March 14, 1967 C. D. CUGINI 3,309,520

DENTAL X-RAY FILM PACKET WITH FOLDABLE TABS TO PROVIDE GRIPPING MEANS

Filed Oct. 5, 1964

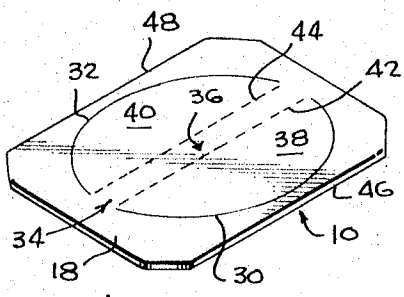


Fig-1

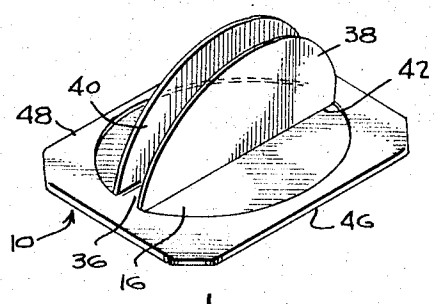
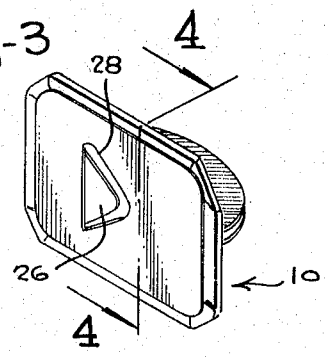


Fig-2

Fig-3



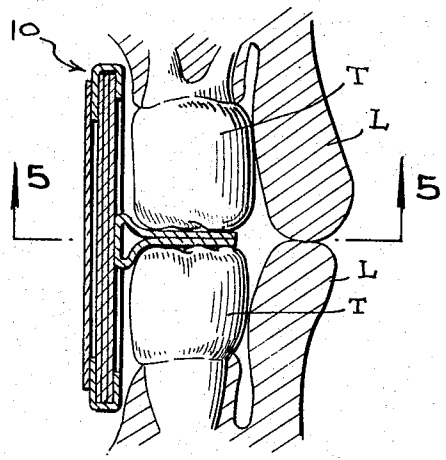


Fig-4

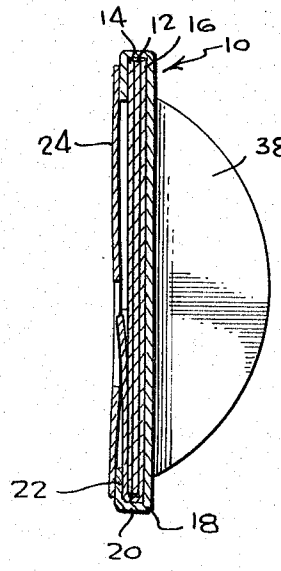


Fig-5

INVENTOR

CHRISTY D. CUGINI

BY Mason, Fenwick & Lawrence

ATTORNEYS

United States Patent Office 3,309,520
Patented Mar. 14, 1967

3,309,520

DENTAL X-RAY FILM PACKET WITH FOLDABLE TABS TO PROVIDE GRIPPING MEANS

Christy D. Cugini, 54 Hudson Place,
Staten Island, N.Y. 10303

Filed Oct. 5, 1964, Ser. No. 401,370
10 Claims. (Cl. 250—69)

This invention relates to X-ray film packets to be used in the mouth of a patient. More particularly, the present invention relates to dental X-ray film packets which may be gripped by the patient between his teeth for X-ray of the exposed postions of the teeth, or for periapical X-rays.

Dental X-ray film packets have been well known in the past and have been used by dentists for many decades. Present day dental X-ray film packets are usually designed to be superposed in a vertical rack type dispenser, in order that they may be individually removed from the dispenser. In order to be used in the dispenser, however, it is necessary that the film packet be completely without protrusions and smooth on both sides, so that there will be no restriction to single dispensing or unevenness in the super-positioning of the packet.

For use during the usual X-ray procedures, bite gripping means must be attached to one side of the packet, in order that the patient may hold this gripping means between his teeth and thus maintain the packet in proper position for an X-ray. Presently used gripping means are usually initially separate from the packet and are attached only at the time of use by being adhesively secured to the front face of the film packet. These grip means are usually in the form of wing tabs, which normally are maintained in a separate receptacle adjacent the film packet dispenser. With the separate wing tabs for a gripping means, the dentist has the choice of not using the wing tabs when making periapical X-ray, and then adding them by pasting the wing tabs on the front of the packet when it is intended to X-ray the exposed portion of the patient's tooth. However, when the tabs are attached to the packets and are superposed in the conventional dispenser, the packets do not dispense easily, due to the uneven surface induced by the tabs, thus rendering the dispenser useless.

While this problem has plagued the art for some time, no film packet has been known heretofore in which the tabs are integral with the covering of the film packet and yet will provide a smooth, continuous surface, enabling the packet with tab attached to be dispensed from conventional dispensers.

Accordingly, it is a principal obect of the present invention to provide dental X-ray film packets provided with integral bite tabs.

A further object of the present invention is the provision of a dental X-ray film packet which has integral bite tabs which can be knocked down to provide a smooth, outer surface, facilitating dispension in dental X-ray film dispensers.

This invention also has as an object the provision of integral bite tabs on a dental X-ray film packet which, in set-up position, can be used to take X-rays of the exposed portion of the tooth, or in knocked down position, used to take periapical X-rays.

These and other objects and advantages of the present invention will become apparent to those skilled in the art from the following description when read in conjunction with the accompanying drawing, wherein:

FIGURE 1 is a perspective view of the dental X-ray film tab in accordance with the present invention as seen in the knocked down position;

FIGURE 2 is a perspective view of the dental X-ray film tabe in accordance with the present invention as seen in the set-up position;

FIGURE 3 is a perspective view showing the underside of the film packet;

FIGURE 4 is a view of the dental X-ray film packet taken along lines 4—4 of FIGURE 3 and is shown positioned gripped between the patient's teeth, and

FIGURE 5 is a view of the dental X-ray film packet taken along lines 5—5 of FIGURE 4.

Briefly, the present invention relates to a dental X-ray film packet which includes the usual X-ray sensitive film and a front and back sealing sheet secured in the conventional manner. The improvement resides principally in the provision of two opposed score lines, spaced apart on the front sealing sheet, each of the score lines particularly enclosing a tab area which is grippable by the teeth of the patient, wherein each of the tab areas is mutually contiguous and forms a central sheet portion with that portion of the front sheet outside the tab area, the tab areas being foldable back to mutual facing position in set-up position to form gripping means between the teeth of the patient.

The dental X-ray film packet **10**, as best shown in FIGURES 1, 2 and 5, includes the conventional X-ray sensitive film **12** and a lead X-ray shielding sheet **14**. Film **12** is protected by a conventional dark colored (usually black) paper sheet **16**. Sheets **12**, **14** and **16** are preferably coextensive.

Around the outside of the film is positioned the front sealing sheet **18**, which may have ends **20** wrapped around underneath the bottom side of the film packet, as at **22**. On the underside of the packet a rear sealing sheet **24** can be positioned which adhesively secures ends **22** in position. A quick open tab **26** is provided through a suitable opening **28** in the rear sealing sheet. The quick open tab **26** is preferably integral, as best shown in FIGURE 5, with the sheet **16**. Thus, by pulling the quick open tab **26**, after exposure of the film **12** to X-ray, the rear sealing sheet **24** is torn, enabling the operator to gain access to the X-ray film for development.

The front of the film packet embodies the unique aspects of the present invention, wherein from FIGURES 1 and 2 it can be seen that there is provided on the front sealing sheet **18**, opposed score lines **30** and **32**, which are spaced apart at **34** to provide a central sheet portion **36**, which extends longitudinally of the film packet and along the longitudinal axis of the packet and is integral with the sheet **18**. Each of the score lines **30** and **32**, which are shown to be in the configuration of half ellipses, partially surrounded or enclose a tab area forming tabs **38** and **40**, respectively, which, when the score lines **30** and **32** are broken, can be set up by being bent back along fold lines **42**, **44** to opposed facing position, as shown in FIGURE 2.

The central sheet portion **36** is unique and provides a very important function in the present invention. Since the central sheet **36** is secured both to the sheet **18** and to each of the tabs **38** and **40**, it acts as a stabilizer, preventing relative movement between the tabs and the remainder of the film packet when the tabs are gripped in the teeth of the patent. In this respect it is to be noted that the central sheet portion **36** is positioned centrally along the axis of the packet, for only in this position could it provide the stabilizing effect necessary for the purposes of the best X-ray technique.

As best shown in FIGURES 1 and 2, the score lines are not only semi-elliptical arcs, but are essentially mirrored images of each other, which are spaced apart to form central sheet portion **36**. Also, the score lines extend substantially to the edges **46**, **48** of the film packet, thus providing ample area to be gripped by the teeth,

as shown in FIGURE 4. As also illustrated, the elliptical tabs 38 and 40 protrude from the front sheet 18 a distance sufficient to be gripped by the teeth. Further, it is to be noted that the arcuate edges of the tabs enable the packet to be gripped by the teeth and conform to the general shape of the outline of the jaw, thus preventing the tabs from contacting the fleshy portion of the patient, such as the lips or cheeks L.

It is also an important feature of the present invention that the tabs 38 and 40 will present a flat surface when knocked down, as shown in FIGURE 1, thus enabling the film packet to be easily dispensed without snagging one packet on the discontinuous surface of another packet. The smooth surface also permits the film packet to be used for periapical X-rays, which require a lower position of the packet, in order to reproduce graphically the root of the tooth.

In use the present invention enables the dentist to lift the tabs from the front sheet to form the gripping means for the patient to bite upon, as in FIGURE 2, or the tabs can be left in knocked down position (FIGURE 1) for placement in the mouth of the patient to obtain periapical X-rays.

It is to be understood that the materials of construction may be varied, such that the bite tabs 38 and 40 may be of cellulose composition, such as paper, or of convenient plastic, such as polyvinyl chloride, or the like.

From the foregoing detailed description, it will be evident that there are a number of changes, adaptations, and modifications of the present invention which come within the province of those skilled in the art; however, it is intended that all such variations not departing from the spirit of the invention be considered as within the scope thereof as limited solely by the appended claims.

I claim:

1. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas, said tab areas being foldable back to a mutual facing position to provide gripping means.

2. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, and tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

3. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas and positioned along the central axis of said packet, said tab areas being foldable back to a mutual facing position to provide gripping means.

4. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed, arcuate, mirror image score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas, said tab areas being foldable back to a mutual facing position to provide gripping means.

5. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line extending from points adjacent the center of said front sheet to the outer edge of said front sheet and partially enclosing a tab area on said front sheet forming a tab, a central sheet protion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas, said tab areas, being foldable back to a mutual facing position to provide gripping means.

6. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas and positioned along the central axis of said packet, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, said tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

7. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line extending from points adjacent the center of said front sheet to the outer edge of said front sheet and partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, said tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

8. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed score lines spaced apart thereon, each said score line extending from points adjacent the center of said front sheet to the outer edge of said front sheet and partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas and positioned along the central axis of said packet, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, said tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

9. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed, arcuate, mirror image score lines spaced apart thereon, each said score line partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas and positioned along

the central axis of said packet, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, said tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

10. A dental X-ray film packet comprising: a film, a back sealing sheet and a front sealing sheet extending around the edges of said film and being adhesively secured to said back sealing sheet, said front sealing sheet having two opposed, arcuate, mirror image score lines spaced apart thereon, each said score line extending from points adjacent the center of said front sheet to the outer edge of said front sheet and partially enclosing a tab area on said front sheet forming a tab, a central sheet portion positioned between the tab areas, said sheet portion being integral with that portion of the front sheet outside said areas and positioned along the central axis of said packet, a pair of fold lines bounding each said tab area and intersecting each end of each said score line, said tab areas being foldable back along said fold lines to a mutual facing position to provide gripping means.

No references cited.

RALPH G. NILSON, *Primary Examiner.*

WILLIAM F. LINDQUIST, *Assistant Examiner.*