

(No Model.)

G. E. VANCE.
GRINDING WHEEL.

No. 579,414.

Patented Mar. 23, 1897.

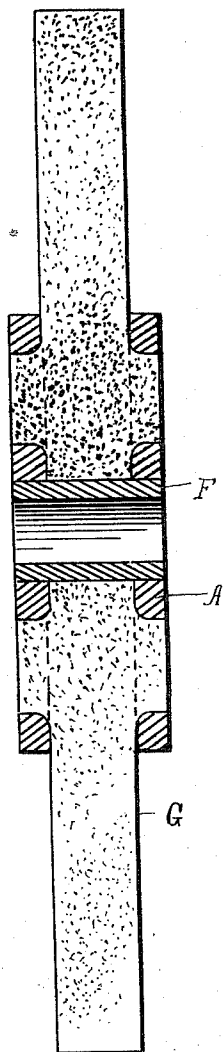


Fig. 1

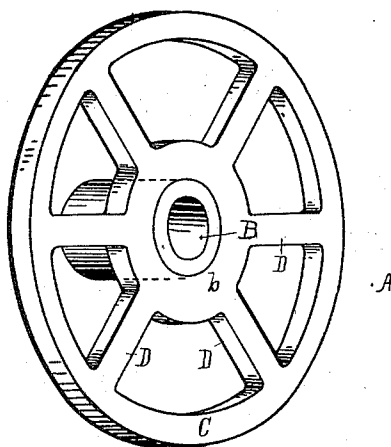


Fig. 2

WITNESSES

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GEORGE E. VANCE, OF TIFFIN, OHIO.

GRINDING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 579,414, dated March 23, 1897.

Application filed January 16, 1896. Serial No. 575,690. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. VANCE, a citizen of the United States, residing at Tiffin, county of Seneca, State of Ohio, have invented
5 a certain new and useful Improvement in Grinding-Wheels; and I 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
10 use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to grinding-wheels, and has for its object improvements in that
15 class of grinding-wheels made by cementing an abrading-powder into a block or wheel. Wheels of this class are intended to be run at a high rate of speed, but at the time of manufacture they are made with reference to the
20 work for which they are intended, and the rate of speed at which they can safely be run is taken into consideration, and the treatment during manufacture varies accordingly.

Notwithstanding all the care that can be
25 taken in manufacture and subsequent handling the use of artificial grinding-wheels is attended with danger; and the object of this invention is to strengthen the wheel at its weakest points to reduce that danger.

30 In the drawings, Figure 1 shows a section across the wheel. Fig. 2 shows in perspective one of the spiders used to strengthen the grinding-wheel.

A indicates a spider having a central eye or
35 shaft-opening B, a hub b, a rim or felly C, and spokes D D D, uniting the hub b and the felly

C. Two of these strengthening-spiders are used, and the abrading substance is molded into a wheel of which that portion intended to be used for grinding purposes lies radially
40 at a greater distance from the hub than the fellys are from the hub, and that corner of the felly that lies to the inside and toward the hub is preferably rounded, so that the block of abrading material will not have at this part
45 a sharp reëntering corner. The block G of grinding material is molded of the desired thickness and diameter and fills the space between the spokes D D D, so that the block is not only thicker through near the hub, but is
50 braced and held by the radial spokes, and the felly and the spokes are preferably sunk or embedded in the boss that surrounds the eye of the stone and extend outward therefrom to engage the band or felly C. A central bush-
55 ing F is employed as the means by which the engagement between the shaft and the stone is made.

What I claim is—

The combination of a block of grinding material having integral lugs projecting outwardly from each of its sides, and arranged in a circle around the center of said block, and rings provided with hubs and spokes adapted to engage snugly around said lugs, substantially as shown and described. 65

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

GEORGE E. VANCE.

Witnesses:

CHARLES F. BURTON,
W. C. CROFT.