

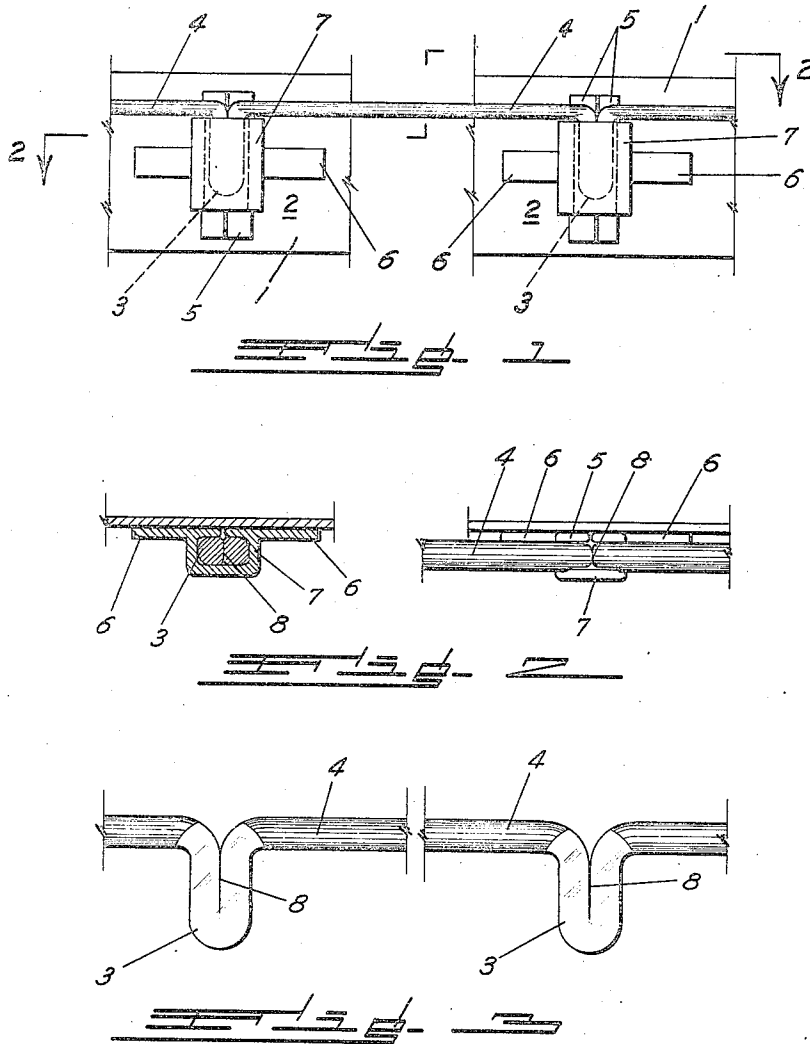
Jan. 31, 1950

A. B. BRUSSE

2,495,692

ORTHODONTIC ARCH WIRE AND MOUNTING

Filed Sept. 9, 1946



INVENTOR.

Archie B. Brusse

BY

H. A. [Signature]
Attorney.

UNITED STATES PATENT OFFICE

2,495,692

ORTHODONTIC ARCH WIRE AND MOUNTING

Archie B. Brusse, Denver, Colo., assignor to Rocky Mountain Metal Products Co., Denver, Colo., a corporation of Colorado

Application September 9, 1946, Serial No. 695,596

2 Claims. (Cl. 32-14)

1

This invention relates to orthodontic appliances and more particularly to arch wires and brackets.

It is an object of this invention to provide an improved arch wire for orthodontic use.

It is another object of this invention to provide an improved arch wire and bracket therefor.

It is a further object of this invention to provide an improved arch wire so constructed as to minimize relative movement between the wire and the bracket in which it is fitted.

Other objects will become apparent from the following description taken in connection with the accompanying drawing in which:

Fig. 1 is an elevation view of an embodiment of the invention showing a pair of brackets secured to tooth bands and connected by an arch wire;

Fig. 2 is an enlarged view along the line 2-2 of Fig. 1; and

Fig. 3 is an enlarged view of the arch wire shown in Fig. 1.

Referring now to the drawing, Fig. 1 illustrates two tooth bands 1 to each of which is secured a bracket 2 for anchoring projections 3 on a round arch wire 4. The arch wire is employed in accordance with orthodontic practice to apply pressure in a desired direction between the two teeth to which the bands 1 are attached. The brackets 2 are provided with vertical and horizontal flanges 5 and 6, respectively, which are welded or otherwise suitably bonded to the bands 1. The bodies of the brackets comprise vertically extending tubes 7 providing receiving passages for the projections 3. It will be understood, of course, that the brackets may be secured to the tooth bands in any positions required by the particular application being made, the vertical positions being indicated here for purposes of illustration.

The brackets 2 may be constructed in accordance with the methods disclosed and claimed in my co-pending application Serial No. 588,491, filed April 16, 1945.

It is desirable that the arch wire 4 be connected to the brackets 2 in such a manner that force may be exerted in any desired direction between the wire and the brackets without any substantial relative movement between the brackets and the wire. The required adjustment of the arch is greatly facilitated by the arrangement of the projections 3 so that they cannot rock in the tubes 7. As shown clearly in Fig. 2, each of the tubes 7 is of oblong or substantially rectangular cross section and the projections 3 fit tightly therein, their cross sections being substantially the same as that of the tubes. The projections engage the

2

tubes on all four sides and are formed with flat faces on the broader sides so that they have face contact with the sides of the tubes. Furthermore, each projection is formed as a doubled or flattened loop of the wire as shown in Fig. 3 and adjacent inner sides of the loop are flattened and in face engagement as indicated at 8 in Figs. 2 and 3. This insures minimum rocking or twisting of either loop portion in the tube. The lower ends of the projections, comprising the return bends of the wire loops, are of rounded form so that they facilitate the insertion of the projections in the tubes and the engagement of the tubes and projections to provide a tight frictional fit. Figs. 2 and 3 show clearly how the round cross section of the wire 4 is flattened between the two sides of each of the loops and on the broader sides of the projections.

From the foregoing, it is apparent that a simple and rugged orthodontic arch and bracket have been provided, which make possible the adjustment and use of the arch wire with minimum relative movement between the wire and the securing bracket. The arch wire is easily constructed and is easy to use.

While the invention has been described in connection with a particular form of wire and anchoring bracket, other modifications will occur to those skilled in the art. It is not desired, therefore, that the invention be limited to the specific construction illustrated and described, and it is intended by the appended claims to cover all modifications within the spirit and scope of the invention.

What I claim and desire to secure by Letters Patent is:

1. The combination of an arch bow and a bracket for attachment to a tooth band, said bracket having a passage of uniform substantially rectangular cross section, said arch wire comprising a round wire having an integrally formed laterally extending loop, the inner adjacent surfaces of said loop being flattened and in coextensive contiguous contact, and the outer sides of said loop being flattened to a uniform, substantially rectangular cross section so that said loop fits tightly in said passage whereby relative movement between said loop and said bracket is minimized.

2. The combination of an arch bow and a bracket for attachment to a tooth band, said bracket having a passage of uniform substantially rectangular cross section, said arch wire comprising a round wire having an integrally formed laterally extending loop, the inner adjacent surfaces of said loop being flattened and in coextensive

3

contiguous contact, the outer sides of said loop being flattened to a uniform, substantially rectangular cross section so that said loop fits tightly in said passage whereby relative movement between said loop and said bracket is minimized, and the end of said loop being left rounded to facilitate insertion thereof in said passage.

ARCHIE B. BRUSSE.

REFERENCES CITED

The following references are of record in the file of this patent:

4

UNITED STATES PATENTS

Number	Name	Date
1,938,428	Johnson	Dec. 5, 1933
2,196,515	Atkinson	Apr. 9, 1940

FOREIGN PATENTS

Number	Country	Date
667,040	Germany	Jan. 30, 1937

OTHER REFERENCES

Page 356 of "American Journal of Orthodontics and Oral Surgery," April 1938. (Copy in 32-14.)