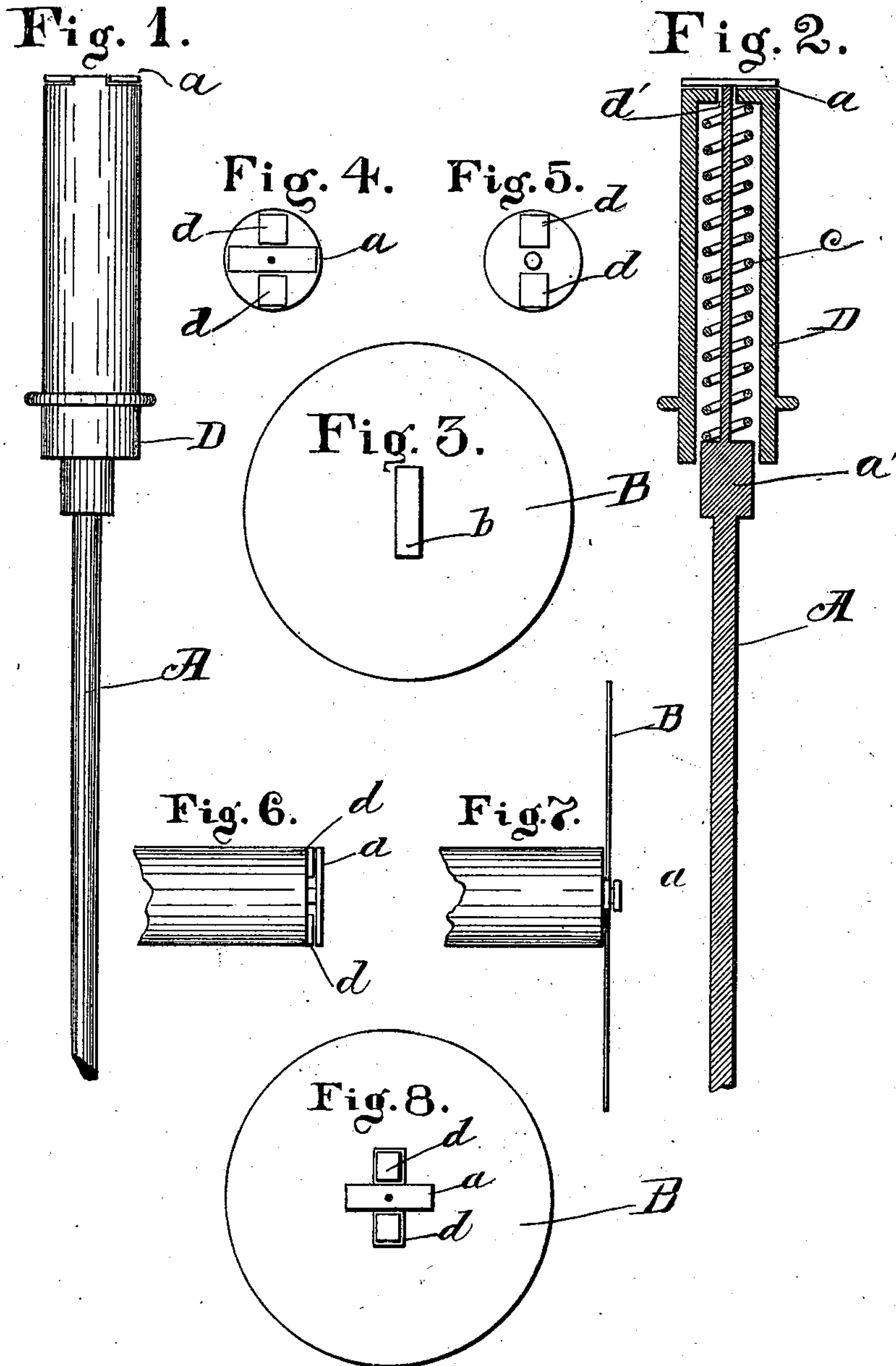


(No Model.)

C. W. F. HOLBROOK.  
DENTAL MANDREL.

No. 376,653.

Patented Jan. 17, 1888.



Witnesses

J. R. Keys.  
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# UNITED STATES PATENT OFFICE.

CHARLES W. F. HOLBROOK, OF NEWARK, NEW JERSEY.

## DENTAL MANDREL.

SPECIFICATION forming part of Letters Patent No. 376,653, dated January 17, 1888.

Application filed October 4, 1887. Serial No. 251,485. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. F. HOLBROOK, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dental Disk-Carriers; 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to disk-carrying mandrels, and provides means for securely attaching emery-disks to mandrels, such as are used in dentistry and in the arts.

My invention relates more particularly to that class of clutches in which a head-piece is forced onto the disk to be rotated; but as such mandrel-clutches are composed of a number of detached pieces, which in practice are often mislaid and cause annoyance by their loss, I have constructed a device all the parts of which are connected together, and therefore not liable to be lost.

In the accompanying drawings, forming part of this application, Figure 1 is an outside view of my invention. Fig. 2 is a view in section. Fig. 3 represents the disk with a centrally-located opening. Fig. 4 shows the head of the clutch. Fig. 5 shows the head of the sleeve. Fig. 6 is the side view of the clutch in position to adjust the disk. Fig. 7 is an end view of Fig. 6, with disk adjusted; and Fig. 8 is a plan view of clutch and disk ready for use.

A represents the spindle having a cross-head, *a*, of oblong form, riveted upon the end, and the shoulder *a'*.

B represents the disk adapted to be carried by the mandrel, having a central opening, *b*, of rectangular form and of such a size as to receive the head of the spindle.

C represents the coiled spring which surrounds the mandrel.

D represents the sleeve constructed with two teeth, *d d*.

In constructing the clutch the coiled spring is placed on the spindle extending from the

shoulder *a'* to the head *a*. The sleeve D is slipped over the spring, the aperture *d'* being of only slightly larger diameter than the end of the spindle, the other end fitting loosely over the shoulder *a'*. The head *a* is now riveted, soldered, or otherwise permanently attached to the end of the spindle, and the device is complete.

It will be readily noticed that the sleeve is capable of rotating only after being pressed downward in such a manner that the teeth will become disengaged from the head *a*. The pressure of the spring being continually upward, the teeth of the sleeve will be forced upward as far as the head allows when in the position shown in Fig. 1, and when the sleeve is pressed downward and rotated one-quarter revolution the teeth *d d* will be under the head *a*, and will present the appearance shown in Figs. 4, 5, and 6. If a disk of emery-paper having a central opening of a size to correspond to that of the head *a* be now placed over the said head and teeth, as shown in Fig. 6, and the sleeve D be rotated, carrying the disk round with it, and the downward pressure removed, the teeth *d d* will rise through the aperture in the disk on each side of the head *a* and firmly hold the disk while being rotated.

Having now fully described my said invention, what I claim, and desire to protect by Letters Patent, is—

1. In a dental disk-carrier, the combination of a spindle provided with a cross-head, a sleeve having teeth on its end, and an outwardly-pressing spring, whereby the said teeth engaging a disk placed on the carrier will hold it securely against the cross-head, substantially as and for the purpose described.

2. In a dental disk-carrier, the combination of the shouldered spindle provided with a cross-head and carrying the coiled spring between the shoulder and cross-head, and the sleeve carrying the integral teeth between which the cross-head fits, locking the disk in position.

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

CHARLES W. F. HOLBROOK.

Witnesses:

THOS. E. WOOD,  
B. F. GILBERT.