

(No Model.)

M. P. HIGGINS.
STONE DRESSING TOOL.

No. 378,313.

Patented Feb. 21, 1888.

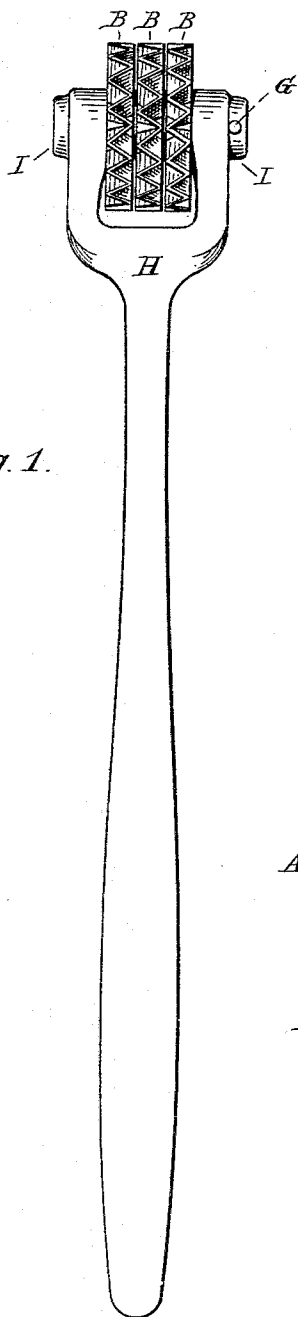


Fig. 1.

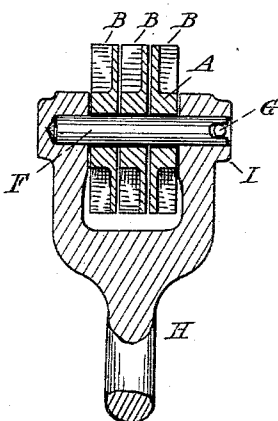


Fig. 2.

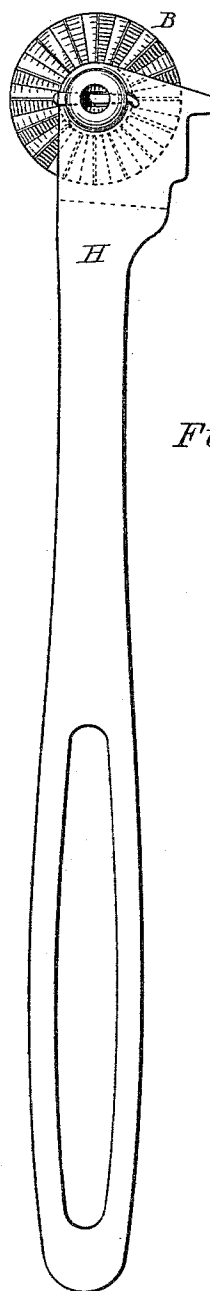


Fig. 3.

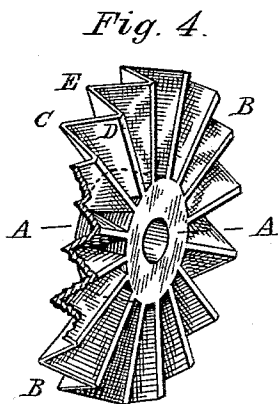


Fig. 4.

WITNESSES:

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STONE-DRESSING TOOL.

SPECIFICATION forming part of Letters Patent No. 378,313, dated February 21, 1888.

Application filed March 11, 1886. Serial No. 194,770. (No model.)

To all whom it may concern:

Be it known that I, MILTON P. HIGGINS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Tool for Turning and Dressing Grindstones and Emery-Wheels, of which the following is a specification.

My invention relates to improvements in tools for turning and dressing grindstones and emery-wheels, and to that class of tools in which the cutting action of the tool upon the grindstone or emery-wheel is caused by wheels or cutters revolving by contact with the revolving grindstone or emery-wheel to be dressed or turned.

The objects of my improvements are, first, to produce a wheel or cutter which is strong and durable, and which does not become dull by use, but retains its cutting properties substantially unimpaired until it is worn out; second, to mount such wheel or cutter in its holder in such a manner that the parts of the tool upon which the wear principally comes may be easily and cheaply replaced.

The following is a description of my invention, reference being had to the accompanying drawings, which form part of this specification.

Figure 1 is a front elevation of the complete tool. Fig. 2 is a section of a portion of Fig. 1. Fig. 3 is a side elevation, and Fig. 4 is a perspective view of one of the cutters with a portion of the blades broken out to show their uniform thickness.

Similar letters refer to similar parts throughout the several views.

The wheel or cutter, Fig. 4, consists of a hub, A, carrying blades B, whose cutting-edges are oblique to the axis of the wheel or cutter. These blades are united each to each at their intersections, forming angles or corners on both sides of the cutters, as at C D, and the cutting-edge is along the broken line C D E, &c. These blades are of nearly uniform thickness, so that they preserve a good cutting-edge when worn down nearly to hub A, as shown at broken section in Fig. 4, and being so united each to each as to brace and support one another. The blades are very strong and not

liable to be broken. This form of cutter is found to leave the stone or wheel with good corners and surface in superior condition for service. The whole cutter is (preferably) cast in hard iron, and when suitably mounted in a holder, either singly or in sets, is very durable and effective on account of its peculiar construction, as above described.

In operation, when the cutter is held against a stone or wheel in motion and slightly canted, so that either edge impinges more than the other, (as the forward edge will when the tool is moved sidewise, or when the handle is slightly canted either way,) a series of successive blows is given by the angles or corners of the cutting-edge, similar to those of a stone-dresser by hand with hammer and pointed tool, though much more rapid, while the edge between the points gives a smoothing cut somewhat similar to the oblique and wavy or scalloped edges on tools as heretofore used.

The second part of my invention, relating to an improved method of mounting the cutter in its holder, is accomplished as follows: A plain steel axle, F, slotted at one end, passes through one hub I of the holder and partially through the opposite hub, and is held in position and prevented from revolving by the pin G, passing through one hub of the holder and the slot of the axle, as shown in Figs. 2 and 3. The wheels or cutters B are free to revolve upon this axle. Thus the wear comes upon the axle and cutters, which are easily and cheaply replaced.

What I claim, and desire to secure by Letters Patent, is—

1. A grindstone or emery-wheel dressing tool comprising the holder H, having the axle F near its end, a rotating cutter consisting of a hub carrying blades of nearly uniform thickness, and having flat surfaces, said blades extending from said hub, and their cutting-edges formed by their exterior ends standing oblique to the axis of the cutter and having their meeting edges united and supporting each other, thus forming angles on both sides of the cutter, substantially as above set forth.

2. The combination, with the holder H, provided with hubs I, having openings in their inner surfaces, of the axle F, for supporting

the cutter, having a slot in one end thereof, and a pin, G, for holding said axle in the hub I, and preventing it from turning therein, substantially as shown and described.

- 5 3. A rotary wheel cutter comprising a central perforated hub with a surrounding integral angular flange or corrugated wing, of substantially uniform thickness throughout,

whereby the periphery of the wheel presents a thin zigzag edge continuously from the full-sized wheel until worn down to the hub, substantially as shown.

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Witnesses:

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