April 26, 1966 M. FRIEDMAN 3,248,167

MAGNETIC DENTAL BURR HOLDER

Filed Jan. 26, 1965

FIG. 1

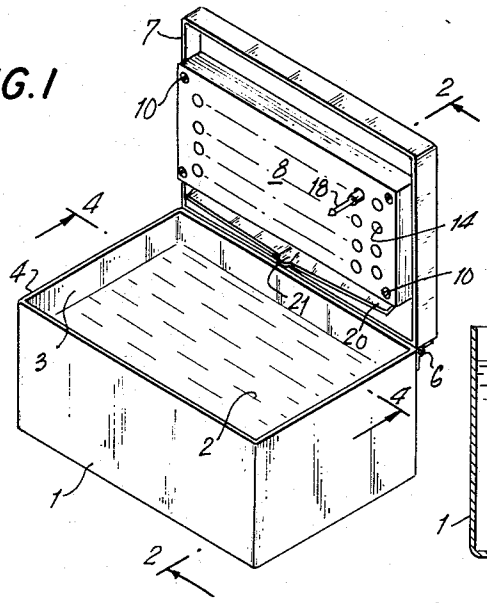
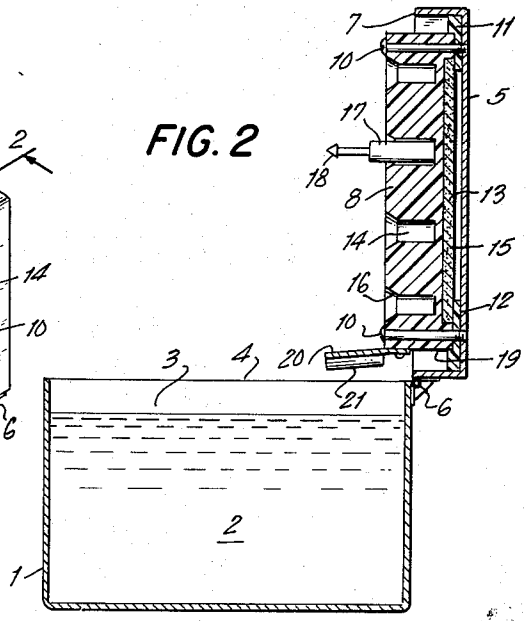


FIG. 2



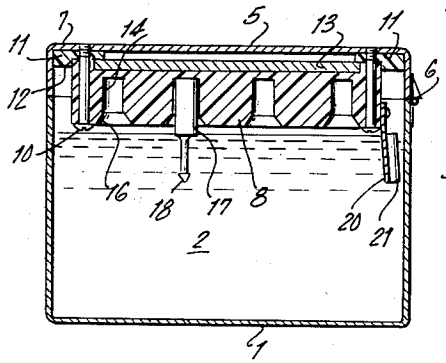


FIG. 3

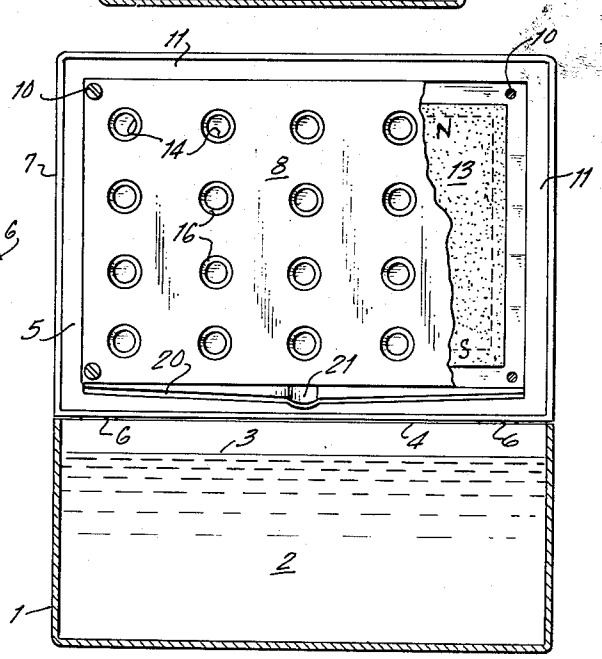


FIG. 4

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MAGNETIC DENTAL BURR HOLDER

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The present invention is directed to holders for instruments or tools, and more particularly to iron containing tools, such as dental burrs which require sterilization before use.

Usually, such instruments are placed in sterilizers and are treated by various means requiring special equipment which is burdensome, involves moving the instruments from the place of storage to the sterilizer and back again, where they are often subject to contamination. To avoid this it has been proposed to provide a holder for burrs and the like which consists of a box or container having a sterilizing solution. The burrs were held on a rotatable magnetized support which was rotated to dip the burrs in the solution. Difficulties are encountered in that the number of burrs that could be so treated was quite small and it required specially constructed magnets.

The present invention is intended and adapted to overcome the difficulties and disadvantages inherent in prior methods and devices for holding and sterilizing instruments of steel and the like, it being among the objects of the invention to provide a simple and effective holder and sterilizer for the storage, sterilization and use of such instruments.

It is also among the objects of the invention to provide a device for the above purpose which is compact, sturdy and convenient to operate.

Still a further object of the invention is to devise a container which can be placed at the hand of the dentist so that he may without delay or difficulty take out or replace an instrument, which will be sterilized immediately after replacement and be ready for reuse.

In practicing the present invention, there is provided a box-like container into which a sterilizing solution is placed. The container has a hinged cover, on the inside of which a magnet or a plurality of magnets or other magnetic body is mounted. The magnetic body is covered by a block or plate of non-metallic material which, in one embodiment of the invention, is fixed to the cover so as to support and hold the magnet in its proper position. Holes are formed in said plate transverse to the face thereof and extending most of the way or all the way thru the plate. The size of the holes is such as to readily accommodate the stems of the instruments with the operative tip, such as a burr, extending beyond the face a sufficient distance so that when the cover is closed, said tip will be immersed in the sterlizing solution. Means are provided for catching and properly draining off the solution when the cover is open.

The strength and character of the magnetic body is such that the force of attraction is sufficient to retain the burr in the holder when the cover is closed. When it is open, drainage of excess solution is accumulated in a trough and is directed back to the body of the solution.

The invention is more fully described in connection with the accompanying drawing constituting a part hereof and in which like reference characters indicate like parts, and in which

FIG. 1 is a perspective view of a container made in accordance with the invention, showing the cover in its open position;

FIG. 2 is a transverse cross-sectional view thereof taken along line 2—2 of FIG. 1, some parts being shown in elevation;

FIG. 3 is a view similar to that of FIG. 2 with the cover closed and showing the sterilization position of the instrument, and

FIG. 4 is a cross-sectional view of the device with the cover open taken along line 4—4 of FIG. 1, some parts being shown broken away for clearness.

A box or container 1, here shown as being rectangular, has a sterilizing liquid or solution 2 therein, the surface 3 of the liquid being short of the top 4 of the container. Cover 5 is hinged at 6 to one edge of the container, and its lower edges 7 are adapted to make a close fit with the upper edge 4 of the container.

Block or plate 8 has a flat outer surface which, in the embodiment shown here, extends beyond edges 7 but not so far that, when the cover is closed the surface touches the liquid face 3. Set screws 10 in the four corners of plate 8 are threaded into cover 5. Usually reinforcing insulating corner members 11 are provided in the cover and are secured by suitable means, such as welding; the screws are threaded into corner pieces 11, and shoulders 12 serve to properly locate the plate. The plate is of insulating material, which may be a synthetic resin or a ceramic composition.

The rear of plate 8 has a recess into which a magnetized body 13 is fitted. By virtue of set screws 11, the magnetized body is held firmly in place. A series of transverse openings 14 extend from the face of plate 8 toward body 13, stopping short thereof as seen at 15. The inner end 16 of said openings is flared to facilitate the insertion of stem or shank 17 of a burr, the tip 18 thereof extending a substantial distance beyond the front face of plate 8.

Attached to the edge 19 of plate 8 adjacent to hinge 6 is a trough 20 extending beyond the front face of said plate and also extending beyond the tip 18 of the burr, as seen in FIG. 2. When the cover is in the position shown, the liquid adhering to the burr will drip down into the trough. The central portion 21 thereof forms a spout and the trough slopes down thereto collecting the drippings and returning them to the body of liquid.

Although the invention has been described with a single embodiment, there are numerous changes which may be made in the details. For instance, the magnetized body may consist of a number of single magnets suitably arranged, or a number of magnetized needles may be placed in parallel relation transverse to the face of the plate and be bonded together. Openings 14 may extend all the way thru the plate so that the shanks of the burrs actually touch the magnet. The shape of the container may be of quite a different configuration than shown. These and other changes may be made within the spirit of the invention, which is to be broadly construed and to be limited only by the appended claims.

What is claimed is:

1. A holder for dental burrs and the like comprising a container for sterilizing liquid, a cover hinged to one side thereof, a magnetized body on the inner face of said cover, an insulating plate on said body and having a front face, a plurality of transverse openings in said plate terminating adjacent to said magnetized body, the depth of said plate and said openings being substantially less than the length of said burrs, whereby when said cover is closed the burrs will be held in said plate by magnetic force and the tips of said burrs will dip below the surface of said liquid.

2. A holder as set forth in claim 1 characterized in that the front face of said plate extends beyond the lower edge of said cover.

3. A holder as set forth in claim 1 characterized in that the outer rim of said openings is flared.

4. A holder as set forth in claim 1 characterized in that set screws passing thru said plate are adapted to mount said plate and magnetized body into said cover.

5. A holder as set forth in claim 1 characterized in that said magnetized body comprises a plurality of parallel needles with poles of like polarity forming the face of said body.

6. A holder as set forth in claim 1 characterized in that a trough extends from the edge of said plate adjacent to said hinged side beyond said plate to catch drippings from said plate and burrs.

7. A holder as set forth in claim 1 characterized in that said magnetized body is a substantially flat plate having north and south poles on a pair of opposed faces.

8. A holder as set forth in claim 1 characterized in that corner pieces of non-metallic material space said magnetized body from said cover.

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