July 29, 1952 A. SCHIERSTEAD 2,604,693

DENTAL FINISHING TOOL

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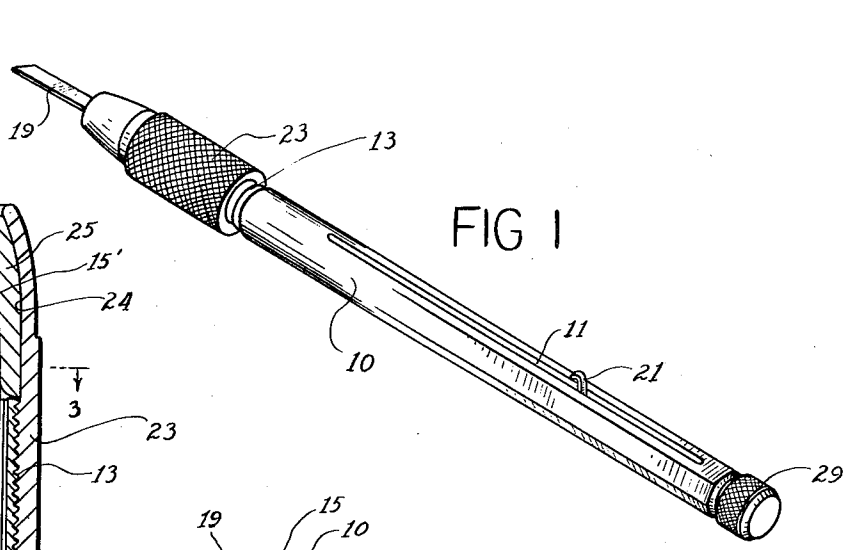
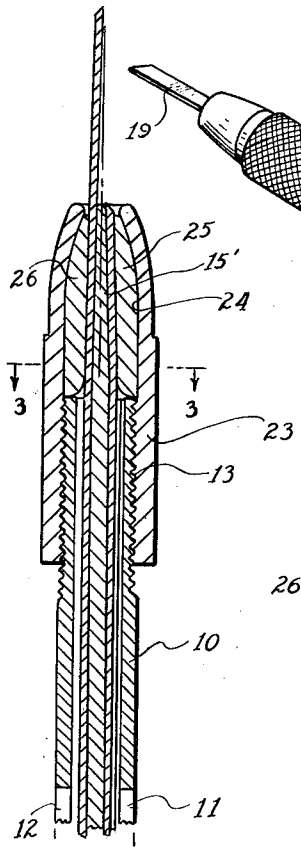


FIG 1



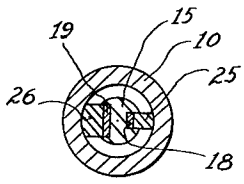


FIG. 3

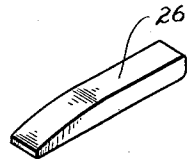


FIG 7

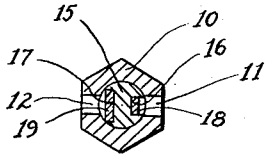


FIG 4

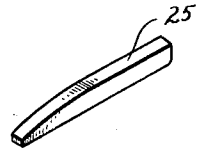


FIG 8

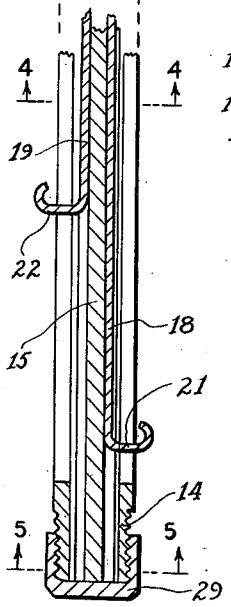


FIG.2

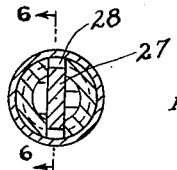


FIG 5

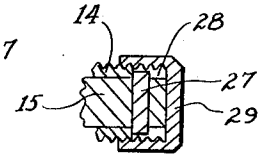


FIG. 6

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DENTAL FINISHING TOOL

Alfred Schierstead, Philadelphia, Pa.

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2 Claims. (Cl. 30—152)

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This invention relates to a dental finishing tool or the like.

It is an object of the present invention to provide a dental finishing tool or the like wherein two working blades can be alternately made available for performing work and wherein these blades may be extended to any desired length from the handle and made secure against inward displacement by a mere tightening of the clamping elements and wherein the blades extend substantially the full length of the handle so that they may be adequately supported within the handle or may be extended to positions well belond the handle or of lesser distance therefrom, depending upon the wishes of the user of the tool.

Other objects of the present invention are to provide a dental finishing tool or the like adapted for use by dental mechanics to trim the excess acridic from around the teeth embedded in an upper or lower plate of a false teeth set wherein a good grip can be provided on the handle and wherein the tool is of light weight, yet the blades and the parts thereof are tough, strong and adapted to do the roughest work, withstand hard pressure when put on the blade and the blade will not slide back into the holder.

Other objects of the present invention are to provide a dental finishing tool which is of simple construction, inexpensive to manufacture, has a minimum number of parts, easy to operate and adjust, compact, easy to assemble, rugged and rigid when the parts have been adjusted and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of the dental finishing tool embodying the features of the present invention.

Fig. 2 is a fragmentary longitudinal sectional view of the tool.

Figs. 3, 4 and 5, are respectively transverse sectional views taken respectively at locations 3—3, 4—4 and 5—5 of Fig. 2 and looking in the direction of the arrows thereof.

Fig. 6 is a fragmentary longitudinal sectional view taken on line 6—6 of Fig. 5.

Figs. 7 and 8 are respectively perspective views of the large and small gripping elements.

Referring now to the figures, 10 represents the main sleeve-like body of the tool which has diametrically opposite elongated slots 11 and 12

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and a threaded forward end 13 and a threaded upper end, as indicated at 14. Extending through the sleeve 10 is a shaft 15 which has diametrically opposite grooves 16 and 17. These grooves are of different sizes in order to accommodate respectively small and large blades 18 and 19. These blades are respectively made of tough steel and are sharpened at their forward ends. At the rear ends handle arms respectively extend, as indicated at 21 and 22, through slots 11 and 12 of the sleeve body 10. The sleeve body 10 can be formed from a hexagonal stock piece and is machined at its forward end to provide the threaded portion 13.

The threaded portion 13 receives a coupling member 23 which has a tapered internal surface 24. Clutch pieces 25 and 26 lie within the member 23 and the tapered surface 24 will cause the clutch elements to force the steel blades into the grooves of the central body member 15 and in clamping engagement therewith. These blades being long and the central body 15 being slightly tapered at its forward end, the blades will be bent inwardly to a center position relative to the axis of the central body 15, in the manner as shown in Fig. 2, so that the cutting edge or point of the blade will lie substantially true with the central axis of the central body 15. The tapered end of the sleeve body 15 is indicated at 15'. The blades 18 and 19 are made of slender tough steel material which can be slightly bent as the clamping wedges 25 and 26 are brought to bear upon them with the tightening of the internally tapered coupling member 23 upon the threaded portion 15 of the external sleeve body.

In order to prevent the central body 15 from turning within the sleeve body, a pin 27 extends into diametrically opposite slots 28 on the threaded upper end of the sleeve body 10. A cap 29 is threaded upon the upper threaded end portion 14. The blades 18 and 19 are adjustable in the grooves 16 and 17 so that they can be extended to any distance beyond the forward end of the tool according to the desire of the mechanic. The blades 18 and 19 are independently operable, but only one can be extended at a time. If the narrow blade 18 is desired, it can be extended by pushing the handle 21 after first loosening the coupling member 23. If a wide blade 19 is desired, the handle portion 22 thereof is moved to extend the blade from the forward end of the tool. By having a converging end portion 15' of the central body 15, the blades can be bent slightly inwardly so that their points can be aligned

true with the central axis of the body portion 15. By virtue of the bending of the forward end of the blade and by the clamping elements 25 and 26, a good grip is had upon the blade so that there is little chance for it to slide rearwardly when the tool is being used.

This tool with a sharp forward cutting edge can be used by dental mechanics to cut around the false teeth when embedded in an upper or lower plate and to trim the excess acridic from around the teeth of the denture. The body parts of this tool are preferably made of light weight metal so that the tool can be conveniently handled by the mechanic. The tool will be used between the thumb and the forefinger and the knurling upon the member 23 will permit the mechanic to have a firm grip.

By the provision of two blades, the mechanic really has two instruments in his hand at one time. He may use either the small blade or the large blade. By having good strong blades formed of tough steel, they will not break and permit a liberal length of the blade to be extended. It will be seen that the mechanic is thus provided with a finishing tool that can have a long blade length and one which will be thoroughly clamped in the holder portions and not pushed back thereinto once the clamping engagement of the elements 25 and 26 has been made upon the blades. There has thus been overcome the troubles with the ordinary finishing tools which are used in the trade and that is of being shy on blade length and of the blade being easily pushed into the handle when real pressure is used.

What is claimed is:

1. A dental finishing tool or the like comprising a central body having grooves lying respectively on the opposite sides of the same, blade elements adjustable along said grooves and having laterally extending handle portions on the rear ends thereof, a sleeve body surrounding the central body portion and the blades and having elongated slots lying diametrically opposite from each other, said handle portions on the respective blades extending through said slots in the sleeve body and adjustable therealong, said blades being substantially the length of the central body portion, a coupling member having a tapered internal surface, said member being adjustably connected to the forward end of the sleeve body, tapering clamping elements cooperable with the tapered internal surface of the member and engageable respectively with the blades, said blades being of tough bendable material, said central body portion being slightly tapered at its forward end to form a surface over which the blades can be bent toward the central axis of the central body portion when said coupling member is tightened upon the sleeve body.

2. A dental finishing tool or the like comprising a central body having grooves lying respectively on the opposite sides of the same, blade elements adjustable along said grooves and having laterally extending handle portions on the rear ends thereof, a sleeve body surrounding the central body portion and the blades and having elongated slots lying diametrically opposite from each other, said handle portions on the respective blades extending through said slots in the sleeve body and adjustable therealong, said blades being substantially the length of the central body portion, a coupling member having a tapered internal surface, said member being adjustably connected to the forward end of the sleeve body, tapering clamping elements cooperable with the tapered internal surface of the member and engageable respectively with the blades, said blades being of tough bendable material, said central body portion being slightly tapered at its forward end to form an arcuate surface over which the blades can be bent toward the central axis of the central body portion when said coupling member is tightened upon the sleeve body, said sleeve body having radially extending diametrically opposite slots at the rear end thereof, a pin extending through the central body and into the respective diametrically opposite slots whereby to prevent the relative rotation of the central body and the sleeve body, said sleeve body having a threaded rear end portion and a cap extendable over the diametrically opposite slots of the sleeve body and over the pin whereby to prevent the outward displacement of said pin from the central body.

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