

No. 712,701.

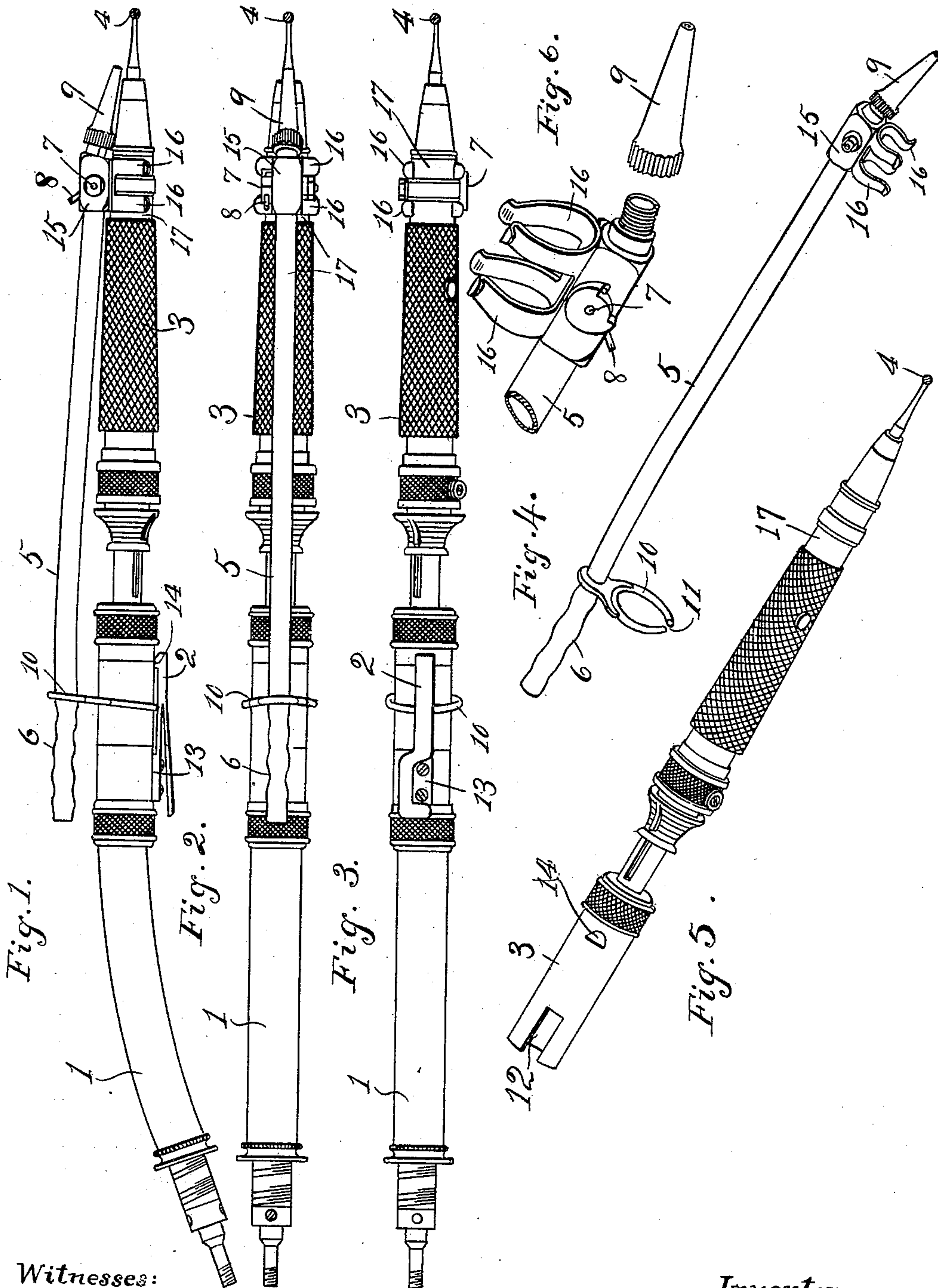
Patented Nov. 4, 1902.

A. F. MERRIMAN, JR.
HOT WATER OBTUNDENT HANDPIECE.

(Application filed Oct. 9, 1901.)

(No Model.)

2 Sheets—Sheet I.



Witnesses:
K. Lockwood Nevins,
Beccelia Downing.

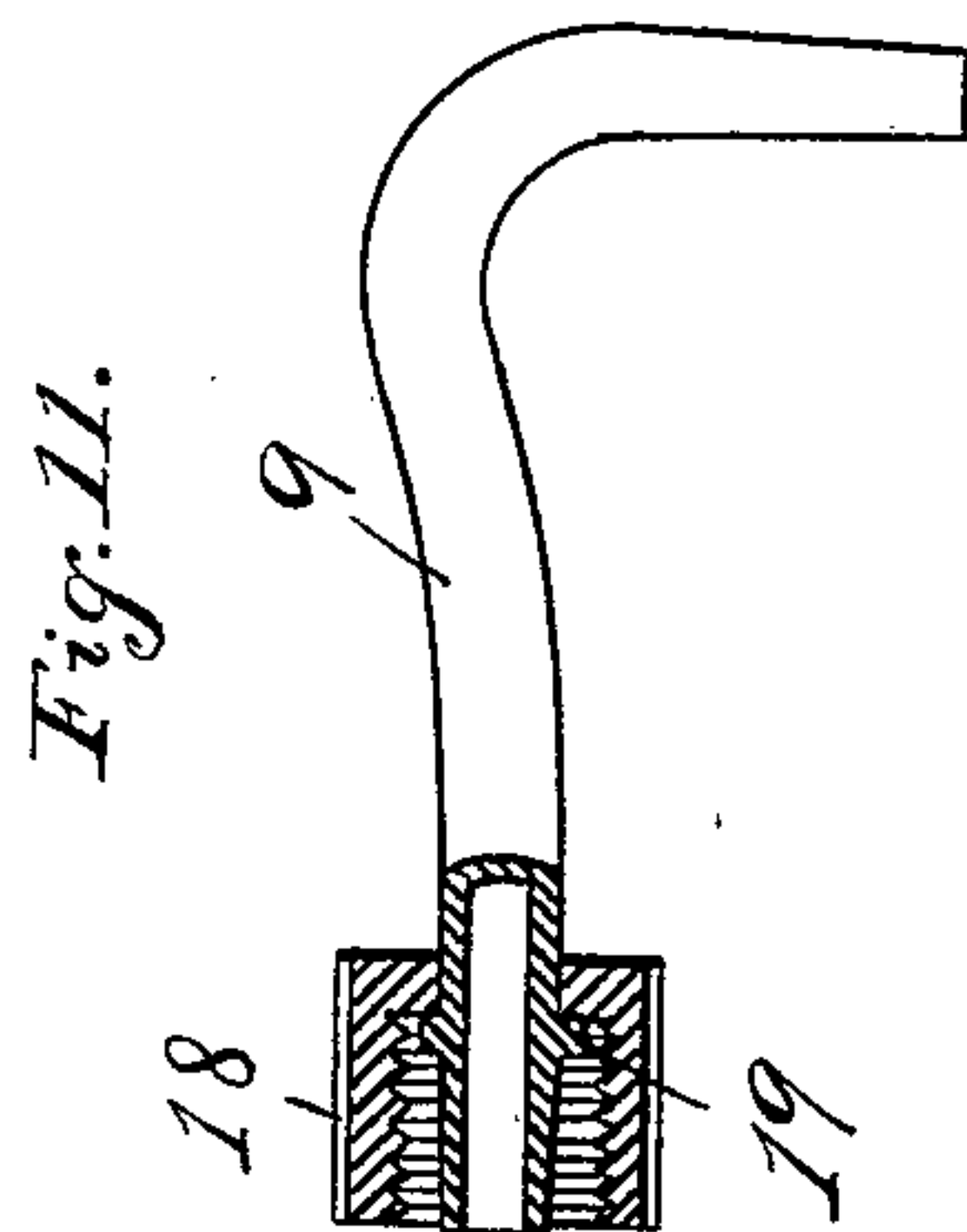
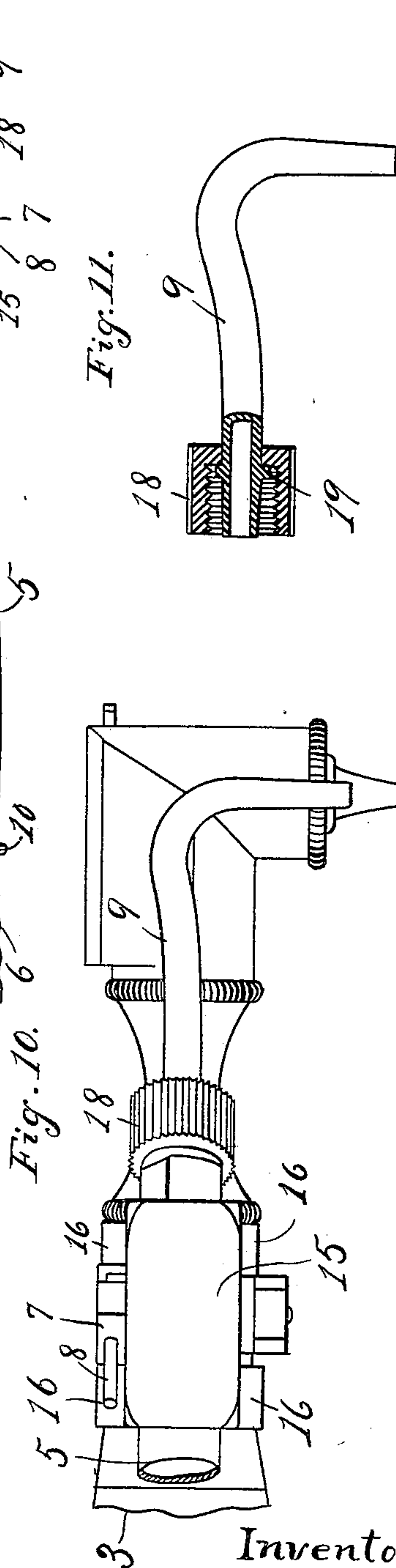
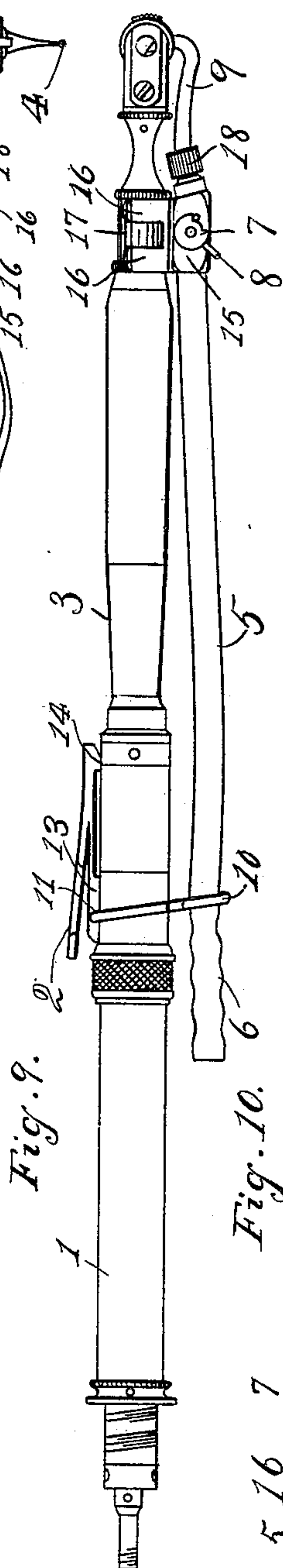
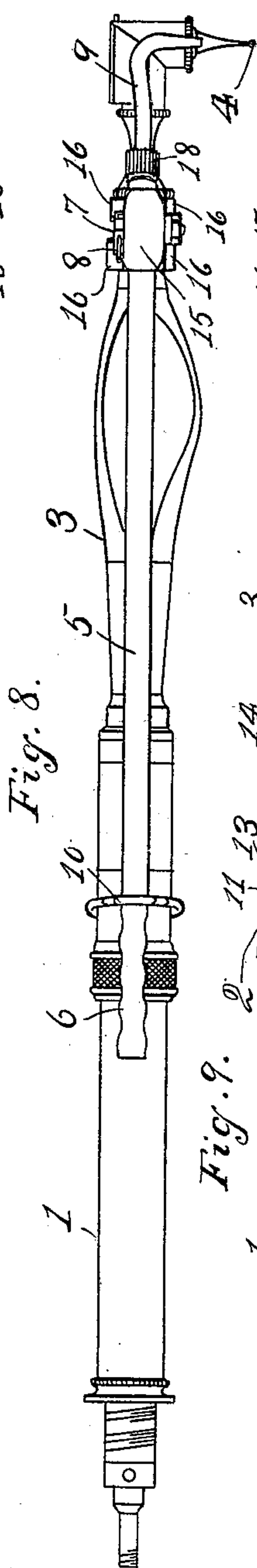
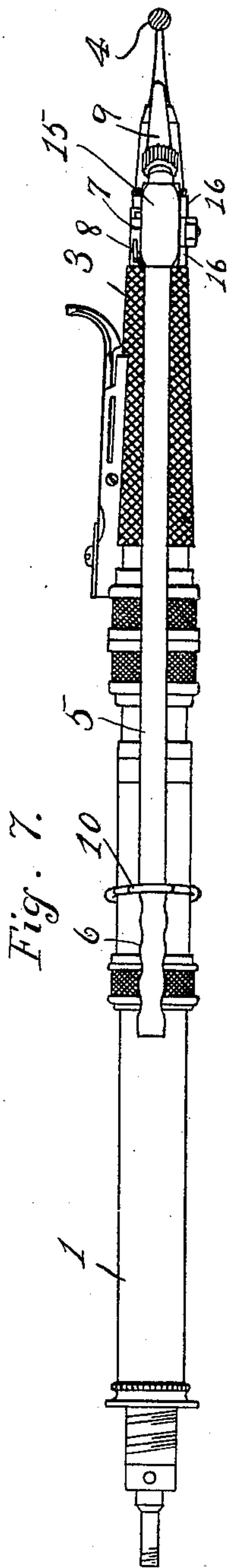
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HOT WATER OBSTURDENT HANDPIECE.

(Application filed Oct. 9, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALVIN F. MERRIMAN, JR., OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-HALF TO J. W. EDWARDS, OF SAN FRANCISCO, CALIFORNIA.

HOT-WATER OBTUNDENT HANDPIECE.

SPECIFICATION forming part of Letters Patent No. 712,701, dated November 4, 1902.

Application filed October 9, 1901. Serial No. 78,061. (No model.)

To all whom it may concern:

Be it known that I, ALVIN F. MERRIMAN, Jr., a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Hot-Water Obtundent Handpieces, of which the following is a specification.

My invention relates to an improved hot-water obtundent handpiece, the object of my invention being to provide a device for injecting a stream of warm or hot water onto the tooth or other part operated upon, which device can be attached to many forms of dental handpieces used for drilling or otherwise treating the teeth.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of my improved device applied to one form of handpiece. Fig. 2 is a top plan view of the same. Fig. 3 is a bottom plan view of the same. Fig. 4 is a perspective view of the device detached. Fig. 5 is a bottom plan view of the handpiece detached. Fig. 6 is an enlarged view of the end of the water-tube and the nozzle detached. Fig. 7 is a side view of the device applied to another form of handpiece. Fig. 8 is a side view of the device applied to a right-angle handpiece and having a nozzle suitable for coöperation therewith. Fig. 9 is a plan view of the same. Fig. 10 is an enlarged side view of the end of the device and handpiece. Fig. 11 is an enlarged side elevation of the nozzle for a right-angle handpiece, showing the attachment in longitudinal section.

Referring to Figs. 1 to 6 of the drawings, 1 represents a flexible spring-section for connecting with flexible shafting (not shown) from a motor which operates the drill or other dental instrument. Said spring-section carries a spring-catch 2, by means of which it is attached to the rear end of a handpiece 3, said handpiece being provided at its front end with any common device for treating the teeth. In the present instance a bur 4 is shown for this purpose.

5 represents a water-tube, which is formed at its receiving end with corrugations 6 to receive the end of a rubber tube (not shown) connected with any suitable source of supply of hot water under pressure. Near the discharge end said tube 5 is provided with a valve 7, operated by a pin 8, adapted to be moved in either direction by the finger to open or close said valve. The discharge end of said tube 5 is connected with a nozzle 9, screwed thereon, as shown, said nozzle being pointed so as to direct the hot water to the point operated on by the bur.

An important feature of my invention is the provision whereby the tube 5 is connected with an ordinary handpiece in such a way as to be very firmly secured against rotational movement thereon and also so that said tube 5 can be connected with various styles of handpieces. For this purpose the rear end of the tube 5 is provided with a clasp or ring 10, which surrounds the butt-end of the handpiece, said clasp being circular in form, but having a gap 11 therein. The tube 5 is placed alongside the handpiece, and the clasp 10 is pushed over the butt-end of the handpiece in such a position that said gap 11 coincides with the slot or recess 12, formed on one side of said butt-end to receive the shank 13 of the spring-catch 2, which engages the notch 14 on the butt-end of the handpiece to attach the spring-section 1 thereto. When said spring-catch 2 is pushed into place, the ends of said clasp abut against the sides of said shank and hold the rear end of the tube 5 firmly against any rotational movement on the handpiece.

On the under side of the casing 15 for the valve 9 are secured two spring-clamps 16, which pass around the neck 17 of the handpiece and hold the front end of the tube 5 against movement transversely or away from said handpiece. At the same time the spring-pressure of said clamp holds said tube 5 against longitudinal movement on said handpiece.

In Fig. 7 of the drawings a different form of straight handpiece is shown in order to illustrate the adaptability of the device for different forms. In this case also the tube is prevented from rotating by the engagement of

the clasp on its rear end with the shank of the spring-catch.

In Figs. 8 to 11 is shown the arrangement of the device upon a right-angle handpiece. In this case the bur 4 of the drill extends at right angles to the main stem thereof. It is therefore also necessary that the nozzle should extend at right angles to the water-tube. It is important that the nozzle should point directly to the point of action of the bur, and in order to vary the direction in which the nozzle points said nozzle is connected with the end of the water-tube beyond the valve by means of a coupling 18, loose upon the end of the nozzle and bearing against a shoulder 19 thereon and screwed onto the threaded end of the water-tube.

I claim—

1. In a device of the character described, the combination, with a dental handpiece, and a flexible section connected therewith, of a water-tube having a nozzle directed to the point of operation of the handpiece, means for connecting said water-tube with said handpiece, and means whereby the attachment of the flexible section locks the connection with the water-tube against removal from the handpiece, substantially as described.

2. In a device of the character described, the combination with a dental handpiece, of a water-tube connected at its front and rear

ends with the handpiece, said connection comprising a positive stop on one of said devices engaging the other device and positively preventing relative rotational movement in either direction, substantially as described.

3. In a device of the character described, the combination, with a dental handpiece, and a flexible spring-section having a spring-catch to connect with the handpiece, of a water-tube carrying on its rear end a clasp encircling the rear end of the handpiece and having a gap coinciding with the shank of the spring-catch whereby the rear end of the water-tube is held against rotation on the rear end of the handpiece, and is also held against removal from the handpiece except longitudinally over the end thereof, after disconnection with the spring-section, said water-tube also carrying at its front end a spring-clamp engaging the front end of the handpiece, and also carrying a discharge-nozzle directed substantially toward the point of operation of the bur or other instrument carried by the handpiece, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

A. F. MERRIMAN, JR.

Witnesses:

F. H. DORSAZ,
FRED L. KRAUSE.