

Oct. 21, 1947.

R. J. HICKS

2,429,356

SURGICAL CUTTER GUARD

Filed Jan. 10, 1947

Fig. 1.

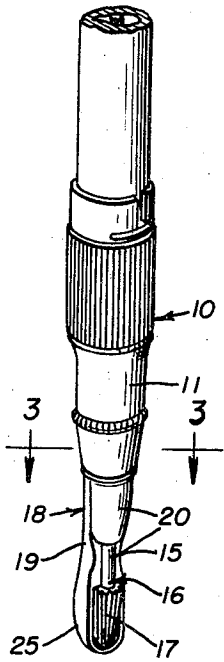
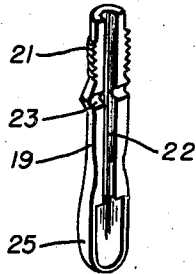


Fig. 4.

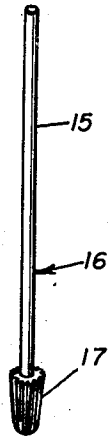


Fig. 5.

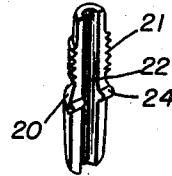


Fig. 6.

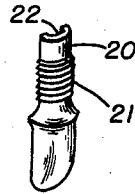


Fig. 7.

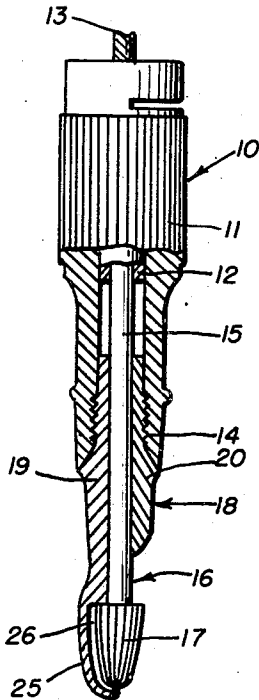


Fig. 2.

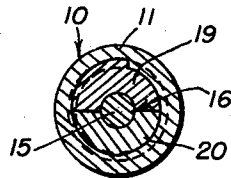


Fig. 3.

Inventor

Richard J. Hicks

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,429,356

SURGICAL CUTTER GUARD

Richard J. Hicks, San Augustine, Tex.

Application January 10, 1947, Serial No. 721,409

1 Claim. (Cl. 32—29)

1

This invention relates to a surgical cutter guard and has for its primary object to protect from contact with the burr of a surgical cutter, tissue lying adjacent the part being operated upon.

Another object is to facilitate the coupling of the guard to surgical equipment, such as a dental engine, without in any way requiring the alteration of the apparatus to which the guard is attached.

The above and other objects may be attained by employing this invention which embodies among its features a split sleeve adapted to surround the shank of a surgeon's rotary burr, means on the sleeve detachably to hold it in the drill head of a dental engine in which the burr is held and a shield on the end of one section of the split sleeve partially to enclose the burr.

Other features include means properly to align the sections of the split sleeve to facilitate its introduction into the drill head of the engine with which it is to be used.

In the drawings:

Figure 1 is a fragmentary perspective view of a dental drill head illustrating the burr and the guard in place therein;

Figure 2 is a fragmentary side view of the drill head of a dental engine, certain portions being broken away to illustrate the manner in which the split sleeve is held therein;

Figure 3 is a horizontal sectional view taken substantially along the line 3—3 of Figure 1;

Figure 4 is a perspective view of one section of the split sleeve;

Figure 5 is a perspective view of the burr and the burr shank;

Figure 6 is a perspective view of the opposite section of the split sleeve, and

Figure 7 is a perspective view of the split sleeve section illustrated in Figure 6 in another position.

Referring to the drawings in detail, a conventional dental engine drill head designated generally 10 comprises an outer shell 11 in which is mounted for rotation a suitable chuck 12 driven from a conventional flexible shaft 13 coupled in any conventional manner with the dental engine. As illustrated, the sleeve 11 is provided at its lower end with an internally screw threaded socket 14 all in a conventional manner.

Gripped in the chuck 12 is the shank 15 of a cutter or burr designated generally 16 and carried at one end of the shank 15 is the burr or cutter head 17 of conventional form.

My improved guard is designated generally 18 and comprises a split sleeve forming mating

2

sections 19 and 20 each of which is provided adjacent one end with external screw threads 21 which are adapted to engage in the threads 14 to hold the sleeve sections in the threaded socket at the lower end of the shell or sleeve 11. Formed longitudinally in each sleeve section 19 and 20 is a groove 22 to accommodate the shank 15 of the drill or burr 16, and extending transversely of the sleeve section 19 intermediate its upper and lower ends is a groove 23. This groove is adapted to accommodate a transversely extending rib 24 formed on the mating sleeve section 20 so that when the sleeve sections 19 and 20 are placed in mating relation about the shank 15 of the drill or burr 16, the shank may freely rotate within the sleeve. As illustrated in the drawings the sleeve section 20 is relatively short while the sleeve section 19 is elongated and provided at the end opposite that adjacent the screw threads 21 with a hollow extension 25 forming a guard for the cutter or drill 17. The guard or shield 25 lies in spaced concentric relation to the cutter 17 to permit free rotation thereof and formed at the junction of the guard or shield 25 with the sleeve 19 is a shoulder 26 against which the upper end of the burr 17 rides as will be readily understood upon reference to Figure 2.

In use it will be understood that the sleeve sections 19 and 20 are placed in mating position with the transverse rib 24 lying in the groove 23 and the sleeve sections embracing the shank 15 of the cutter or drill 16. By entering the transverse rib 24 in the groove 23 the threads 21 on the two sleeve sections 19 and 20 will be brought into proper alignment so that the sleeve 18 as a unit may be threaded into the internally threaded socket 14 so as to detachably couple the sleeve with the drill head 10. The shank 15 of the drill or burr 16 is clamped in the chuck 12 in a conventional manner, and upon setting the shaft 13 into motion, the cutter or burr 16 will be driven. The instrument may then be employed in a conventional manner to perform the desired operation, and any tissue in the vicinity of the part being operated upon will be held out of contact with the burr 17 by the shield or guard 25. In this way the cutting may proceed without danger of injury to tissue lying in the vicinity of the part being operated upon. The parts may be readily disassembled for sterilization and cleaning simply by unscrewing the sleeve 18 from the socket 14 and removing the drill or burr 16 from the chuck 12.

While in the foregoing there has been shown and described the preferred embodiment of this

3

invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim is:

A surgical cutter guard comprising a split sleeve adapted to surround the shank of a surgeon's rotary burr, means on the sleeve detachably to hold it in the drill head of a dental engine in which the burr is held and a shield on the end of one section of the split sleeve partially to enclose the burr and protect from contact with the burr tissue lying adjacent the part being operated upon, one sleeve section having

4

a transverse groove intermediate its ends and a transverse rib on the opposite sleeve section for entrance into the transverse groove to hold the sleeve sections against relative longitudinal movement.

RICHARD J. HICKS.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
383,367	Patrick	May 22, 1888