Sept. 26, 1944. P. BROWN 2,358,959

GRINDER GUARD

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Fig. 1.

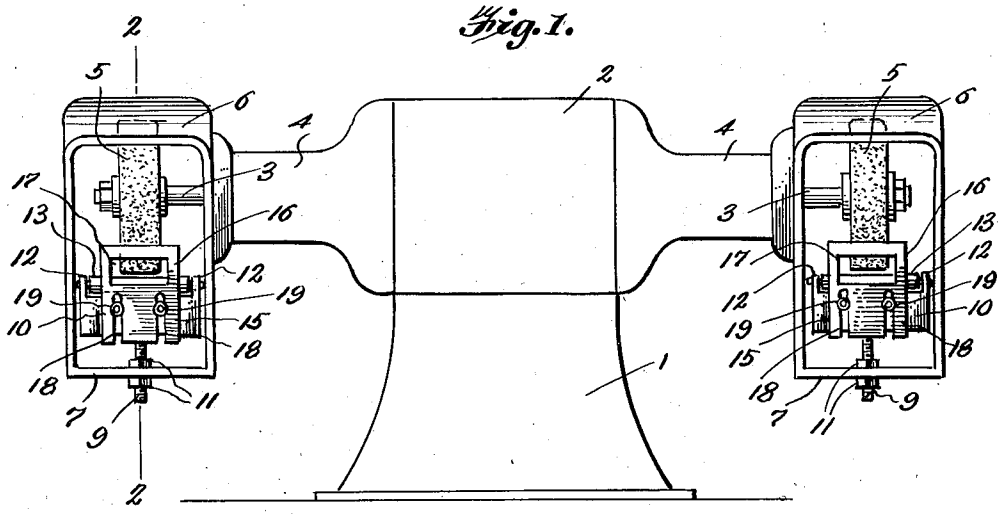


Fig. 2.

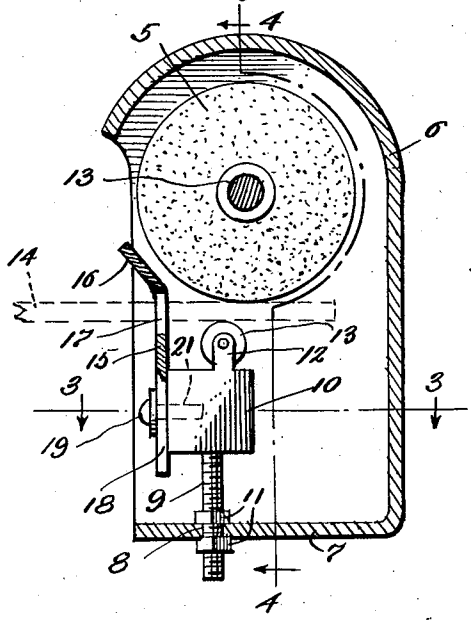
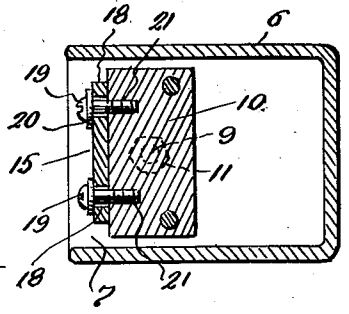


Fig. 3



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Fig. 4.

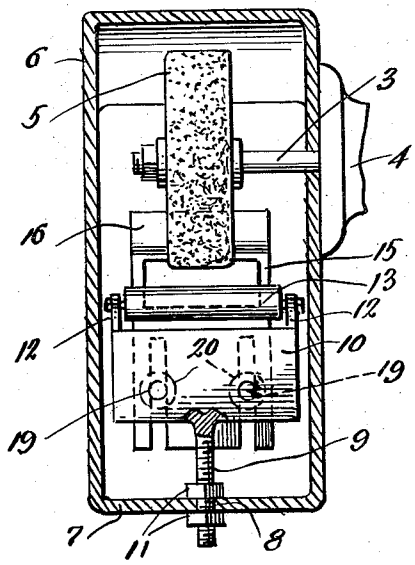
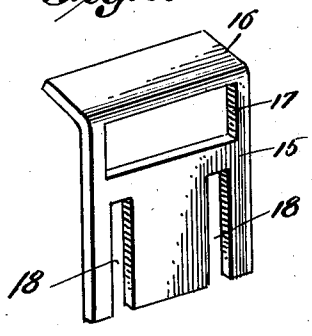


Fig. 5.



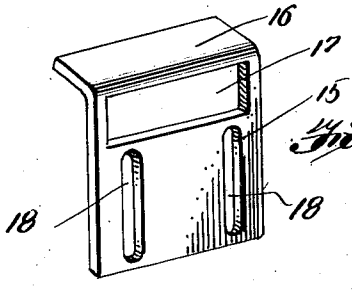
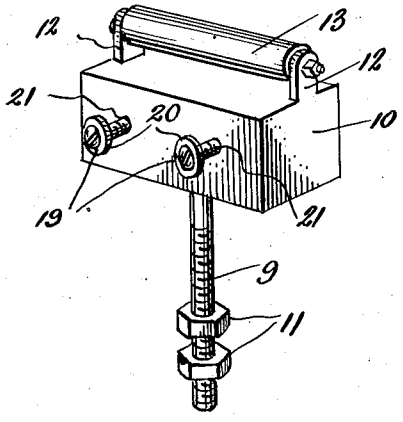


Fig. 7.

Fig. 6.



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GRINDER GUARD

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Application May 15, 1944, Serial No. 535,682

3 Claims. (Cl. 51—238)

This invention relates to grinders and more particularly to a grinder guard adapted to be mounted in front of a grind stone in such position that it will protect a workman from particles cast off by the rapidly rotating stone.

Another object of the invention is to provide a guard formed of sheet metal and so formed that it may be applied to a work support below the grind stone and extend upwardly therefrom to such an extent that its upper portion will be in front of the stone and deflect flying particles into a hood mounted about the stone.

Another object of the invention is to so form the guard that a bar or other work to be ground may be passed through an opening in the guard and rest upon a roller serving as a fulcrum across which the bar is rocked into position for contact with the stone.

Another object of the invention is to so form the guard that it may be mounted by threaded fasteners carried by the work support and shifted vertically to adjusted positions when the fasteners are loosened.

Another object of the invention is to provide a guard which may be stamped from sheet metal and manufactured and sold at low cost.

In the drawings:

Fig. 1 is a front view of a grinder equipped with guards of the improved construction.

Fig. 2 is a sectional view taken vertically on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2.

Fig. 5 is a perspective view of the guard.

Fig. 6 is a perspective view of the work support to which the guard is mounted.

Fig. 7 is a perspective view of a guard of modified construction.

The grinder to which the improved guard has been shown applied is of the electrically driven type and includes a stand 1 supporting a motor casing 2 to house a motor having oppositely extending shafts 3 which project from necks 4 of the casing and carry grind stones 5. The necks 4 carry hoods 6 in which the grind stones are disposed and these hoods are open at the front and each has a bottom 7 through which an opening 8 is formed to receive the stem or post 9 of a block 10. Nuts 11 are carried by the post 9 and when these nuts are tightened for clamping engagement with the upper and lower surfaces of the bottom 7, the block will be supported in spaced relation to the under portion of the companion grind stone 5. Bearings 12 extend upwardly from opposite sides of the block 10 and rotatably support a roller 13 which extends transversely of the grind stone in position to engage a bar 14, or other piece of work, which is thrust into place between the roller and the grind stone and rocked across the roller to move its upper surface into contact with the stone. By this arrangement, the bar may be pressed against the grind stone and have its upper surface ground by the rapidly revolving stone as the bar is thrust forwardly.

In order to prevent particles cast off by the rotating stone during a grinding operation, there has been provided a guard 15 which is formed of stiff sheet metal. This guard is of rectangular outline and has its upper portion bent to form a lip 16 which extends at an outward incline from the body of the plate from which the guard is formed and is disposed in spaced relation to the marginal surface of the grind stone. By so disposing the lip, particles cast off by the rotating stone will be deflected inwardly of the hood and form a pile upon the rear portion of the bottom 7. An opening 17 extends transversely of the guard in the upper portion thereof with its upper edge extending along the lower edge of the lip 16, and from an inspection of Fig. 2, it will be seen that the bar or other work piece 14 is passed inwardly through this opening and thrust between the roller 13 and the lower portion of the grind stone. Slots 18 are formed in the lower portion of the guard longitudinally thereof and while these slots preferably open through the lower end of the guard, as shown in Fig. 5, they may be closed at their lower ends, as shown in Fig. 7. By having the slots open at their lower ends, the plate may be disposed against the outer side face of the block 10 and shifted downwardly until the screws 19 pass through the slots. The screws may then be tightened until the washers 20 have binding contact with the outer face of the guard and the guard will be held in a vertically adjusted position. Therefore, the slot 17 may be disposed in such relation to the roller 13 that the bar 14 may be readily passed through the slot and engaged with the roller. If the slots 18 terminate short of the lower end of the guard, the screws 19 must be entirely removed from the threaded sockets 21 in which they fit and replaced after the guard has been disposed against the block with the sockets exposed through the slots.

Having thus described the invention, what is claimed is:

1. In combination with a grinder including a rotary grind stone, a hood about said grind stone and open at its front, a block in said hood under

the grind stone and shiftable vertically to adjusted positions, a roller rotatably mounted over said block and extending transversely of the stone, said block having transversely spaced sockets opening through its front face, a guard plate disposed vertically against the front face of said block and projecting upwardly from the block and having its upper portion bent outwardly to form an upwardly extending diagonally disposed lip spaced from the grind stone, said guard plate being formed with a transversely extending opening having its upper edge at approximately the lower edge of said lip, the lower portion of the guard plate being formed with transversely spaced vertically extending slots open at their lower ends, and securing screws passing through the slots of said plate and threaded into said sockets and carrying washers having binding engagement with the outer face of the guard plate to hold the guard plate in a vertically adjusted position when tightened.

2. In combination with a grinder including a rotary grind stone, a hood about the grind stone open at its front, and a work-supporting block in the hood under the grind stone; a guard plate disposed vertically against the front side face of said block and having its upper portion formed with a transversely extending opening and an outwardly extending upwardly inclined lip above the opening, said plate being also formed with vertically extending slots, said block being formed with threaded sockets exposed through the slots of said guard plate, and fasteners screwed into said sockets and passing through said slots and tightened to grip the outer face of the guard plate and releasably hold the guard plate in vertically adjusted position.

3. In combination with a grinder including a rotary grind stone and a work-support mounted under the stone; a guard plate disposed vertically against said support having its upper portion formed with a transversely extending work-receiving opening and an upwardly inclined lip above its opening, said plate having its lower portion formed with transversely spaced slots, the work-support being provided with sockets exposed through the slots, and fasteners threaded into said sockets and passing through the slots and when tightened having binding engagement with the front face of the plate to releasably hold the plate in a vertically adjusted position.

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