

Jan. 12, 1954

J. E. JOHNSON
ORTHODONTIC DEVICE
Filed Oct. 10, 1950

2,665,480

Fig. 1.

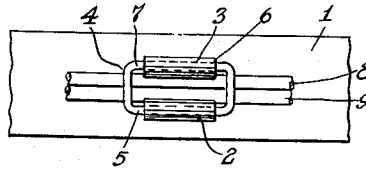


Fig. 2.

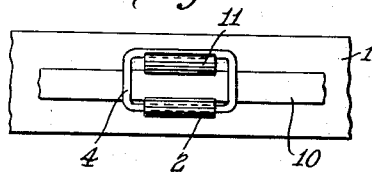
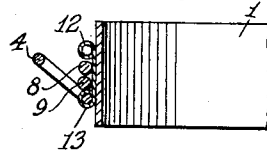


Fig. 3.



INVENTOR.
JOSEPH E. JOHNSON

BY

Walter H. Johnson

ATTORNEY.

UNITED STATES PATENT OFFICE

2,665,480

ORTHODONTIC DEVICE

Joseph E. Johnson, Louisville, Ky., assignor to
Baker & Co., Inc., Newark, N. J., a corporation
of New Jersey

Application October 10, 1950, Serial No. 189,425

1 Claim. (Cl. 32-14)

1

The present invention deals with an orthodontic device and more particularly with an orthodontic lock engageable with an arch bow.

Orthodontic arch bow locks of various constructions are used for the correction of irregular teeth. Some constructions are objectionable in that the lock projects too far anteriorly of the teeth to which they are secured. Other constructions comprise a plurality of unassembled parts which are assembled by a series of operations after the arch bow is positioned for locking, in which case the substantially small lock components require tedious handling and are otherwise undesirable in that assembly is accomplished by subjecting the patient to the application procedure for substantially long periods which adds to his discomfort.

It is an object of the present invention to provide an orthodontic lock of simple construction and easily operated. It is another object of the present invention to provide an orthodontic lock capable of locking and unlocking with minimum handling. It is a further object of the present invention to provide an orthodontic lock having a secure locking action and which is completely assembled prior to the application of an arch wire thereto. Other objects and advantages of the present invention will become apparent from the description hereinafter following, and the drawings forming a part hereof, in which:

Figure 1 is an elevational view of an orthodontic lock according to the present invention,

Figure 2 is an elevational view of a modification of the present invention, and

Figure 3 is a side view of another modification of the present invention.

The invention refers particularly to a snap action orthodontic lock of simple construction and easily operated to secure an arch bow with minimum handling, e. g. by a single operation whereby adjustments, etc., are possible without subjecting the patient to application procedures for long periods.

Figure 1 illustrates a snap action lock according to the present invention as secured, for example, by welding, etc., to a tooth band 1, which may be of the type described in my Patent No. 1,670,361. The lock components, i. e. at least one of the lock components, may consist of stainless steel, or a precious metal or an alloy thereof, and comprise a hinge member 2, a catch member 3 and a resilient or spring tensioned locking member 4 consisting preferably of wire, in a substantially rectangular form rotatably anchored

2

by means of said hinge member 2, which is of substantially elongated tubular form and contains a side 5 of the rectangular wire 4 thereby providing the hinge for rotatable movement of the locking member 4. The catch member 3 is of a substantially elongated cylindrical form and spaced in parallel from the hinge member 2. The spacing of the cylindrical members 2 and 3 is such that a longitudinal edge 6 of the catch member 3 constitutes an abutment which prohibits a free-closing rotatable movement of the locking member. Since the locking member 4 is constructed of a rectangular resilient wire, the side 7 may be snapped or otherwise forced, e. g. by using an instrument, to override the abutment edge 6 whereupon the locking member is in locked position and is prevented from opening by means of said abutment edge until again forced or snapped to override the said abutment to open the lock.

This lock is especially adapted for the use of arch bows comprising a pair of parallel wires 8 and 9 such, for example, as described in my Patent No. 1,938,428, or an arch bow in the form of a ribbon 10, as shown in Figure 2, whereby such arch bows may be inserted into locking position by passing edgewise through the shortest spacing between the cylindrical members 2 and 3 and thereafter, due to the curvature of the cylindrical members, are capable of being positioned in proper alignment within the lock such that the width of the ribbon or combined width of both wires 8 and 9 is greater than the above said shortest distance. This positioning of the arch bow is in fact a semi-locked position since the arch bow cannot be disengaged from the lock unless again passed edgewise outwardly of said lock, which is prevented by the locking member 4 when in locked position as above described.

Figure 3 illustrates another view of the present invention showing a lock comprising cylindrical catch and hinge members 12 and 13 respectively, spaced as above described and integrally formed as convolutions of the ends of a single metallic sheet whereby one of the convolutions consists of the tubular hinge member 13 and the other the tubular catch member 12. The locking member 4 is operable with respect to the hinge and catch members in a manner as hereinbefore set forth.

What I claim is:

An orthodontic lock for arch bows comprising a pair of substantially tubular cylindrical members spaced in parallel of each other and integrally formed as convolute ends of a single

3

metallic sheet, said sheet being secured to a tooth band, said tubular members being spaced from each other a distance less than the width of an arch bow employed, whereby said arch bow is insertable edgewise between the said tubular members, a resilient locking member consisting of a wire formed in a substantially rectangular shape having one side thereof rotatably anchored within one of said tubular members, another side of said substantially rectangular member being abutable against a longitudinal abutment edge of the other tubular member, said abutable side being movable over said abutment edge to snap said locking member in locking position.

JOSEPH E. JOHNSON. 15

4

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,553,797	Angle	Sept. 15, 1925
1,584,501	Angle	May 11, 1926
2,381,128	Laskin	Aug. 7, 1945
2,527,526	Brusse	Oct. 31, 1950
2,548,864	Brusse	Apr. 17, 1951

OTHER REFERENCES

American Journal of Orthodontics, Oct. 1949, page 6. (Copy in Scientific Library.)