

[54] POST-EXTRACTION PADS
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[52] U.S. Cl. 128/296
[51] Int. Cl. A61f 13/00
[58] Field of Search 32/1, 33; 128/155, 156, 128/268, 284, 287, 290, 296, 153

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Primary Examiner—Charles F. Rosenbaum
Attorney, Agent, or Firm—McCormick, Paulding & Huber

[57] ABSTRACT

An anatomically contoured post-extraction pad made by compressing a piece of absorbent material to form an absorbent portion surrounded by a marginal portion of substantially greater density. The marginal portion is cut to generally complement facial contours of teeth adjacent an alveolus or tooth socket, whereby the pad is retained by and between the aforesaid teeth with its absorbent portion disposed in the alveolus. Assemblies of series connected pads may be provided for use in multiple extraction.

21 Claims, 7 Drawing Figures

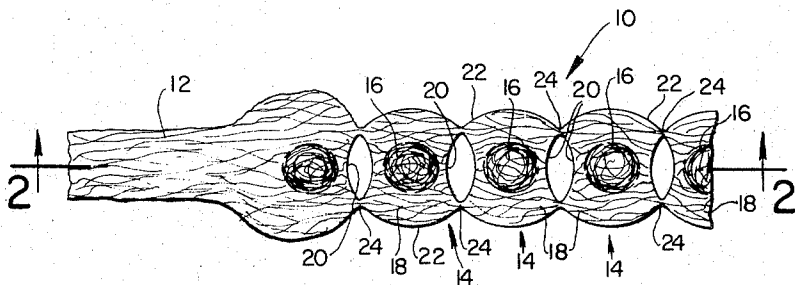


FIG. 1

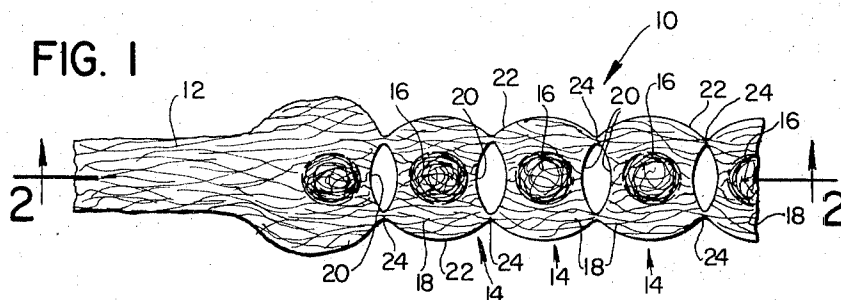


FIG. 2

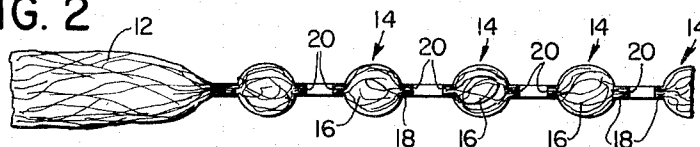


FIG. 3

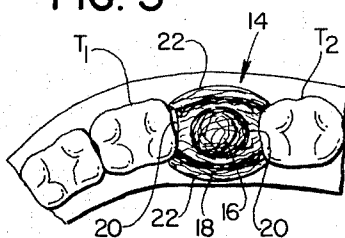


FIG. 4

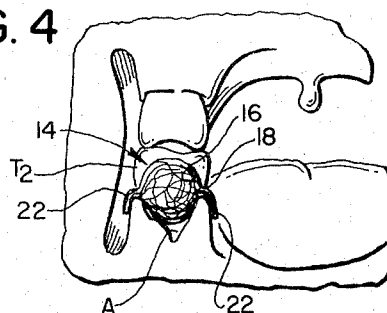


FIG. 5

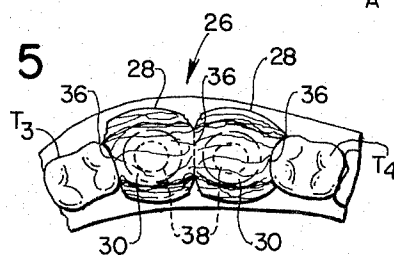


FIG. 6

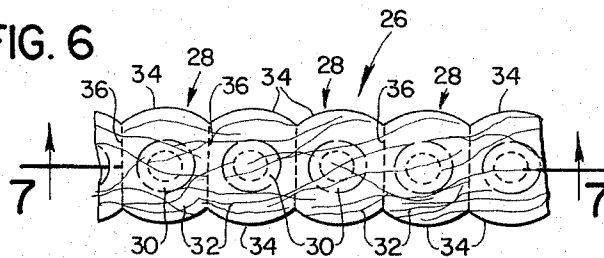
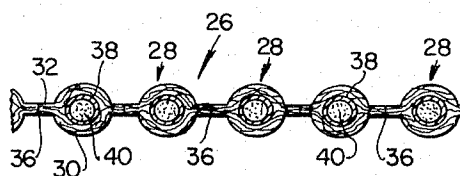


FIG. 7



POST-EXTRACTION PADS

BACKGROUND OF THE INVENTION

This invention relates in general to surgical pads and packing and deals more particularly with post-extraction pads for use in dentistry and methods for making same.

A post-extraction pad used in dentistry must be absorbent, soft and flexible and yet capable of retaining shape and form even when substantially saturated with liquids. Various absorbent products such as guaze pads, cotton rolls and the like have heretofore been provided for post-extraction use. Such products are usually relatively bulky, occupy considerable space in a patient's mouth, and unduly restrict jaw function, particularly when the clamping action of the jaws is relied upon to retain the product in position in the patient's mouth, all of which contributes to patient discomfort. The general aim of the present invention is to provide soft yieldable absorbent post-extraction pads which are compact and capable of being easily introduced between and retained by teeth adjacent an area of extraction and which effectively absorb body fluids yet retain shape and form even when substantially saturated.

SUMMARY OF THE INVENTION

In accordance with the present invention, a post dental extraction pad is provided which comprises an absorbent portion surrounded by a marginal portion of substantially greater density. The marginal portion is cut or formed to an anatomical contour to facilitate retention between teeth adjacent an alveolus. The pad may carry a medicament or other substance which has a soothing effect upon the patient's gum and which may be activated upon exposure to moisture or enzymes in the patient's mouth. Pads may be provided in individual or series-connected form.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view illustrating successive steps in a process for making an assembly of post-extraction pads embodying the present invention.

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

FIG. 3 is a plan view of a dental extraction pad embodying the present invention shown positioned in an alveolus and illustrates the manner in which a pad is retained by and between teeth adjacent the alveolus.

FIG. 4 is a vertical sectional view through a patient's mouth and shows the post-extraction pad of FIG. 3 positioned in the alveolus.

FIG. 5 is similar to FIG. 3, but illustrates the manner in which an assembly of series-connected pads embodying the invention is used in multiple extraction.

FIG. 6 is a plan view of another assembly of post-extraction pads embodying the invention.

FIG. 7 is a sectional view taken generally along the line 7—7 of FIG. 6.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS AND METHOD FOR MAKING SAME

Turning now to the drawing, FIGS. 1 and 2, viewed from left to right, illustrate successive steps and a method for making a post-extraction pad assembly, indicated generally at 10 from a continuously advancing

strip of absorbent material 12, which may, for example, comprise a fibrous material such as cotton. The assembly 10 comprises a plurality of individual post-extraction pads designated generally at 14, 14 and connected in longitudinal series and end-to-end relation.

Each pad 14 has an absorbent portion 16 and a marginal portion 18 which generally surrounds the absorbent portion and has a density substantially greater than the density of the absorbent portion. In accordance with the invention the absorbent portion is substantially thicker than the marginal portion and projects outwardly therefrom in at least one direction. In the illustrated embodiment 14 the absorbent portion 16 has a generally spherical configuration, the marginal portion intersecting the absorbent portion or being disposed generally within a central or diametrical plane relative thereto. Thus, as shown, the absorbent portion 16 projects both above and below the marginal portion 18. Each pad 14 has opposite ends, designated at 20, 20, cut to generally concave anatomical shape for a purpose which will be hereinafter explained. The side edges of each pad 16 are designated at 22, 22 and have a generally convex form, substantially shown. Each pad 16 is connected to the next successive pad in the series by a pair of connecting portions 24, 24.

The assembly 10 is made by continuously advancing the strip of material 12 from left to right as shown in FIGS. 1 and 2 and performing a successive series of pressing and cutting operations thereon as the strip advances to successively form the pads 14, 14. More specifically, each pad is made by compressing at least portions of the material 12 with pressing dies or the like (not shown) to reduce the thickness and increase the density thereof and thereby define the absorbent portion 16 and generally define the denser marginal portion 18 which surrounds it. Thereafter, the ends 20, 20 are cut to generally arcuate outwardly opening shape, substantially as shown. The side edges 22, 22 of each pad are also cut to shape and, if desired, this cutting operation may be performed simultaneously with the operation of forming the ends 20, 20. The pads 14, 14 may be separated from each other during the cutting operation for individual sanitary packaging; however, in the illustrated case, the cutting operations on the sides and ends of the pads are performed in such manner as to allow the pads 14, 14 to remain connected to each other in end-to-end relation by the connecting portions 24, 24 for separation at time of use.

The manner in which a single pad 14 is used is illustrated in FIGS. 3 and 4 wherein the pad 14 is shown positioned between two teeth designated T₁ and T₂ adjacent an alveolus indicated at A. Referring to FIG. 3 it will be noted that the ends 20, 20 are anatomically contoured to generally conform to associated facial surfaces of the teeth T₁ and T₂. Each end 20 engages an associated tooth between its coronal belly or the central region of its crown and its dento-enamel junction or in the region of the junction between its root and crown. Thus, the generally anatomically contoured ends 20, 20 cooperate with associated facial surfaces of the two teeth T₁ and T₂ to retain the pad 14 in position therebetween with its absorbent portion 16 disposed generally within the alveolus A. The marginal portion 18 is readily yieldable and may be folded down against opposite sides of the patient's gum, substantially as shown in FIG. 4, to further retain the pad 14 in an effective absorbent position. Since the marginal portion

18 has a substantially greater density than the absorbent portion 16, the marginal portion tends to retain its shape even after the absorbent portion has become substantially saturated with liquid. Due to the manner in which the pad 14 cooperates with the teeth which retain it, the pad tends to remain in position without impairing normal jaw movement. The pads 14, 14 may also be used in connected groups where there has been multiple extraction as will be hereinafter further illustrated.

The individual pads 14, 14 which comprise the assembly 10 may have at least the absorbent portions thereof impregnated or otherwise treated with a medicament or other substance which has a soothing affect upon the tender gum area. Tonic acid may, for example, be used in treating the pads 14, 14. The pads may also be flavored to create a generally pleasing effect. Preferably, the pads are packaged in dry condition, the substance which the pads contain being activated by moisture or enzymes in the patient's mouth.

Another post-extraction pad assembly, indicated generally at 26, embodying the present invention and made in accordance with a method thereof is illustrated in FIGS. 6 and 7. The assembly 26 is similar in some respects to the assembly 10, previously described, and comprises a longitudinal series of individual post-extraction pads 28, 28 connected together in end-to-end relation.

A typical pad 28 includes an absorbent portion 30 and a marginal portion 32 which surrounds the absorbent portion and has a density substantially greater than the density of the absorbent portion. The side edges of the pad designated at 34, 34 have a generally convex configuration. Each pad is connected to the next successive pad in the assembly along a transversely extending line of weakening 36, which may, for example, comprise a score line or a line of perforation. Preferably, and as shown, each pad 28 also includes a core 38 disposed within its absorbent portion. The core may take various forms and may, for example, comprise an innocuous yieldable substance adapted to aid in conforming the absorbent portion to complement the configuration of tender gum areas when the pad is positioned in an alveolus. In the illustrated embodiment the core 38 comprises a soluble gelatinous capsule containing another substance 40, which may, for example, comprise a medicament adapted to be released into the absorbent material when the soluble capsule is exposed to enzymes in the patient's mouth.

The initial operations in making the assembly 26 are substantially identical to those previously described. The pads 28, 28 may be cut from the assembly 26 at the time of manufacture for individual packaging, but preferably, and as shown, the pads are supplied in a continuous form assembly or strip for separation at time of use. Separation is effected by tearing one or more pads 28, 28 from the assembly or strip 26 along an associated line of weakening 36 which is formed on the assembly during the manufacturing operation.

The pads 28, 28 may be used individually or in connected groups where there has been multiple extraction. FIG. 5 illustrates the manner in which the assembly 26 is employed in a multiple extraction situation. In the illustrated case two adjacent teeth have been removed leaving two teeth designated T₃ and T₄ adjacent the area of extraction. Two pads 28, 28 which comprise an assembly 26 have been torn from a somewhat longer

assembly and position between the teeth T₃ and T₄. While the opposite ends of the assembly 26 are not specifically contoured to complement facial surfaces of associated teeth, as in the previous embodiment, it will be evident that due to the yieldable nature of the resilient material from which the assembly is made, the ends thereof will conform to the facial surfaces of teeth adjacent an area of extraction when the assembly 26 is positioned therebetween. Thus, the exposed ends 36, 36 yield to generally conform to the facial surfaces of the teeth T₃ and T₄. The side marginal portions of each pads 28, 28 are bent or folded down against opposite sides of the gum to aid in further retaining the assembly in position.

I claim:

1. A post-extraction pad having an absorbent portion and a marginal portion generally surrounding said absorbent portion, said absorbent portion having a thickness substantially greater than the thickness of said marginal portion, said marginal portion having a density substantially greater than the density of said absorbent portion and having generally concave opposite end portions.

2. A post-extraction pad as set forth in claim 1 wherein said absorbent portion extends outwardly in opposite directions beyond said marginal portion.

3. A post-extraction pad as set forth in claim 2 wherein said marginal portion is disposed in a generally central plane relative to said absorbent portion.

4. A post-extraction pad as set forth in claim 2 wherein said absorbent portion has a generally spherical configuration and said marginal portion is disposed generally within a diametric plane of said absorbent portion.

5. A post-extraction pad as set forth in claim 1 wherein the opposite side edges of said marginal portion are generally convex.

6. A post-extraction pad as set forth in claim 1 wherein said pad comprises a single piece of material

7. A post-extraction pad as set forth in claim 7 wherein said material is further characterized as fibrous material.

8. A post-extraction pad as set forth in claim 8 wherein said material is cotton.

9. A post-extraction pad as set forth in claim 1 wherein said pad is made from a plurality of materials.

10. A post-extraction pad as set forth in claim 9 wherein said pad is made from one material and includes a core of another material.

11. A post-extraction pad as set forth in claim 10 wherein said core comprises a gelatinous capsule containing another substance.

12. A post-extraction pad as set forth in claim 1 wherein at least said absorbent portion contains a medicament.

13. A post-extraction pad as set forth in claim 12 wherein said medicament is tannic acid.

14. A post-extraction pad as set forth in claim 1 wherein at least said absorbent portion contains a flavoring substance.

15. A post-extraction pad assembly comprising a longitudinal series of connected pads, each of said pads having an absorbent portion and a marginal portion generally surrounding said absorbent portion, said marginal portion having a density substantially greater than said absorbent portion, each of said pads having generally concave opposite end portions.

17. The assembly as set forth in claim 15 wherein the thickness of said absorbent portion is substantially greater than the thickness of said marginal portion.

19. An anatomically contoured post-extraction pad comprising an absorbent portion and a marginal portion disposed in a generally central plane relative to said absorbent portion and extending around said absorbent portion, said absorbent portion having a thickness substantially greater than the thickness of said marginal portion, said marginal portion having density substantially greater than the density of said marginal portion and including concave outwardly opening opposite end portions for respective complimentary en-

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gagement with facial surfaces of associated teeth adjacent an alveolus when said pad is in position between the latter teeth with said absorbent portion partially disposed within the alveolus whereby to retain said pad in said position.

20. An anatomically contoured post-extraction pad as set forth in claim 19 wherein the side edges of said marginal portion are generally convex and said marginal portion is yieldable to permit the sides thereof to be folded respectively against opposite sides of the gum adjacent the alveolus.

21. An anatomically contoured post-extraction pad having an absorbent portion and a marginal portion extending outwardly from said absorbent portion, said marginal portion having a density substantially greater than the density of said absorbent portion and generally concave outwardly opening opposite end portions.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,797,496 Dated March 19, 1974

Inventor(s) Vincent R. Loiacono

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Col. 4, line 40 "7" should be --6--.

Col. 4, line 43, "8" should be --7--.

Signed and sealed this 15th day of October 1974.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents