Oct. 29, 1963 I. I. WEINGER 3,108,376

DENTAL PROSTHETIC BITE RIM TRIMMER

Filed May 24, 1960

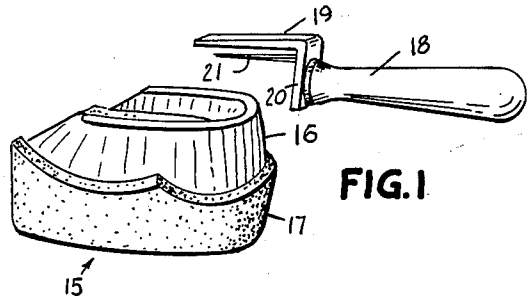

FIG. 1

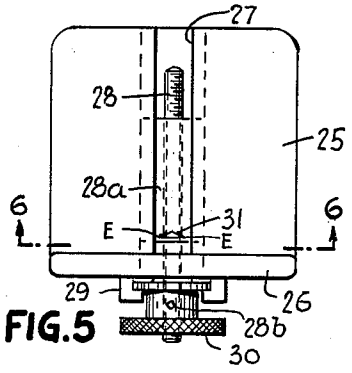

FIG. 5

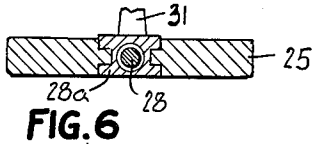

FIG. 6

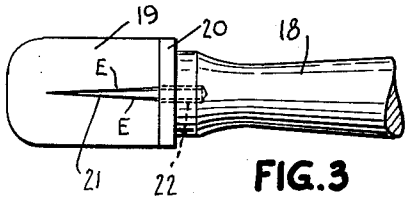

FIG. 3

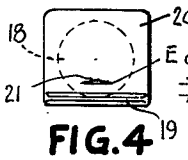

FIG. 4

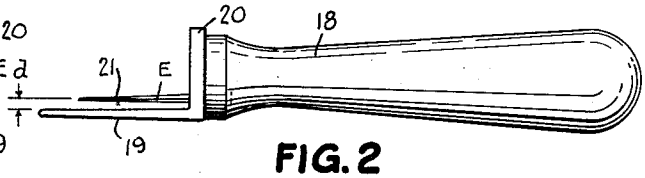

FIG. 2

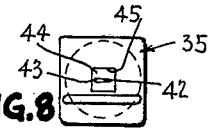

FIG. 8

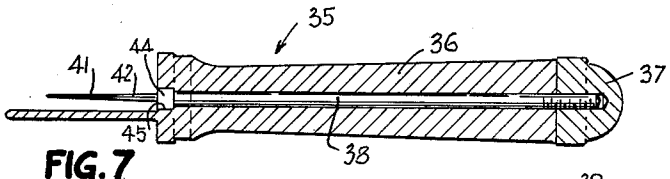

FIG. 7

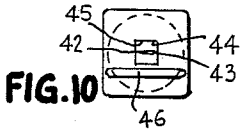

FIG. 10

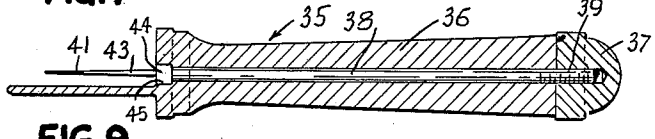

FIG. 9

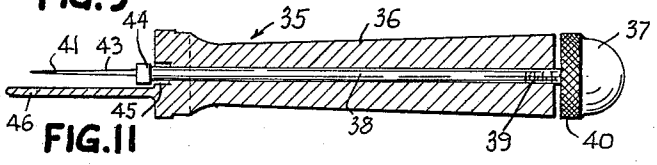

FIG. 11

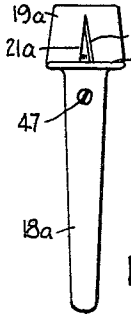

FIG. 12

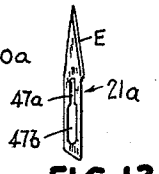

FIG. 13

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DENTAL PROSTHETIC BITE RIM TRIMMER

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1 Claim. (Cl. 32—40)

This invention relates broadly to dentists' appliances, and more specifically to a dental prosthetic bite rim trimmer.

In the practice of his profession, a dentist is frequently called upon to provide a patient with dentures. Toward that end he takes impressions, which he submits to a dental mechanic whom they serve as the basis for the preparation of the dentures. Among other things, the dentist must supply his mechanic with an accurate bite rim, by which the mechanic is enabled to determine the length of the teeth he will use. The dentist must trim the bite rim until its height is such that the patient can close his lips normally and easily.

At the present time, dentists commonly use conventional pocket knives to trim bite rims. The resultant bite rims have hilly edges, so that mechanics are required to guess whether the upper or the lower curves are to serve as guides. Dentists are also apt to cut too much from the bite rim, since pocket knives have no guides. The use of pocket knives for this work can also cause injury to dentists' hands or fingers.

With this in view, it is the principal object of the present invention to provide a bite rim trimmer, by means of which a bite rim can be reduced smoothly and uniformly.

It is a further aim of the present invention to provide a bite rim trimmer, by means of which a bite rim can be trimmed a predetermined amount in one stroke.

And it is a still further advantage of the present invention to provide a bite rim trimmer which is so arranged, that it can be used both by a right handed and by a left handed dentist.

Yet another purpose of the present invention resides in the provision of a bite rim trimmer which can be so adjusted that the amount to be trimmed may vary.

And a still further purpose of the present invention resides in the provision of a bite rim trimmer of this character, wherein the blade may either be fixed in the handle or removably retained therein.

These and other meritorious aims and advantages, which will become more fully apparent as the description hereof proceeds, are attained by the novel construction, combination and arrangement of few and simple parts, hereinafter described, and illustrated in the accompanying drawing, forming a material component of the present disclosure, and in which:

FIGURE 1 is a perspective view of a conventional bite rim and of a bite rim trimmer constructed in accordance with the principal embodiment of the present invention.

FIGURE 2 is an inverted side elevational view of the bite rim trimmer illustrated in FIGURE 1, drawn to an enlarged scale.

FIGURE 3 is an enlarged top plan view of the device illustrated in FIGURE 1, part of the handle being broken away.

FIGURE 4 is an end view of the device as illustrated in FIGURE 2.

FIGURE 5 is a modified bite rim trimmer head of the present invention, wherein the distance between the knife and the wall may be adjusted.

FIGURE 6 is a sectional view of the modification illustrated in FIGURE 5, the section being taken on line 6—6 of FIGURE 5.

FIGURE 7 is a sectional view of another modified form of the present invention, the modification residing in the provision of a blade holder wherein the position of the cutting edge may be reversed, the illustration showing the cutting edge in one position.

FIGURE 8 is a front end view of the embodiment illustrated in FIGURE 7.

FIGURE 9 is a view similar to FIGURE 7, but showing the cutting edge in the other position.

FIGURE 10 is a front end view of the embodiment illustrated in FIGURE 9.

FIGURE 11 shows the adjusting nut loosened for reversable adjustment.

FIGURE 12 is a front elevational view of another modified form of the present invention.

FIGURE 13 is a side elevational view of the blade shown in FIGURE 12.

Referring in greater detail to the drawing, the numeral 15 refers generally to a conventional bite rim as made by dentists, the bite rim 15 comprising a cast 17 on which is positioned a wax member 16, the present device being adapted to trim the wax member 16 to whatever height may be desired.

The bite rim trimmer illustrated in FIGURES 1 through 4 comprises a handle 18 which may be made of plastic, wood, metal or any other suitable and desirable material. Positioned upon one end of the said handle 18 is a base member 20, the said base member 20 having a rear wall 19 formed therewith. Rear wall 19 is positioned edgewise on base member 20 in rectangular relationship thereto. A blade 21 having two opposed cutting edges may be entered longitudinally through base member 20. Blade 21 may terminate in a threaded portion 22 whereby the said blade may be threaded into said handle 18 and removably retained therein, the purpose for this arrangement being to permit the replacement of a dull blade. Obviously, rear wall 19, base member 20 and handle 18 may be molded to form a unitary bite rim trimmer if desired. In that event, blade 21 will be molded into handle 18 through base member 20 and remain fixed therein. The blade 21 will extend parallel to rear wall 19 and be spaced therefrom, the preferred distance between blade 21 and rear wall 19 being 2 mm., whereby the amount trimmed will be 2 mm. every time the device is used.

However, it may at times be desired to increase the distance "*d*" between the blade 21 and the rear wall 19. To make this possible, the modification illustrated in FIGURES 4 and 5 has been made. In this modification, the device comprises a rear wall 26 having a base member 25 formed edgewise therewith and right angularly disposed thereto, the base member 25 being mounted upon one end of a handle (not shown) in the manner illustrated in FIGURE 3 or in any other suitable and desirable manner. Extending centrally through base member 25 from rear wall 26 to the opposite edge of base member 25 is a slide groove 27 having a slide element 28*a* therein. Slide element 28*a* has a screw 28 extending therethrough, which extends through base member 26 and may be secured against the outer face of the said base member 26 by a screw holder 29 or otherwise. One end of screw 28 extends outwardly beyond screw holder 29 and may have a knurled knob 30 screwed thereon, the said knob 30 having an opening 28*b* therein for the passage of a screw or other retaining means therethrough, whereby the said knob 30 is secured to the end of screw 28. Blade 31 is retained in the slide member 28*a*.

Each of the blades hereabove referred to have two opposed cutting edges, so that they can be used by either a left handed or a right handed dentist. However a bite rim trimmer is contemplated, wherein the blade has only one cutting edge, the blade being so mounted that the

cutting edge can be selectively positioned for use by a right handed or a left handed operator.

In the embodiment illustrated in FIGURES 7 through 11, the bite rim trimmer which is broadly referred to by the numeral **35**, comprises a handle **36** having a central longitudinal bore extending therethrough in which is retained a bolt **38**, one of the ends of bolt **38** extending outwardly beyond the said handle **36** and terminating in a threaded portion **39**. An adjusting nut **37** having a threaded opening therein is adapted to have end **39** entered therein, the adjusting nut **37** being provided with a knurled portion **40** for easier manipulation. The other end of bolt **38** has a blade **41** formed therewith which has a dull edge **43** and a cutting edge **42**. At the base of blade **41** a mount **44** is provided through which the said blade **41** extends, the said mount **44** being illustrated as being square to removably fit into a correspondingly shaped opening **45** in the base member which is secured to the other end of handle **36** in any suitable and desirable manner, the base member being provided with a rear wall **46** formed at right angles with respect therewith. The fixed distance between rear wall **46** and blade **41** is 2 mm.

Another modification of the device adapted for selective use by either a right handed or a left handed user is shown in FIGURES 12 and 13. In this modification, the handle **18***a* has an opening therethrough near one of its ends for a purpose which will hereinafter become more fully apparent. Upon the end of the handle **18***a* near which the said opening is provided, there is mounted a base member **20***a* having a rear wall **19***a* formed edgewise therewith and rectangularly thereto. Handle **18***a*, base member **20***a* and rear wall **19***a* may be molded into an integral unit or they may be made of separate elements joined together in any suitable and desirable manner. Extending from the edge of handle **18***a* upon which base member **20***a* is positioned to a point therebelow, the said handle may be provided with a narrow slit, so that blade **21***a* may pass through base member **20***a* into the said slit in the handle **18***a*. The blade **21***a* comprises a handle member which is normally retained in handle **18***a* and a blade **21***a* having one cutting edge E. The handle of blade **21***a* is provided with an opening **37***b* therein which is constricted near its normally upper end into a relatively narrow slit **47***a*. When the device is assembled, slit **47***a* will be in alignment with the opening in handle **18***a*, so that a screw **47** or any other suitable and desirable retaining element may pass therethrough, whereby the blade **21***a* is removably retained in handle **18***a* as illustrated in FIGURE 12. The fixed distance between the blade **21***a* and the rear wall **19***a* is preferably 2 mm.

Good dental practice requires that a bite rim, when placed into a patient's mouth for the first time, be then trimmed to the desired size.

When a dentist uses the device which constitutes the principal embodiment of the present invention, he places rear wall **19** upon the wax portion **16** of denture **15** starting either at the right hand edge or the left hand edge depending upon whether he is right handed or left handed. Rear wall **19** serves as guide. By passing the device from one end of the wax element **16** to the other, the dentist will trim successive 2 mm. portions from the wax element **16** with each application. This procedure will be repeated until the dentist has obtained the desired height of the bite rim.

When a dentist uses the device illustrated in FIGURES 5 and 6, he will, by selectively turning the knob **30** in either direction, increase or decrease the distance between blade **31** and rear wall **26**, thereby increasing or decreasing the amount that can be trimmed in one operation. When the device illustrated in FIGURES 7 through 11 is used, the dentist can selectively reverse the position of the cutting edge by loosening nut **37**, pushing element **44** out of the retaining opening **45** in the base member, reversing the position of the cutting edge, replacing element **44** in opening **45** and tightening the adjusting nut **37**.

In the modification illustrated in FIGURES 12 and 13, the same result can be achieved by removing screw **47** from the screw opening in handle **18***a*, pulling the blade **21***a* out of handle **18***a*, either reversing the blade or replacing a dull blade, entering that blade through base member **20***a* into handle **18***a* and securing it in that position with screw **47** or otherwise.

Modifications other than those here indicated will become apparent. For instance, the base member and the rear wall may or may not be made of one piece, the handle may or may not be made integrally with the base member, and the shapes of the several elements may differ from those here illustrated.

There has thus been shown and described a bite rim trimmer in the best known form of its embodiment and in several modifications thereof. It is to be understood that this disclosure is to be regarded as descriptive and illustrative of the best known forms of the invention and not as limitative or restrictive to the exact details shown, applicant reserving the right to make such changes and modifications in this device as may come within the terms of the appended claim without thereby departing either from the spirit or the scope of the present invention.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent, is:

A dental prosthetic bite rim trimmer comprising a handle, an outwardly reaching projection formed with said handle at one end thereof a central longitudinal bore through the entire length of said handle, a bolt in said bore extending through the length of said bore, one end of said bolt terminating in a mount, a recess in the end of said handle adjacent said projection to removably receive said mount, a blade extending outwardly from said mount, said blade having one cutting edge, said blade spaced from and extending parallel to said projection, said bolt extending outwardly from the other end of said handle, means engageable with said projecting end of said bolt removably retaining said mount in said recess, and said bolt adapted to be loosened whereby said mount may be replaceably withdrawn from said recess to reverse the position of said cutting edge.

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