(No Model.)

# M. S. NICHOLS.

## DENTAL DISK CARRIER.

No. 480,121 Patented Aug. 2, 1892.

Fig. 1.

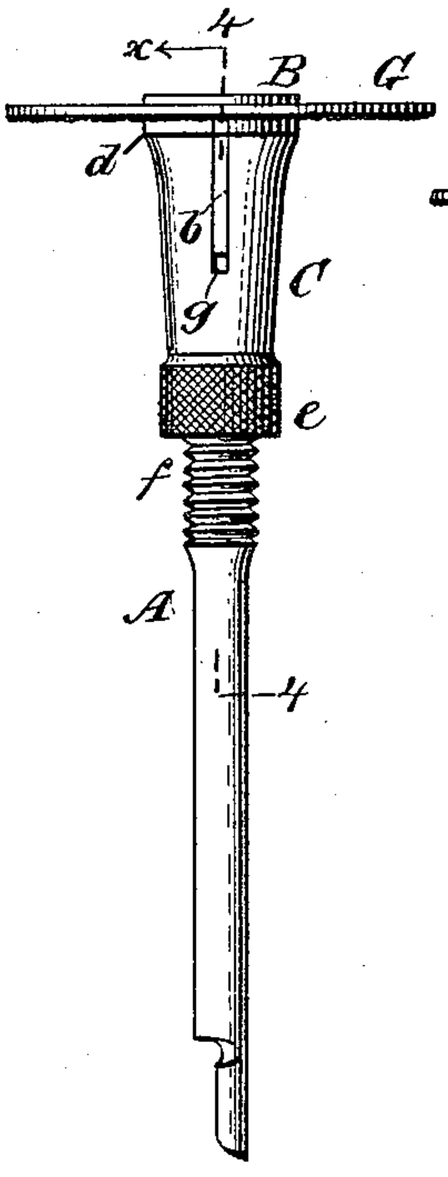



Fig. 2.

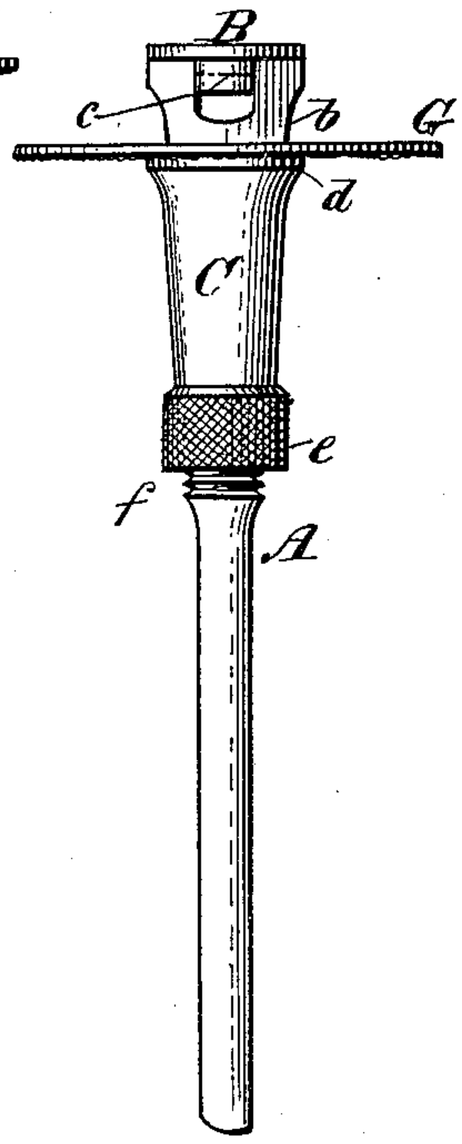



Fig. 3.

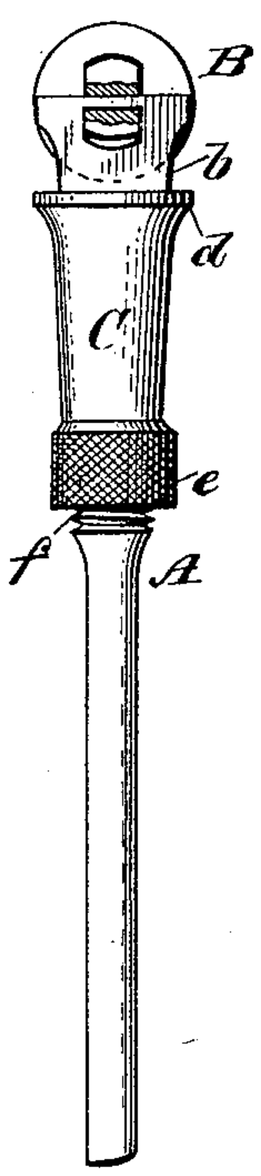



Fig. 4.

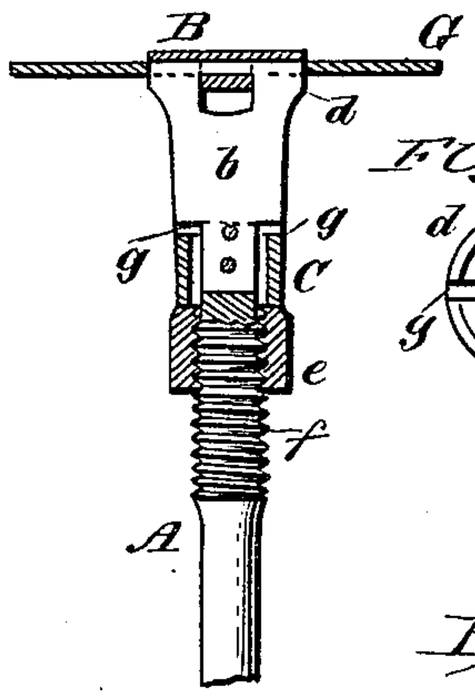



Fig. 5.

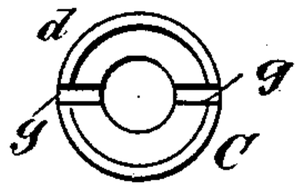



Fig. 6.

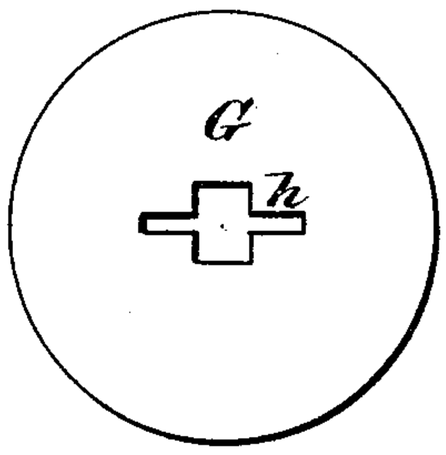
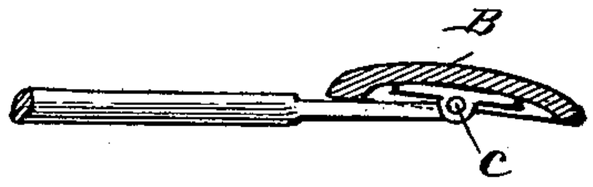



Fig. 7.




WITNESSES:

H. R. Davis.

C. Sedgwick

INVENTOR:

M. S. Nichols

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

MATHEW S. NICHOLS, OF CENTRAL VILLAGE, CONNECTICUT.

## DENTAL DISK-CARRIER.

SPECIFICATION forming part of Letters Patent No. 480,121, dated August 2, 1892.

Application filed June 25, 1891. Serial No. 397,484. (No model.)

*To all whom it may concern:*

Be it known that I, MATHEW S. NICHOLS, of Central Village, in the county of Windham and State of Connecticut, have invented a new and useful Improvement in Dental Disk-Carriers and their Disks, of which the following is a full, clear, and exact description.

This invention mainly consists in a dental disk-carrier of novel construction for use in connection with a dental engine to rotate an abrading or polishing disk generally made of sand or emery paper, and it more especially relates to that description of dental disk-carriers which provides for the removal and replacement of the disks without dismembering the carrier itself, thus making no separable parts or sections liable to be lost or misplaced.

The invention comprises a special construction of disk-carrier of this description and of disk to suit, substantially as hereinafter shown and described, and more particularly pointed out in the claims, whereby not only a disk-carrier of simple and durable construction is obtained, but the disk may be very expeditiously and conveniently attached to the carrier and be quickly and centrally adjusted; also, be firmly held in place when on the carrier.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents an exterior longitudinal view of my improved dental disk-carrier with disk secured thereon; Fig. 2, a further exterior longitudinal view in a plane at right angles to Fig. 1 and showing the disk in position before it is clamped against the outer end or head of the carrier; Fig. 3, a mainly exterior longitudinal view similar to Fig. 2, but omitting the disk and showing the head end of the carrier, which is in part section, as adjusted to pass the disk on or off the carrier. Fig. 4 is a mainly sectional longitudinal view of the carrier in part upon the line 4 4 in Fig. 1, looking in direction of the arrow *x*, showing the disk in position when clamped to its place. Fig. 5 is a plan or face view of a clamping-sleeve used to secure the disk on the carrier, and Fig. 6 a face view of a polishing-disk such as is used in connection with the carrier. Fig. 7 is a detail view showing the hinge-joint.

A is the shank or body part of the carri · of any suitable general construction for connection with the mandrel of a dental engine, but having its outer end of flat form, as shown at *b*, and having hinged to the outer end of such flattened portion, as at *c*, a head B. This hinged connection enables said head to be turned up or carried over to one side of the axis of the shank, as shown in Fig. 3, or at a right angle to said shank, as desired, and as shown in Figs. 1, 2, and 4.

A sleeve C is held to slide upon the shank at the rear of the head B, the said sleeve at its end contiguous to the head being preferably provided with a flange *d*, whereby its diameter is increased to correspond, or thereabout, to the diameter of the head B. This sleeve C may be moved in or out on the shank—that is, toward or from the head—by any suitable adjusting means. Thus it may be adjusted outward to clamp the disk G against the hinged head B when shut or turned down by a nut *e*, fitting a screw-thread *f* on the shank A and acting against the rear end of said sleeve, or it may be adjusted inward to permit of the hinged head B being turned upward or to one side of axis or flattened portion *b* of the shank by slackening the nut *e* and sliding the sleeve C inward. If desired, the nut *e* might be dispensed with or be simply used as a jam-nut and the sleeve C be extended and constructed to engage with the screw-thread *f* on the shank; but it is preferred to make the sleeve C a freely-sliding one and to use the nut *e* in the rear of it, in which case I construct said sleeve with opposite side slots *g* to receive within them the flattened portion *b* of the shank, which thus will serve to guide and steady it in a straight course.

To affix the polishing-disk G to the carrier or tool when said tool is constructed as shown, the clamping-sleeve C is adjusted inward, as shown in Figs. 2 and 3, and the hinged head B is thrown up or to one side of the shank A, as shown in Fig. 3. The disk G, which is constructed with a central elongated aperture *h*, adapted to receive the upturned head B through it, is then passed down or inward over said upturned head, which centers the disk without any after separate adjustment

of the disk and the head B afterward turned down or to a position at right angles, or thereabout, to the shank A and the sleeve C adjusted outward to clamp the disk in between it and the head B. In this way or by these means the polishing-disk is automatically centered and may be very quickly and conveniently attached to the carrier or removed therefrom when required and when attached be very firmly secured in position on the carrier.

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

1. In a dental disk-carrier, the combination, with the shank or body of the carrier, of a head hinged to the outer end thereof, a clamp movable upon said shank or body at the rear of the head, and means for operating the clamp, essentially as and for the purpose specified.

2. The combination, with the shank or body of the carrier having a flattened outer end portion, of a head hinged to said outer end portion capable of being turned parallel with or at a right angle to said shank, a slotted sliding clamping-sleeve receiving said flattened shank portion within or through it, and means for locking or holding the sleeve when adjusted outward, essentially as specified.

3. An implement of the character described, consisting in the shank A, having a threaded portion *f* and a flat outer end *b*, the head B, pivoted at its under side to the outer extremity of the end *b*, as shown at *c*, a slotted sleeve C, sliding on the end *b*, and a nut *e*, working on the threaded part *f*, substantially as set forth.

MATHEW S. NICHOLS.

Witnesses:
EDWIN L. PALMER,
ARTHUR G. BILL.