Nov. 17, 1925. 1,561,555

D. F. McGOVERN

EMERY WHEEL

Filed July 22, 1924

Fig. 1

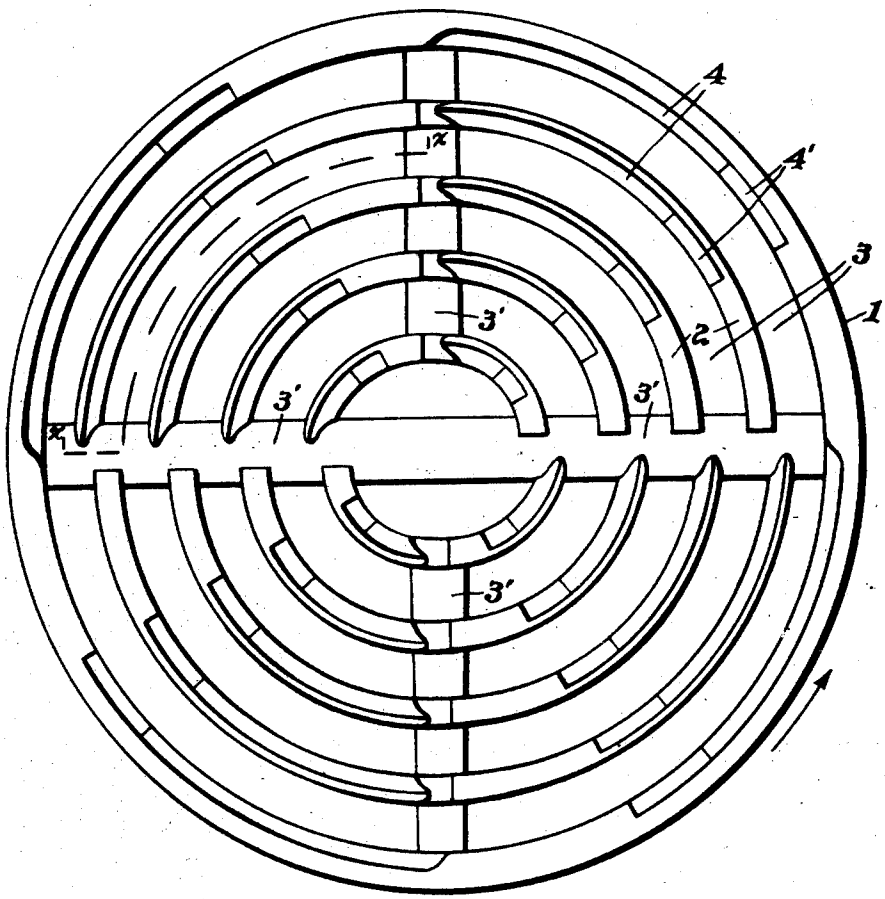
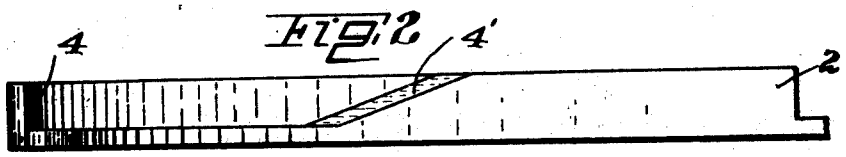


Fig. 2



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UNITED STATES PATENT OFFICE.

DANIEL FREDERICK McGOVERN, OF MONTPELIER, VERMONT.

EMERY WHEEL.

Application filed July 22, 1924. Serial No. 727,558.

To all whom it may concern:

Be it known that I, DANIEL F. McGOVERN, a citizen of the United States, residing at Montpelier, county of Washington, State of Vermont, have invented certain new and useful Improvements in Emery Wheels, of which the following is a specification.

This invention relates to emery wheels, and particularly to an emery wheel of the type wherein the working surface of the wheel consists of sets of spaced curved flanges which work the abrasive against the stone in the polishing operation.

My invention contemplates a material increase in effectiveness of the abrasive distribution in a wheel of this type, and consists in undercutting the flanges themselves for a portion of their length to provide therein abrasive leads into which a portion of the abrasive in the channels may be lodged by centrifugal force. The abrasive so entrapped against the flanges is not only available for contact with the stone being polished, but is effectively confined against wastage, thus not only increasing the cutting quality of the wheel but effecting an economy in abrasive as well.

The construction and operation of my emery wheel together with a selected embodiment which has been found satisfactory in use and well adapted to the requirements of manufacture is described and shown in the accompanying specification and drawings and the characteristic features of novelty are particularly pointed out in the appended claims. Throughout the specification and drawings like reference characters are correspondingly applied, and in the drawings:

Fig. 1 is a bottom face view of an offset emery wheel in accordance with my invention, and

Fig. 2 is a fragmentary side elevation of one of the segmental flanges particularly showing its abrasive lead.

I have indicated generally at 1 the disc or base plate of an offset emery wheel of standard construction. The disc 1 has its working face, in the illustrative form shown, arranged in the form of two opposite sets of spaced segmental flanges 2, the space between said flanges providing channels 3 for the feed of the abrasive.

The center of the flange sets are offset laterally relative to each other so that the flanges of one set are disposed opposite the channels of the other set. This permits the abrasive to be distributed substantially uniformly throughout the radial channels, 3′.

My invention consists in forming the flanges 2 with undercut abrasive leads indicated generally at 4, at their forward ends. These leads which open inwardly of the flange extend partly through the width of the flange, but terminate short of the outer edges. They may have any desired configuration but preferably comprise a receiving portion 4 and are preferably inclined towards their rear ends as at 4^1, so that the abrasive will work back and pass out along 4^1, under the rotative action of the wheel when it is in use.

The leads may be of any desired length but preferably extend for about half the length of the flange. The leads may be of various shapes although as a matter of practice I have found that the inclined rear end of the lead is satisfactory in that it facilitates the movement of the abrasive to work back beneath the flange.

By my invention therefore the abrasive is brought in increasing amount under the face of the flanges and the portion of it entrapped beneath the flanges is not only exposed for direct contact with the stone being polished, but affords a steady supply in position of maximum efficiency. My invention therefore has the double effect of both increasing the cutting efficiency of the wheel and of effecting an economy in the abrasive used as well.

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

1. An abrasive wheel having on its working face a plurality of spaced flanges, the space between said flanges constituting abrasive feed channels, said flanges having an abrasive lead extending from their for-

ward ends opening inwardly into said feed channels, the rear walls of said leads being rearwardly beveled.

2. An abrasive wheel having on its working face a plurality of spaced flanges, the spaces between said flanges constituting abrasive feed channels, the inner portion of each flange edge being undercut from the forward end towards the rear end of the flange, and the outer portion of the flange edge being uncut and constituting with said undercut inner portion an abrasive lead opening inwardly into the feed channel included by said flange.

In testimony whereof I affix my signature.

DANIEL FREDERICK McGOVERN.