(No Model.)

L. J. SEVISON.

SHIELD FOR GRINDING OR POLISHING MACHINES.

No. 596,762. Patented Jan. 4, 1898.

Fig. 1.

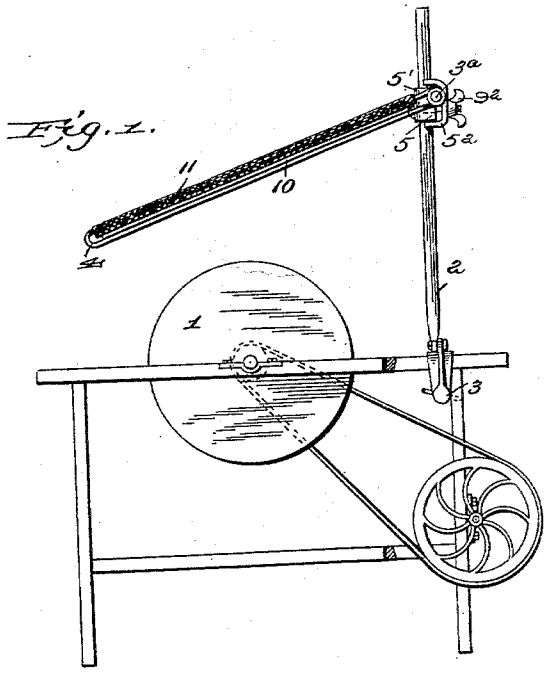


Fig. 2.

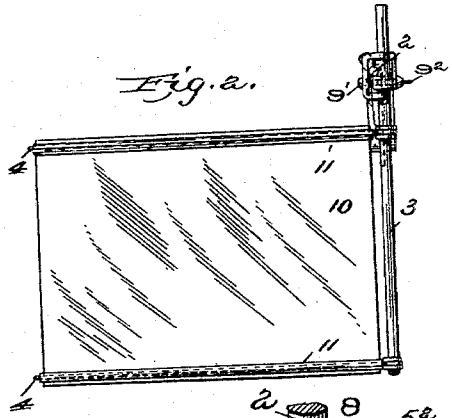
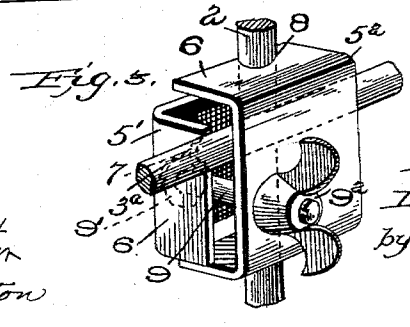


Fig. 3.



Attest,
F. L. Middleton
C. S. Middleton

Inventor
Luther J. Sevison
by Ellis Spear Jr. Atty.

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UNITED STATES PATENT OFFICE.

LUTHER J. SEVISON, OF CONSTANTINE, MICHIGAN.

SHIELD FOR GRINDING OR POLISHING MACHINES.

SPECIFICATION forming part of Letters Patent No. 596,762, dated January 4, 1898.

Application filed February 26, 1897. Serial No. 625,227. (No model.)

To all whom it may concern:

Be it known that I, LUTHER J. SEVISON, a citizen of the United States, residing at Constantine, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Shields for Grinding or Polishing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is an attachment adapted to be applied to grinding or polishing machines of any description to shield or screen the operator thereof from the fine particles and dust that arise from the same when in operation.

To this end the invention includes a transparent guard or shield interposed between the head of the operator and the grinding or polishing surface, whereby the dust arising therefrom will be arrested and prevented from reaching the eyes and the lungs through inhalation by the operator.

The invention includes also means for adjustably holding the guard or shield and the details of construction, as will be hereinafter described, and particularly pointed out in the claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the device; Fig. 2, a plan view thereof, and Fig. 3 a detail view.

In Fig. 1 an ordinary grinding or polishing wheel 1 is shown in connection with a portion of the ordinary supporting-frame. To one edge of this frame a vertical rod 2 is secured by means of a clamp 3, carried on the lower end of this rod and extending laterally therefrom. An arm 3^a has a pair of laterally-extending wire loops 4, rigidly secured thereto by brazing or otherwise, these loops being spaced a distance apart. One end of the arm is extended through one of the loops and is adjustably secured to the rod 2 at right angles thereto by means of a clamp 5, which comprises two oblong plates $5'$ 5^2, having their narrower edges turned down to form flanges 6. The plates are crossed and the flanges on one plate are turned toward the opposing plate and extended parallel with the longer sides of the same. In the edge of the flanges of the plate $5'$, near the upper longitudinal edge of said plate, semicircular notches 7 are cut, the notches in both flanges of the plate $5'$ being in alinement and forming seats for the arm 3^a. Similar notches 8 are cut in the flanges of the plate 5^2, near the longitudinal edge of said plate farthest removed from the notches 7. The arm is held in place in the notches 7 by the plate 5^3, which bears thereon, and the rod 2 is held within the notches 8 by the plate $5'$. The arm 3^a and the rod 2 cross each other in the upper part of the space between said plates, and to hold the plates together to tightly clamp the rod and arm a binding-screw 9 extends through an opening in the lower part of the plate 5^2 into and through an alining threaded opening in the plate $5'$. The shank of the bolt extends through that part of the space between said plates diametrically opposite to that occupied by the crossing of the arm and rod, and said shank is provided with a head $9'$ and a nut 9^2. To adjust the arm on the rod or to rotate the arm, the nut 9^2 is loosened and then tightened again, when the proper adjustment is secured. A rectangular pane of transparent material 10, preferably of glass or mica, is held near its side edges in the loops 4.

To maintain a yielding pressure on the pane to securely hold the same within the loops, the wires may be entirely or partly covered by rubber or other flexible tubing 11. The arm 2 being rotatable within the clamp the pane may be adjusted to any desired inclination in relation to the grinding-surface. The pane being interposed directly between the head of the operator and the grinding-surface, all the particles of dust and injurious matter arising from the said surface will be intercepted before it reaches the eyes or the lungs through inhalation of the operator, and these organs are thus shielded from the deleterious effects of such dust, &c.

The efficiency of the operator is not impaired by the shield, as the pane being transparent does not of course obscure the work.

I claim—

1. The combination with a grinding or polishing machine of a vertical rod secured thereto, and a dust-shield adjustable thereon, said shield having an independent adjustment in a horizontal plane, substantially as described.

2. In combination, the rod, the lateral arm

secured thereto, the loops carried by said arm, and the pane held in said loops, substantially as described.

3. In combination, the rod, the arm vertically adjustable thereon and adapted to be rotated, the loops projecting laterally from said arm and fixed thereto, and the pane, substantially as described.

4. In combination, the rod, the arm, the loops extending therefrom, the pane and the yielding means carried by the loops for holding said pane, substantially as described.

5. In combination, the rod, the arm extending laterally therefrom, the wire loops extending laterally from said arm and rigidly secured thereto, the yielding tubing fitted to said arm, and the pane held within said loops, substantially as described.

6. In combination, the rod, the arm carrying the shield and the clamp for securing said arm to said rod, said clamp comprising the oppositely-arranged plates adjustably secured together with said rod and arm between their opposing faces, substantially as described.

7. In combination the vertical rod, the horizontal arm, the pane carried thereby, and the clamp for holding the arm to said rod comprising the oblong plates having lateral flanges, the plates being placed face to face with the flanges in one plate extending parallel with the longitudinal edges of the opposing plates, the flange of each plate having alining notches in their edges forming seats for the arm and rod and the means for holding the plates together, substantially as described.

8. In combination the arm carrying the pane, the rod and the clamp for adjustably securing the arm to said rod and for permitting the independent rotary movement of said arm comprising the pair of oblong plates $5'$, 5^2, having lateral flanges along their narrower edges, said plates being placed face to face in crossed position whereby the flanges on one plate will extend parallel to the flanges on the opposite plate, the flanges of the plate $5'$ having notches therein near its upper edge to form seats for the arm, the flanges of the plate 5^2 having notches in its edge farthest removed from the notches in the plate $5'$ to form seats for the rod, said rod and arm crossing in the upper part of the space between said plates and a binding-screw for clamping said plates together having its shank extending in the space between said plates diametrically opposite to that occupied by the crossing of the arm and rod, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LUTHER J. SEVISON.

Witnesses:
LEVI T. HULL,
HENRY B. HULL.