

Orthodontic device for correcting the position of teeth

KEYWORDS

- ☐ ORTHODONTICS
- ☐ FIXED ORTHODONTIC APPLIANCE
- ☐ SELF-LIGATING ORTHODONTIC BRACKET
- ☐ SELF-LIGATING SYSTEM
- ☐ BUCCAL TUBE

AREA

- ☐ BIOMEDICAL

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Patent Type

Patent for invention.

Ownership

Sapienza University of Rome 100%

Inventors

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Industrial & Commercial Reference

Medical Device sector, specifically the Dental sector.

Time to Market

The invention is found in TRL 2 "formulation of the technological concept". Estimated time for its placing on the market: 12 months.

Availability

Assignment, exclusive or non-exclusive license, research, development and experimentation

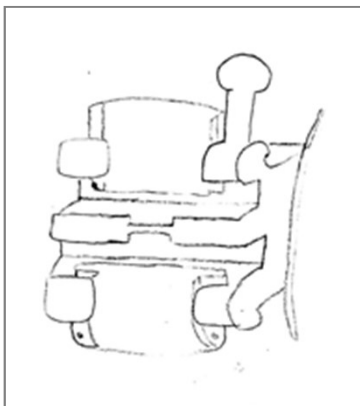


Fig. 1 Front view of the device with sliding doors opened.

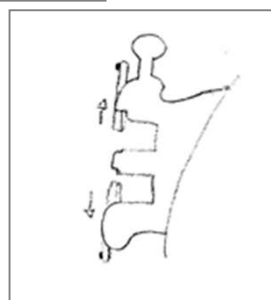


Fig. 2 Side view of the device with sliding doors opened.

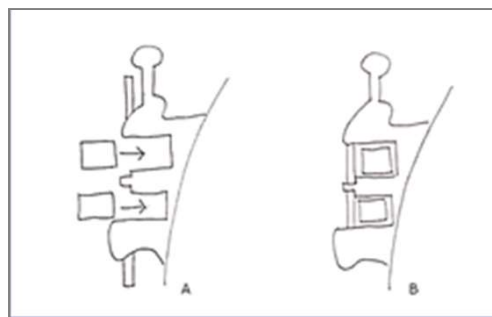


Fig. 3 Insertion of double wire. Lateral view. A. Open; B. Closed.

Abstract

The device object of the invention relates to an orthodontic attachment, more specifically an attachment for use intended for first molars in passive self-ligating methods. The specific shape of the attachment offers the possibility of using two orthodontic arches at the same time instead of one, maintaining the closure of the slot with a sliding door.

The specific conformation of the attachment can be provided both in the direct bonding (gluing) formulation, with a retentive base, or in the attachment formulation to be aimed at an orthodontic band, and is provided for both upper and lower first molars.

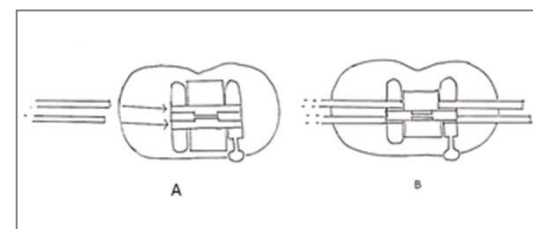


Fig. 4 Insertion of double wire. Frontal view. A. Open; B. Closed.



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Technical Description

Orthodontic attachment for first molars consisting of double slot for orthodontic arch and passive closure with independent self ligating. Slots both of the rectangular section become fully exposed when the doors are opened; the opening can be differentiated, by opening only one of them or both. It has a hook in the mesiogingival portion of the attachment to hold the elastics and ligatures.

The attachment can be developed with a smooth base, intended to be welded with spot welding on an orthodontic band, or with a retentive base for adhesive methods.



Fig. 5 Multibrackets Orthodontics

Technologies & Advantages

In passive self-ligating orthodontic methods, for the first molars, the use of a single tube or a self-ligating attachment is envisaged, also with a single slot for the orthodontic arch. The passive self-ligating tube versions for first molars do not have a double slot. The single slot prevents the simultaneous use of two orthodontic arches joined to the same molar, often necessary for specific therapeutic phases. The main clinical situations in which the use of two orthodontic arches is considered useful are represented by the possibility of using auxiliary arches with specific functions, segmentation phases of the arch mechanics, progressive engagement of erupting teeth without modifying the basic arch already inserted in the main slot. The specific shape of the attachment object of the invention represents an improvement of the currently existing attachments due to the possibility of using two orthodontic arches simultaneously instead of one, maintaining the possibility of closing the slot with independent sliding door for each slot.

Applications

The application of the invention is intended for the field of orthodontic therapy, in particular in the passive self-ligating multibrackets system. During orthodontic therapies, even with the self ligating technique, the need arises on several occasions to use specific orthodontic mechanics which require a design of the attachments of the first molars, which includes the possibility of using a second wire inserted in the same attachment, maintaining the possibility of having a self-ligating attack. The invention allows the use of segmentation phases of the orthodontic mechanics (treatment of specific sectors of the arch or treatment with specific force systems in limited areas of the dental arch), the use of auxiliary arches with specific functions, progressive engagement of dental elements.

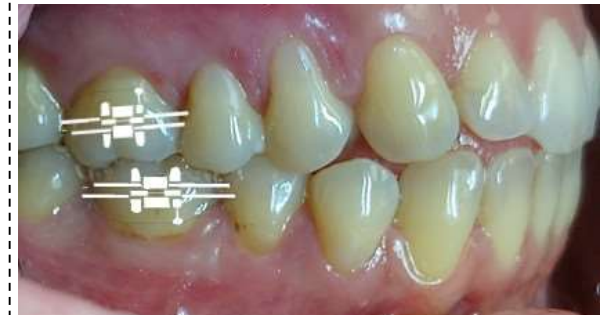


Fig. 6 Double self-ligating tube placement design for first molar

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