(No Model.)

C. H. BENTON.

SECTIONAL FACED WHEEL FOR DRESSING METALS.

No. 442,283. Patented Dec. 9, 1890.

Fig. I.

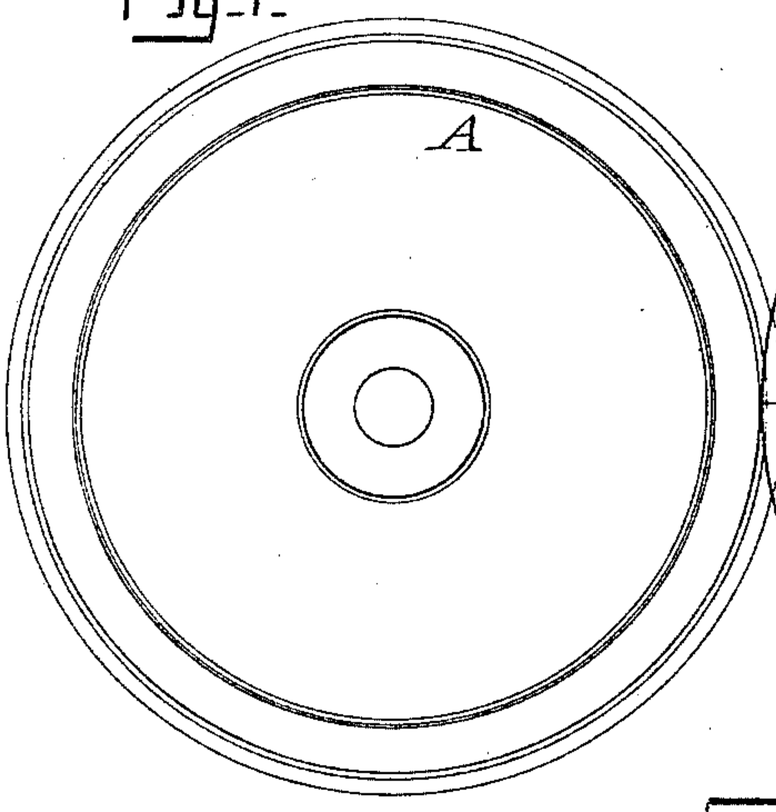


Fig. II.

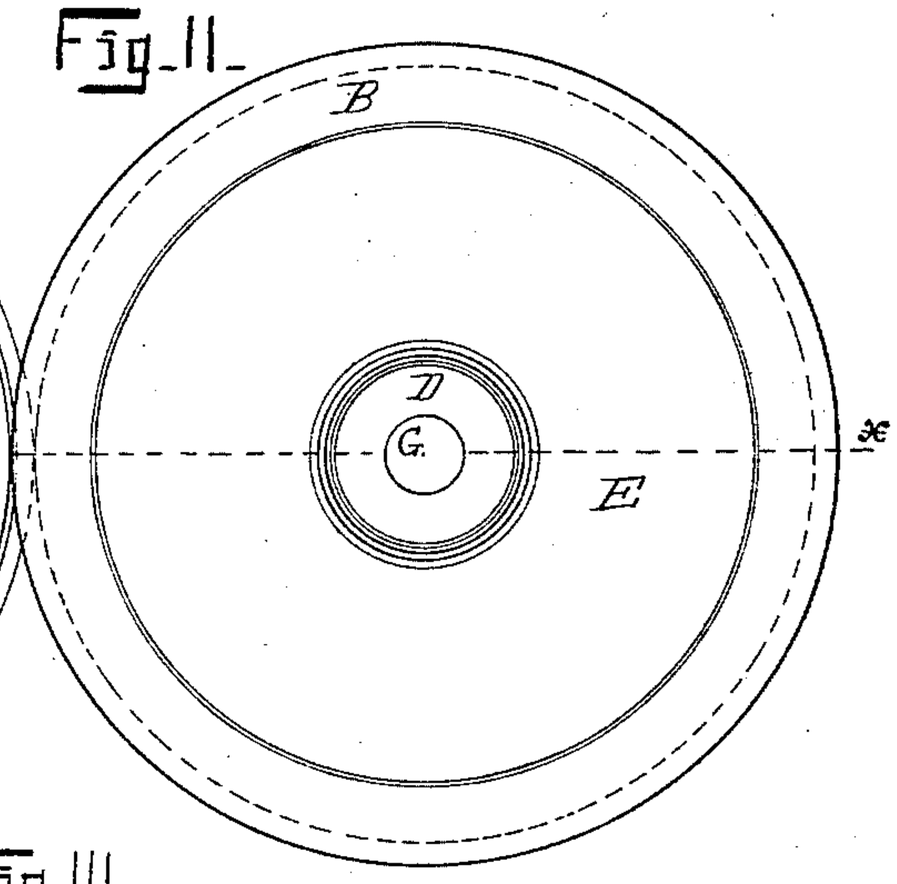


Fig. III.

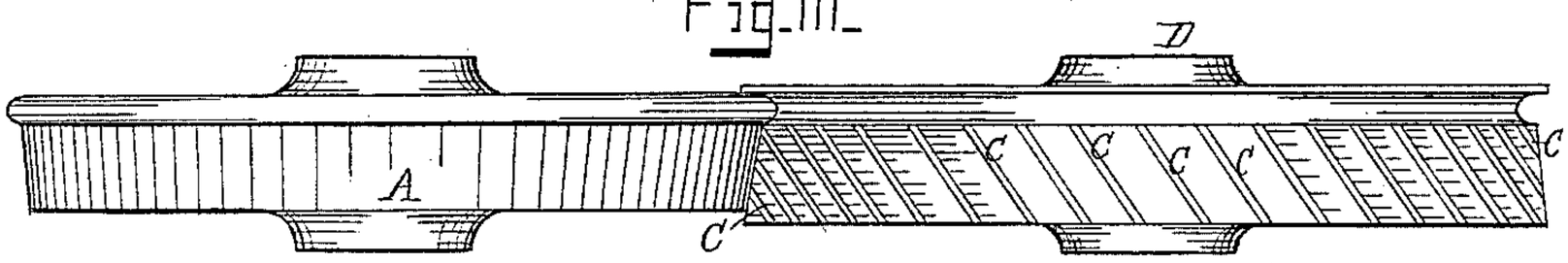


Fig. V.

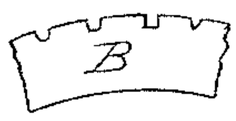
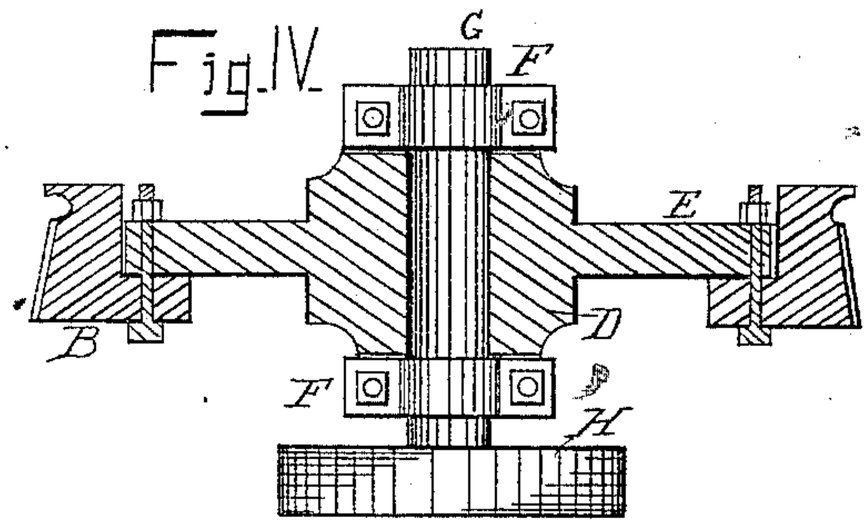


Fig. IV.



Witnesses:
Samuel Street
James G. Dennis

Inventor
Charles H. Benton
By G. L. Chapin
Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. BENTON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO BENJAMIN J. ABBOTT, OF SAME PLACE.

SECTIONAL-FACED WHEEL FOR DRESSING METAL.

SPECIFICATION forming part of Letters Patent No. 442,283, dated December 9, 1890.

Application filed August 19, 1890. Serial No. 362,417. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BENTON, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Sectional-Faced Wheels for Dressing Metal, of which the following is a specification, reference being had to the annexed drawings, illustrating the invention, in which—

Figure 1 is an elevation of a car-wheel to be dressed; Fig. 2, an elevation of my improved sectional-faced wheel for dressing metal in position to dress the tread of the car-wheel at Fig. 1. Fig. 3 is a top or plan view of Figs. 1 and 2. Fig. 4 is a section of Fig. 2 on line *x*, with the addition of shaft-bearings and drive-wheel. Fig. 5 is a broken portion of the rim of the wheel at Fig. 2, showing different forms of grooves which separate the face of the wheel.

This invention relates to improvements in the faces of wheels which are employed to dress metal surfaces by friction produced mostly by a high rate of speed. It is very desirable to obviate the adhesion of metal to the surface of the dressing-wheel and prevent such adhesive metal from cutting indentations in the tread of the car-wheel. This will be better understood when it is known that the speed required to dress metal with metal is such that unless great care be taken the surfaces in contact will weld or approximate so nearly such a condition that the metal removed from the car-wheel will adhere to the dressing-surface. This condition is such that often the wheels have to be stopped to cool or have means applied to prevent the adhesion of the metal. I employ water to obviate in a measure this objection; but where the dressing-wheel has a full periphery the water leaves the surface so fast by centrifugal force that its benefit is not fully attained. By separating the periphery of the dressing-surface by suitable grooves the metal removed from the article dressed is immediately thrown into the grooves, from where it escapes, leaving the dressing-surface smooth and clean, for the reason that the removed metal is prevented from mixing with itself. Further than this, the water employed to keep the surfaces in contact cool is caught in the grooves and is maintained a much longer time on the wheel than when the dressing-surface is one continuous smooth periphery. The grooves assist in no manner in dressing a surface otherwise than, as stated, in keeping the dressing-surface free from the metal separated from the dressed metal or article being dressed.

In the drawings, A represents a car-wheel, and B the wheel employed to dress its tread, in relative positions for that purpose.

Inasmuch as the art of dressing one article of metal by the contact of a metal wheel running at a high rate of speed is old, the mechanism for giving motion to such wheel and feeding the article to the wheel is not at all necessary to an understanding of my improvement, for my improved wheel can be substituted for the ordinary wheel now in use in metal-dressing machines.

At Fig. 3 the grooves C C C, &c., are formed diagonally in the periphery of the wheel B. This is preferable, in that the removed metal is readily driven out at the side of the wheel; but grooves formed in the periphery parallel to the wheel-shaft will serve a good purpose and hold the water longer on the wheel. The forms of the grooves in cross-section may be square, semicircular, inclined at their sides, or made V-shaped, as most convenient to form by a milling-tool employed for that purpose.

The several forms of grooves are shown at Fig. 5.

In the construction of the dressing-wheel the hub D and web E are made of cast-iron, bolted to the steel rim B.

F F are the bearings for the shaft G of the wheel, and H is the drive-pulley.

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

In metal wheels for dressing metal surfaces, a series of grooves formed in the periphery of such wheel for the escape of the removed metal and retaining water, as and for the purpose set forth.

CHARLES H. BENTON.

Witnesses:
G. L. CHAPIN,
B. J. ABBOTT.