United States Patent [19]

Reiter

[11] **3,752,065**

[45] **Aug. 14, 1973**

[54] **AMALGAM TRITURATION DEVICE**

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[22] Filed: **Nov. 3, 1971**

[21] Appl. No.: **195,134**

[52] **U.S. Cl.**..... **100/123,** 100/211, 206/47 A, 206/63.5, 259/DIG. 20, 259/54, 259/72

[51] **Int. Cl.**..... **B30b 9/02,** B65d 79/00, B01f 3/12

[58] **Field of Search**..... 100/122, 211, 212, 100/298, 123; 206/47 A, 63.5; 259/DIG. 20, 48, 54, 72

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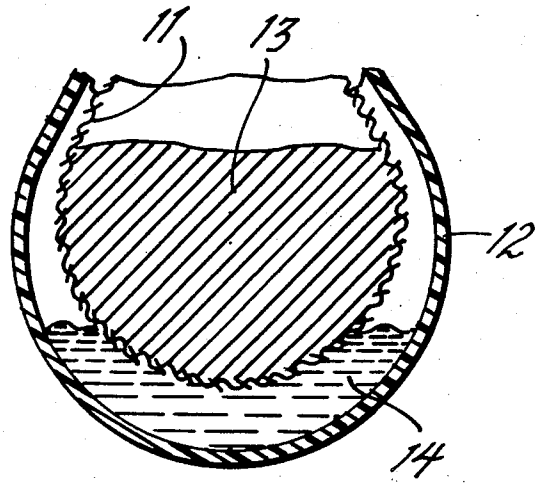
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[57] **ABSTRACT**

A flexible porous layer to be wrapped tightly about an amalgam to express mercury through the layer, and an impervious layer about the porous layer for containing the expressed mercury.

7 Claims, 4 Drawing Figures



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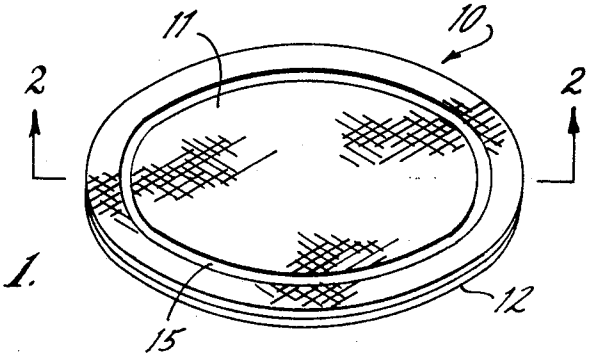


Fig. 1.

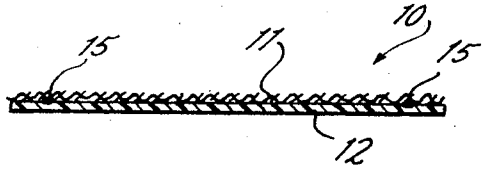


Fig. 2.

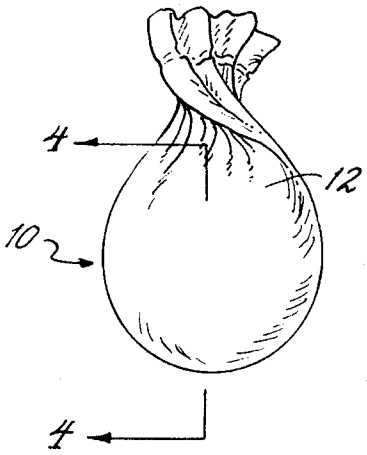


Fig. 3.

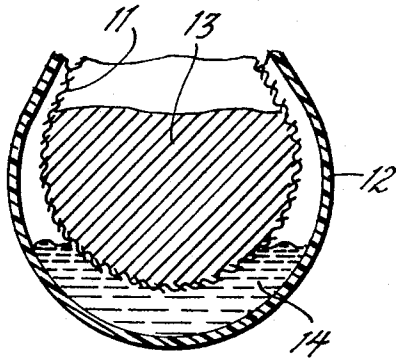


Fig. 4.

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AMALGAM TRITURATION DEVICE

BACKGROUND OF THE INVENTION

As is well known to those versed in dentistry, the trituration of amalgam conventionally involves the manual wrapping of a woven cloth tightly about the amalgam to squeeze the latter and cause the passage of excess mercury through the cloth where it may touch the doctor's fingers or fall onto the floor, respectively contaminating the skin and atmosphere. Excess mercury is required in the amalgam to permit of its being easily and quickly mixed. However, repeated contact of one's skin with mercury is dangerous to the health, and indeed, the mere contamination of the atmosphere or air with mercury is dangerous to those in the environment.

SUMMARY OF THE INVENTION

It is, therefore, an important object of the present invention to overcome the above-mentioned difficulties, permitting the quick and easy mixing or trituration of amalgam by the conventional manual squeezing procedure, but wherein the excess mercury is positively retained against contact with the operator's skin, and further effectively shielded from contaminating the environmental atmosphere.

It is another object of the present invention to provide an amalgam trituration device having the advantageous characterisitcs mentioned in the preceding paragraph which is extremely simple in construction, foolproof in operation, and which can be economically manufactured for sale at a reasonable price.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top perspective view illustrating an amalgam trituration device constructed in accordance with the teachings of the present invention.

FIG. 2 is a sectional view taken generally along the line 2—2 of FIG. 1.

FIG. 3 is an elevational view illustrating a trituration device of the present invention in an operative condition of use.

FIG. 4 is a partial sectional view taken generally along the line 4—4 of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawings, and specifically to FIGS. 1 and 2 thereof, a trituration device of the present invention is there generally designated 10, and may be generally circular in outline configuration or of other suitable outline configuration, as desired. The trituration device 10 is of generally laminar construction, including a porous layer 11 of flexible sheet material, such as cotton cloth, or other suitably woven fabric. The layer 11 may, if desired, be the same as now conventionally employed as a squeeze cloth in the prior art amalgam trituration procedure.

An additional layer 12 is disposed in facing engagement with the layer 11, and may be congruent thereto. The layer 12 is substantially impervious to fluid passage therethrough, and of a flexible sheet material, such as plastic film. In the illustrated embodiment the layers 11 and 12 are circular, and this may be advantageous in accommodating to the manual squeezing operation, wherein the assembled lamination 10 is wrapped tightly around the amalgam with the porous layer or cloth against the amalgam, the gathered marginal edge of the assembly being twisted by one hand and the bulbous amalgam-containing central portion being held by the other hand.

This procedure tightens the device 10 about the contained amalgam, effecting trituration thereof and squeezing out the excess mercury through the porous inner layer or cloth 11. However, the expressed mercury cannot get through the impervious outer layer or plastic sheet 12, and is so retained for disposal. This condition is shown in FIG. 4, wherein the triturated amalgam is designated 13 and the expressed mercury is designated 14, the amalgam being disposed centrally within the porous layer 11 and the mercury disposed between the porous layer and impervious layer 12.

Further assuring the convenient retention of the expressed merucy 14 is the securement together of the layers 11 and 12 along a closed configuration or securement line 15, see FIG. 1. This closed configuration may be of any suitable shape, preferably similar to that of the layers 11 and 12, but not necessarily so. In practice, it has been found advantageous to employ a thermoplastic material for layer 12, and to adhesively secure the layers 11 and 12 along an endless or closed configuration of securement line 15, as by a thermoweld, best seen in FIG. 2. However, other suitable securement means may be employed along the securement line 15.

From the foregoing it will now be appreciated that the instant invention provides an amalgam trituration device which effectively prevents mercury contamination of the user's skin as well as of the air or surrounding environment, while permitting of quick and easy trituration by essentially the conventional procedure, and which otherwise fully accomplishes its intended objects.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention.

What is claimed is:

1. A disposable amalgam trituration device comprising a porous layer of flexible sheet material adapted to be wrapped about a quantity of amalgam for squeezing the latter to express excess mercury through the porous layer, the porous layer having a porosity permeable to excess mercury and impervious to the desired amalgam, and an impervious layer of flexible sheet material in facing relation with said porous layer for receiving therebetween the expressed mercury, to facilitate safe, economic and noncontaminating disposal.

2. An amalgam trituration device according to claim 1, in combination with securing means securing said layers in said facing relation.

3. An amalgam trituration device according to claim 2, said securing means extending about a closed configuration for retaining material there within.

4. An amalgam trituration device according to claim 2, said securing means comprising adhesive means extending continuously about a closed configuration for retaining expressed mercury there within.

5. An amalgam trituration device according to claim 2, said porous layer comprising a woven fabric.

6. An amalgam trituration device according to claim 5, said impervious layer comprising a plastic film.

7. An amalgam trituration device according to claim 6, said film being thermoplastic, and said securing means comprising thermoweld means.

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