

(No Model.)

H. HEATH, Jr.  
DENTAL DISK MANDREL.

No. 583,472.

Patented June 1, 1897.

Fig. 1

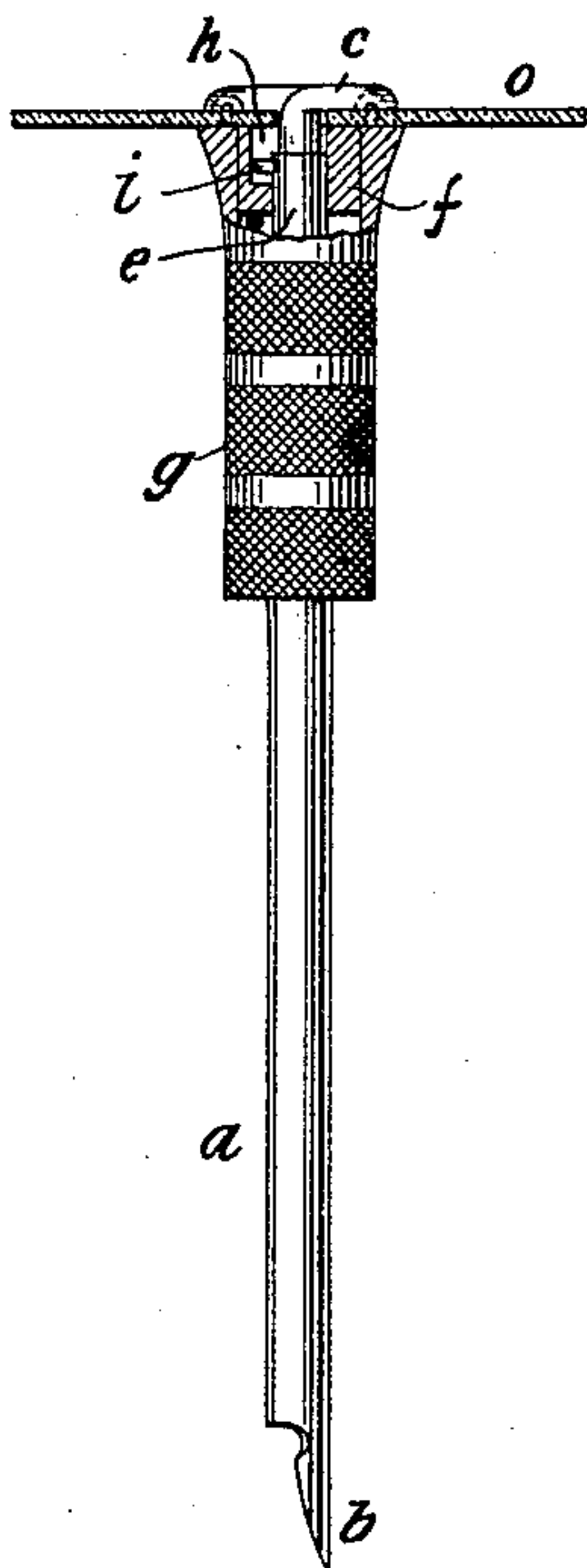


Fig. 3

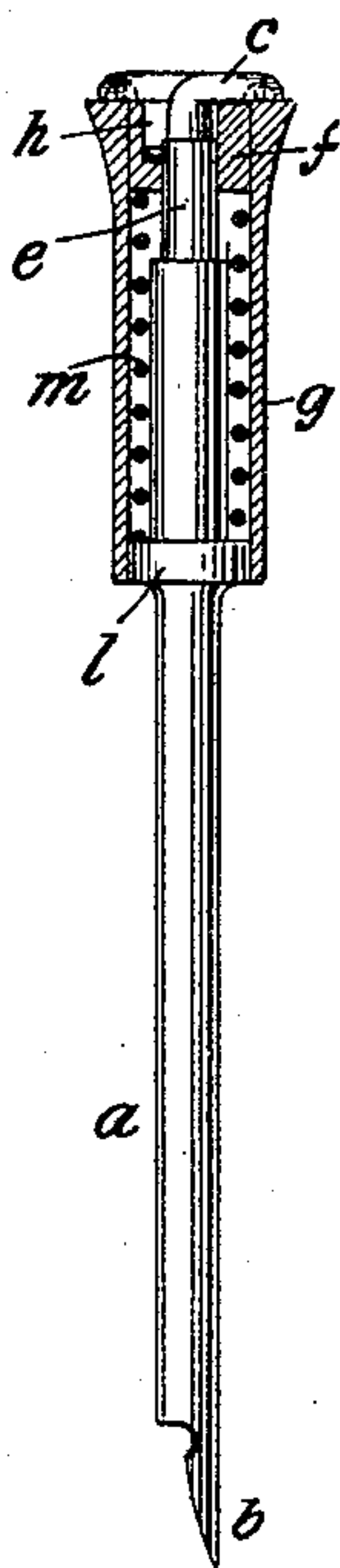


Fig. 5

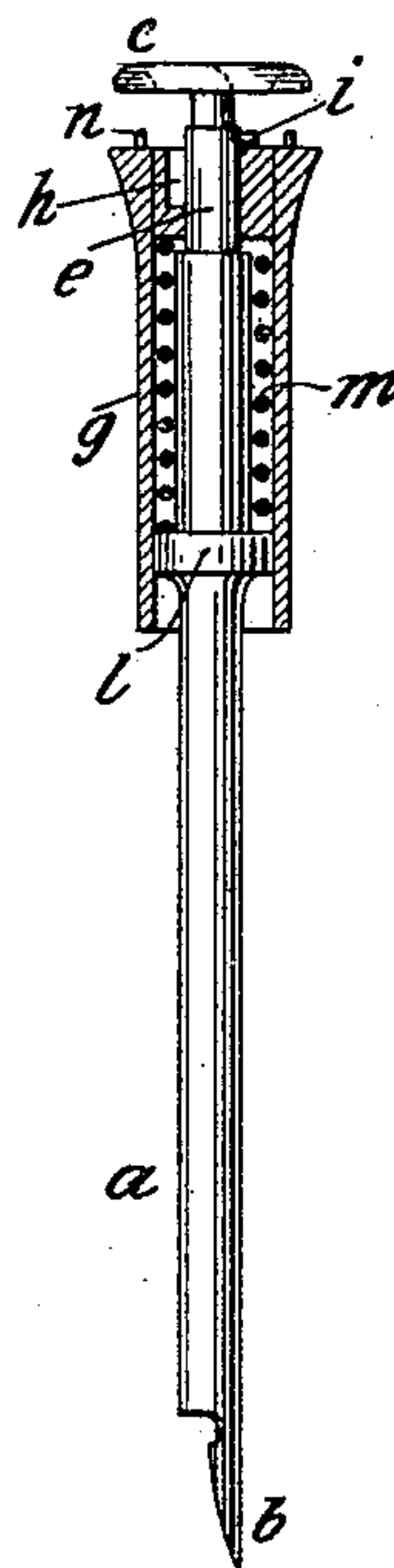


Fig. 2

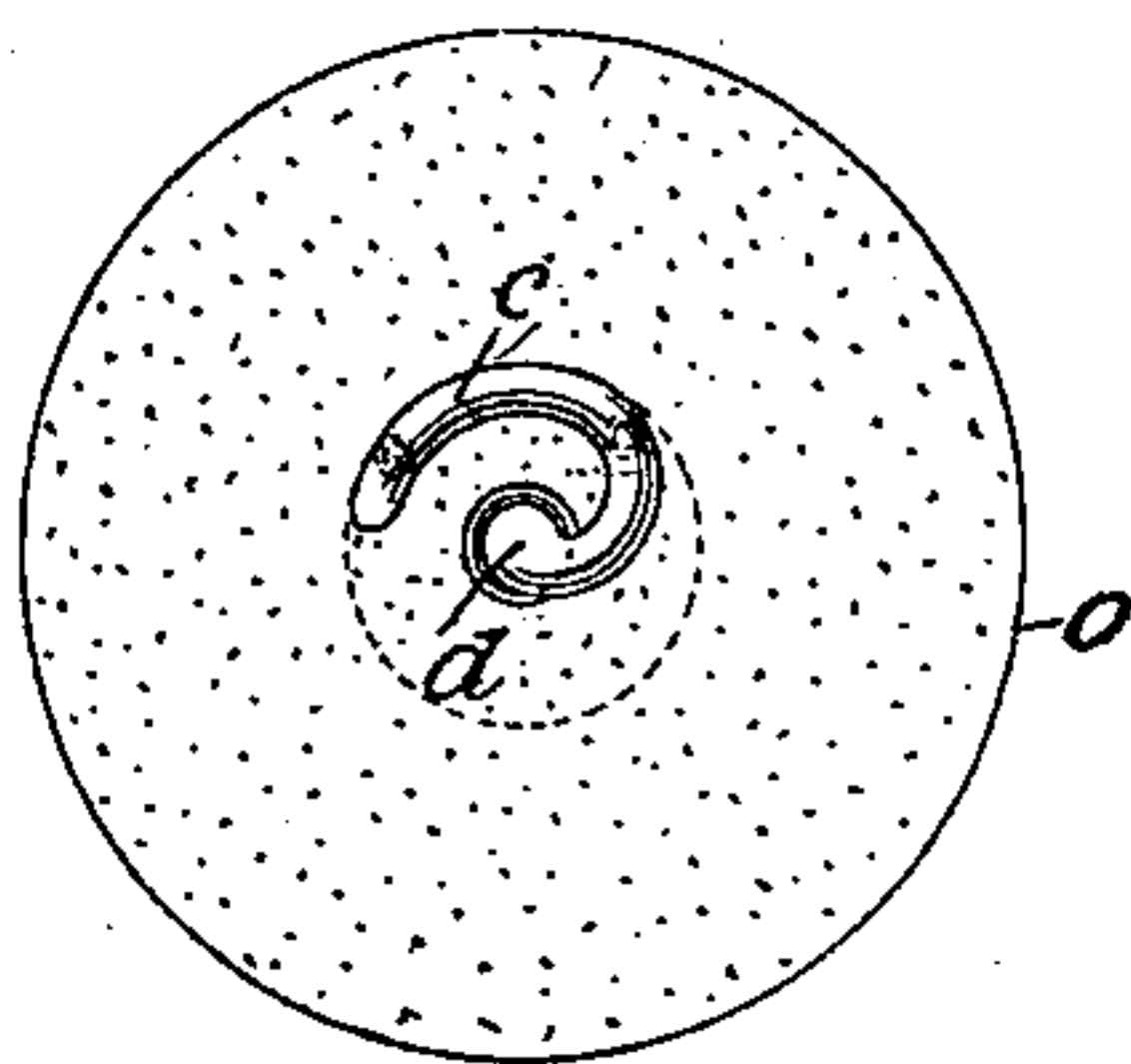


Fig. 4

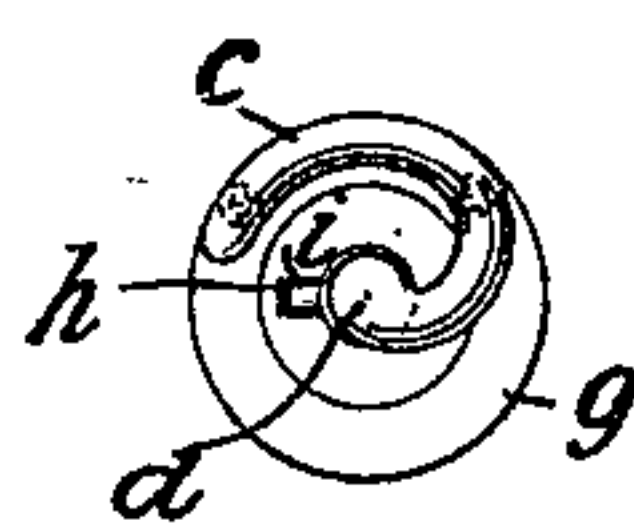
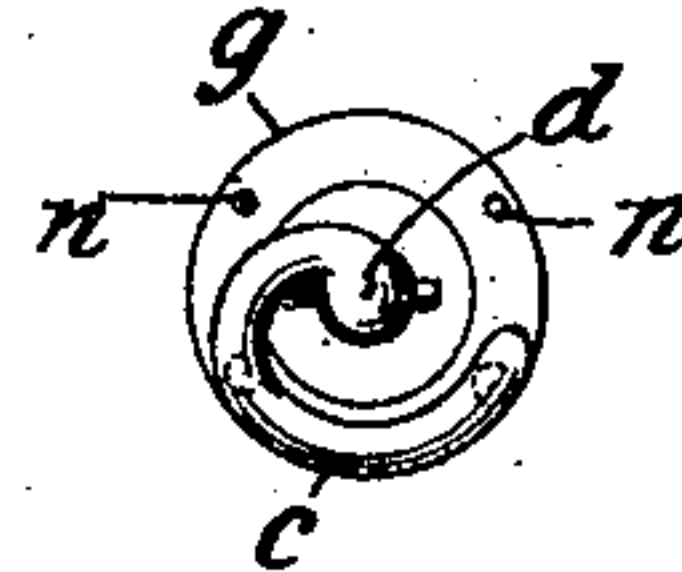


Fig. 6



Witnesses:

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J. M. Boren

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Henry Heath Jr.

# UNITED STATES PATENT OFFICE.

HENRY HEATH, JR., OF BROOKLYN, NEW YORK.

## DENTAL DISK-MANDREL.

SPECIFICATION forming part of Letters Patent No. 583,472, dated June 1, 1897.

Application filed June 10, 1896. Serial No. 594,926. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY HEATH, Jr., a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Disk-Mandrels, of which the following is a specification.

My invention has reference to mandrels employed in dental operations for holding polishing-disks and the like; and the object of the invention is to devise simple and efficient means whereby such disks may be firmly held in place and quickly and easily connected to the mandrel and removed therefrom. The attaching means are permanently connected to the mandrel, so that there is no liability of the parts being lost or misplaced.

The invention and its mode of operation will be understood from the accompanying drawings, forming a part of this specification, and wherein like features are designated by like letters of reference in the several views.

In the drawings, Figure 1 is a view in elevation of a dental mandrel embodying my invention, having a disk secured in place, the head of the sleeve, the collar secured within the sleeve, and the disk being in section for clearer illustration. Fig. 2 is a top plan view of Fig. 1. Fig. 3 is a view of the mandrel in elevation with the disk omitted and the sleeve in its elevated position, or the position which it occupies when the disk is clamped to the mandrel, the whole of the sleeve and the upper collar being in section. Fig. 4 is a top plan view of Fig. 3. Fig. 5 is a view similar to Fig. 3, showing the sleeve in the depressed position to which it is adjusted when it is desired to connect a disk to the mandrel; and Fig. 6 is a top plan view of Fig. 5. All the views of the drawings are more than twice the natural size.

Referring to the drawings, *a* designates the shank of the mandrel, so formed at its end *b* as to adapt it to be attached to the hand-piece of a dental engine. At the opposite end of the shank *a* it is provided with a curved pin *c*, adapted to be inserted in the central hole of the disk. The whole of the pin *c* occupies substantially the same plane as its base, and its end does not extend in a straight direction beyond the wall of the base. At the point of connection between the top of

the shank and the curved pin *c* the surface is rounding, as shown at *d*, and not angular, for the purpose of facilitating the removal of the disk when it is desired to replace the latter by another.

Below the curved pin *c* the mandrel is somewhat reduced in circumference, as at *e*, and this reduced portion is adapted to slide through the collar *f*, fixed in the upper end of the sleeve *g* and provided with a slot *h*, within which is adapted to seat a stud *i*, fixed at the top of the reduced portion *f* of the mandrel, when the sleeve *g* is in its elevated position, as in Figs. 1 and 3. The shank *a* is further provided with a collar *l*, over which the sleeve *g* is adapted to slide and be guided. Between the collar *l* on the mandrel and the collar *f*, fixed in the upper end of the sleeve *g*, there is located a coiled spring *m* to force the sleeve *g* upward and hold the curved pin *c* tight against the upper end of the sleeve *g*. The curved pin *c* does not extend beyond the circumference of the top of the sleeve, as shown in Figs. 4 and 6.

The top surface of the upper end of the sleeve is provided with small spurs *n*, which are adapted to penetrate the disk *o* and prevent it from turning. On the under surface of the curved pin *c* there are formed slight cavities to receive the spurs *n* when the disk *o* is clamped on the mandrel. (See Figs. 1 and 3.)

The manner in which the disk *o*, having a central opening, is passed over the curved pin *c* is obvious from an inspection of the drawings. To elevate the curved pin *c* from its clamping position, (shown in Figs. 1 and 3,) the sleeve *g*, which is suitably roughened on its outer surface, is grasped by the finger and thumb and forced downward, compressing the spring *m* until the stud *i* is lifted out of the slot *h*, when, the sleeve *g* being slightly turned, the stud *i* will be seated on the top of the collar *f* of the sleeve. This locks the sleeve *g* depressed, as shown in Fig. 5. The disk *o* is then inserted over the curved pin, the sleeve *g* turned to cause the stud *i* to enter the slot *h* in the collar *f*, when the sleeve, through the action of the spring *m*, will assume the position shown in Figs. 1 and 3 and securely clamp the disk *o* to the mandrel, as seen in Fig. 1.



My disk-holder is quickly and easily adjusted to clamp or release the disk, no parts being removed in either operation.

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

1. In a disk-mandrel, the combination with a shank provided at its upper end with a curved pin to receive the disk, of a sleeve adapted to slide on the shank, and a spring inclosed within said sleeve and adapted to force the sleeve upward to clamp the disk between the top of the sleeve and said pin, substantially as set forth.

2. In a disk-mandrel, the combination with

a shank provided with a collar *l* and having a curved pin at its upper end and a reduced portion below said pin, provided with a stud, as *i*, of a sleeve provided with a collar in its upper end having a slot as *h*, and a spring surrounding the shank between its collar and the collar in the sleeve, substantially as set forth.

Signed at New York, in the county and State of New York, this 9th day of June, 1896.

HENRY HEATH, JR.

Witnesses:

F. B. SPOONER,

J. E. M. BOWEN.