March 29, 1927.

E. A. CHASE

1,622,942

BUFFING WHEEL

Filed Jan. 17, 1923

Fig. 1.

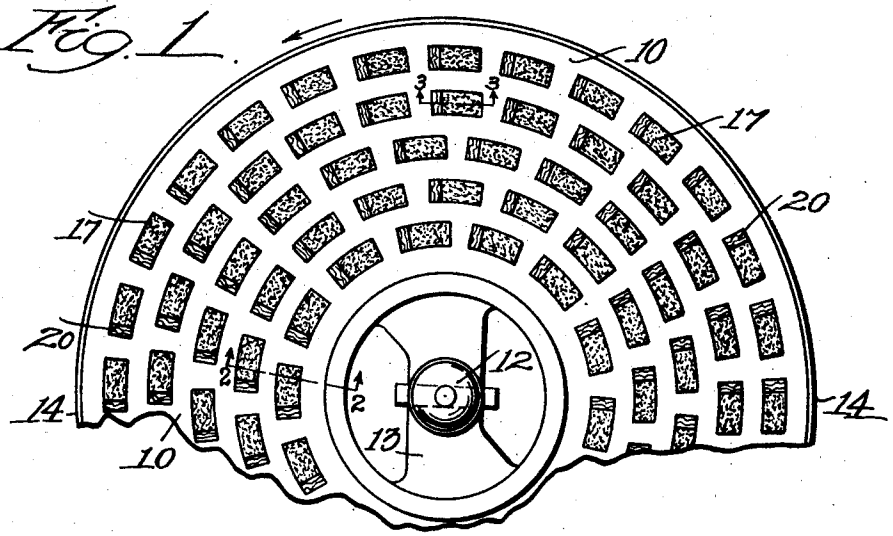
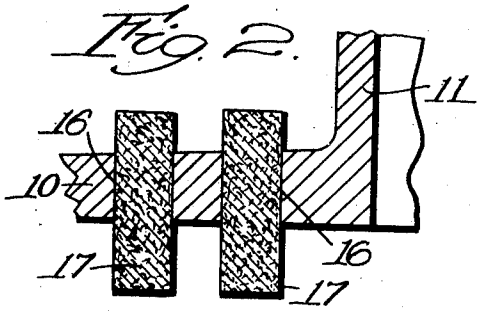


Fig. 2.



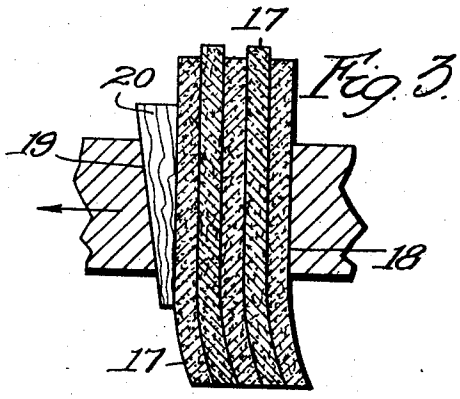
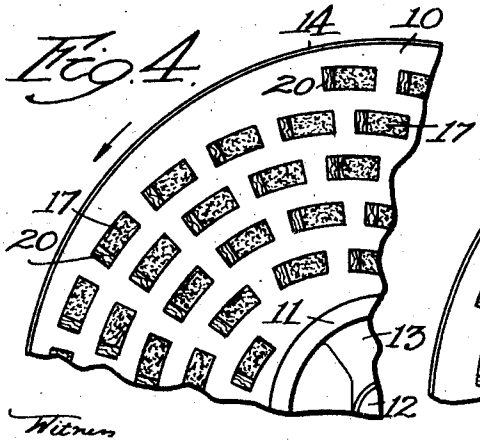


Fig. 3.

Fig. 4.



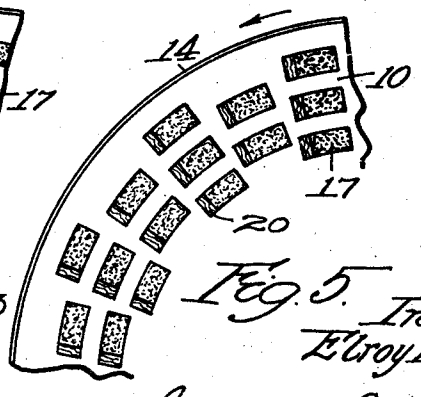


Fig. 5.

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UNITED STATES PATENT OFFICE.

ELROY A. CHASE, OF NORTHFIELD, VERMONT.

BUFFING WHEEL.

Application filed January 17, 1923. Serial No. 613,262.

This invention relates to a buffing wheel particularly adapted for use in buffing or polishing granite and other similar materials.

It is the general object of my invention to provide a buffing wheel of improved and simplified construction, which may be cheaply and easily manufactured and in which the buffing material may be readily inserted and replaced. To the attainment of this object I provide a buffing wheel in which strips of felt or other material are arranged in circumferential series in a succession of small buffing sections. I further provide improved devices for detachably securing each separate section of strips in position in the supporting plate.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention is shown in the drawings in which

Fig. 1 is a partial plan view of a buffing wheel embodying my improvements;

Figs. 2 and 3 are detail sectional elevations, taken along the lines 2—2 and 3—3 in Fig. 1, and

Figs. 4 and 5 are partial plan views showing modified arrangements of the buffing sections.

My improved buffing wheel comprises a plate or disc 10 preferably having an inner flange or hub 11 which permits a center feed of the buffing material. A head 12 is provided for universal attachment to suitable driving mechanism. The head 12 is shown as connected with the flange 11 by arms 13 which are inclined to feed the buffing material downward with a propeller-like action. The parts thus far described are commonly formed as a single iron casting.

It is sometimes desirable to secure a steel band 14 about the outer edge of the cast iron disc 10 for the purpose of safety, as these discs may be several feet in diameter and revolve at a fairly high speed.

The disc or plate 10 is provided with a series of vertical openings 16 extending through the plate and in which the strips 17 of felt or other buffing material are fitted. Each opening 16 preferably has one face 18 (Fig. 3) substantially perpendicular to the face of the plate 10 and the opposite face 19 inclined to receive a wedge 20 by which the strips 17 are retained in position in the openings 16.

With this construction, the strips 17 are very easily removed when worn and as easily replaced or vertically adjusted. They are secured firmly in position merely by driving in the wedge 20.

The particular arrangement and distribution of the openings 16 in the face of the plate 10 may be varied to suit different operating conditions, three arrangements thereof being indicated in the drawings.

In Fig. 1, the openings are arranged in a series of circles concentric with the axis of the wheel. In Fig. 4, I have shown a spiral or scroll-like arrangement of the openings 16, and in Fig. 5, the openings are arranged in staggered or overlapping relation. The arrangements shown in Figs. 4 and 5 have the advantage that the wheel in rotating in one position covers the entire surface of the work beneath the wheel and does not leave rings of unpolished surface between the circles of buffing strips, as would be the case if the wheel shown in Fig. 1 were revolved about a fixed axis.

Under ordinary conditions, however, any one of the three wheels is satisfactory, as the wheels are moved constantly over the surface of the work and do not revolve for any length of time about a fixed axis.

The arrangement of the strips in a succession of small sections in separate openings is advantageous on account of the greater convenience of separately securing each small section of strips and also because a small section of strips forms a more flexible unit as indicated in Fig. 3, and is adapted to yield readily to any inequalities or unevenness in the surface.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what I do claim is:—

1. A buffing wheel comprising a plate having an extended series of short and substantially circumferential openings therein, a plurality of strips of flexible buffing material fitted in each opening to form a single circumferentially extended buffing member, and separate means to secure each such assembly of strips in its opening, said openings being arranged in the face of the wheel with successive openings radially overlapping.

2. A buffing wheel comprising a plate having an extended series of short and substantially circumferential openings therein, a plurality of strips of flexible buffing material fitted in each opening to form a single circumferentially extended buffing member, and separate means to secure each such assembly of strips in its opening, said openings being arranged in a continuous spiral formation about the axis of the wheel.

3. A buffing wheel comprising a plate having an extended series of short and substantially circumferential openings therein, each of said openings having an end wall substantially perpendicular to the face of the plate and having the opposite side wall inclined at an angle thereto, a plurality of strips of flexible buffing material fitted in each opening, and a wedge shaped block effective to hold said strips in said openings, said openings being arranged in the face of the wheel with successive openings radially overlapping.

In testimony whereof I have hereunto affixed my signature.

ELROY A. CHASE.