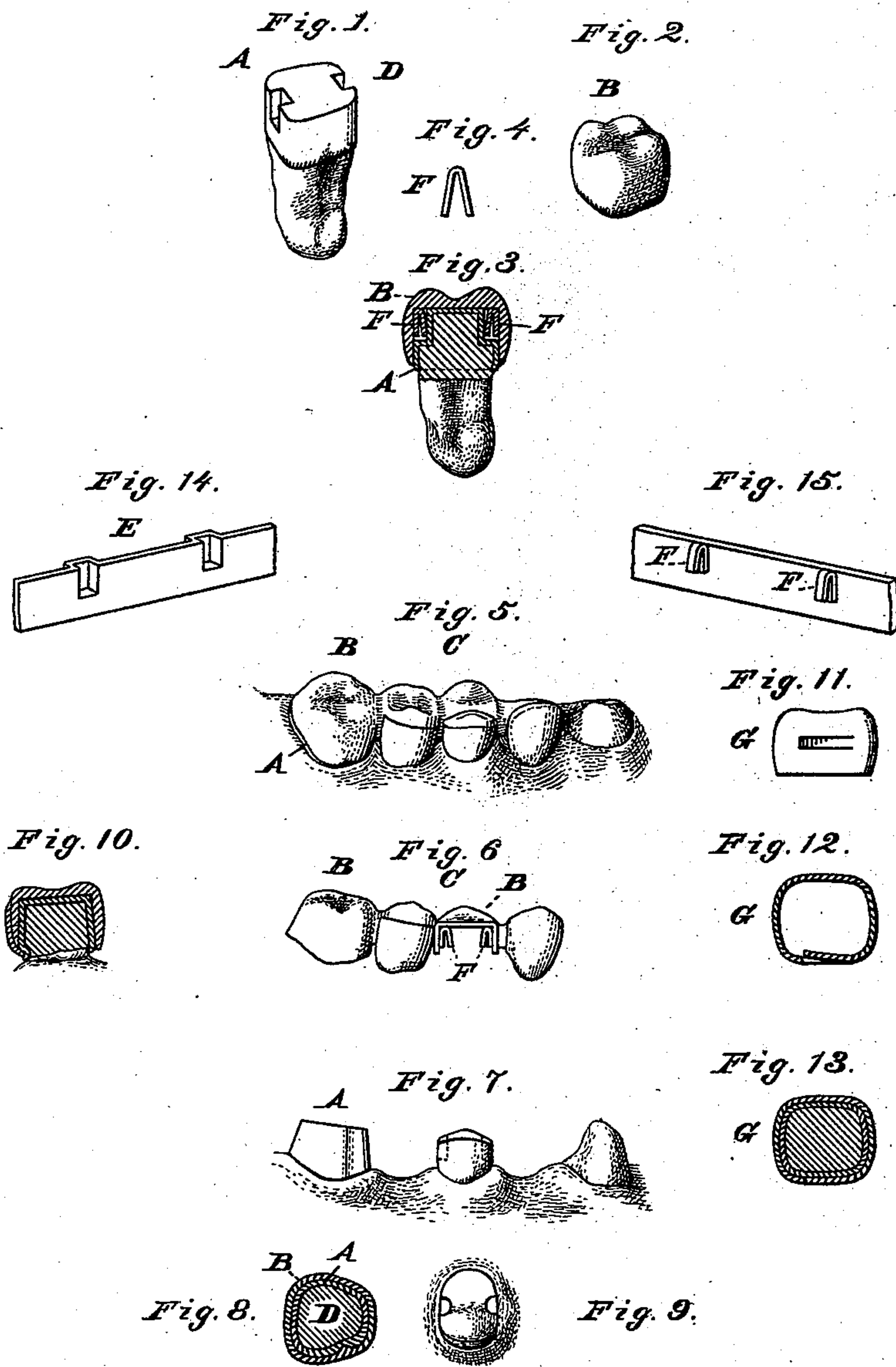


(No Model.)

T. S. WATERS.
ARTIFICIAL TOOTH.

No. 377,970.

Patented Feb. 14, 1888.



WITNESSES.

Villette Anderson.
C. R. Ferguson.

INVENTOR.

Thomas S. Waters.
by E. W. Anderson,

Attorney.

UNITED STATES PATENT OFFICE.

THOMAS SOLLERS WATERS, OF BALTIMORE, MARYLAND.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 377,970, dated February 14, 1888.

Application filed September 24, 1887. Serial No. 250,605. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SOLLERS WATERS, a citizen of the United States, resident at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Artificial Teeth; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a cap secured to the root of a tooth, and is a perspective view. Fig. 2 is a perspective view of a crown, which is fitted upon the cap, and is detachable. Fig. 3 is a vertical section through the upper portion of the root, with the cap and crown. Fig. 4 is an edge view of one of the springs before being soldered to the crown. Fig. 5 is a perspective view, showing bridge-work. Figs. 6, 7, 8, and 9 are details of the same. Fig. 10 is a modification of the crown-fastening. Figs. 11, 12, and 13 are different views of another modification of fastening the crowns. Figs. 14 and 15 show portions of strips prepared for use.

This invention has relation to detachable tooth-crowns, bridge-work, and connections therefor; and it consists in the construction and novel combination of devices, as hereinafter set forth.

In the accompanying drawings, the letter A designates a cap, which is secured to the root of a tooth.

B represents a detachable crown, which is fitted upon the cap, and connected thereto by the elastic friction of a spring.

C indicates bridge-work involving a detachable crown, which is similarly connected to the capped tooth or root. The root of the tooth is suitably prepared to receive the cap or incasement. If the root rises sufficiently above the gum, I usually groove it on one or both sides, or in rear, as may be preferable, so that it will receive the inwardly-projecting walls of the indentations or grooves of the cap or incasement. These grooves or indentations are made in the band of the cap, as at D, and before the cap is secured to the root or tooth top.

They may be made by pressing or indenting the band, or by notching the band and soldering the groove-pieces to the margins of the notches. Bands having the grooves already formed, as at E, may be prepared and supplied to dentists, and used in the construction of the caps, these bands being cut and pieces thereof soldered together to form a cap which will fit the root or tooth neatly.

When the root does not rise sufficiently above the gum to receive a hollow cap, a filled cap or top is secured to the root in the ordinary manner.

The crowns B are prepared to fit the caps, and are provided with elastic posts or springs F, which should enter the indentation of the caps with some tension. Usually, for this purpose, I prepare a U-shaped spring, one branch of said spring being free and the other soldered to the band of the crown, as shown. These springs may be readily opened a little or closed slightly, to give the proper tension when in engagement with the grooves or indentations of the cap or incasement. Bands may be made having these springs duly soldered thereto, and being designed for the use of dentists in making crowns to fit the caps.

In some instances the indentation of the cap may be made near its base, and the spring, duly soldered to the wall of the crown, may be deflected at its end to engage the indentation; and I sometimes fit a spring in a horizontal slot of the crown, as indicated at G, so that while one end of the spring is soldered to the crown at one end of the slot the other end and main portion of the spring will be free. This spring is designed to be deflected inward slightly, so that it will engage the exterior wall of the cap with firmness when the crown is placed thereon, and the construction is preferably so that when in such engagement the outer surface of the spring shall be flush with the outer surface of the crown, it being designed to avoid appreciable irregularity of the exterior surface of the crown.

The same principles are involved in constructing detachable bridge-work, a crown having a spring or springs being included in the bridge-work. The sustaining root or tooth top is prepared in the same manner hereinbefore indicated by securing the cap thereto. The

crown B of the bridge-work C is provided with the friction-spring, as shown, and when the bridge-work is in place it is held by the tension of the crown-spring F engaging the cap.

5 These crowns and bridges are readily detachable, and when in position hold their place with proper firmness. Should the spring-friction become too weak, the springs can be easily set up to obtain the proper amount of
10 pressure.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

15 1. A detachable tooth-crown having a spring soldered thereto, and adapted to hold its place on the root by the tension of said spring, substantially as specified.

2. The combination, with a tooth-cap, of detachable bridge-work, including a tooth-crown fitted thereto, and having a spring or 20 springs attached to said crown to hold the same to the cap or incasement by frictional tension, substantially as specified.

3. A tooth-crown band having U-shaped springs soldered thereto, substantially as speci- 25 fied.

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

THOMAS SOLLERS WATERS.

Witnesses:

J. EDGAR ORRISON,
MOSES PELS.