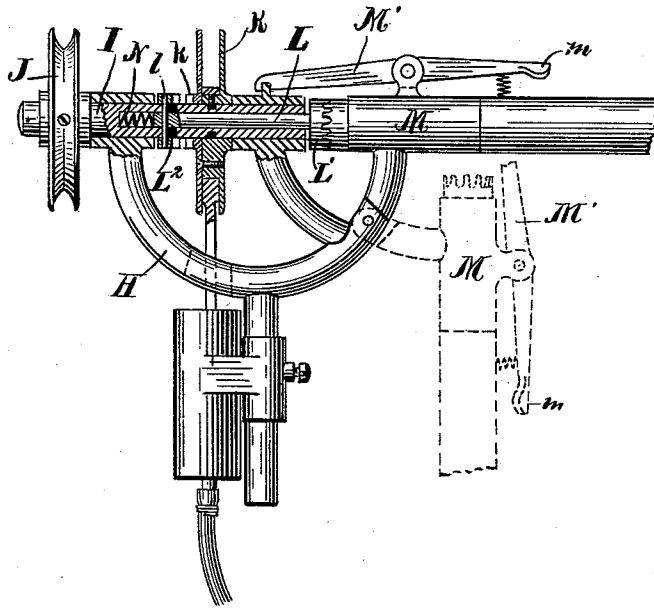


(No Model.)

A. J. HARRIS.
DENTAL ENGINE HEAD.

No. 517,218.

Patented Mar. 27, 1894.



Witnesses.

Wm. E. Reid
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UNITED STATES PATENT OFFICE.

ANDREW J. HARRIS, OF CHICAGO, ILLINOIS.

DENTAL-ENGINE HEAD.

SPECIFICATION forming part of Letters Patent No. 517,218, dated March 27, 1894.

Application filed October 22, 1892. Serial No. 449,582. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. HARRIS, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Dental-Engine Heads, of which the following is a specification.

My invention is intended to be an improvement upon the dental engine head described and claimed in my Patent No. 460,795, issued October 6, 1891, and consists in providing means in connection with the operating machinery, whereby the same driving power can be utilized to operate either the drilling or the plugging mechanism, the driving wheel being readily changed from its engagement with one to the other.

The drawing represents a side elevation, partly in section of my improved dental engine head.

In the drawing I have shown my preferred form of construction, which consists of a head H, in which is mounted in suitable bearings a shaft I, carrying at one end the driving pulley J. Mounted loosely on this shaft, and between the bearings, is the eccentric head K for operating the plugging mechanism, having a face clutch *k* at one side of its hub. The shaft I is provided with a cylindrical opening extending axially into the same, into which is fitted loosely the shaft L, which rotates with the shaft I but has an independent longitudinal movement. At one end of the shaft L is a face clutch L', adapted to engage with and operate the drilling mechanism. At the opposite end and surrounding the shaft I is a clutch L², which is connected to the shaft L, by means of the pin *l*, so that it partakes of the longitudinal motions of the shaft L. The drilling mechanism is held in the bearing M, which is hinged to the head and held in place by means of the spring catch M', so as to engage with the operating mechanism. When it is desired to disengage it therefrom, the end *m* of the spring catch is pressed down and the head allowed to drop into the position shown in dotted lines. The coiled spring N, which impinges against the end of the shaft L, imparts a longitudinal forward motion to the same, which carries the clutch L² into engagement with the eccentric head K, thus operat-

ing the plugging mechanism. It will be seen from this description that the action here is entirely automatic. When the drilling mechanism is lifted into the position shown by the full lines, and adapted to engage with the operating mechanism, it pushes back the spindle L, which carries with it the clutch L², thereby disengaging it from the plugging mechanism, so that but one can be operated at a time, and the disengagement of the plugging mechanism is simultaneous with the engagement of the other.

I have not entered into any detailed description of the plugging or drilling mechanism, as they form no part of this specification.

While I have entered into a more or less minute description of my improvement, I wish it to be understood that I do not intend to limit myself to minor features or unimportant details, but to vary form and construction, as circumstances may suggest or render expedient.

I claim—

1. In a head for dental engines, the combination of plugging mechanism, drilling mechanism, a driving shaft, a supplementary shaft entering an axial opening in the same, rotating with but having an independent longitudinal motion, clutches attached to the supplementary shaft one arranged to engage the plugging mechanism and the other the drilling mechanism and a spiral spring impinging against such supplementary shaft to normally engage it with either the plugging or the drilling mechanism, substantially as described.

2. In a head for dental engines, the combination of the plugging mechanism, the drilling mechanism, the driving shaft and its pulley, a supplementary shaft mounted in the axial bore of the drive shaft to rotate therewith but having an independent longitudinal movement therein, and clutches attached to the supplementary shaft at its opposite ends whereby they may be caused to alternately engage or disengage the plugging and drilling mechanism, substantially as described.

ANDREW J. HARRIS.

Witnesses:

WALTER A. CROWDUS,
EPHRAIM BANNING.