

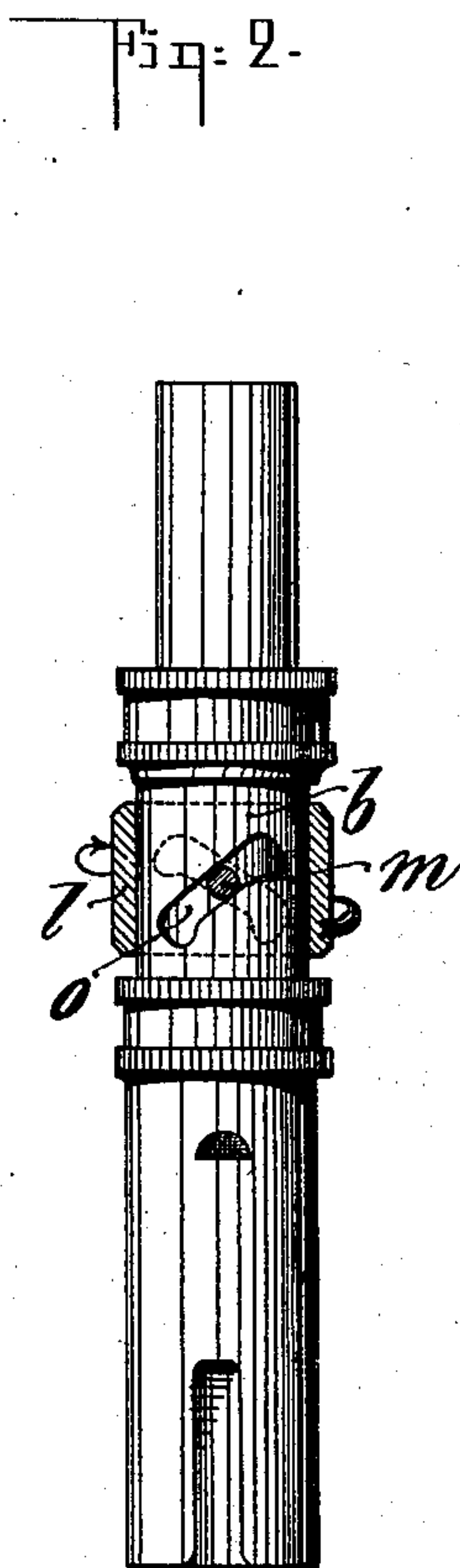
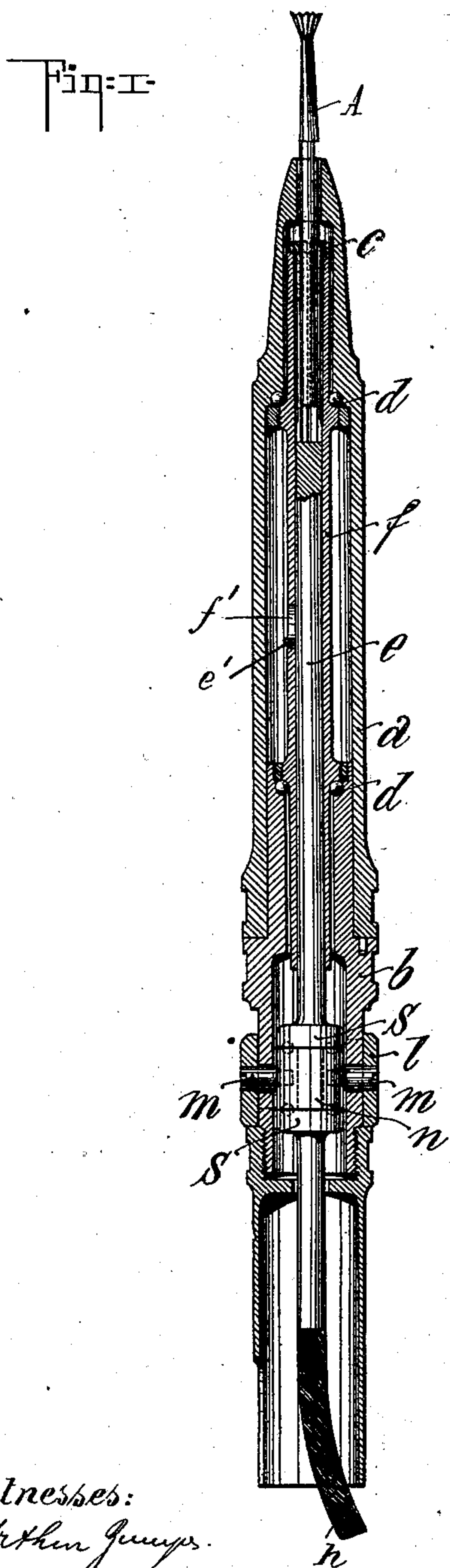
No. 723,872.

PATENTED MAR. 31, 1903.

W. HOMANN.
DENTAL HANDPIECE.

APPLICATION FILED JUNE 21, 1902.

NO MODEL.



Witnesses:
Arthur Jumps.
Edward Ray

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UNITED STATES PATENT OFFICE.

WILLY HOMANN, OF DUSSELDORF, GERMANY.

DENTAL HANDPIECE.

SPECIFICATION forming part of Letters Patent No. 723,872, dated March 31, 1903.

Application filed June 21, 1902. Serial No. 112,560. (No model.)

To all whom it may concern:

Be it known that I, WILLY HOMANN, a citizen of Germany, residing at Dusseldorf, Germany, have invented new and useful Improvements in Handpieces for Dental Engines, of which the following is a specification.

This invention relates to an improved dental handpiece, and has for its object improved means for facilitating the attachment of the dental drill to the chuck portion of the driving-tool spindle.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved dental handpiece; and Fig. 2, a side view, partly in section, of part of the same.

The letter *a* represents the tubular casing or handpiece of the chuck, within which is adapted to rotate a spindle *e*, driven by a flexible shaft *h* in the usual manner. The spindle *e* is embraced by and adapted to slide within a tube *f*, which rotates, together with spindle *e*, in ball-bearings *d* of casing *a*. The spindle *e* is provided with a pin *e'*, which projects into a longitudinal slot *f'* of tube *f*. The free end of spindle *e* terminates in spring-jaws *c*, between which the shaft of the tool may be introduced. Thus by an axially rearward motion of spindle *e* within tube *f* the spring-jaws *c* will be drawn into the tube and contracted upon the tool *A* to hold it in place.

The spindle *e* carries near its rear end, between two fast collars *s* and intermediate ball-bearings, an inner rotatable ring *n*, provided with two radially-projecting pins *m*. These pins pass through two oblique slots *o* of the rear part *b* of casing *a* and are connected to an outer ring *l*, rotatable around the casing. The slots *o* terminate at each end in an enlargement adapted to accommodate the pins *m* and hold them in position.

To fit a tool *A* to the handle, the ring *l* is turned to the right, so that the pins *m* will move along the oblique slots *o*, and in this way the ring *l*, as well as the ring *n*, receive

a forward screw-like motion. This forward motion is transmitted to the spindle *e* by the forward collar *s* and causes the spring-jaws *c* to open by being projected beyond tube *f*, so that the tool may be removed. After another tool has been inserted between the jaws the ring *l* is turned to the left, and thus both rings *l* and *n* receive a rearward screw-like motion. Ring *n* transmits this motion by the rearward collar *s* to the spindle *e*, thus retracting the same. In this way the spring-jaws *c* are drawn into tube *f* and are contracted against the shaft of the tool *A*, so as to lock it to the handle.

What I claim is—

1. In a dental handpiece, the combination with the casing having inclined slots in the rear end, of a rotary tube mounted therein, a rotary spindle mounted in said tube and having spring-jaws at its forward end, a ring loosely mounted on said spindle near its rear end, pins on the ring adapted to engage the inclined slots of the casing, collars fast on said spindle in front and rear of said ring, and the rotary sleeve, substantially as described.

2. In a dental handpiece, the combination with the casing having inclined slots in its rear end, of a rotary tube mounted therein, an intermediate ball-bearing, a rotary spindle mounted in said tube and having spring-jaws at its forward end, a ring loosely mounted on said spindle near its rear end for imparting axial movement to the spindle, pins on the ring adapted to engage the inclined slots of the casing, collars fast on said spindle in front and rear of said ring, the rotary sleeve on the casing, and ball-bearings between the rotary tube and the casing, substantially as described.

Signed by me at Dusseldorf, Germany, this 2d day of June, 1902.

WILLY HOMANN.

Witnesses:

WILLIAM ESSENWEIN,
PETER LIEBER.