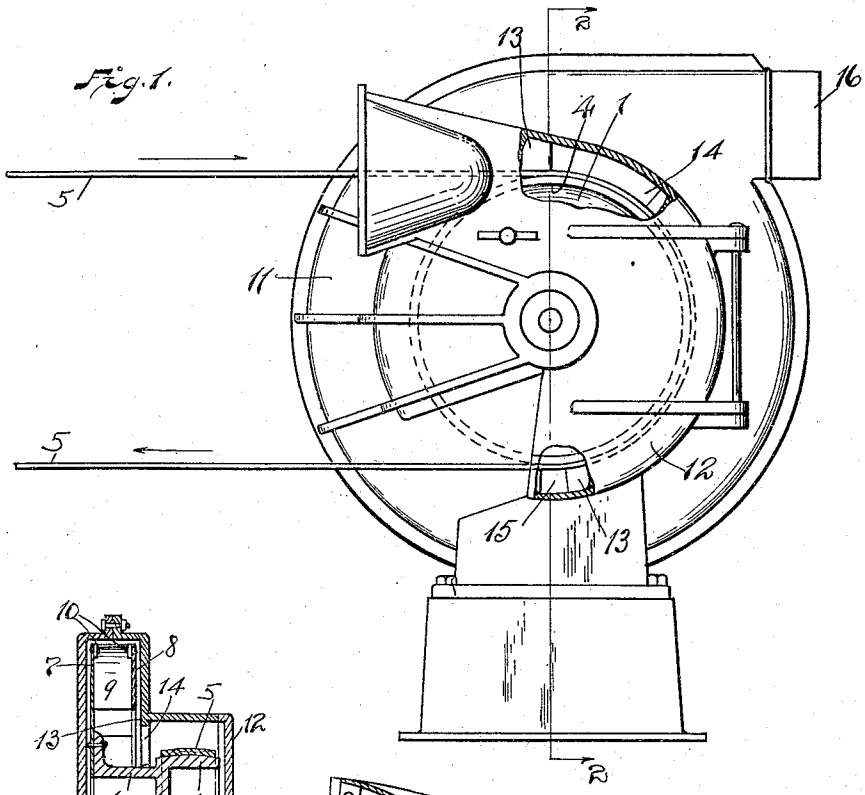
C. L. HAWES.

POLISHING MACHINE.

APPLICATION FILED MAR. 31, 1913.

1,200,347. Patented Oct. 3, 1916.

Fig. 1.



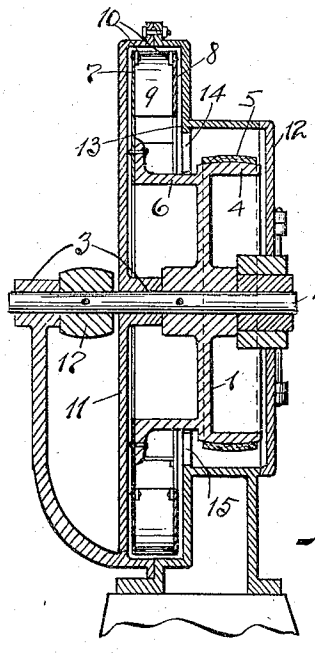


Fig. 2.

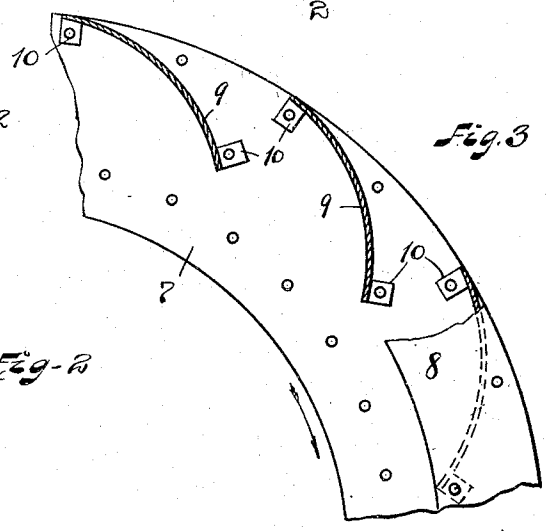


Fig. 3.

Witnesses=
Oliver M. Kappler
Robert M. Sise

Inventor
Charlie L. Hawes
by Fay & Oberlin
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLIE L. HAWES, OF ASHTABULA, OHIO.

POLISHING-MACHINE.

1,200,347. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed March 31, 1913. Serial No. 757,771.

To all whom it may concern:

Be it known that I, CHARLIE L. HAWES, a citizen of the United States, and a resident of Ashtabula, county of Ashtabula, and State of Ohio, have invented a new and useful Improvement in Polishing-Machines, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present improvements relate more particularly to polishing machines of the kind described in my Patent No. 889,680, dated June 2, 1908, wherein a polishing belt is passed over a pair of wheels, adjacent to one of which a fan is mounted so as to be adapted to draw the dust from said belt.

The object of the present invention is to provide an improved construction of fan for use in the connection thus noted, it having been found that the style of fan originally designed for use in said polishing machine was extremely noisy and the use of the machine, on this account, rendered disagreeable.

To the accomplishment of the foregoing and related objects, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of the various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—Figure 1 is a side elevational view, with portions broken away, of my improved polishing machine; Fig. 2 is a transverse section thereof taken on the plane indicated by the line 2—2, Fig. 1; and Fig. 3 is a fragmentary view of the fan proper, partly in section and on a somewhat larger scale than the two preceding figures.

The main member of the polishing machine, so far as shown in the foregoing figures, is a rotatably supported pulley wheel 1, which is carried on a spindle 2 suitably journaled in bearings 3. The latter form part of a combined frame and casing structure, which incloses the wheel and certain attached parts, as will presently be described. The wheel 1 has one portion 4 of its rim formed to receive a polishing belt 5, the other end of said belt passing around another wheel, not shown. Said wheel also has a laterally extending rim portion 6, the outer end of which is flanged and has riveted thereto an annular plate 7, which projects radially beyond the rim some distance, as shown in Fig. 2. Laterally spaced from this plate, and lying on the belt side of the same, is a second annular plate 8, the internal diameter of which is considerably greater than that of the outer plate. Between these two plates are secured a plurality of blades 9, said blades being mounted in angular relation to radial lines from the axis of the wheel, and their inner edges lying in advance of their outer edges, having regard to the direction of rotation of the wheel and fan, as shown in Fig. 3. Said blades are also slightly curved in a transverse plane, their convex sides being disposed outwardly, as is also clearly shown in the figure just referred to. Each blade is formed with a pair of integral ears or lugs 10 at its forward and rear edge, respectively, whereby they are riveted to the two annular plates, the inner plate being wholly supported by virtue of its connection with the outer plate through the blades thus riveted thereto. It will be observed that by reason of the larger internal diameter of the inner plate 8, an annular opening is left on the corresponding side of the fan.

The walls of the casing 11, previously referred to in a general way, entirely inclose both the fan and the wheel, the side 12 of the casing adjacent the wheel being preferably hinged, as shown in Fig. 1, so as to permit such side to be swung open in order to get at the interior of the casing and remove the belt 5, when desired. Such casing, in addition, is provided with an inwardly extending web 13, which forms a closed partition between the wheel and the fan, save for two apertures, one 14 at the upper side of the wheel and another smaller one 15 at its lower side, (see Fig. 1). In other words, the wheel and fan revolve in separate compartments having communication only through these two openings. The casing is furthermore provided with an outlet opening 16 leading from the fan chamber, which opening may be connected with a suitable duct, as will be readily understood.

By reason of the foregoing construction, and particularly by reason of the disposition

of the blades of the fan, I have found in practice that the objectionable noise heretofore encountered is substantially entirely eliminated, the fan running very smoothly and quietly even at the high velocity which it is desirable to employ in order to get the best results with the polishing belt. A pulley 17 for a driving belt, is shown on the spindle 2 that carries the wheel and fan, but it will be understood that the polishing belt may be driven from its other end, or that the spindle 2 may be connected with a motor, as found most convenient in practice.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims, or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In mechanism of the character described, the combination of a rotatably supported pulley wheel, said wheel having a laterally extending rim-portion; an annular plate attached to the edge of such extending rim-portion; a second annular plate of larger internal diameter spaced from said first plate on the same side thereof as said wheel; a plurality of fan-blades mounted between said plates in angular relation to radial lines from the axis of said wheel, the inner edges of said blades lying in advance of their outer edges, having regard to the direction of rotation of the wheel said blades curving into a tangential position at their outer edges; and a casing inclosing said wheel and fan.

2. In mechanism of the character described, the combination of a rotatably supported pulley wheel, said wheel having a laterally extending rim-portion; an annular plate attached to the edge of such extending rim-portion; a second annular plate of larger internal diameter spaced from said first plate on the same side thereof as said wheel; a plurality of fan-blades mounted between said plates in angular relation to radial lines from the axis of said wheel, the inner edges of said blades lying in advance of their outer edges, having regard to the direction of rotation of the wheel, and said blades being curved with their convex sides disposed outwardly and curving into a tangential position at their outer edges; and a casing inclosing said wheel and fan.

3. In mechanism of the character described, the combination of a rotatably supported pulley wheel, said wheel having a laterally extending rim-portion; an annular plate attached to the edge of such extending rim-portion; a second annular plate of larger internal diameter spaced from said first plate on the same side thereof as said wheel; a plurality of fan-blades mounted between said plates in angular relation to radial lines from the axis of said wheel, the inner edges of said blades lying in advance of their outer edges, having regard to the direction of rotation of the wheel, and said blades being curved with their convex sides disposed outwardly; and a casing inclosing said wheel and fan, an interior web in said casing forming a partition between said fan and the wheel proper and having an aperture at the upper and lower sides of the wheel only.

4. In mechanism of the character described, the combination of a rotatably supported pulley wheel, said wheel having a laterally extending rim portion; an annular plate attached to the edge of such extending rim portion; a second annular plate of larger internal diameter spaced from said first plate on the same side thereof as said wheel; a plurality of fan blades mounted between said plates in angular relation to radial lines from the axis of said wheel, the inner edges of said blades lying in advance of their outer edges, having regard to the direction of rotation of said wheel, and said blades being curved with their convex sides disposed outwardly; and a casing inclosing said wheel and fan, said casing being formed to relatively correspond with the different diameters of said wheel and said fan, and an interior web in said casing forming a partition between said fan and said wheel proper and having an aperture at the upper and lower sides of the wheel only.

Signed by me, this 27th day of March, 1913.

CHARLIE L. HAWES.

Attested by—
C. S. CARLE,
C. H. DAVIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."