A. J. ROBINSON.
Emery Wheel Clamp.

No. 201,949 Patented April 2, 1878.

Fig. 1.

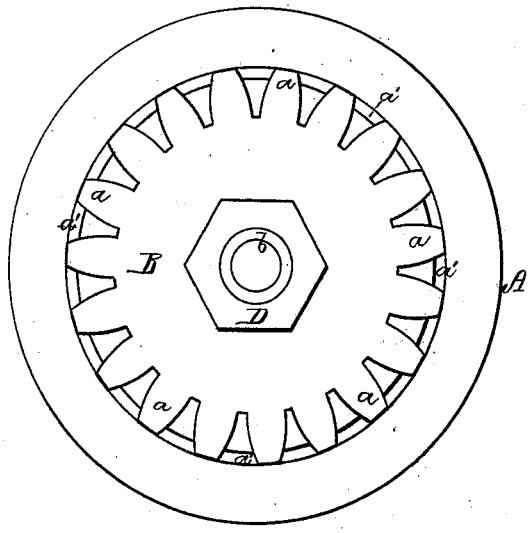


Fig. 2.

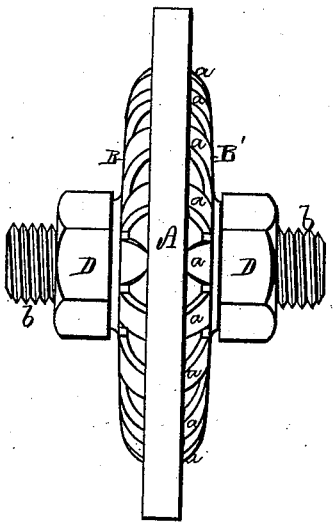
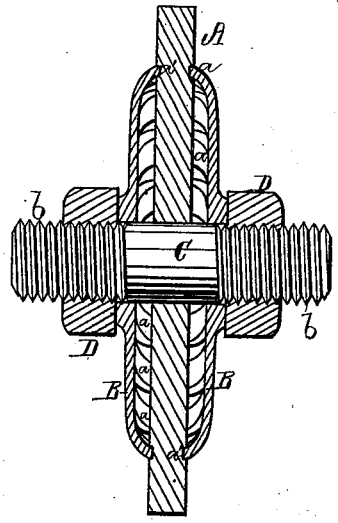


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

ANDREW J. ROBINSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND THOMAS PRINCE, OF SAME PLACE.

IMPROVEMENT IN EMERY-WHEEL CLAMPS.

Specification forming part of Letters Patent No. **201,949**, dated April 2, 1878; application filed February 28, 1878.

To all whom it may concern:

Be it known that I, ANDREW J. ROBINSON, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Clamp for Emery or Grinding Wheels; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, Fig. 2 an edge view, and Fig. 3 a transverse section, of it applied to a grinding or emery wheel.

This clamp is to hold the wheel firmly and prevent it from being broken or flying in pieces while it may be rapidly revolving.

It is well known that serious accidents have resulted from the bursting of grindstones or emery-wheels while at high speed, that persons have been maimed or killed and property has been destroyed or injured by the fragments thrown off under great centrifugal force.

With my clamp a wheel is rendered perfectly safe and not liable to break, as it is thoroughly grasped and supported near its periphery, and when it may have become worn down to a diameter corresponding with that of the clamp another or smaller clamp of like description may be applied to it.

Grinding, and especially emery wheels, as usually made, are apt to be more or less irregular or winding on their sides or uneven in thickness. Therefore, to support them properly on an arbor, the clamp should be capable of conforming to such irregularities, so as to bear equally, or nearly so, all around the wheel. Such is the case with my improved clamp, which, as represented, is shown as having each of its concavo-convex disks provided with a series of separate elastic jaws, projecting from it radially, and bearing at or near their outer ends directly against the wheel, each of them being free to act independently of the others. Furthermore, these jawed disks are shown as fixed to the wheel by a rod or arbor, and two male screws and two nuts applied to it, the rod going through the wheel and disks at their centers.

In the place of one of such nuts and screws, the arbor may be provided with a shoulder; but with the latter bearing against one disk, the arbor is more liable to be deflected out of its right-angular position to the plane of the wheel, and as a consequence to cause the nut to bear unevenly on the other disk. I prefer the screws and nuts, and, if desirable, one of such screws may be right-threaded, and the other left-threaded, in which case the wheel should always be revolved one way, in order to cause the nuts to keep well screwed up.

In the drawings, A denotes the emery or grinding wheel, and B B′ the two concavo-convex disks, each having a series of jaws, *a a a*, extending from it and bearing on the wheel, in manner as represented.

The arbor C, provided with screws *b b*, goes through the eyes of the disks and wheel, and is held thereto by two nuts, D D, arranged as shown.

The grinding-wheel may be grooved in and around each side, to receive the ends of the jaws; or it may have a circular fillet to each side, to be embraced or covered by the jaws. In the drawings the wheel is shown as provided with such a groove in each side of it, such grooves being represented at *a′ a′*.

I do not claim a clamp constructed as described or claimed in the United States Patent No. 101,058, which consists of right and left hand collars, each having an inwardly-projecting ring, and also an arbor-eye, and being to support a grinding annulus or ring when arranged between such collars, my clamp being for sustaining a wheel, as set forth.

I claim—

An emery or grinding wheel holder, composed of a connecting screw-bolt or arbor and a nut or nuts thereto, as set forth, and two metallic concavo-convex disks, and a series of jaws to each of them, as specified, all being arranged and to operate substantially as shown and described.

ANDREW J. ROBINSON.

Witnesses:
R. H. EDDY,
JOHN R. SNOW.