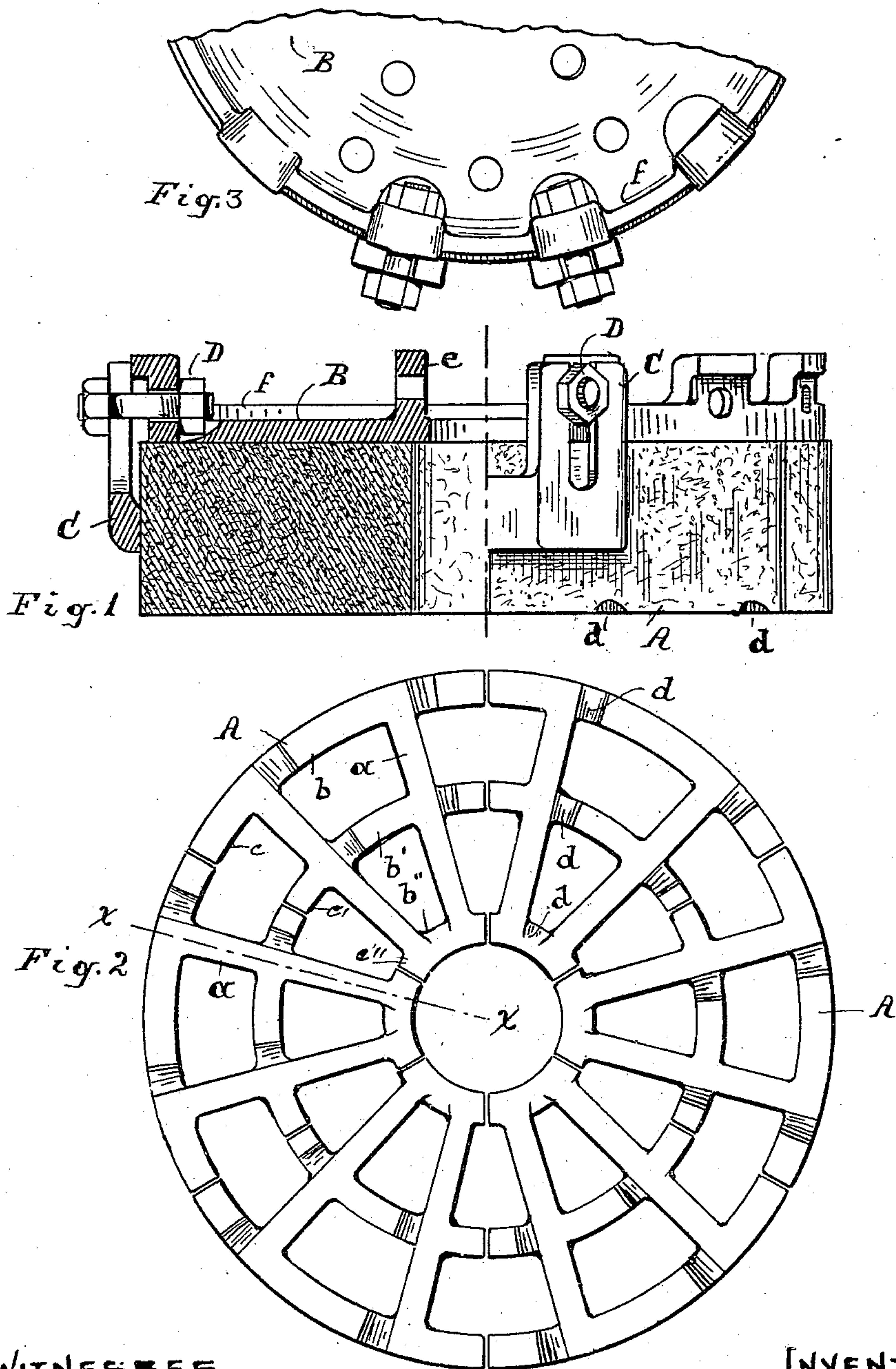


No. 870,231

PATENTED NOV. 5, 1907.

R. GARDNER.  
ABRASIVE WHEEL.  
APPLICATION FILED OCT. 7, 1904.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

ROLAND GARDNER, OF CLEVELAND, OHIO.

## ABRASIVE WHEEL.

No. 870,231.

Specification of Letters Patent.

Patented Nov. 5, 1907.

Application filed October 7, 1904. Serial No. 227,589.

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, county of Cuyahoga, and State of Ohio, have invented  
5 certain new and useful Improvements in Abrasive Wheels, of which the following is a specification.

My invention relates to improvements in abrasive materials respectively wheels which are used for dressing (surfacing) marble, granite, etc.

10 The object of my invention is to build up such wheels in webbed sections and to provide a strong, efficient and easily manipulated mounting plate therefor. I attain this object in a wheel as shown in the accompanying drawing in which

15 Figure 1 represents a part vertical sectional and part exterior view of same, Fig. 2 is a face view of the blocks in circular arrangement or in the form of a wheel; and Fig. 3 is a partial face view of the mounting plate above mentioned.

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

Substantially this improved abrasive wheel comprises a plurality of sector like skeleton blocks A, a metallic backing plate B therefor and suitable clamping devices by which said blocks can be held in jointed  
25 relation and in fixed connection with said plate.

The units A of which said wheel is built up represent skeleton structures, having radial walls *a a*, circular walls *b b' b''* and circular projections *c c' c''*.

30 The blocks when united leave a circular space through which the bulk of the water can be introduced for slushing the waste material outwardly. Channels or grooves *d d d* are provided in the cutting face of the blocks to enable the carrying off of the waste material  
35 from in under the wheel. Said channels are redressed (deepened) from time to time as the cutting surface wears away, so as to leave ample clearance for passage of the slush from center to circumference of the wheel; it being of vital importance that the waste material  
40 is readily carried off in order to prevent "gumming" of the wheel.

The backing plate or disk B serves the purpose of holding the blocks in wheel form in connection with the adjustable clamps C and bolts D, there being provided a bolt for each side of each block, and the blocks  
45 are preferably so set that the bolts appear about in alinement of the radial or side walls *a a*; also the clamps C are preferably so applied as to embrace the ends of adjoining blocks, in which instance the blocks can be brought to bear upon them. About the center of the  
50 plate are provided the lugs *e e* which afford connection with the driving spindle for the wheel in the usual manner. (Said spindle being not shown.) The rim *f* converts the outer face of the plate into a basin for holding water, and through a plurality of holes the  
55 water can be supplied to the cutting surface of the wheel to prevent heating and gumming of the wheel.

From the foregoing it can readily be seen, that an abrasive wheel of a most efficient cutting surface, and abundant strength can be built by and with sections  
60 (units) as shown and that a plurality of them can be readily mounted on a plate provided with clamps as shown.

What I claim and desire to secure by Letters Patent is:

1. An abrasive wheel consisting of united sections each section resembling a sector like skeleton structure with radial walls and circular walls with projections which  
65 space the radial walls as shown and for the purpose as set forth.

2. An abrasive wheel comprising a plurality of hollow blocks having projecting meeting faces, which form spaces between adjoining blocks, said blocks being mounted upon  
70 a plate having adjustable circumferential clamps all constructed and arranged substantially as and for the purpose set forth.

3. An abrasive wheel comprising a plurality of sector like hollow blocks provided with side lugs arranged in the manner as and for the purpose set forth.

ROLAND GARDNER.

Witnesses:

B. F. EIBLER,  
NELLIE GARVEY.