(No Model.)

C. J. M. SCHYCKER.

MANDREL FOR DENTAL ENGINES.

No. 456,208. Patented July 21, 1891.

Fig. 1.

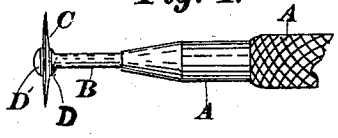


Fig. 2.



Fig. 4.



Fig. 3.

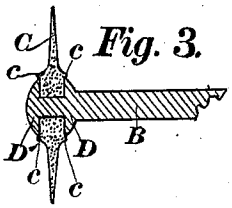


Fig. 5.

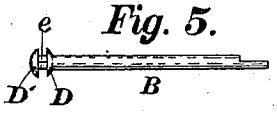


Fig. 6.



Fig. 7.

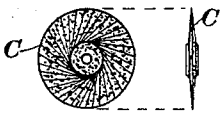


Fig. 8.

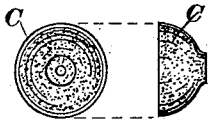


Fig. 9.

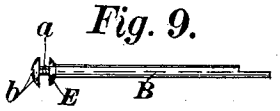


Fig. 10.



Witnesses
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MANDREL FOR DENTAL ENGINES.

SPECIFICATION forming part of Letters Patent No. 456,208, dated July 21, 1891.

Application filed March 9, 1891. Serial No. 384,241. (No model.)

To all whom it may concern:

Be it known that I, CARL JEAN MAURITZ SCHYCKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Mandrels for Dental Engines, of which the following is a specification.

My invention relates to the means used in the lathes or engines used by dentists for holding small polishing or cleaning wheels or disks which are made of rubber charged with polishing-powder; and my object is to give the mandrel such a construction that the rubber cleaning-wheels can be secured in their proper place for work or removed instantly and without the use of movable flanges operated by a screw or any of the means ordinarily employed to secure said wheels. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the end of the tool-holder of an ordinary dental engine, together with a mandrel after my invention, to which is attached one well-known form of rubber disk for cleaning or polishing teeth. Fig. 2 is a view of my improved mandrel detached from the tool-holder. Fig. 3 is a vertical sectional view of a portion of the end of a mandrel, with polishing-wheel in place, after my invention. Figs. 4, 5, and 6 show varieties of mandrels embodying my invention. Figs. 7 and 8 each show, respectively, front and edge views of the rubber wheels for cleaning teeth applicable to my improved mandrel; Fig. 9, an old-style mandrel; and Fig. 10 the end screw for holding the polishing-wheel in position, these last two figures being shown so as better to explain the importance of my construction of mandrel.

Similar letters refer to like parts throughout the drawings.

A is a portion of the hand-piece or tool-holder of an ordinary dental engine, into which is inserted the shank B of a mandrel, and at the outer end of the mandrel is a rubber wheel C of the form shown in Fig. 7.

Fig. 9 shows the mandrel in common use, and which consists of a shank B, which terminates in a flange E at the outer end, and at which end is a screw-threaded hole into which is fitted the screw *a*, the head of the screw *a* being as large as the flange E and having a nick at *b* for a screw-driver. Now it is obvious in this construction that the screw *a* must be removed and again inserted every time the wheels are to be replaced, which not only takes time, but is an annoyance on account of the small size of the parts. In my improvement the flanges D and D′ are stationary and not adjustable, and are usually turned up out of the same piece composing the shank B. The flanges are made of a less distance apart than the thickness of the rubber wheels at the center, so that the wheels when in place for work, Fig. 1, are under sufficient compression between the flanges to produce the necessary friction to hold them for turning on the mandrel when in use for polishing or cleaning teeth. The wheels used are made of a very elastic quality of rubber, so that the central hole can enlarge enough to pass the flanges D or D′ when being forced into position. In the enlarged view, Fig. 3, the rubber wheel is shown in section, filling the entire space between the flanges, and by its elasticity projecting over the flanges at the margins thereof at *c*.

Figs. 4 and 6 show mandrels having flanges with the space between them of a V or U shape, and Fig. 5 shows the mandrel square instead of round at *e*; but all these forms in practice attain about the same results as the simple form shown in Fig. 3.

This invention obviates the annoyance of the screws becoming loose and inoperative in ordinary mandrels, and in the use of chemicals that rust metals there are no screws or other small parts to become clogged or stuck fast and broken when an attempt is made to remove them.

My new mandrel is simple, not costly, and will last an indefinite time when compared with anything yet introduced to the dental profession for the purpose of holding rubber cleaning-wheels.

My invention is adapted to any kind of a wheel for polishing which has an elastic center; and

I claim as my invention—

The combination, with a mandrel for dental engines, comprising a shank adapted to be secured to the engine and provided at its outer

end with two stationary rigid flanges at a slight distance apart, of a perforated polishing device upon the mandrel between the flanges, said polishing device being elastic at its center and of a greater thickness normally than the distance between the flanges, whereby the portion of the device between the flanges is retained in a compressed condition, substantially as described.

CARL JEAN MAURITZ SCHYCKER.

Witnesses:
OSCAR SNELL,
CLAUDIUS BELL.