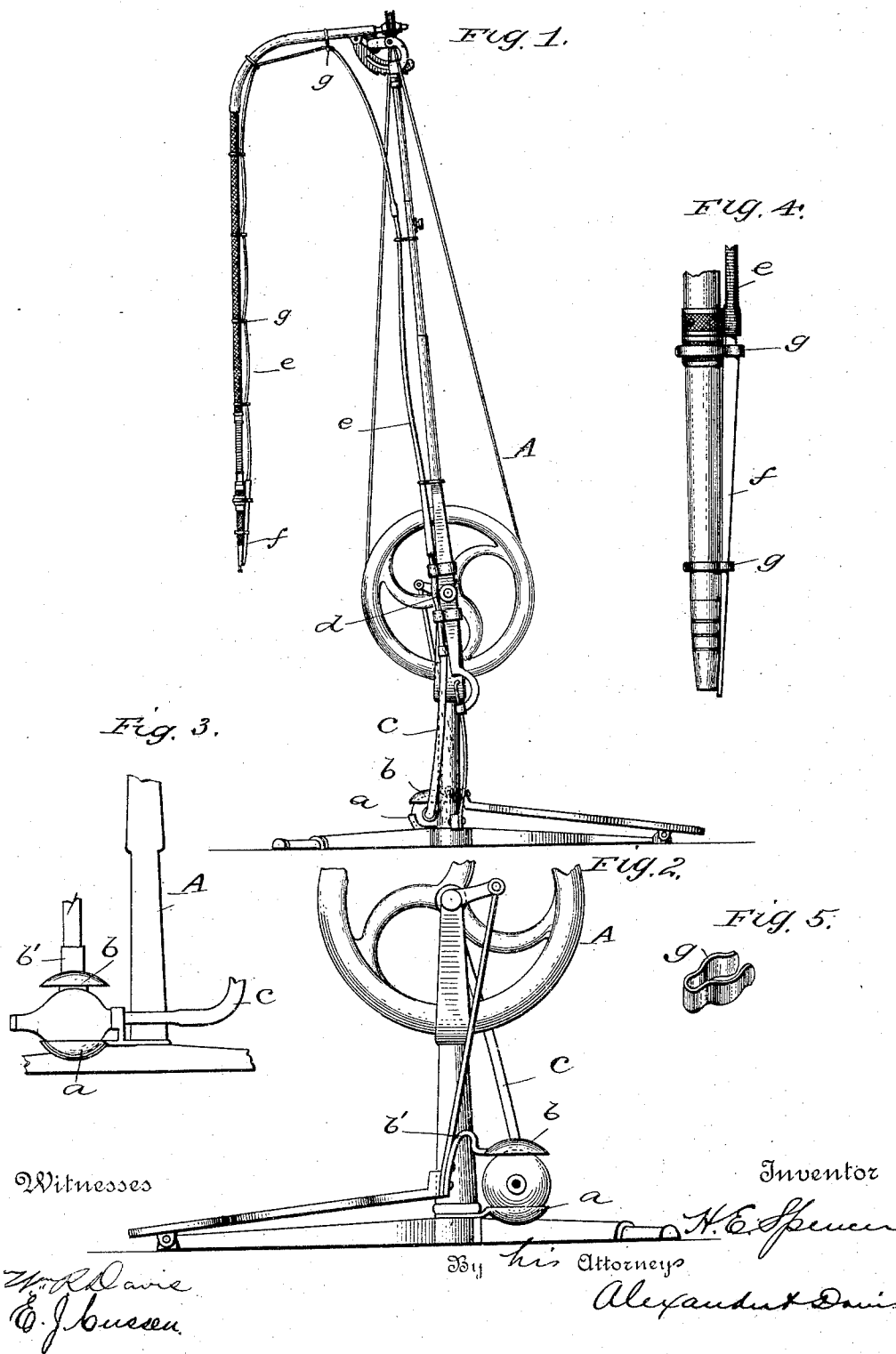


(No Model.)

H. E. SPENCER.
DENTAL ENGINE ATTACHMENT.

No. 477,076.

Patented June 14, 1892.



UNITED STATES PATENT OFFICE.

HENRY E. SPENCER, OF SPENCER, MISSISSIPPI.

DENTAL-ENGINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 477,076, dated June 14, 1892.

Application filed October 10, 1891. Serial No. 408,298. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. SPENCER, a citizen of the United States, residing at Spencer, in the county of Copiah and State of Mississippi, have invented certain new and useful Improvements in Dental-Engine Attachments, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 represents a side elevation of an ordinary dental engine provided with my attachment; Fig. 2, a detail side elevation, slightly enlarged, of the lower part of the engine; Fig. 3, a similar view looking in another direction; Fig. 4, a detail view of the tool-holder and blowing-nozzle attached thereto, and Fig. 5 a detail view of one of the clamps employed.

This invention has relation to that class of dental engine provided with a simple attachment for automatically blowing the dust and chips from the tooth of the patient as fast as formed by the burr or drill, whereby the dentist is enabled to perform his work with more accuracy and dispatch, the tooth is kept at an even temperature during the operation, and the burr or drill is kept from overheating and clogging, the air-blast being created by the same power employed to drive the drill or burr, as will more fully appear hereinafter.

30 In the drawings, A designates the dental engine, which may be of any ordinary construction, but which in the present instance is of that pattern operated by a foot-pedal and having a vertical pivoted and adjustable arm supported upon the standard and a flexible working arm or shaft journaled upon a pivoted extension of the said adjustable arm, as is well known.

40 Bolted or suitably secured to the standard of the engine, near its base, is a laterally-extending concaved plate *a*, in which is supported a valved syringe-bulb of the usual form. A similar concaved disk *b* is connected to the forward end of the pedal or pitman of the machine by a spring-arm *b'*, this concaved disk *b* being arranged directly over the bulb

in the lower plate, so that at each stroke of the pedal the bulb will be compressed and the air therein forced out in the usual manner. 5c The spring-arm connecting the upper plate *b* to the pedal yields at each compression, thereby relieving the bulb from sudden and rigid shocks.

A flexible tube *c* is connected at one end to 55 the outlet end of the bulb, and its other end is connected to the lower end of a vertical pipe *d*, secured to the swinging arm of the engine at its pivotal connection with the standard. The upper end of the metal tube *d* has 60 connected to it a small flexible tube *e*, which extends up along the pivotal and working arms of the engine, and is connected to a finely-tapered air-nozzle *f*, secured to the tool-holder at the end of the flexible arm. The 65 flexible tube *e* may be detachably secured to the adjacent arms of the engine by means of spring-clamps *g* or by other suitable means, and the nozzle is also secured in the same manner to the tool-holder, whereby the tube 70 and nozzle may be temporarily removed whenever desired.

It will be observed that the operation of the pedal will cause a blast of air to issue from the nozzle, whose point terminates in 75 close proximity to the boring or drilling tool, which will not only serve to blow all dust and chips from the cavity being formed in the tooth, but will also keep the tooth of an even temperature and prevent the tooth becoming 80 clogged and overheated.

Having thus fully described my invention, what I claim, and desire to secure by letters Patent, is—

1. The combination, with a dental engine, 85 of a stationary plate secured to the lower part thereof, a flexible valved bulb secured on said plate, a movable plate above the bulb and connected to the pedal, a flexible air-tube connected to the outlet end of the bulb 90 and extending to the tool-holder at the end of the flexible arm of the engine, a nozzle secured on the end of the air-tube, and clasps secured at intervals along the flexible air-tube,

whereby the same may be detachably connected to the working arm and flexible shaft of the engine, substantially as described.

2. The combination, with a dental engine,
5 of a stationary concaved plate secured to the lower part thereof, a bulb supported on said plate, a movable plate above the bulb and connected to a movable part of the machine by a spring-arm, a flexible air-tube connected to

the bulb and extending to the tool-holder, and an air-nozzle connected to the end of the said tube, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY E. SPENCER.

Witnesses:

B. M. BARRINGTON,

T. B. BIRDSONG.