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2,419,744

SUCTION ATTACHMENT FOR DENTAL LATHES

Filed Aug. 29, 1945

2 Sheets-Sheet 1

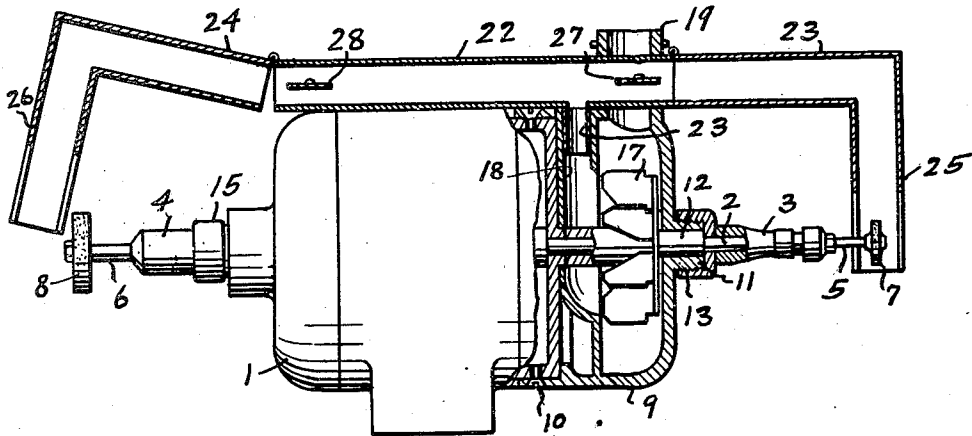


FIG. 1

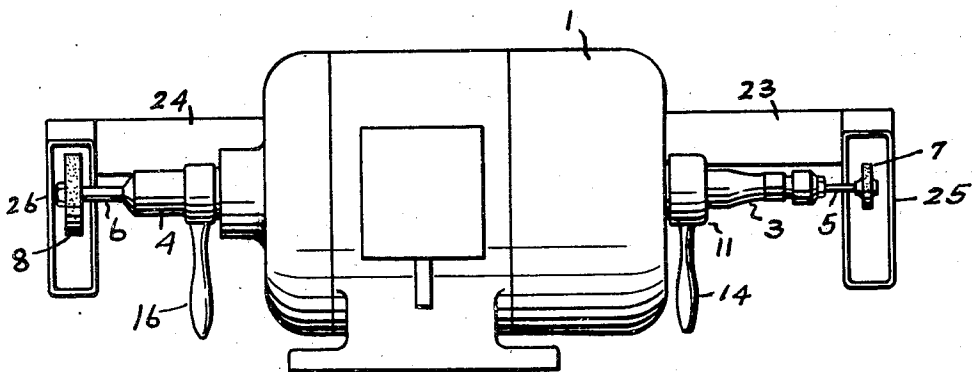


FIG. 2

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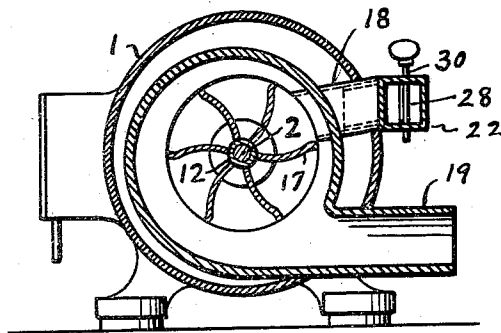


FIG. 3

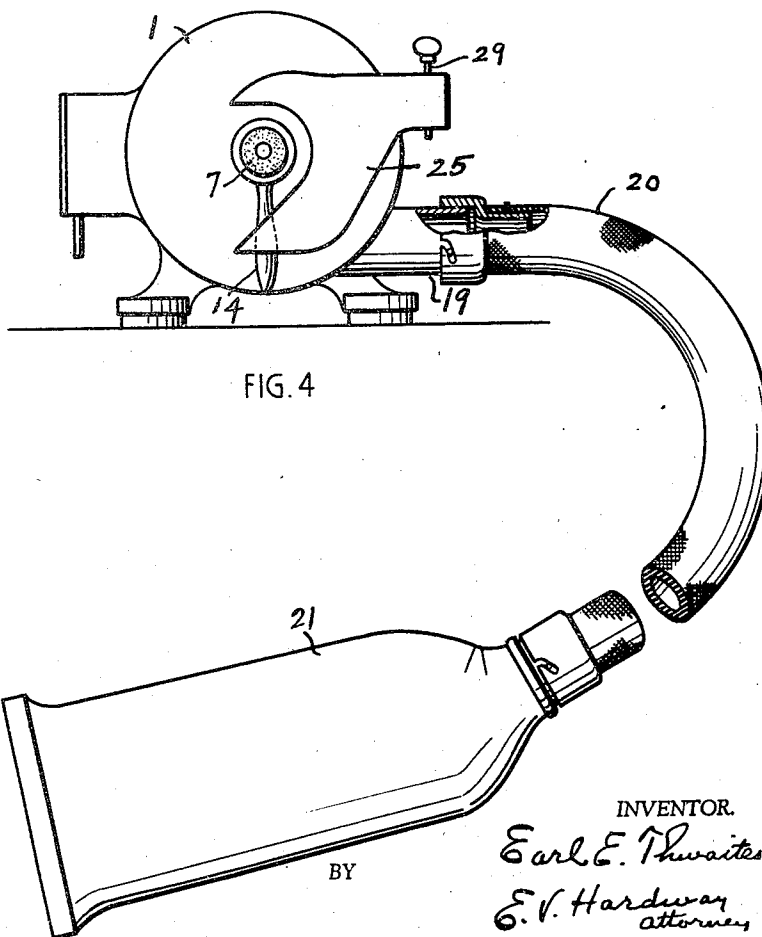


FIG. 4

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UNITED STATES PATENT OFFICE

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SUCTION ATTACHMENT FOR DENTAL LATHES

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3 Claims. (Cl. 51—273)

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This invention relates to a suction attachment for dental lathes.

An object of the invention is to provide an attachment of the character described specially designed for accumulating grindings from the lathe grinding disc and depositing the same in a suitable receptacle provided for the purpose.

Another object of the invention is to provide an attachment of the character described embodying novel means for mounting the same on the lathe motor.

It is a further object of the invention to provide an attachment of the character described having pivotally mounted suction nozzles that may be readily applied to the grinding discs with which the motor is equipped.

The invention further embodies a suction attachment which will accumulate the fine grindings and dust to prevent the circulation of the same about the room and which is equipped with a baffle that will exclude the larger and heavier particles given off from the work and prevent them from reaching the receptacle.

With the above and other objects in view the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the lathe with the attachment applied thereto and shown in section.

Figure 2 is a front elevation thereof.

Figure 3 is a transverse sectional view, and

Figure 4 is an end view, partly in section.

Referring now more particularly to the drawings wherein like numerals of reference designate the same parts in each of the figures. The numeral 1 designates the motor having the motor shaft 2 extending out each way. On the respective ends of the shaft are the chucks 3, 4 which receive the respective spindles 5, 6 on which the grinding discs 7, 8 are fixed. The numeral 9 designates a fan housing one end of which is fitted over the motor case and secured thereto by set screws 10 and whose other end is formed with a bearing 11 which supports the fan hub 12 mounted to rotate with the shaft 2. Screwed into the bearing 11 there is a flange nut 13 which closely surrounds the shaft 2. The flange nut 13 is adjacent the inner end of the chuck 3 and has a depending grip 14 whereby it may be unscrewed. In unscrewing the nut 13 it acts as a jack against the inner end of the chuck 3 and is thereby rendered effective to detach said chuck from the

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shaft. A flange nut 15, similar to the nut 13, is screwed onto the adjacent hub of the motor and has a depending grip member 16 whereby it may be unscrewed to detach the chuck 4 from the motor shaft.

On the hub 12 are the radial suction fan blades 17 which are located within the housing 9. Connected into the side of the fan housing facing the motor there is the inlet pipe 18 and leading from the periphery of the fan housing there is a discharge outlet pipe 19. A flexible hose 20 is detachably connected to the outlet pipe 19, at one end, and at its other end is detachably connected to a flexible container 21 preferably formed of fabric which will filter the air retaining the grindings given off from the grinding discs. A tubular conduit 22 is fixed to one side of the motor and has a tubular nipple 23 fitted into the inlet pipe 18. Tubular elbows 23, 24 are each hinged, at one end, to the corresponding ends of the conduit 22 and at their other ends are formed into suction nozzles 25, 26, respectively, which are hood like in form and which may be swung into position to partially surround the corresponding discs 7 or 8 to receive the grindings therefrom. When not in use the hoods may be swung rearwardly out of the way.

Mounted within the respective ends of the conduit 22 are the baffles 27 and 28. These baffles are arranged at opposite ends of the conduit 22 and are fixed on the stems 29 and 30 which are mounted to rotate in suitable bearings in said conduit and whose outer ends have grip members for turning the same. Either baffle may be turned into the position indicated in Figure 1 in axial alignment with the passageway through the conduit 22 so as to permit all the grindings to pass or either baffle may be turned to transverse position so as to arrest the larger, heavier particles from the corresponding grinding disc 7 or 8, as the case may be, and to cause them to drop down and out of the nozzle thus allowing only the dust and finer floating particles to enter the receptacle 21. The filtering material of which the receptacle 21 is made will collect not only the dust so as to keep the air in the room free of dust but will also collect the gold dust given off in grinding gold work so that the gold dust may be recovered.

The drawings and description are illustrative merely while the broad principle of the invention will be defined by the appended claims.

What I claim is:

1. In a dental lathe having a motor, a motor shaft and chucks on the shaft to receive the

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grinder spindles; said attachment comprising, a housing having bearings one arranged to receive an adjacent part of the motor and the other to receive the shaft, fan blades on the shaft within said housing, flange nuts on the housing whose outer ends are arranged adjacent the inner ends of the chucks, said nuts forming screw jacks effective to detach the chucks from the shaft, an inlet conduit entering the side of the housing toward the motor, said conduit being formed of hinged sections and terminating in nozzles adjustable into co-acting relation with the grinders, a discharge conduit leading from the housing and terminating in a receptacle for the grindings.

2. A suction attachment for a dental lathe comprising, a suction fan housing one end of which is attached to the lathe motor and whose other end is formed with a bearing, a fan in the housing having a hub which works in said bearing, said hub forming a bearing for the motor shaft, a grinder on said shaft, an inlet pipe entering the side of the housing toward the motor, a suction conduit adjacent the motor and connected into the inlet pipe, a tubular elbow hinged at one end, to said suction conduit and whose other end terminates in a suction nozzle shaped to partly surround the grinder, a discharge conduit leading out from the housing and terminating in a receptacle to receive the grindings.

3. A suction attachment for a lathe having grinders comprising, a suction fan housing one

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end of which is directly connected to the lathe motor and whose other end is formed with a bearing for the motor shaft, a suction fan in the housing, an inlet entering the side of the housing toward the motor, a suction conduit fixed to the motor and connected into said inlet, tubular sections hinged to the respective ends of the suction conduit and terminating in suction nozzles shaped to partly surround the corresponding grinders and a suction conduit leading out from the fan housing and terminating in a receptacle to receive the grindings.

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