

(No Model.)

C. A. MEISTER.

ANGLE ATTACHMENT FOR DENTAL HANDPIECES OR OTHER MECHANISM.

No. 553,124.

Patented Jan. 14, 1896.

Fig. 1.

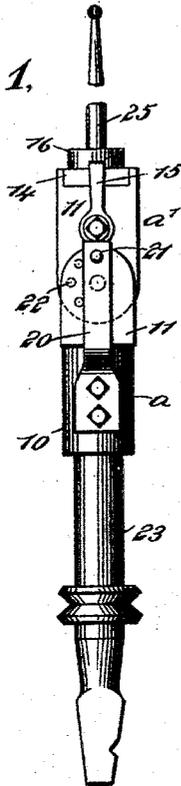


Fig. 2.

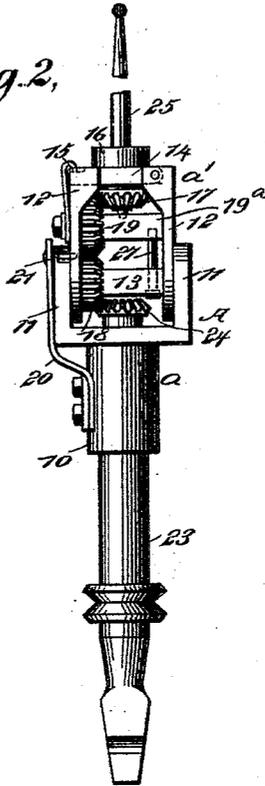


Fig. 3.

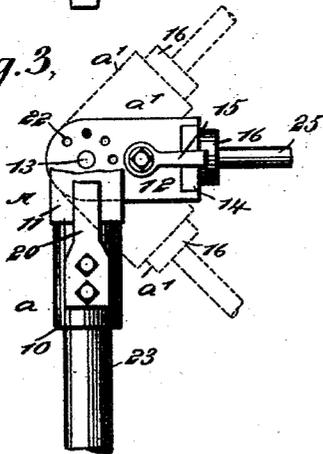
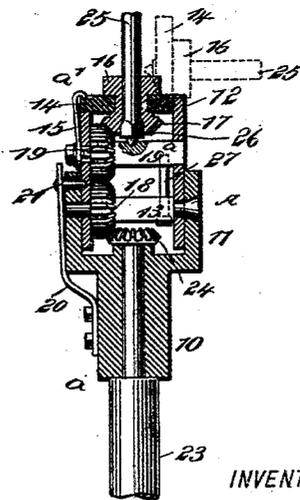


Fig. 4.



WITNESSES:

Edward Thorpe
John A. Schen

INVENTOR

C. A. Meister
BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHRISTIAN A. MEISTER, OF ALLENTOWN, PENNSYLVANIA.

ANGLE ATTACHMENT FOR DENTAL HANDPIECES OR OTHER MECHANISM.

SPECIFICATION forming part of Letters Patent No. 553,124, dated January 14, 1896.

Application filed February 12, 1895. Serial No. 538,131. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN A. MEISTER, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and Improved Angle Attachment for Dental Handpieces or other Mechanism, of which the following is a full, clear, and exact description.

My invention relates to a holder adapted as a chuck or head for small drills or other boring-tools, such as are used in dental or surgical practice; and the object of the invention is to provide a holder which will be exceedingly simple, durable and economic in its construction, and in which a drill may be expeditiously and conveniently placed, firmly held in position and readily removed from the holder; when desired.

A further object of this invention is to provide a holder which may be used as a brace or in connection with a dental-engine, the said holder being constructed in adjustable sections, whereby the drill may be placed and locked at any angle to the shank of the holder or the stem communicating power to the drill.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

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

Figure 1 is a side elevation of the holder with the drill in position therein. Fig. 2 is a front elevation of the holder. Fig. 3 is a side elevation, partially in section, illustrating the drill as placed at an angle to the shank; and Fig. 4 is a longitudinal vertical section through the entire holder.

In carrying out the invention the holder A may be said to consist of two pivotally-connected frames *a* and *a'*. The frame *a* consists of a sleeve 10, having a fork 11 at one of its ends, and the frame *a'* comprises two side pieces 12, pivotally connected with the fork of the frame *a* by means of a shaft 13, which between its ends is ordinarily made polygonal or square or may be made circular, if desired, and the side pieces 12 of the frame *a'* are connected by a head-block 14, which

has a hinged connection with one side piece and is capable of being locked in engagement with the opposite side piece through the medium of a latch 15, preferably placed upon the outer side of one of the side bars 12, as shown in Figs. 1, 2 and 4, the latch being preferably of a spring character.

A chuck 16 is mounted to turn loosely in the head-block 14 and that portion which is journaled in the head-block is of smaller diameter than the remaining portion. That portion of the chuck within the frame *a'* is provided with a beveled gear 17, the said gear being driven in the following manner: A driving-gear 18 is mounted on the shaft 13 and this gear is made to mesh with a like gear 19 mounted on a shaft 19^a parallel with the shaft 13, and the gear 19 is made to mesh with the aforesaid chuck-gear 17. The two frames *a* and *a'* are pivotally connected, as heretofore stated, and as the gears are located upon the pivot-shaft 13 and within the frame *a'* the latter frame may be carried at an angle to the frame *a* without interfering with the driving of the said gear, and the two frames are held at angles to one another and in alignment with each other by means of a spring 20 attached preferably to the frame *a* and provided at its free end with a stud 21, which stud is capable of entering any one of a series of apertures 22 made in the side section of the frame *a'*, as shown in Fig. 3.

The shank 23, to which power is applied, is loosely mounted in the sleeve 10 of the inner frame *a* of the holder, and upon the inner end of this shank a beveled gear 24 is secured, which meshes with the gear 18. In this manner it will be observed that the chuck may be revolved no matter in what position the two frames may be placed relative to each other. The drill 25 or tool that is attached is provided with a square or polygonal head 26, and a portion of the bore of the chuck is correspondingly shaped to receive the said head of the drill, as illustrated in Fig. 4, and when the drill is in position in the chuck and the chuck is in position in the frame *a'* a teat on the head of the drill will enter an aperture in the shaft 19^a. Thus the drill will be prevented from having end movement, and in order that the said shaft may readily stand the end thrust from the drill it is connected

with its parallel shaft by means of a bolt 27 or the equivalent thereof.

In order to place the drill in position, the latch 15 is disconnected from the head-block 14, and the latter is folded outward to the position shown in dotted lines in Fig. 4. The drill may now be introduced into the chuck, or if the drill is in position it may be removed.

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

1. An angle attachment for dental hand pieces and other mechanism, the same consisting of two frame sections pivotally connected, a driving shaft connected with one of the sections, a head block hinged to the free end of the opposing section at one side thereof, a rotatable chuck located in the head block, and a driving connection between the driving shaft and the said chuck, as and for the purpose specified.

2. In an angle attachment for dental hand pieces and other mechanism, pivotally connected frame sections, one section consisting of a sleeve having a fork at one of its ends, and the other section having side pieces, a transverse shaft pivotally connecting the side pieces of one section with the fork of the other section, the said shaft being provided with a gear wheel, a driving shaft mounted in the sleeve of the forked section and provided with a gear wheel upon its inner end meshing with the gear wheel on the transverse shaft, a revoluble chuck carried by the other section and provided with a beveled gear wheel, a second transverse shaft arranged parallel with the first shaft and provided with a gear wheel meshing with the gear on the chuck and also with the gear on the first transverse shaft, and a locking device carried by one of the sections and engaging with the other section, as and for the purpose specified.

3. In an angle attachment for dental hand pieces and other mechanism, pivotally con-

nected frames, one frame being provided with a series of apertures and the other frame with a spring latch adapted to enter the apertures, a driving shaft connected with one of the said frames, a head block having hinged connection with the opposing frame, a revoluble chuck mounted in the head block, and a gear connection, substantially as described, between the driving shaft and the said chuck, as and for the purpose specified.

4. In an angle attachment for dental hand pieces and other mechanism, pivotally connected frames, a head block hinged to the end of one of said frames at one side thereof, a latch device to hold the head block in engagement with the opposite side of said frame, and a chuck mounted to revolve in said head block, as and for the purpose specified.

5. In an angle attachment for dental hand pieces and other mechanism, a frame, a head block having a hinged connection with the frame, a chuck mounted to turn in the head block, a tool carried by the said chuck, and means for preventing end movement of the tool, substantially as described.

6. In an angle attachment for dental hand pieces and other mechanism, a frame, a transverse shaft secured in said frame, a head block having hinged connection with the frame, the said shaft being opposite the head block and provided with a recess, a chuck mounted to revolve in the head block, at right angles to said shaft and having a section of its bore polygonal, and a drill carried by the chuck, having a polygonal head fitted in the correspondingly shaped portion of the chuck bore, the said head being provided with a teat to enter the recess in the said shaft, as and for the purpose specified.

CHRISTIAN A. MEISTER.

Witnesses:

OLIVER S. HENNINGER,
WILLIAM BRESS.