June 19, 1951 O. THAU-JENSEN 2,557,207

POLISHING MACHINE

Filed July 28, 1948

Fig. 1.

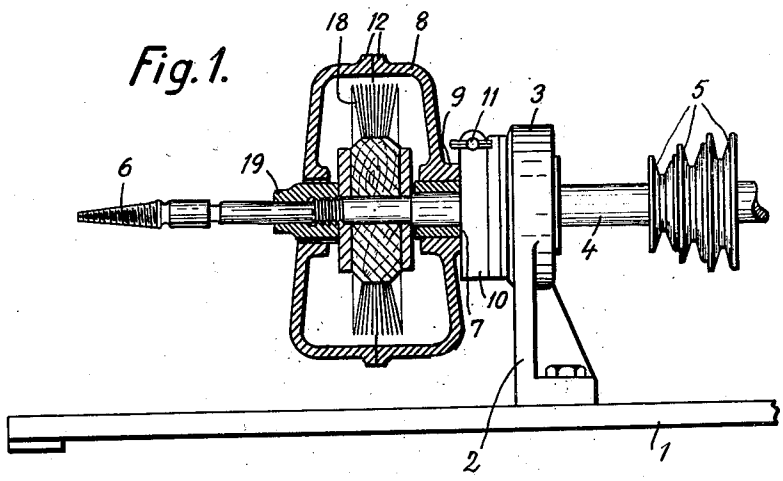
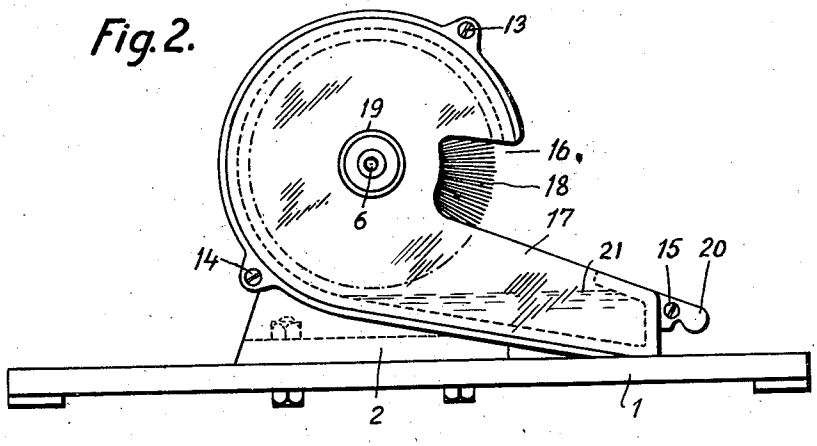


Fig. 2.



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Patented June 19, 1951 2,557,207

UNITED STATES PATENT OFFICE

2,557,207

POLISHING MACHINE

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Application July 28, 1948, Serial No. 41,147
In Denmark September 20, 1947

5 Claims. (Cl. 51—166)

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This invention relates to polishing machines, especially for use in dentists' laboratories. Articles for use in dentistry, such as bridges, pivot-teeth, crowns or inlays, made of acrylic material, chrome-nickel steel, gold or non-precious metal, are ground or polished at the final step of their production. For this purpose a polishing machine is generally used having hard as well as soft brush-rolls in conjunction with a polishing-means, such as chalk or pumice, the hard brush-rolls being utilized for pumice and the soft ones for chalk. The brush-hairs are arranged along the circumference of a circular disc, having a relatively small thickness and diameter and secured to a rotating shaft. Such polishing machine may, as is well known, consist of a rotating shaft mounted on a pair of fixed bearings and provided with one or more circular brush-rolls, if desired in conjunction with other tools, each roll being enclosed in a separate housing. The model feature of the invention resides in the fact that the brush-housing which may suitably be in the form of a hollow cylinder, having a recess uncovering part of the circumference of the brush-roll, is formed with a downward sloping groove-shaped enlargement disposed under the said recess and adapted to receive a liquid polishing means which is normally out of contact with the brush-roll, but which when the brush-housing by means of a handle is turned around the axes of rotation of the brush-roll, is caused to flow into the cylindrical portion of the brush-housing, so as to come into contact with the brush-roll.

Thus a simple adjustment of the housing of the brush-roll will be sufficient to feed the exact amount of polishing means required to the brush-roll. The polishing machine is, therefore, easier to handle than the polishing machines known heretofore and is time-saving in operation.

The rotatable brush-housings may be mounted on a cylindrical extension of the bearing brackets to which they are secured by means of a screw. Upon loosening of this screw the housings may be turned around the axes of the machine and be secured in any desired position.

In the drawing Fig. 1 is an elevation of a polishing machine in accordance with this invention part of the machine being sectioned, and Fig. 2 is an end view of the same.

A bearing bracket 2 is mounted on a base plate 1, and is provided with a bearing, such as the ball bearing 3 for a rotatable shaft 4. This shaft is driven by means of an electric motor (not shown) which may be mounted on the lower side

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of the base plate 1 and be connected with the shaft by means of a V belt drive running over a belt pulley 5 secured to the shaft. One end of the shaft 4 is formed with a conical screw thread 6 for receiving felt, or cotton discs or like polishing members.

A brush-housing 8 is mounted on an extension 7 of the bearing 3 which engages the said extension by means of a cylindrical extension 9, the housing being clamped to the extension 7 by means of a clamping ring 10 and a finger-screw 11.

The brush-housing 8 is composed of two symmetrical parts secured together along their flanges 12 by means of screws 13, 14 and 15.

The brush-housing 8 is substantially in the form of a cylinder having a recess 16 at one side, and is formed with a downward sloping channel-shaped enlargement 17.

A circular brush-roll or brush-disc 18 is secured to the shaft within the housing 8 by means of a clamping-nut 19, which is threaded over the spindle. To this effect the member 6 may be removed.

The channel-shaped enlargement 17 is formed with a projection 20 acting as handle. In its normal position the brush-housing, which contains a polishing material 21, bears with its channel-shaped enlargement 17 against the base-plate 1, as shown in Fig. 2. In this position the brush-roll 18 is out of contact with the surface of the polishing means. In operation the finger-screw 11 is loosened and subsequently the front-end of the brush-housing is lifted by means of the handle 20, until the brush-roll 18 comes into the contact with the polishing medium 21, upon which the brush-housing is secured in such position by tightening the finger-screw 11.

I claim:

1. A polishing machine for the purpose specified, comprising a rotatable spindle, bearing means for said spindle, driving means for said spindle, a brush secured to said spindle for rotation therewith, a housing surrounding said brush, supporting means on said bearing means turnably supporting said housing, a substantially tangentially protruding receptacle carried by said housing for receiving a liquid polishing means, the said receptacle being open toward said brush and being normally spaced from the same, and means for moving said housing and thereby said receptacle to a position wherein said brush is wetted by the liquid polishing means in said receptacle.

2. A polishing machine for the purpose specified, comprising a rotatable spindle, bearing

means for said spindle, driving means for said spindle, a brush secured to said spindle for rotation therewith, a housing surrounding said brush, supporting means on said bearing means turnably supporting said housing, a substantially tangentially protruding receptacle carried by said housing for receiving a liquid polishing means, the said receptacle being spaced from said brush and being normally in horizontal position, an opening in said receptacle, and means for moving said housing, thereby moving said receptacle out of said horizontal position, whereby said liquid polishing means is caused to flow from said receptacle through said opening onto said brush.

3. A polishing machine for the purpose specified, comprising a rotatable spindle, bearing means for said spindle, driving means for said spindle, a substantially circular polishing member secured to said spindle for rotation therewith, a hood partially enclosing said polishing member and adapted to be rotatably adjusted about the axis of rotation of said spindle, said hood being formed with a recess exposing part of the circumference of said polishing member, supporting means on said bearing means turnably supporting said housing and an open receptacle for receiving a liquid polishing means and rigidly associated with said hood for tilting therewith to supply liquid polishing means to said polishing member, the mouth of said receptacle constituting an extension of said recess in said hood and being so arranged that a tangent to said polishing member at a point adjacent the edge of said recess remote from said receptacle will fall within the mouth of said receptacle.

4. In a polishing machine comprising a rotatably mounted and driven spindle, the combination, with a substantially circular polishing member secured to the spindle for rotation therewith, of a partly circular hood enclosing a portion of the polishing member and having a peripheral opening exposing a peripheral part of said polishing member; supporting means supporting the hood coaxially with and turnably about the axis of rotation of said spindle and polishing member; and an open receptacle for polishing fluid extending substantially tangentially and integrally from a portion of the periphery of said hood and being tiltable therewith in rotary adjustment of said hood to supply polishing fluid to said polishing member, the opening upon said open receptacle forming an outward extension of the peripheral opening in said hood.

5. In a polishing machine comprising a rotatably mounted and driven spindle, the combination, with a substantially circular polishing member secured to the spnidle for rotation therewith, of a partly circular hood enclosing a portion of the polishing member and having a peripheral opening exposing a peripheral part of said polishing member; supporting means supporting the hood coaxially with and turnably about the axis of rotation of said spindle and polishing member; and an open receptacle for polishing fluid extending substantially tangentially and integrally from a portion of the periphery of said hood and terminating at the outer end in an end wall and being tiltable with said hood upon rotary adjustment thereof to supply polishing fluid to said polishing member; and an inwardly directed covering wall upon the outer portion of said receptacle extending from the upper portion of said end wall a short distance inwardly toward said polishing member, the opening upon said open receptacle forming an outward extension of the peripheral opening in said hood.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
507,212	Camberon	Oct. 24, 1893
963,437	Hassel	July 5, 1910
1,332,009	Sumbling	Feb. 24, 1920
2,100,344	Medart	Nov. 30, 1937

FOREIGN PATENTS

Number	Country	Date
122,849	Switzerland	Oct. 1, 1927