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MOUNTING FOR ABRASIVE WHEELS OR THE LIKE

Filed Nov. 22, 1926

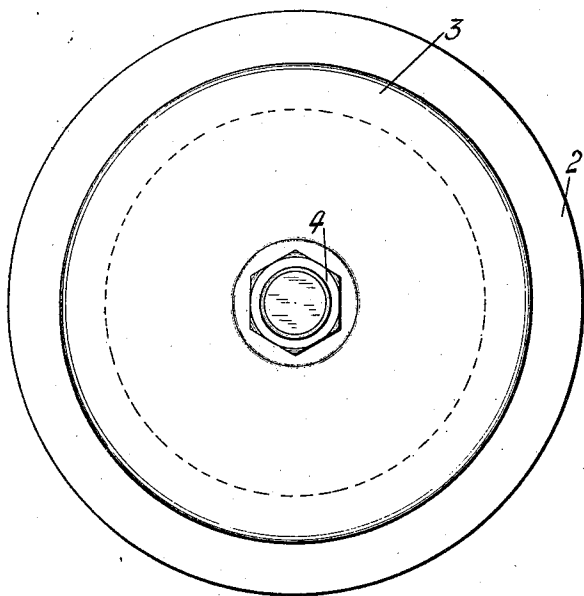


Fig. - 1

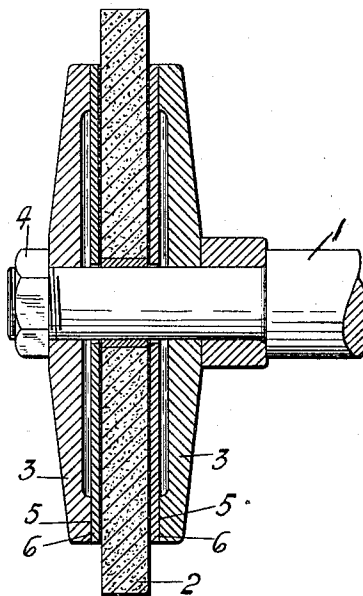


Fig. - 2

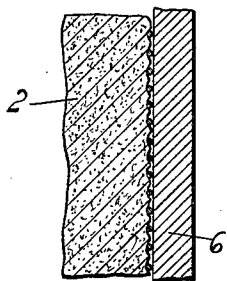


Fig. - 3

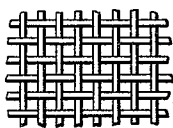


Fig. - 4.

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MOUNTING FOR ABRASIVE WHEELS OR THE LIKE

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This invention relates to a new and improved form of mounting for abrasive wheels or similar objects, the specific purpose of the invention being to provide an improved clamping device for a wheel of this type which will securely hold and clamp a wheel so that in the event of fracture, the sections or fragments of the wheel will be retained and will not fly out and with the use of the present invention it is possible to safely and securely clamp the abrasive wheel by means which will insure the safe operation thereof at high speeds.

The surfaces of abrasive wheels are irregular, being formed with numerous minute elevations and depressions and the invention utilizes a form of metallic screen or lamina which will securely grip the rough surfaces of the wheels. The specific description of the invention will be given in connection with drawings illustrating the preferred form of the invention, in which

Figure 1 is a side elevation of an abrasive wheel;

Figure 2 is a section through the center of the wheel;

Figure 3 is an enlarged view of a section of the wheel showing the manner in which the metallic screen grips the surface of the wheel; and

Figure 4 is an enlarged view of the metallic screen.

In the drawings, the numeral 1 represents the usual power shaft upon which the abrasive wheel 2 is mounted, the wheel being retained between two clamping plates 3 and clamped securely by a nut 4. These plates are preferably formed with raised annular bearing surfaces 5 about their outer peripheries so that the pressure is concentrated near the periphery of the wheel. Between the plates and the wheel are placed thin metallic disks or secondary plates 6 and between the disks and the wheel are located sheets of fine wire mesh, preferably light copper screen, the mesh being of such fineness that it is comparable to the minute irregularities or rugosities on the surfaces of the wheel.

The operation of the device is evident from

an inspection of Figure 3 which is enlarged sufficiently so that the minute irregularities are shown in the manner in which they are embedded within the apertures of the wire mesh by pressure exerted by the nut 4, the soft metal screen yielding sufficiently so that the mesh will substantially seat in the lower surfaces or valleys of the wheel and the projections or irregularities protrude between the openings in the mesh. In this manner the wheel is securely held and any fragments which might break away from the main body of the wheel or any section of the wheel will be securely anchored in place and cannot fly apart.

Other forms of wire or screen may be substituted for the fine woven wire mesh shown and described, it being desirable to provide a sheet or lamina with a plurality of small apertures or recesses therein, in which the elevations or high spots upon the surfaces of the wheel may become embedded.

What is claimed is:

1. A mounting for abrasive wheels having surfaces with minute elevations and depressions, comprising plates at the sides of the wheel, wire mesh between the plates and the wheels, and means to force the mesh against the sides of the wheel sufficiently to cause the wire mesh to embed within the depressions on the wheel.

2. A mounting for abrasive wheels having surfaces with minute elevations and depressions, comprising wire mesh at the side of the wheel, and means for exerting clamping pressure upon the mesh so that the elevations will protrude into the openings in the mesh and thereby anchor the wheel in position.

3. A mounting for abrasive wheels having surfaces with minute elevations and depressions, comprising a mesh of fine wire held under compression against the side of the wheel, so that the elevations will be embedded within the interstices of the mesh.

4. A mounting for abrasive wheels having surfaces with minute elevations and depressions, a screen having minute recesses therein, and means to force the screen against the

wheel to a sufficient extent to embed the elevations within the recesses of the screen.

5 5. The combination of an abrasive wheel having a surface with minute projections thereon, a metal screen having recesses therein comparable with the projections, and means to clamp the screen against the surface of the wheel with sufficient pressure to cause the projections to nest within the recesses.

10 6. The combination of an abrasive wheel having a surface with minute projections thereon, a metal screen having recesses therein comparable with the projections, and means to clamp the screen against the surface of the wheel with sufficient pressure to cause the projections to nest within the recesses, the pressure being concentrated in annular areas adjacent the outer circumference of the wheel.

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