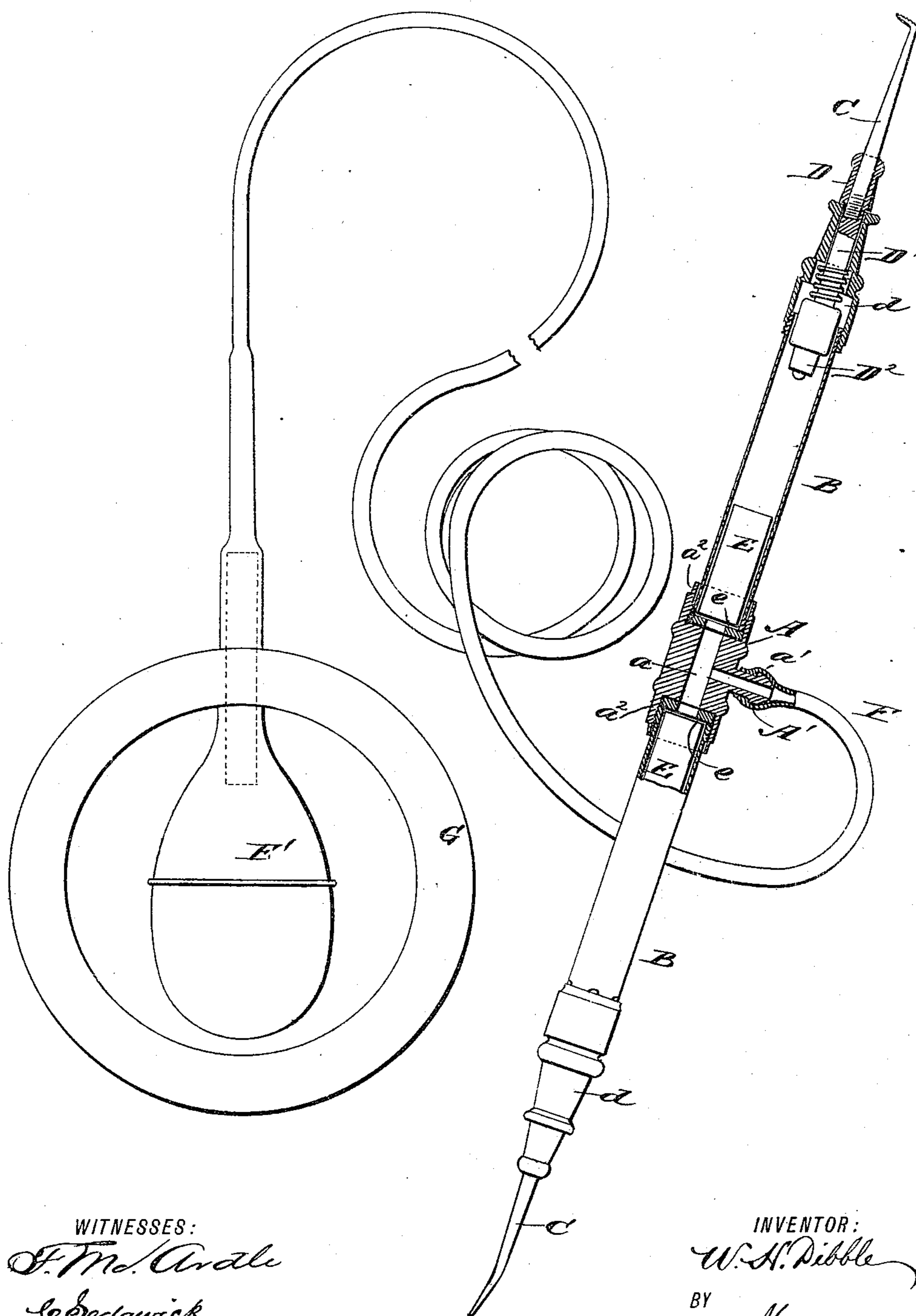


(No Model.)

W. H. DIBBLE.
DENTAL Mallet.

No. 442,768.

Patented Dec. 16. 1890.



WITNESSES:
F. Mc. Arale
C. Sedgwick

INVENTOR:
W. H. Dibble
BY
Munn & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM H. DIBBLE, OF BROOKLYN, NEW YORK.

DENTAL MALLET.

SPECIFICATION forming part of Letters Patent No. 442,768, dated December 16, 1890.

Application filed September 8, 1890. Serial No. 364,237. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DIBBLE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Dental Mallet, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of mallets which are used by dentists in filling teeth, and more especially to pneumatic dental mallets.

As heretofore constructed dental mallets have been provided with a plugger at one end only, and when a different plugger is to be used the one in the handle has to be removed and replaced by the desired plugger. This causes considerable delay and annoyance, as it is often necessary to do the work of filling very rapidly. Another objection to the common form of mallet is that when worked pneumatically the motion of the plunger is imparted to the entire mallet instead of to the plugger alone, and there is a loss of motion, and consequently of efficiency.

The object of my invention is to obviate these difficulties; and to this end my invention consists in a dental mallet having a plugger at each end, and having means for delivering a blow simultaneously on each plugger, so that one blow neutralizes the other. The handle remains stationary, and the entire effective force of the stroke is imparted to the plungers.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure is a broken plan view of the mallet and the pneumatic attachment for operating it, a portion of the mallet being shown in longitudinal section.

The mallet has a central coupling A, through the center of which extends a longitudinal bore a , the coupling being also provided with a radially-extending boss A' , adapted to be coupled to the air-tube and having a bore a' , which enters the central bore a and delivers air to the same. The coupling has annular flanges a^2 at each end, which carry the plunger-cushions and which are internally screw-threaded to receive the screw-threaded ends of the tubes B, which, together with the coupling, form the handle of the mallet.

The plungers C are held at each end of the

mallet—that is, in the outer ends of the tubes B—the plungers being screwed into the threaded sockets D, which are formed in the outer ends of the spindles D' , the inner ends of the spindles being formed into buttons D^2 to receive the blows of the plungers E. The spindles D' move longitudinally in the couplings d , by which they are united to the tubes B, and the spindles are normally pressed inward by spiral springs, so that when forced out by the plungers they will immediately resume their normal position. A rubber cushion e is interposed between the inner ends of the tubes B and the coupling A, the cushions serving the double purpose of deadening the sound of the plungers as they return after striking the buttons D^2 and of packing the joint between the tubes and coupling so as to make it air-tight.

I have not described in detail the construction and operation of the plungers and the connections between the plungers and tubes B as they form no part of my invention and may be arranged in any of the usual ways.

The plungers E are arranged on each end of the coupling A, so as to slide in the tubes B, and the outer ends of the tubes are perforated, as shown, so that the air may escape at each stroke of the plungers, thus overcoming the resistance which would otherwise take place.

A tube F, which is preferably of rubber, is coupled to the coupling-boss A' , and connects with the bulb F' , which is held in a ring G in the usual manner, so that it will lie upon the floor in a stationary position to enable it to be pressed by the foot.

The mallet is provided with a plugger at each end, as described, and these two plungers are usually all that is necessary to fill a tooth, so that the dentist to change plungers, instead of having to stop and unscrew one plugger and insert another in its place, merely turns his mallet end for end.

The mallet operates substantially like the ordinary mallet. The dentist presses with his foot on the bulb F' , which forces the air through the tube F and coupling A into the tubes B, thus forcing the plungers E to the outer ends of the tubes B, so as to simultaneously strike the buttons D^2 and actuate

the pluggers. When the pressure is removed from the bulb, the air is withdrawn from the tubes B, the plungers E follow the air, being forced into the vacuum thus created, and the
5 plugger-springs cause the pluggers to resume their normal position. As the plungers strike the opposite plugger-buttons at the same instant, there is no motion in the mallet-handle and the pluggers receive the whole force of
10 the blows delivered by the plungers, the amount of force being in proportion to the pressure on the air-bulb.

I have shown and described a pneumatic mallet having a plugger at each end; but it
15 is obvious that other styles of mallets may be provided with pluggers at each end, and I therefore do not confine myself to the precise form shown and described.

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

1. A dental mallet having a plugger at each end, and having means for simultaneously actuating the pluggers, substantially as de-
25 scribed.

2. A dental mallet having a spring-pressed plugger at each end and means for simulta-

neously striking the pluggers, substantially as described.

3. A dental mallet comprising a tubular
30 handle with spring-pressed pluggers at each end, plungers adapted to slide in the handle, and an air-tube connecting centrally with the handle and at the opposite end with the bulb, substantially as described.

4. The combination, with a mallet of the
35 character described and the air-tube connected therewith, of the air-bulb coupled to the tube, and the ring encircling the bulb, substantially as described.

5. A dental mallet comprising a central
40 coupling having a longitudinal bore and a lateral bore connecting therewith, tubes connected with each end of the coupling and provided at their outer ends with spring-pressed
45 pluggers, plungers adapted to slide in the tubes and strike the pluggers, and an air-tube having one end connected with the lateral bore of the coupling and the opposite end coupled to a bulb, substantially as described.

WILLIAM H. DIBBLE.

Witnesses:

WARREN B. HUTCHINSON,
E. M. CLARK.