

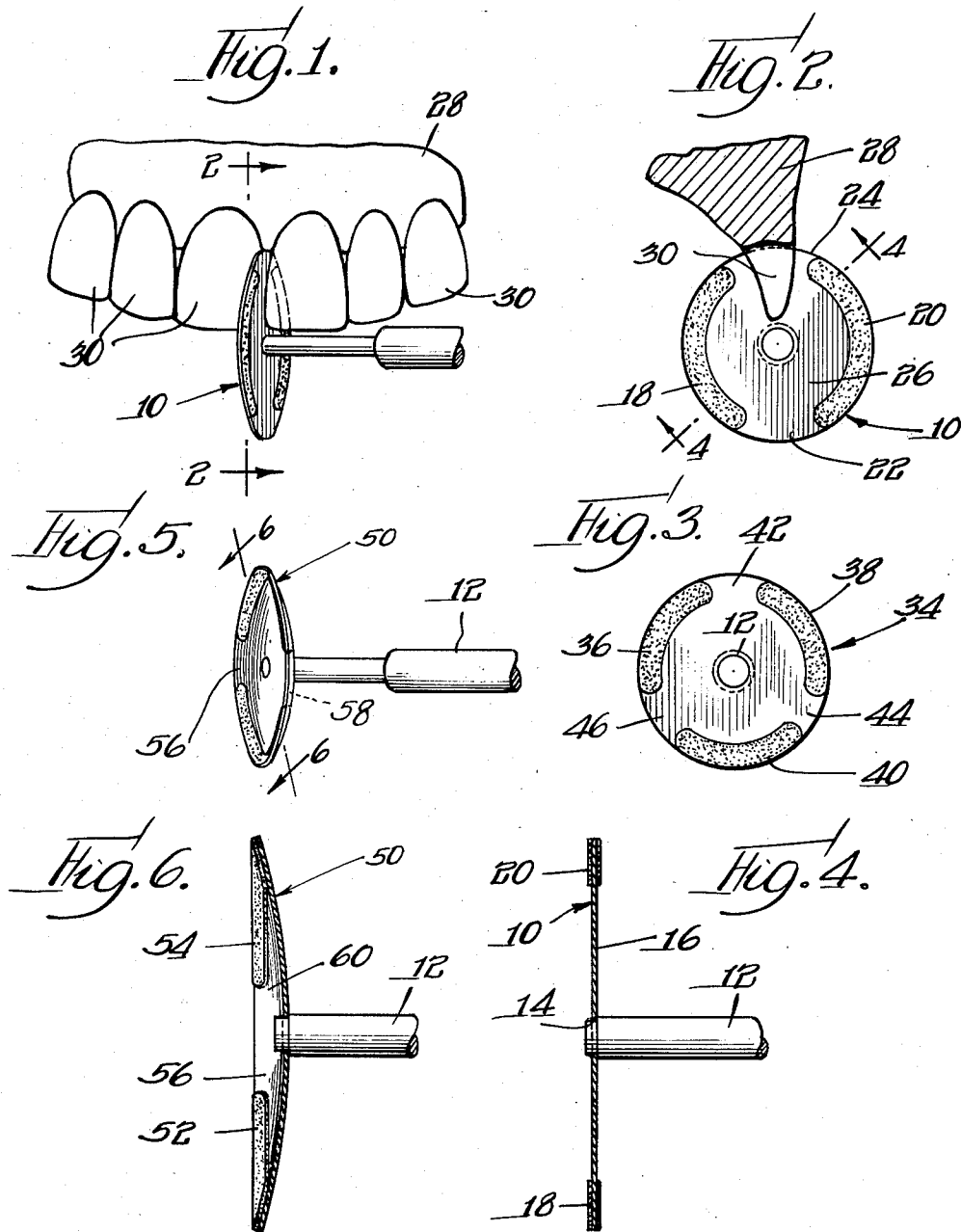
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DENTAL POLISHING DISK

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DENTAL POLISHING DISK

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7 Claims. (Cl. 32—59)

This invention relates to an improved disk for use by dentists in grinding and polishing teeth, fillings and the like.

An object of this invention is to provide an abrasive disk which is easily inserted between adjacent teeth even when such teeth have their crown or distal portions closely spaced.

Another object of this invention is to provide an abrasive disk which is easily inserted as indicated in the preceding paragraph and which, when so inserted, can be effectively used for grinding or polishing the proximal or neck portions of adjacent teeth and/or fillings located in the proximal or neck portions of such teeth.

A specific object of this invention is to provide a dental grinding or polishing disk comprising a thin but stiff paper or fabric or like sheet carrying, on both sides or on one side only, an abrasive or gritty coating confined to a plurality of spaced arcuate areas extending around the peripheral areas or margins of the disk.

Other and further objects and features of this invention will become apparent from the following description and appended claims, as illustrated by the accompanying drawing, showing, by way of examples, disks according to the present invention, and in which drawing:

Fig. 1 is a fragmentary elevational view of the upper jaw carrying incisors and showing, in perspective, a polishing disk according to the present invention as used for polishing the neck portion of one of said incisors;

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing another polishing disk according to the present invention;

Fig. 4 is an enlarged cross sectional view taken along the line 4—4 of Fig. 2;

Fig. 5 is a perspective view of still another polishing disk according to the present invention; and

Fig. 6 is an enlarged cross sectional view taken along the line 6—6 of Fig. 5.

Referring now to Figs. 1, 2, and 4, a dental polishing disk according to the present invention is generally indicated at 10. This disk 10 is removably mounted by any suitable conventional means at the end of a mandrel 12 which is revolved by a dental engine (not shown). Ordinarily, the disk 10 is formed with a central aperture 14, for mounting on the mandrel by any one of the known conventional devices commonly used in dentistry for mounting polishing disks.

The disk 10 comprises a thin, round and relatively rigid sheet 16 fabricated from paper or fabric stiffened with varnish or the like, from a synthetic plastic, or from any other suitable material known in the art. Two arcuate peripheral areas 18 and 20 on one side of the sheet 16 are covered with a gritty or abrasive material suitable for polishing or grinding fillings or tooth surfaces. Interspaces 22 and 24 free from abrasive or gritty material are provided between the ends of the areas 18 and 20. The central area 26 radially inside the peripheral areas

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18 and 20 is likewise free from gritty or abrasive material. It should be understood that the disk areas 22, 24 and 26, being devoid of gritty or abrasive material, are substantially thinner than the disk areas 18 and 20 which carry gritty or abrasive material. The other side or face of the disk may be similarly covered with abrasive or gritty material confined to arcuate peripheral areas coinciding with the areas 18 or 20, as shown in the drawing, or this other side or face of the disk may be entirely free from gritty or abrasive material.

The use of the disk 10 for polishing or grinding teeth is illustrated in Figs. 1 and 2 showing the upper jaw 28 carrying incisors 30 having closely spaced crowns. The disk 10 is positioned between a pair of adjacent incisors 30 as follows. One of the disk areas 22 or 24 is initially inserted between the crowns of the incisors 30. Next, the disk is moved further into the interspace between the teeth, so that one of the interspaces 22 or 24 extends between the neck portions of the incisors, and the central portion 26 of the disk 10 extends between the crown portions of the teeth, as shown in Figs. 1 and 2. The disk portions 22, 24 and 26 are relatively thin, and offer negligible frictional resistance, so that the disk 10 can be easily inserted in this fashion even between closely spaced teeth. After being thus positioned, the mandrel 12 is revolved, and then the disk portions 18 and 20 serve to polish or grind the neck portions of the teeth, or if desired, fillings located in the neck portions of the teeth.

It should be understood that if spaced arcuate peripheral areas covered with gritty or abrasive material are provided on both sides of the polishing disk, then the interspaces between such arcuate areas should overlap or coincide as between the two faces of the disk, so that the leading portion of the disk inserted between the crowns of adjacent teeth should be devoid of abrasive or gritty material on both sides or faces of the disk.

If desired, the disk portions 22, 24 and 26 (which are free from gritty or abrasive material) may be coated with a polishing composition, whereby the crown portions of the teeth may be polished as the neck portions are ground. It will be understood that such a layer of polishing composition is thinner than the layer of gritty or abrasive material coating the areas 18 and 20.

Fig. 3 illustrates a dental polishing disk 34 according to the present invention constructed exactly as the disk 10 of Figs. 1, 2 and 4, except that the disk 34 is provided with three arcuate peripheral areas 36, 38 and 40 covered with gritty or abrasive material separated from each other by interspaces 42, 44 and 46 which are not aligned diametrically, as are the spaces 22 and 24 of the disk 10 of Figs. 1, 2 and 4. This disk 30 is used exactly as the disk 10 of Figs. 1, 2 and 4, the disk 34 being inserted into the interspace between two closely spaced teeth with one of the disk areas 42, 44 or 46 in the leading position, the disk being brought into a position where, upon revolution, the disk areas 36, 38 and 40 will polish or grind the neck portions of the teeth.

Figs. 5 and 6 illustrate still another polishing disk 50 according to the present invention constructed exactly as the disk 10 of Figs. 1, 2 and 4 except for the fact that the disk 50 is dish-shaped. Thus, the disk 50 (removably mounted on a mandrel 12) is formed with arcuate peripheral areas 52 and 54 covered with gritty or abrasive material and spaced by areas 56 and 58 free from gritty or abrasive material, as is also the central disk area 60. When the disk 50 is inserted between closely spaced teeth, one of the interspaces 58 and 56 forms the leading portion of the disk 50, which is brought sufficiently deeply into the interspace to bring the areas 52 and 54 into alignment with the neck portions of the teeth so that the latter will be polished or ground when

the mandrel 12 is revolved. The mandrel 12 may be tilted at various angles as the disk 50 is being progressively introduced into the interspace between the teeth, in conformity with the curvature of the teeth and the interspace therebetween, whereby such introduction may be greatly facilitated.

It will be apparent that the dental polishing and grinding disks of the present invention offer several advantages over conventional polishing disks. Particularly, the disks of the present invention are more easily introduced between closely spaced teeth than is a polishing disk having a continuous area covered with gritty or abrasive material extending over the whole disk periphery. The dished disks of the present invention are particularly easily introduced between closely spaced teeth.

Many details may be varied without departing from the principles of this invention and it is therefore not my intention to limit the patent granted on this application otherwise than necessitated by the following claims.

The invention is claimed as follows:

1. A dental polishing disk adapted for mounting on a mandrel and comprising a thin round stiff sheet and abrasive material coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, the center of said sheet inside said peripheral areas being likewise free from abrasive material, said disk being provided with peripheral areas on both sides thereof free from abrasive material and aligned as between the two sides of said disk.

2. A dental polishing disk adapted for mounting on a mandrel and comprising a dished thin round stiff sheet and abrasive material coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, the center of said sheet inside said peripheral areas being likewise free from abrasive material, said disk being provided with peripheral areas on both sides thereof free from abrasive material and aligned as between the two sides of said disk.

3. A dental polishing disk adapted for mounting on a mandrel and comprising a thin round stiff sheet and abrasive material on both sides of said sheet coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, said peripheral areas free from abrasive material being aligned as between the two sides of said disk, the center of said sheet inside said peripheral areas being likewise free from abrasive material.

4. A dental polishing disk adapted for mounting on a mandrel and comprising a dished thin round stiff sheet

and abrasive material on both sides of said sheet coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, said peripheral areas free from abrasive material being aligned as between the two sides of said disk, the center of said sheet inside said peripheral areas being likewise free from abrasive material.

5. A dental polishing disk adapted for mounting on a mandrel and comprising a thin round stiff sheet and abrasive material coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, the center of said sheet inside said peripheral areas being likewise free from abrasive material, said disk being provided with peripheral areas on both sides thereof free from abrasive material and aligned as between the two sides of said disk, said disk further comprising a polishing composition coating the center of said sheet inside said peripheral areas as a layer thinner than said coating of abrasive material.

6. A dental polishing disk adapted for mounting on a mandrel and comprising a dished thin round stiff sheet and abrasive material coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, the center of said sheet inside said peripheral areas being likewise free from abrasive material, said disk being provided with peripheral areas on both sides thereof free from abrasive material and aligned as between the two sides of said disk, said disk further comprising a polishing composition coating the center of said sheet inside said peripheral areas as a layer thinner than said coating of abrasive material.

7. A dental polishing disk adapted for mounting on a mandrel and comprising a thin round stiff sheet and abrasive material on both sides of said sheet coating only peripheral arcuate areas of said sheet spaced by other peripheral areas free from abrasive material, said peripheral areas free from abrasive material being aligned as between the two sides of said disk, the center of said sheet inside said peripheral areas being likewise free from abrasive material, said disk further comprising a polishing composition coating the center of said sheet inside said peripheral areas as a layer thinner than said coating of abrasive material.

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