

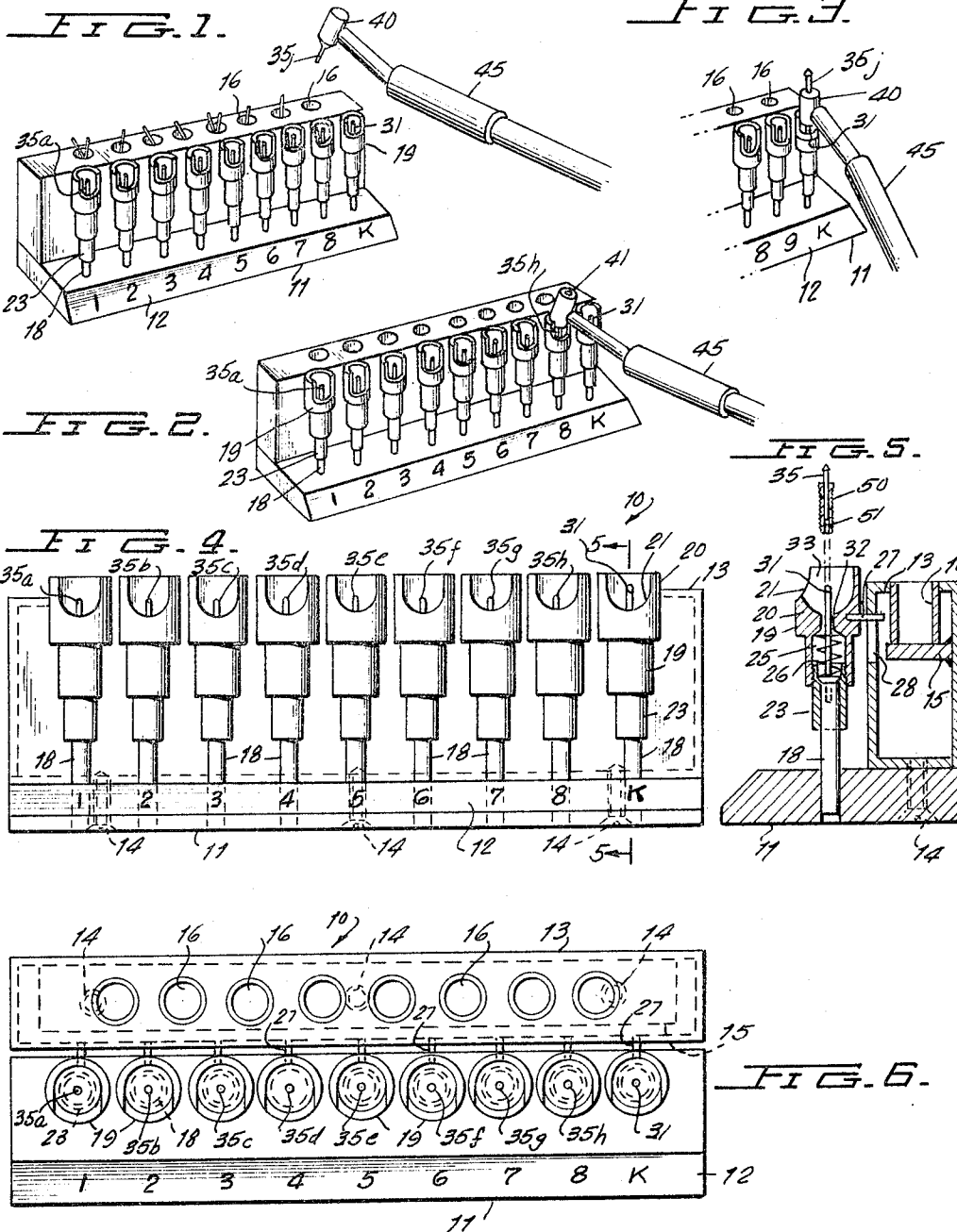
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BURR DISPENSER

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BURR DISPENSER

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This invention relates to burr dispensers in general and more particularly to a dental burr dispenser which is particularly useful to the dentist for inserting and removing a burr from a drillhead.

A dentist, in carrying out drilling procedures, is often confronted with a situation where it becomes necessary to change the burr in the drill and, at this time, it is also desirable that the dentist's attention be directed primarily to the portion of the patient's mouth where work is being done. Other situations are more advantageously handled if the dentist is enabled to change the burr without the necessity of utilizing both of his hands for the changeover procedure.

Accordingly, a primary object of this invention is to provide a novel construction for a burr dispenser.

Another object is to provide a novel burr dispenser which shortens the time required for the dentist to change burrs.

Still another object is to provide a novel burr dispenser which enables a dentist to replace the burr in his drill while utilizing only one hand for this procedure.

A further object is to provide a novel burr dispenser having a resiliently mounted guide cup to direct the dentist's drill head into engagement with a burr whose shank extends into the guide cup.

Still further object is to provide a novel burr dispenser having means for readily removing a burr from a dentist's drill.

These, as well as further objects of this invention, shall become readily apparent after reading the following descriptions of the accompanying drawings in which FIGURE 1 is a perspective view of a burr dispenser constructed in accordance with the teachings of the instant invention.

FIGURE 2 is a view similar to FIGURE 1, showing a drillhead being entered into a dispenser cup for mounting of a burr.

FIGURE 3 is a fragmentary perspective view illustrating the manner in which a burr is removed from a drill head collet.

FIGURE 4 is a front elevation of the burr dispenser of FIGURE 1.

FIGURE 5 is a cross section taken through line 5-5 of FIGURE 4 looking in the direction of arrows 5-5.

FIGURE 6 is a top plan view of the burr dispenser.

Now referring to the figures. Burr dispenser 10 includes weighted base 11 having a chamfered front edge 12 carrying indicia thereon to designate the respective dispensing units. Hollow vertical wall 13 extends upwardly from base 11 at the rear thereof and is secured in place by screws 14 extending through base 11. Mounted within wall 13 is horizontal ledge 15. Tubular members 16, extending through circular apertures in the top edge of wall 13 rest upon ledge 15 and define a plurality of receptacles for burr storage.

Each dispensing unit is comprised of a guide stem 18 extending upwardly from base 11 and positioned forwardly of wall 13, being force fitted into an aperture of base 11. The upper end of each of the stems 18 is outwardly flared for a reason which will hereinafter become evident. Resiliently mounted at the upper end of each stem 18 is a guide member 19 having an upper cup-like portion 20 with a circular cutaway 21 at the front upper portion thereof. Retainer sleeve 23 mounts guide member 19 to stem 18.

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Member 23 is a cylindrical member having an axial bore, the lower portion of which is closely fitted to guide stem 18 and the upper end of which is enlarged to provide clearance for the enlarged upper end of stem 18. The outer surface of retainer member 23, near the upper end thereof, is provided with internal threads which mate with the external threads in recess 25 in the depending portion of guide member 19. Coiled compression spring 26, deposed within recess 25 is seated at one of its ends against the upper portion of guide stem 18 while the other end of spring 26 is seated against guide member 19, thereby biasing the latter upwardly.

Pin 27 extends from the rear of cup-like portion 20 into vertical guide wall 28 so as to prevent rotation of guide member 19 about stem 18. The engagement between the enlarged upper end of stem 18 and retainer member 23 limits the upward movement of guide member 19. This upward movement is also being limited through the engagement of pin 27 with the portion of wall 13 defining the upper boundary for wall 28. Guide cup 19 and stem 18 shown in FIGURE 5 is the rightmost unit of dispenser 10 as viewed in FIGURE 4. This unit is intended for burr removal and is therefore provided with knockout pin 31 which is fixedly secured to stem 18 and extends axially upward therefrom through recess 25 and aperture 32 into the cup depression 33 of guide member portion 20.

All of the units except the rightmost one of FIGURE 4 do not have knockout pin 31. Instead, these units are intended to have burrs 35a-35h contained therein with the cutting end of each resting against the upper end of stem 18 and the shank end of each burr extending into cup depression 33.

For dismounting of burr 35j (FIGURE 3) head 40 of the drill hand piece 45 is inverted and inserted into the cup depression 33 of the rightmost unit with knockout pin 31 entering aperture 41 at the back of head 40 and entering the bore 51 of plastic collet 50 to engage the shank end of burr 35j. Downward movement of head 40 forces knockout pin 31 through bore 51, thereby driving burr 35j upwardly out of bore 51. Thereafter, hand piece 35 is turned right side up with head 40 positioned so that burr 35j will drop into a selected one of the receptacles formed by the tubes 16.

For mounting of a burr 35h hand piece 45 with head 40 in the upright position is entered into a cup depression 33 of unit 8 with the shank end of burr 35h entering the open end of plastic collet 50. A head 40 is moved downward, guide member 19 also moves downward, thereby permitting burr 35h to be driven deeply into collet bore 51 with collet 50 frictionally retaining burr 35h. Plastic collet 50 is threadably mounted to the rotating member (not shown) of hand piece 45 in a manner well known to the art. Thus, as collet 50 is rotated, burr 35h will also operate. The indicia 1 through 8 marked on chamfered surface 12 may be indicative of the definite burr types 35a-35h.

Thus, it is seen that the device of the instant invention provides novel means whereby the ejection of a burr from a dentist's drill is facilitated and the mounting of a new burr is also facilitated.

Although there has been described a preferred embodiment of this novel invention, many variations and modifications will now be apparent to those skilled in the art. Therefore, this invention is to be limited, not by the specific disclosure herein, but only by the appending claims.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. A device of the class described comprising a base and a plurality of units mounted forward of said base; a first and a second of said units each being comprised

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of an element adapted to support the cutting end of a burr and a guide means having a cup-like depression for receiving a drill head and directing its burr receiving opening to receive the shank of a burr supported by said element, said guide means having a bore extending from said depression to receive and position a burr shank for entry into a burr receiving opening of a drill head biasing means urging said guide means away from said base, said guide means mounted for movement toward said base by a force applied to a drill head as a burr shank moves more deeply into a burr receiving opening.

2. The device of claim 1 in which there is a third unit including an element, a guide means, and a biasing means constructed and arranged in substantially the same manner as the corresponding elements of the first and the second units; said third unit also including a knockout pin fixedly mounted to said element and extending through said bore into said cup-like depression for removing a burr from a drill head.

3. The device of claim 1 in which the element is comprised of a stem, said guide means being mounted at one end of said stem and movable along the axis of said stem with said bore being aligned with the axis of said stem.

4. The device of claim 3 in which the portion of said guide means defining said cup-like depression is provided with a cut-away portion through which a drill hand piece extends when its head is disposed within said cup-like depression.

5. The device of claim 4 in which there is a third unit including an element, a guide means, and a biasing means constructed and arranged in substantially the same manner as the corresponding elements of the first and the second units; said third unit also including a knockout pin fixedly mounted to said element and extending through said bore into said cup-like depression for removing a burr from a drill head.

6. The device of claim 4 in which said guide means is provided with means to prevent rotation of said guide means with respect to said stem.

7. The device of claim 6 in which there is a third unit including an element, a guide means, and a biasing means constructed and arranged in substantially the same manner as the corresponding elements of the first and the second units; said third unit also including a knockout pin fixedly mounted to said element and extending through

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said bore into said cup-like depression for removing a burr from a drill head.

8. The device of claim 6 in which the base is provided with an upstanding wall, said means to prevent rotation of said guide means comprising a projection carried by said guide means and extending into a slot in said wall.

9. A device of the class described comprising a base and a plurality of units mounted forward of said base; a first and a second of said units each being comprised of an element adapted to support the cutting end of a burr and a guide means having a cup-like depression for receiving a drill head and directing its burr receiving opening to receive the shank of a burr supported by said element, said guide means having a bore extending from said depression to receive and position a burr shank for entry into a burr receiving opening of a drill head biasing means urging said guide means away from said base, said guide means mounted for movement toward said base by a force applied to a drill head as a burr shank moves more deeply into a burr receiving opening; said element being comprised of a stem, a retainer mounting said guide means at one end of said stem, said one end being enlarged, said stem extending through a reduced bore section of said retainer, said bore of said retainer having an enlarged section wherein said enlarged head is disposed, said guide means including a depending portion with a recess having internal threads, said retainer having external threads received by said threads, said biasing means comprising a compression coil spring disposed within a chamber formed through the cooperation of said enlarged bore section and said recess, said bore of said guide means extending from said chamber to said cup-like depression, said bore of said guide means being aligned with the axis of said stem.

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