E. L. MONNOT.

BUR STERILIZER.

APPLICATION FILED DEC. 15, 1914.

1,187,364. Patented June 13, 1916.

FIG. 1

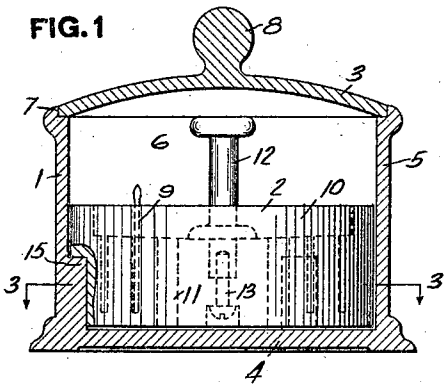


FIG. 3

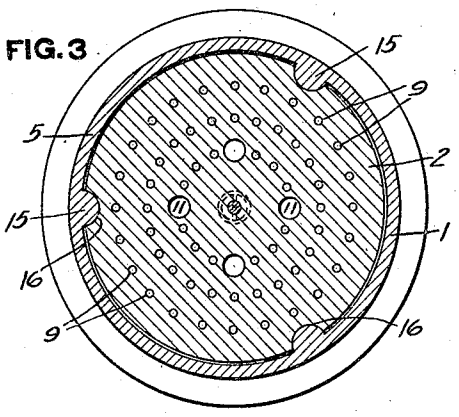


FIG. 2

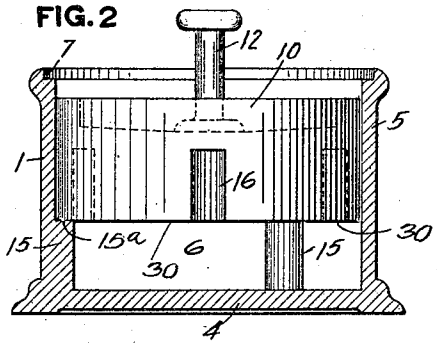


FIG. 4

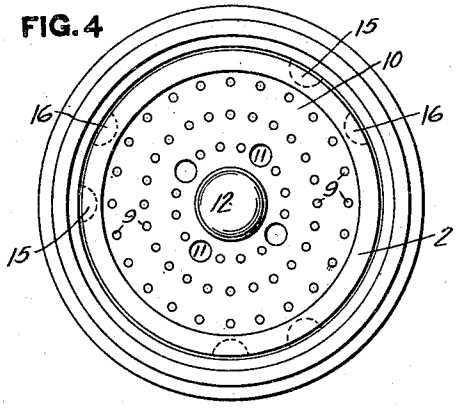


FIG. 5

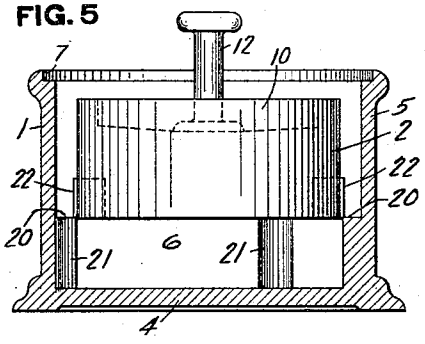


FIG. 6

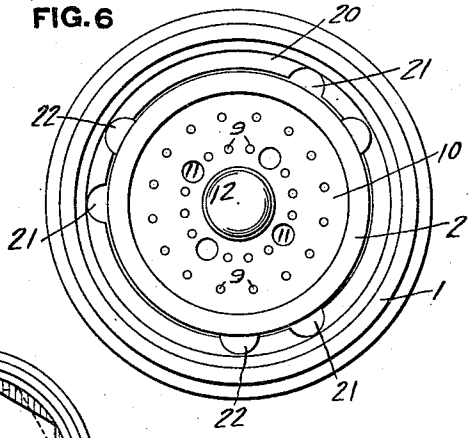
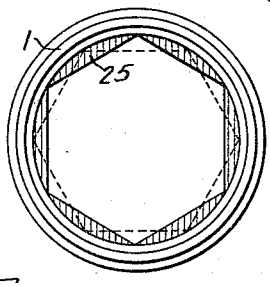


FIG. 7



WITNESSES

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UNITED STATES PATENT OFFICE.

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BUR-STERILIZER.

1,187,364. Specification of Letters Patent. Patented June 13, 1916.

Application filed December 15, 1914. Serial No. 877,388.

To all whom it may concern:

Be it known that I, EDWARD L. MONNOT, a resident of Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Bur-Sterilizers, of which the following is a specification.

This invention relates to bur sterilizers.

The object of the invention is to provide a simple, inexpensive and sanitary device for holding and sterilizing dentists' burs or similar implements, and which enables the burs to be immersed in a sterilizing solution and to be held out of the solution whenever desired.

A further object of the invention is to provide a device of this character which can be made at low cost, which is readily cleaned, which enables the burs to be easily inspected and withdrawn for use, and which completely incloses and protects the burs from contamination.

The invention comprises the bur sterilizer hereinafter described and claimed.

In the drawings, which represent several embodiments of the invention, Figure 1 is a sectional elevation through one form of the device, and showing the bur carrier in the position where the burs are immersed in the sterilizing liquid; Fig. 2 is a similar view, the cover being omitted, and showing the bur carrier in the position where the burs are withdrawn from the sterilizing solution; Fig. 3 is a cross section on the line 3—3, Fig. 1; Fig. 4 is a plan view with the parts in the same position shown in Fig. 2; Figs. 5 and 6 are views corresponding to Figs 1 and 4 and showing a modification; and Fig. 7 is a plan view showing still another modification.

The sterilizer shown in the drawings comprises three parts, a receptacle 1 for containing the sterilizing solution in which the burs are immersed, a bur carrier 2, which fits within the receptacle 1, and a cover 3 for the receptacle 1. All of these parts may be made of any suitable material, but preferably of some material which is not corroded or affected by the sterilizing solution and which will not rust due to moisture. One suitable material is porcelain or other vitrified ware, such as glass.

The receptacle 1 has a flat base 4, and a peripheral wall or rim 5 which forms a chamber 6 for containing the sterilizing solution and the bur carrier, said chamber being considerably deeper than the body of the carrier. The upper edge of the wall or rim 5 of the receptacle is suitably formed, as by providing a peripheral groove or channel 7 therein, to receive the cover 3, said cover being provided with a suitable knob or handle 8.

The bur carrier consists of a body portion which fits loosely in the chamber 6 of the receptacle, and which body is provided with a plurality of closely spaced small holes or openings 9 to receive the burs or other implements, the bottoms of said openings being closed to prevent the burs from dropping out. The peripheral portion of the body extends above its upper surface so as to form a concavity or depression 10 for the sterilizing fluid when the bur carrier is in its lowest position shown in Fig. 1, so that said solution will completely cover the burs. The body is also provided with one or more vertically extending through holes or openings 11, four being shown, through which the sterilizing solution drains away from the concavity 10 when the bur carrier is lifted. The carrier is also provided with a suitable handle 12 secured thereto in any suitable manner, as by a clamping screw 13, and which extends above the upper surface of the carrier and stops short of the cover 3. This construction enables the entire carrier and the burs therein to be lifted out and plunged into boiling water or other liquid whenever desired.

The bur carrier and the inner wall surface of the receptacle are provided with suitable coöperating shoulders which may be brought into registering position by proper relative rotative adjustment of the carrier and receptacle about a vertical axis, and in which registering position the shoulders on the receptacle lie beneath the shoulders on the bur carrier and support said carrier above the solution in the receptacle, so that the burs therein may be conveniently selected or replaced. Also, one of said members, to wit, either the bur carrier or receptacle, is provided between each two adjacent shoulders thereon with a recess or open space to receive a shoulder on the other member when rotatably adjusted to registering relation therewith, whereby the bur carrier may be lowered in the receptacle to immerse the carrier and the burs therein in the sterilizing solution. Various arrangements are suitable for this purpose, several satisfactory constructions being shown in the drawings.

In the form shown in Figs. 1 to 4 the inner surface of the receptacle 1 is provided

with a plurality of vertically extending ribs 15, three being shown, which extend from the bottom of the receptacle to a point short of the top thereof and are shown as being about one-third the height of the receptacle. The upper ends of the ribs form shoulders 15^a for coöperation with shoulders on the bur carrier, but the ribs might be considerably shorter than as shown, as simple knobs on protuberances will provide satisfactory shoulders for this purpose. The shoulders 30 on the bur carrier are spaced around its circumference at intervals corresponding with the intervals between shoulders 15^a and are formed by the peripheral portions of the bottom surface of said carrier. Between each two adjacent shoulders 30 the bur carrier is provided with a recess or open space 16, which are illustrated as vertically extending grooves, said recesses being of any suitable size or shape but at least of sufficient depth and width to receive one of the protuberances or ribs 15 when in registering relation therewith.

In use of the device a suitable quantity of liquid sterilizing material, such as lysol or the like, is poured into the receptacle. The burs are placed in the cavities or pockets of the carrier 2 and the latter is placed in the receptacle in such position that the recesses 16 register with the shoulders 15^a, so that it can be lowered to the position shown in Fig. 1, in which the burs are wholly immersed in the sterilizing solution. By placing the cover upon the receptacle the burs are completely inclosed and there is no danger of dust, dirt or germs entering the receptacle. When a bur is required for use the cover 3 is removed and the bur carrier 2 is lifted by its handle 12 until its lower surface is above the shoulders 15^a at the upper ends of the ribs 15 in which position said carrier is rotated slightly until the shoulders 15^a and 30 register with each other, as shown in Fig. 4, when the carrier rests upon and is supported by the receptacle shoulders. In this position the liquid sterilizing solution drains away from the cavity 10 in the upper part of the carrier through holes 11 and into the bottom of the receptacle. The burs are now exposed near the top of the receptacle and can be readily inspected for the selection of the proper one.

Figs. 5, 6 and 7 illustrate modified arrangements of the shoulders and recesses in the bur carrier and the lower portion of the receptacle. In Figs. 5 and 6 the lower portion of the wall of the receptacle is thicker than its upper portion to provide a horizontal circumferentially extending shoulder 20 which is cut away at several points to provide vertically extending recesses or channels 21. The bur carrier is substantially cylindrical and is provided with projections 22 the lower ends of which form shoulders for coöperation with the shoulders 20 on the receptacle. In one position these projections register with the recesses in the receptacle and permit the carrier to be lowered, while in another position, shown in dotted lines Fig. 6, the projections register with the shoulders 20 and the carrier is held elevated and rests on the said shoulders 20.

In Fig. 7 the bur carrier is non-circular in cross section, being shown as hexagonal. The lower portion of the receptacle wall is thickened to provide inner wall portions 25, the cross section of the receptacle through these thickened wall portions being hexagonal. The bur carrier can be dropped into the hexagonal portion at the bottom of the receptacle for sterilizing the burs and by lifting and turning it the angular or shouldered portions of the carrier rest upon the shoulders of the thickened wall portions of the receptacle.

The device is very simple and can be made at low cost. It is cleanly, sanitary and can be readily washed or cleaned. It also enables the burs to be fully and completely sterilized and exposed for inspection whenever desired.

What I claim is:—

1. A bur sterilizer, comprising a receptacle for the sterilizing solution, and a bur carrier therein, said members being provided with coöperating shoulders, the receptacle shoulders lying underneath the shoulders on the bur carrier in one of its positions and supporting said carrier above the solution in said receptacle, and one of said members between pairs of adjacent shoulders thereon being provided with recesses to receive the shoulders of the other member when said two members are relatively rotated to a new position and thereby allowing the bur carrier to be lowered in the receptacle and immersed in said solution.

2. A bur sterilizer, comprising a receptacle for the sterilizing solution, and a bur carrier therein, the inner wall surface of the receptacle above its bottom being provided with circumferentially spaced upwardly facing shoulders, and the bur carrier being provided with circumferentially spaced downwardly facing shoulders, said bur carrier being freely rotatable in said receptacle when its shoulders are above said receptacle shoulders, said receptacle shoulders lying underneath the shoulders of the bur carrier in one of its positions and supporting the same above the solution in said receptacle, and said bur carrier between each pair of adjacent shoulders thereon being provided with a vertically extending recess to receive one of the shoulders of the receptacle when said receptacle and carrier are relatively rotated to a new position and thereby allowing the bur carrier to be lowered in the receptacle and immersed in the solution.

3. A bur sterilizer, comprising a receptacle for the sterilizing solution, and a bur carrier therein, the inner wall surface of the receptacle being provided with circumferentially spaced upwardly extending ribs having shoulders at their upper ends and above said ribs being cylindrical, and the bur carrier having a solid cylindrical body freely rotatable in the cylindrical portion of said receptacle above said ribs and provided with cavities for the burs, the body of said carrier in one of its positions extending outwardly over the shoulders on said receptacle ribs and supported thereby above the sterilizing solution, and said carrier body being provided with circumferentially spaced upwardly extending recesses to receive the ribs on said receptacle when said carrier and receptacle are relatively rotated to a new position and thereby allowing the bur carrier to be lowered in the receptacle and immersed in the solution.

In testimony whereof, I have hereunto set my hand.

EDWARD L. MONNOT.

Witnesses:

MARSH BOWERS,

ALBERT M. PRICE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."