(No Model.)

W. F. WOOSTER.

DENTAL DISK HOLDER.

No. 534,540. Patented Feb. 19, 1895.

Fig. 1.

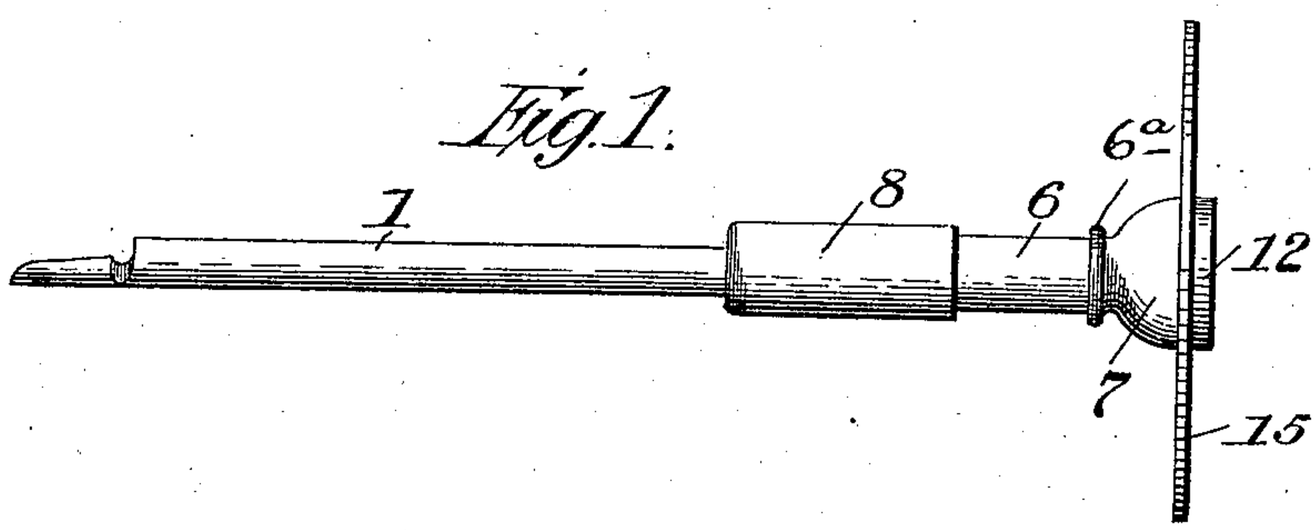


Fig. 2.

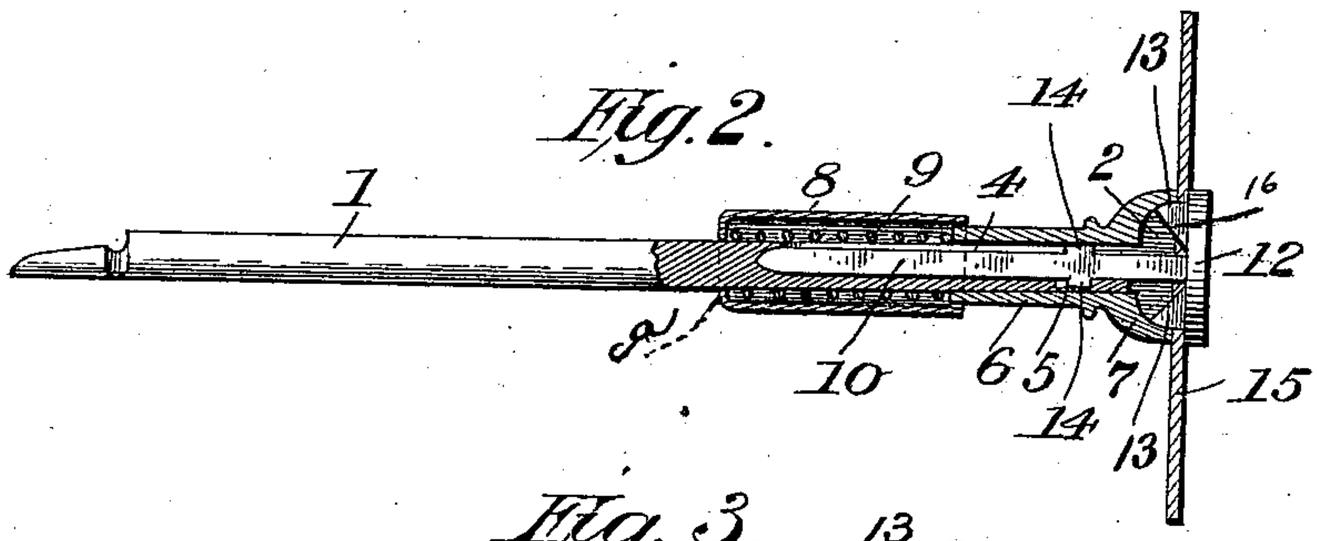


Fig. 3.

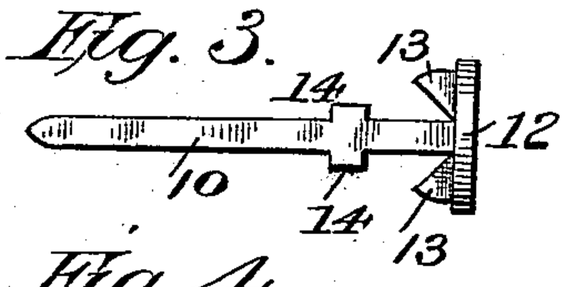


Fig. 4.

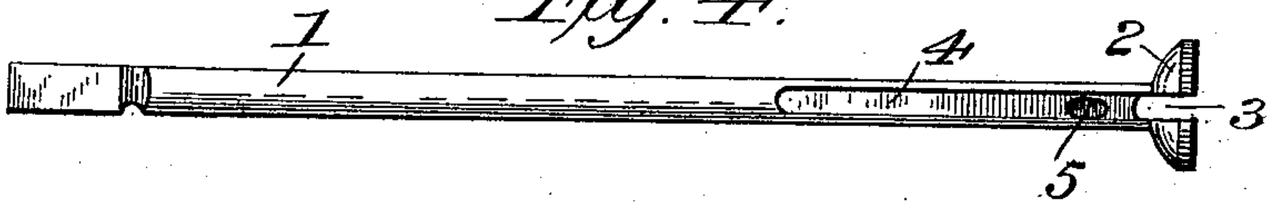
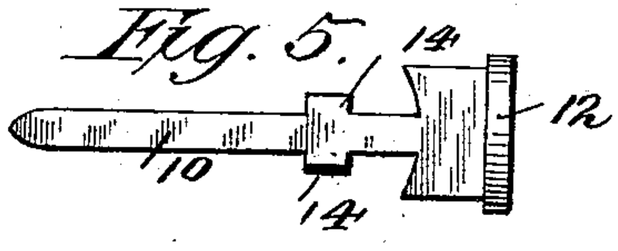


Fig. 5.



WITNESSES:
Franck L. Durand
Emmett L. Jones

INVENTOR:
Wilbur Fisk Wooster,
by Lewis Bagger & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

WILBUR FISK WOOSTER, OF WASHINGTON, DISTRICT OF COLUMBIA.

DENTAL-DISK HOLDER.

SPECIFICATION forming part of Letters Patent No. 534,540, dated February 19, 1895.

Application filed December 26, 1894. Serial No. 532,922. (No model.)

To all whom it may concern:

Be it known that I, WILBUR FISK WOOSTER, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Dental-Disk Holders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in means for clamping or securing disks or other dental polishing and abrading instruments upon their mandrels, and its object is to provide an improved mandrel or holder and clamp by means of which the disk can be securely held in place, yet be easily and quickly removed, and replaced when desired.

The invention consists in the novel construction and combination of parts, hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation, on an exaggerated scale, so as to more clearly illustrate the construction of a disk-holder, constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a view of the clamping pin removed from the holder. Fig. 4 is a view of the end of the mandrel, the clamping pin being removed. Fig. 5 is a detail view of a modified form of clamping pin.

In the said drawings, the reference numeral 1 designates the mandrel of a dental engine, formed at its outer end with a head 2, provided with a transverse nick or slot 3. The mandrel is also formed with a longitudinal slot 4, extending from the head inwardly and intersecting with the slot in the head. Just in rear of the said head, is a recess 5, which communicates with the slot 4. Mounted upon the mandrel is a slidable sleeve 6, having a cup 7 at the outer end which extends over and beyond the head 2 when the mandrel is pushed outward, and is provided with a collar 6^a in rear of the cup forming a finger hold for pulling back the sleeve to release the disk.

The numeral 8 designates a sleeve, also mounted on the mandrel, somewhat larger in diameter than sleeve 6, so that the latter can telescope therein, and its rear end is turned inwardly forming a flange 8^a which contacts with the mandrel, and also forms a seat for one end of a coiled spring 9, the other end of which abuts against the rear or inner end of sleeve 6.

The numeral 10 designates a clamping pin provided at its outer end with a head 12 formed with two teeth or prongs 13, and a short distance in rear of said head the pin is formed with two diametrically opposite lugs 14, which are formed with abrupt shoulders at front, so that when inserted in the slot in the mandrel, as hereinafter described, the rear shoulder of the upper lug, Fig. 2, will strike against the cup 7, and force the sleeve backward, the lower lug sliding on the slot 4, until it registers with the recess 5, with which it will engage.

The numeral 15 designates the disk, which may be made of emery, celluloid, or any other suitable material, and does not differ essentially from the ordinary dental disks in common use.

To secure the disk to the mandrel, the pin is passed through an aperture in the disk, and is then inserted in the nick in the head 2, and pushed inwardly into the slot 4, when the abrupt or squared shoulder of the upper lug 14, Fig. 2, will come into contact with the cup 7, at the point marked 16, which as the inward movement of the pin is continued, will cause the sleeve 6, to be forced rearwardly, the lower lug 14 sliding in the groove or slot 4, until it comes into register with the recess 5, when it will engage therewith, and the coiled spring pressing against the rear end of the sleeve will force it outwardly whereby the pin will be held securely in place and the disk be clamped between the head of the pin and the cup 7. The inwardly turned flange at the rear end of sleeve 8 engages with the mandrel with sufficient friction to prevent its being forced backwardly by the tension of the spring, but it can be moved by hand when desired.

To remove the disk the sleeves are pushed back when the pin can be readily withdrawn from the seat. The shank of the pin near its head is flattened, so as to be rectangular in cross section, and the hole in the disk is correspondingly shaped so as to prevent rota-

tion of the disk on the pin. By reason of the cup, on the end of the sleeve 6 projecting beyond the head of the mandrel, disks of varying thickness can be clamped between it and the head of the pin.

In the modified construction of pin, shown in Fig. 5, the head of the pin is formed with inwardly extending flat projections to allow a rubber or other wheel to be placed thereon when the disk is not used.

Having thus fully described my invention, what I claim is—

1. In a dental disk holder, the combination with the mandrel having a head at its outer end formed with a transverse slot and formed in rear of said head with a horizontal slot or groove and an intersecting hole or recess, of the slidable sleeve having a cup at its outer end, the coiled spring, in a second sleeve containing a seat therefor and means for holding said second sleeve in place on the mandrel and the pin having a head at its outer end and formed between its ends with diametrically opposite lugs, substantially as and for the purpose specified.

2. In a dental disk-holder, the combination with the mandrel having a head formed with a transverse slot and formed with a longitudinal slot and an intersecting recess, and the slidable sleeve having a cup at its outer end, of the pin having a head at its outer end provided with inwardly extending prongs or teeth, and formed with diametrically opposite lugs, substantially as described.

3. In a dental disk-holder the combination with the mandrel having a head formed with a transverse slot and formed with a longitudinal slot and an intersecting recess, and the slidable sleeve having a cup at its outer end, of the pin having a head at its outer end and formed with diametrically opposite lugs, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILBUR FISK WOOSTER.

Witnesses:
BENNETT S. JONES,
M. S. DUCKETT.