April 12, 1932. E. A. HAMPSON 1,853,047

FLOOR POLISHING ATTACHMENT FOR SUCTION CLEANERS

Filed Nov. 19, 1928

Fig. 1

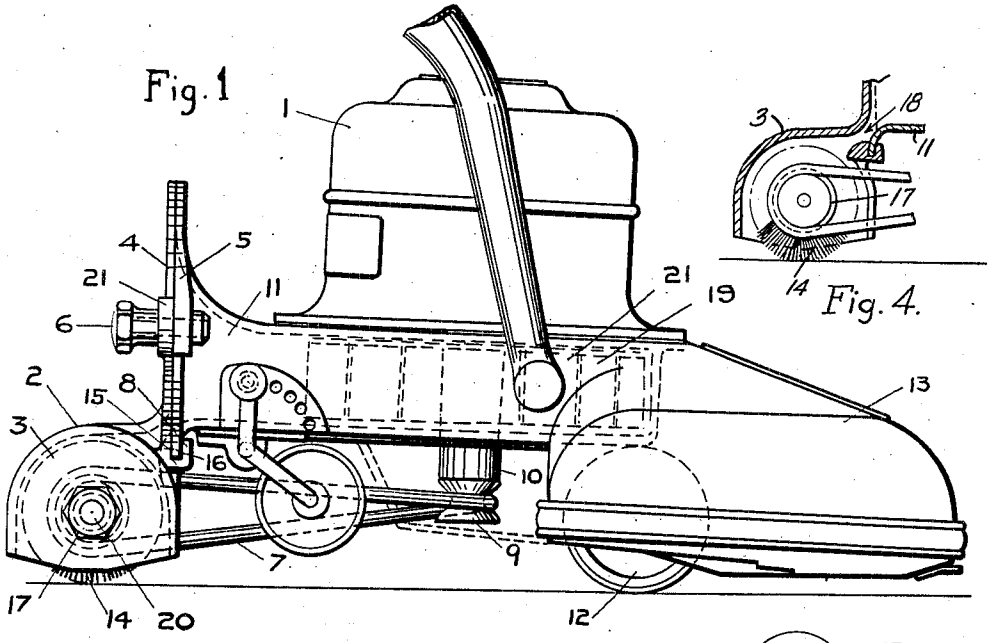






Fig. 4.

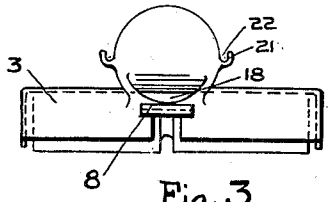
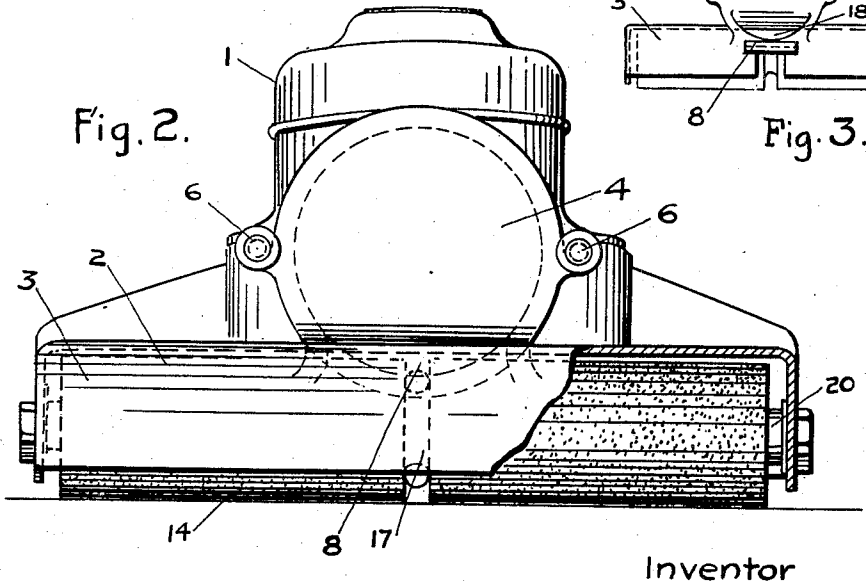



Fig. 3.

Fig. 2.




Inventor
Edward A. Hampson
By H. S. Duncan
Attorney

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# UNITED STATES PATENT OFFICE

EDWARD A. HAMPSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HOOVER COMPANY, A CORPORATION OF ILLINOIS

## FLOOR POLISHING ATTACHMENT FOR SUCTION CLEANERS

Application filed November 19, 1928. Serial No. 320,304.

This invention relates to floor polishing attachments for suction cleaners and has for its principal object the provision of simple and effective means for converting a suction cleaner into an efficient floor polisher.

A further object of my invention is to provide a novel attachment thru the use of which the conversion of a suction cleaner to a floor polisher is accomplished with a minimum of effort and time expenditure.

With the foregoing and other objects in view, the invention consists of an improved floor polishing attachment for suction cleaners as hereinafter fully described with reference to the accompanying drawing wherein is illustrated a preferred embodiment of my invention, like numerals representing like parts thruout.

In the drawing:

Fig. 1 is a side elevation of a common type of suction cleaner with my invention applied thereto.

Fig. 2 is a front elevation of the floor polishing attachment applied to suction cleaner and having a section of the hood broken away showing the brush therein.

Fig. 3 is a rear view of the attachment on a reduced scale.

Fig. 4 is a partial cross section upon a vertical plane through the attachment pulley.

In the drawings reference numeral 1 indicates generally a suction cleaner of a common type including a motor and fan with the rear supporting castors of said cleaner in their uppermost position and with the dust bag removed. The suction hood 13, comprising the front of the cleaner, when so used but the rear when the machine is used as a floor polisher, is supported, by wheels 12. The pulley 9 at the end of the shaft 10 is disconnected from the agitating means (not shown) within the hood. The discharge conduit 11 leading from the fan chamber 19 has at its end the transverse attaching plate 5 supplied with the securing means 6.

The foregoing comprises in itself no part of my present invention except insofar as the application of my attachment thereto is an invention, being merely an arrangement of a common cleaner which is described so that a better understanding of my applied invention may be had.

Referring again to the drawing the reference numeral 2 indicates my attachment device in general. The body or casing comprises a hood 3 which houses and supports the floor polishing brush 14 and which is provided on its rear face with the upright attaching plate 4 provided with outstanding ears 21 forming slots 22 therewith and adapted to co-operate with the plate 5 and securing means 6 in maintaining the attachment and cleaner proper in operative relation. This plate 4 completely closes the outlet opening of the suction cleaner with the exception of the aperture 18, hereinafter described, so as to reduce the amount of air handled by the fan and consequently the load on the motor. At its lower edge the plate 4 is provided with an upturned lip 8 forming with the plate 4 a channel or groove 15 which receives a lower edge 16 of the plate 5 of the discharge outlet 11. The lip 8 is so positioned that when the edge 16 is properly seated in the channel 15 and the machine placed on the floor in operative position, the suction nozzle end of the machine will be removed from the floor surface a sufficient distance to prevent contact therewith.

Referring to Fig. 2 of the drawing the rotary brush 14 is positioned in the hood 3 by means of journals 20 secured therein. The brush is of the usual floor polishing type being made of extremely strong and durable bristles well secured, said brush supporting the weight of the polisher-end of the machine when in operation. At the center of the brush is provided a pulley 17 adapted to

receive the belt 7 driven by the cleaner motor in the operation of the polisher through the shaft 10 and pulley 9. An opening 18 is provided in the hood 3 which passes thru the plate 4 and, when the attachment is in operative position as shown in Figs. 1 and 2, opens into the discharge conduit 11. With the polisher in operation the cleaner motor drives the fan 21 within the fan chamber 19, as in the normal operation of the machine as a suction cleaner, drawing air in thru the fan chamber 19 and forces it into the exhaust outlet 11 and thence thru the opening 18 and hood 3 into contact with the surface being polished where it carries away any moisture present. It has been the experience of those using a floor polisher that satisfactory results are obtained only when the floor surface is dry and my invention provides a structure wherein means are provided to carry away any excess moisture present.

The opening 18 performs a second and valuable function in that it permits of the circulation of a sufficient quantity of air thru the cleaner to insure a cool motor, yet at the same time throttles the air flow through the fan chamber sufficiently to prevent the fan from placing a useless load on the motor.

As is clear from the foregoing description the transformation of the suction cleaner into an improved floor polisher by the use of my invention is a simple task. The operation requiring merely the loosening of two thumbscrews thereby releasing the dust bag; the raising of the rear supporting castor; the positioning of the plate 4 against the plate 5 with the lower end 16 secured in the channel 15 and the tightening of two thumbscrews; the removal of the belt from its connection in the suction nozzle and placing same in operative relation between the pulleys 9 and 17. The resulting structure is one of unusual simplicity and strength and produces a polisher of great effectiveness.

I claim:

1. In combination with the main casing and suction-creating means of a suction cleaner a floor-polishing attachment including means for polishing the floor surface, means for securing said polishing means to the exhaust outlet of the casing, and means to direct a flow of drying air from said casing toward the floor surface.

2. The combination of the main casing including a fan chamber and exhaust outlet, and the suction-creating means including a fan within the fan chamber of a suction cleaner with a floor-polishing attachment including a casing, floor polishing means in said attachment casing, and means to attach said casing to the exhaust outlet of said cleaner casing, characterized by the fact that said attachment casing is provided with a downwardly facing opening and is interiorly connected to said exhaust outlet.

3. In a floor polishing attachment for suction cleaners a casing, a rotatable brush mounted in said casing, and projecting below the lower edges thereof and serving as a support therefor, a plate attached to said casing, and means on said plate for removably securing said attachment on a suction cleaner, said means comprising outstanding ears on said plate forming screw-receiving slots and a channel-member at the lower end thereof.

Signed at Chicago, in the county of Cook and State of Illinois, this 16th day of November, A. D. 1928.

EDWARD A. HAMPSON.