

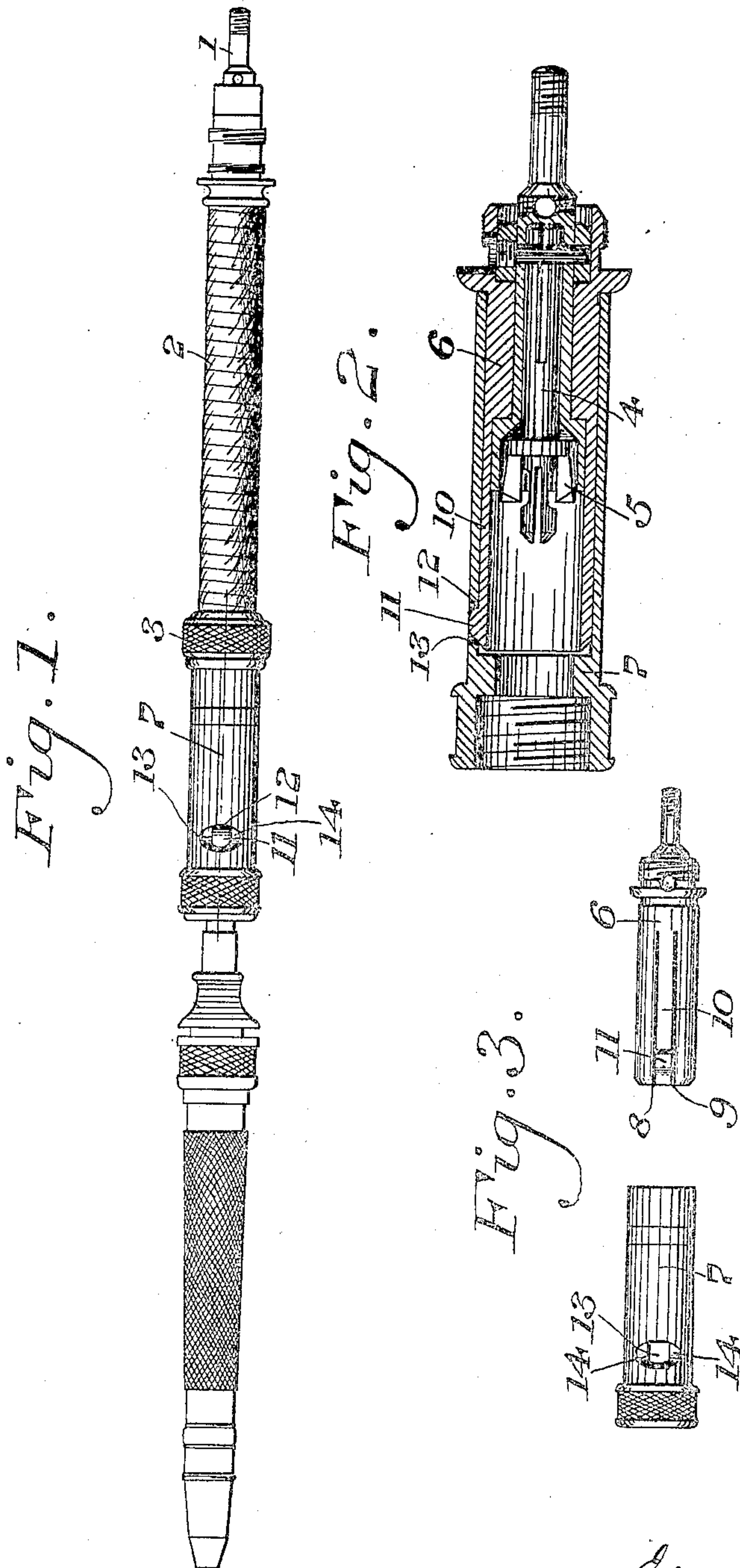
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E. E. SMITH & H. F. JONES.

SLIP JOINT CONNECTION FOR DENTAL HANDPIECES.

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Witnesses
Harry C. Dalton.
C. B. McVay.

Inventors.
Edward E. Smith.
Harry F. Jones.
By
Wiedersheim & Fairbank
Attorneys

UNITED STATES PATENT OFFICE.

EDWARD E. SMITH AND HARRY F. JONES, OF PHILADELPHIA, PENN-
SYLVANIA.

SLIP-JOINT CONNECTION FOR DENTAL HANDPIECES.

No. 813,178.

Specification of Letters Patent.

Patented Feb. 20, 1906.

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To all whom it may concern:

Be it known that we, EDWARD E. SMITH and HARRY F. JONES, citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Slip-Joint Connection for Dental Handpieces, of which the following is a specification.

Our invention consists of a novel and simplified construction of a connection for dental handpieces in which the handpiece, casings, and tool-carrying spindles may be readily secured to and detached from their supporting and driving connections.

It further consists of novel details of construction, all as will be hereinafter fully set forth.

Figure 1 represents a view in elevation, showing an attachment embodying our invention in assembled position together with the handpiece and a portion of the driving-shaft. Fig. 2 represents, on an enlarged scale, a longitudinal section of our novel attachment. Fig. 3 represents a side elevation showing the parts in disassembled and in detached position.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the flexible driving-shaft, provided with a suitable sleeve or cover 2 and driven by connection with a dental engine in the ordinary manner, said sleeve 2 being connected with the rear end of a coupling-sleeve 3, with which the handpiece has supporting connections at its rear.

4 designates the spindle, which is connected to and actuates the tool-carrying spindle and is mounted within the tubular stiff section of the driving-shaft, and this section has a long bearing in a supporting-sleeve, which at its rear end is detachably connected with the spindle 4. We have shown herein a slip-joint coupling 5 for connecting the driving-spindle 4 and the tool-carrying spindle; but as the same is old and well known to those skilled in this art we have not deemed it necessary to further describe it, as any of the well-known forms of slip-couplings may be employed.

6 designates the inner sleeve or section of the casing, which is adapted to slip or telescope into the outer handpiece coupling-case

7, and the tool-bearing spindle has bearing in the outer section in the usual way.

8 and 9 designate longitudinal slots in the inner casing-sleeve 6, thus forming a spring tongue or member 10.

11 designates a lug or latch formed on the end of the tongue 10, provided with an engaging face 12, which in the present instance extends upwardly in substantially a vertical plane from the body of the spring 10.

13 designates an aperture through the inner handpiece casing-section 7, which is recessed, as seen at 14, so as to permit the operator to depress the latch 11 by manual pressure, and which is adapted to receive the latch 11 when the parts 5 and 7 are assembled. The rear wall or side of the aperture 13 is straight and joins the walls adjoining the recessed portions 14 substantially at right angles, while the front wall of said opening in the present instance is convexed. This construction will prevent any improper movement of the lug or latch 11, and the engaging face 12 thereof will coact with the engaging face of the aperture, which latter extends upwardly in substantially a vertical plane, although it may be slightly beveled on the under side, if so desired.

The sides of the lug 11 are at right angles to the engaging face 12, so that three sides of said lug will closely engage the three corresponding sides of the opening 13.

15 designates a bevel at the end of the spring member 10, so that the handpiece-case 7 may be readily slipped upon the supporting-sleeve 6.

The operation is readily apparent. When it is desired to remove the handpiece for any purpose, the operator presses down with his thumb or finger-nail the latch 11, which is flush with or below the surface of the handpiece 7 when the parts are in assembled position, so that the said latch 11 is disengaged from the aperture 13, and it being understood that the driving-spindle 4 and the tool-spindle are connected by a suitable slip-coupling it is evident that the parts may be readily and easily attached or detached. The novel construction of connecting attachment which we have herein shown and described may be very cheaply made, is very durable, and presents a neat and attractive appearance.

It is apparent that as the spring member is contained within the outer casing it offers no inequalities for the hand of the operator and yet is so constructed that no dirt or dust will collect around it, and it is readily accessible for disengagement of the parts and cannot get out of order.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, an outer casing having an aperture there-through, an inner casing, a spring member integral therewith and having a free end and an outwardly-extending lug on said free end, the rear and side walls of which are adapted to closely engage the corresponding walls of said aperture, whereby the inner and outer casings are securely locked together and relative movement of the same is prevented.

2. In a device of the character described, an outer casing having an aperture there-through, an inner casing, a spring member integral therewith and having a free end and an outwardly-extending lug on said free end adapted to enter said aperture and when so situated being substantially flush with the surface of the outer casing, the front wall of said lug being beveled and the rear and side walls of said lug being adapted to engage the corresponding walls of said aperture, whereby the inner and outer casings are securely locked together and relative movement of the same is prevented.

EDWARD E. SMITH.
HARRY F. JONES.

Witnesses:

JOHN A. WIEDERSHEIM,
WM. CANER WIEDERSEIM.