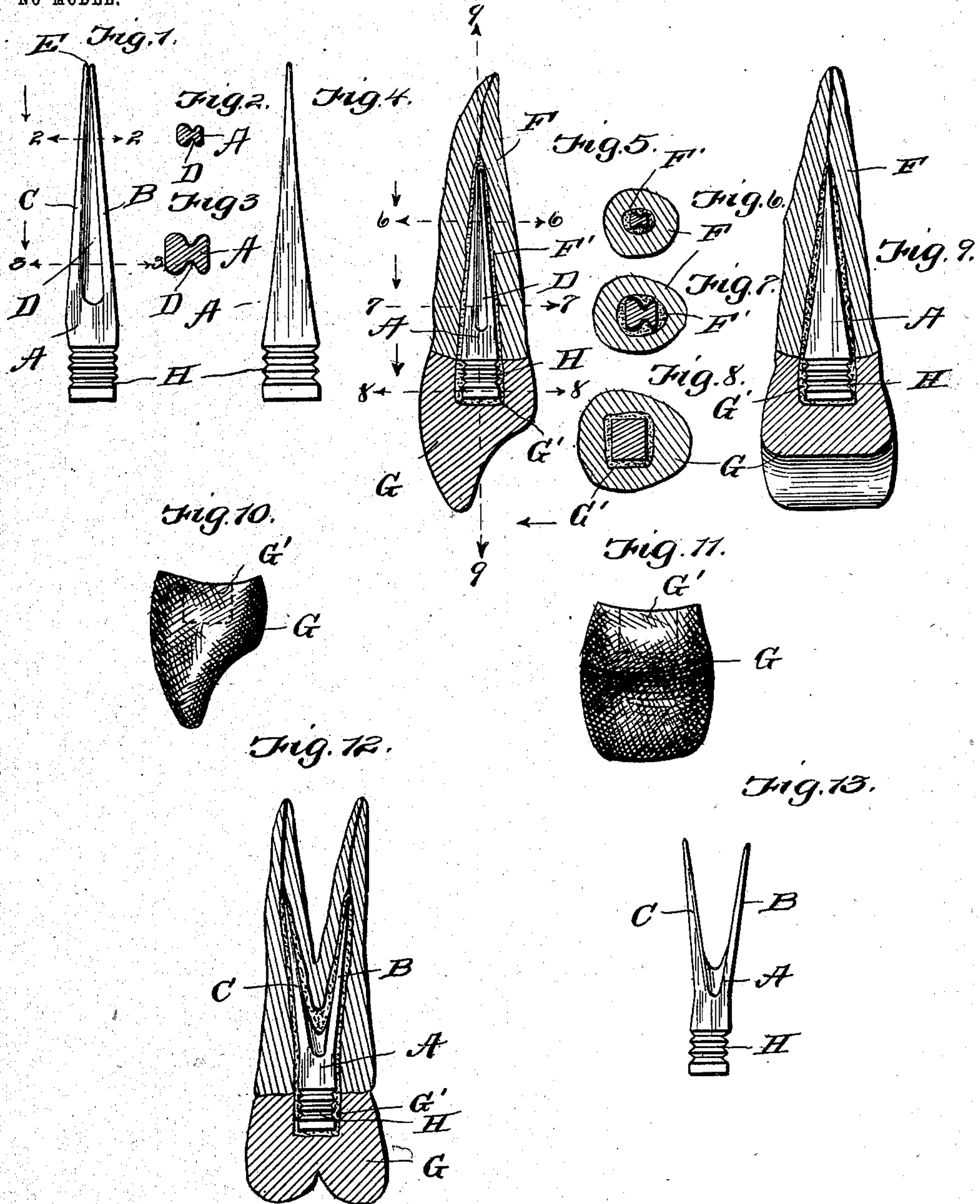


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PATENTED JULY 7, 1903.

E. A. CLARK.
PIVOT PIN FOR TEETH.
APPLICATION FILED MAY 9, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

EGBERT A. CLARK, OF WASHINGTON, DISTRICT OF COLUMBIA.

PIVOT-PIN FOR TEETH.

SPECIFICATION forming part of Letters Patent No. 732,922, dated July 7, 1903.

Application filed May 9, 1903. Serial No. 156,335. (No model.)

To all whom it may concern:

Be it known that I, EGBERT A. CLARK, a subject of the King of England, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Pivot-Pins for Teeth; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in pivot-pins for teeth; and the object of the invention is to produce a fastening device for holding the root to the crown of a tooth comprising a pin which shall be so constructed as to conform as nearly as possible to the anatomical lines of the canal of a single-rooted tooth, while the portion of the pin at the point of union between the root and crown has its greatest dimension to withstand the excessive strain which comes upon it at the base of the crown.

The invention consists, further, in the provision of a pivot-pin the base or crown-engaging end of which is rectangular-shaped with a shank portion having its opposite broad faces at substantially right angles to the length of the head and longitudinally grooved, whereby the broadest portion of the head of a pin when fastened within the recess of a crown may be positioned adjacent to the bite of the tooth, while the shank portion of the pin thus held to the crown will conform to the natural contour of the root-canal.

More specifically, my invention comprises a pivot-pin for teeth which is tapering or wedge-shaped upon two of its opposite faces, with a marked longitudinal depression in each tapering face from the apex to a location adjacent to the mouth of a nerve-canal of a root, the portion of the pin which enters the root-canal having its widest portion conforming to the broadest portion of the root, while the depressions formed longitudinally divide the pin into two portions of unequal dimensions, adapting the pin to be slitted longitudinally to form double points to enter the two canals of a first bicuspid-root.

Another feature of my invention comprises a pivot-pin having a base or crown-engaging portion which has its greatest dimension in

a plane at right angles to the widest portion of the pin which engages the root-canal, whereby a greater thickness of crown of a tooth intervenes between the end of the pin and the bite of the tooth than is the case with pins and crowns which are commonly employed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a pin made in accordance with my invention. Fig. 2 is a cross-sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a cross-sectional view taken on line 3 3 of Fig. 1. Fig. 4 is a view in elevation of the pin looking at the latter at right angles to the showing in Fig. 1. Fig. 5 is a longitudinal sectional view through a root and crown held together by my improved pivot-pin. Fig. 6 is a cross-sectional view on line 6 6 of Fig. 5. Fig. 7 is a cross-sectional view on line 7 7 of Fig. 5, and Fig. 8 is a cross-sectional view on line 8 8 of Fig. 5. Fig. 9 is a longitudinal sectional view through a tooth and crown taken on line 9 9 of Fig. 5. Fig. 10 is an enlarged detailed view of a crown of a tooth, showing the pin-receiving recess or cavity in dotted lines. Fig. 11 is a rear view of the crown. Fig. 12 is a longitudinal sectional view through the root of a bicuspid, having the crown held together by my pivot-pin, the latter being shown as applied to the two prongs of the root; and Fig. 13 is a view showing my pivot-pin with the two points formed to enter a double canal-cavity of a root.

Reference now being had to the details of the drawings by letter, A designates a pin, which may be made of any suitable metal found to be best adapted for the purpose and is of substantially wedge shape, while two of its faces have formed therein marked longitudinal depressions D (shown clearly in the drawings) and dividing the shank into two sections B and C of unequal dimensions, said depressions terminating at the apex of the pin in a notch E, in which the blade of a knife may be inserted when it is desired to separate the points for the reception of an instrument to cut through the narrow wall intermediate the depressed portions when adapting the pin to enter a branching canal-cavity, as disclosed in Fig. 12 of the drawings. Said pin is adapted

to conform as nearly as possible to the outline of the wall of the canal in a root in order to prevent the cutting away of the wall of the root. At a location adjacent to the entrance 5 to the canal of the root the pin is substantially square in cross-section, while the portion of the pin intermediate the inner ends of the depressions and the apex of the pin is divided by the depressions into two unequal 10 portions, as disclosed by the cross-sectional views in the drawings. In other words, said longitudinal depressions D are formed at one side of the longitudinal center of the pin for the purpose of producing, when the points are 15 separated, two projections of unequal size to conform to canal-cavities of different sizes which are naturally formed in the roots. The portion of the pin which projects beyond the root has its greatest dimensions in a plane at 20 right angles to the width of the pin inserted in the root, this detail being one of the essential features of the present invention, and the differences in the greatest dimensions of the pin being clearly shown in sectional views 25 6 to 8, inclusive. The object of forming the head of the pin wider in a plane at right angles to the widest portion of the pin in the root is to bring the head of the pin as far away as possible from the bite of the tooth without 30 sacrificing the strength of the pin, this being permissible by reason of the crown of the tooth being wider in a line parallel to the widest portion of the head of the pin. After the root is ready for the reception of the pin a filling of cement F' is inserted in the canal of the 35 root F, and after the crown G, which has a recess G' therein conforming to the general outline of the head of the pin, is inserted over the latter cement is inserted between the grooves H in the head of the pin and the surrounding wall G' of the recess in the crown and the parts securely held together. 40

In Fig. 12 of the drawings I have shown the application of my pivot-pin to the roots of a 45 bicuspid tooth in which the pin is slitted longitudinally to enter the branching canal-cavities.

In adjusting my pin it will be observed that the general outlines of the canal-cavity are 50 undisturbed, while the pin is so constructed that the depressed portion of the longitudinal center of the pin, in order to conform to the angled outlines of the canal-cavity and the crown, is provided with a recess which has 55 its greatest width in line with the widest portion of the tooth to receive the head of the

pin, which is substantially of the same shape, and when it is desired to aline the teeth this may be easily done by changing the position of the crown in one direction or the other and 60 at the same time insuring the crown and pivot from turning independent of each other and of the root.

I am aware that it is common in the art to construct pivot-pins which are flat and tapering 65 and which have longitudinal recesses which are commonly baked with the formation of the crown of a tooth, and hence I do not make claim for a pin of this character, but rather for a pin which is adapted, by its 70 peculiar construction, to conform to the canal-cavities of the root and which is not designed to be baked with the pin, hence may be made of various metals, and one which will allow of the alining of the crown and which will 75 throw the edge of the head away from the bite of the tooth as far as possible and at the same time throw the strength of the pivot at the point of union between the crown and tooth, where the greatest strain occurs. 80

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pivot-pin for teeth, having a root-engaging portion with longitudinal depressions 85 in two of its opposite faces, and a head which is broadest in a plane at right angles to said grooved faces, as set forth.

2. A pivot-pin for teeth, having a root-engaging portion, the broad tapering faces of 90 which are longitudinally grooved, dividing the shank portion of the pin into ribbed sections of unequal dimensions, and provided with a head having its widest dimension in a plane at right angles to the grooved faces of 95 the pin, as set forth.

3. A pivot-pin for teeth, having a root-engaging portion, the broad tapering faces of which are longitudinally grooved a portion 100 of their length, dividing the shank portion of the pin into two tapering ribbed sections which terminate in separate points, the broadest part of the head of the pin being in a plane substantially at right angles to the plane of 105 the broadest dimensions of the shank portion of the pin, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EGBERT A. CLARK.

Witnesses:

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