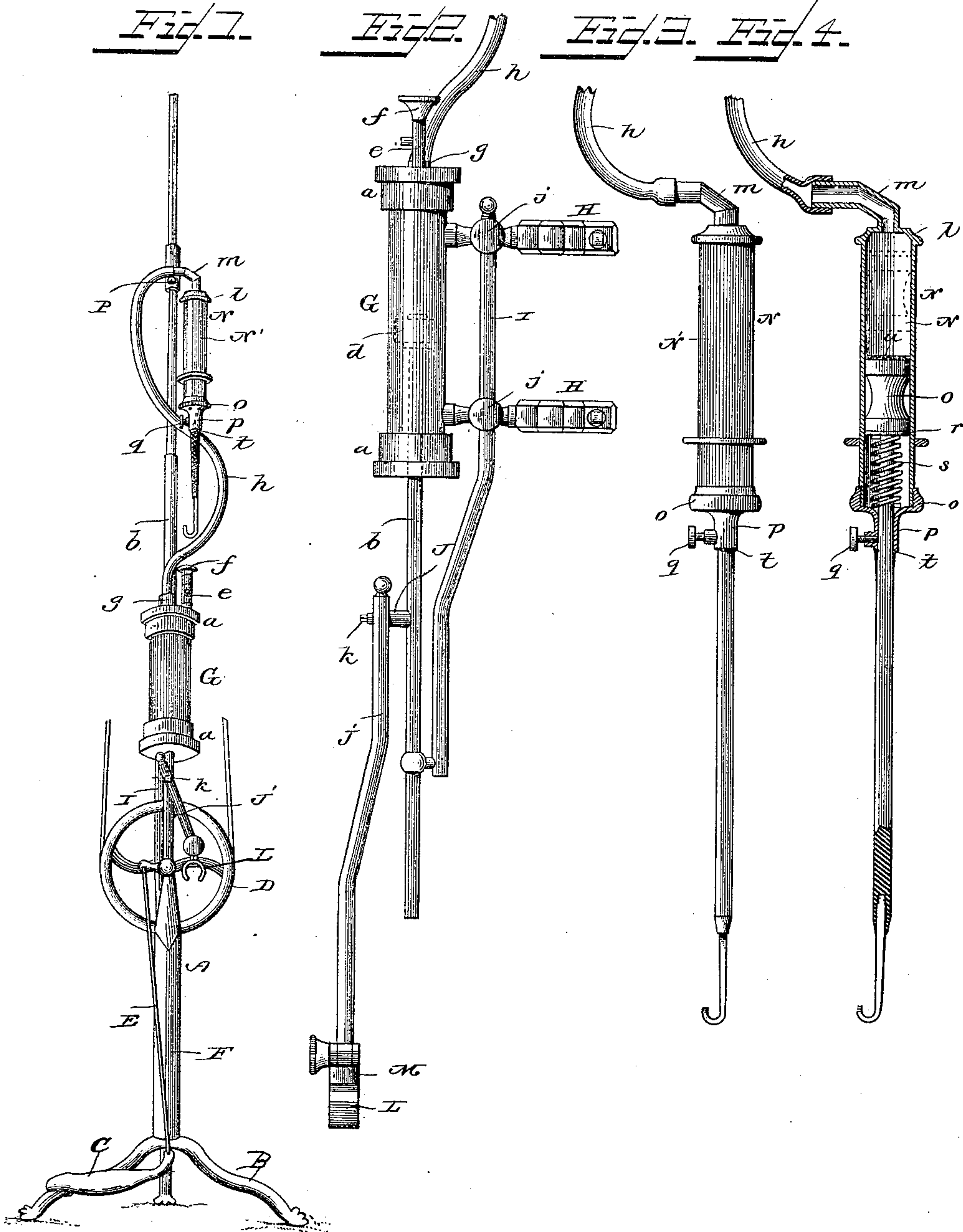


(No Model.)

W. K. MOORE.  
DENTAL PLUGGER.

No. 329,587.

Patented Nov. 3, 1885.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## DENTAL PLUGGER.

SPECIFICATION forming part of Letters Patent No. 329,587, dated November 3, 1885.

Application filed July 3, 1885. Serial No. 170,617. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER K. MOORE, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented a new and useful Improvement in Teeth-Pluggers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to a plugger designed for use in filling teeth, the object being to combine with a plugger an air-pump for actuating the filling-point, whereby a positive and uniform movement will be imparted to the filling-point, said air-pump being designed to be connected with and run by a dental engine, thus obviating the tiresome operation of the plugger by hand.

The invention consists in the peculiar construction, and combination and arrangement and adaptation of the various parts for service, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view showing my improvements applied to a dental engine. Fig. 2 is a detail view of the air-pump removed. Fig. 3 is a detail view of the plugger, and Fig. 4 is a longitudinal vertical section of the same.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, A represents a dental engine, which is of any ordinary or well-known construction. B represents the base thereof; C, the treadle; D, the band-wheel; E, the connections between the band-wheel and treadle. F represents a standard, to the upper end of which is attached mechanism for operating a dental drill.

As no novelty is claimed upon the engine or drill-operating mechanism, it is thought that a specific description thereof is not necessary.

G represents the air-pump, which consists of a cylinder having removable caps or heads *a*, one of which is provided with an opening for the passage of the piston-rod *b*, which carries the head *d*. In the other head is provided an exhaust-pipe, *e*, controlled by a valve, *f*. Said head is also provided with a short pipe, *g*, to which the end of a flexible pipe, *h*,

leading to the plugger, is adapted to be connected. Upon the air-pump G are provided outwardly-extending brackets H, which are adapted to fit upon standard F and be clamped at any desired point thereon by means of set-screws.

I represents a rod, which is removably secured to the clamping-brackets H by set-screws *j*. The said rod is provided at its lower end with a loop, through which the piston-rod passes, thus guiding and holding said rod in position.

J represents a projection extending outwardly from the piston-rod, and to said projections is pivotally connected a rod, *J'*, by a screw-pin, *k*, having a smooth bearing portion for the rod to turn upon. To the lower end of the rod K is secured a swivel-bracket, L, which is adapted to be connected with a crank-arm, M, on the band-wheel shaft. It will thus be seen that when the band-wheel is turned the piston will be moved in and out of the cylinder through the agency of the rod K, thus forcing air through the flexible pipe.

N represents the plugger, which consists of a cylindrical casing, *N'*, closed at one end by a head, *l*, in which is a pipe, *m*, to which the other end of the flexible pipe is connected. At the other end of the cylindrical casing is a removable head, *o*, having a collar, *p*, through which the plugging-point passes, and working in a threaded opening in said collar is a set-screw, *q*, whereby the drill-point may be clamped and held stationary. Upon the inner end of the plugging-point is a disk, *r*, and mounted on said point, between the disk *r* and inside of the head, is a spiral spring, *s*. A shoulder, *t*, is provided on the plugging-point, which is adapted to bear against the upper end of the collar *p*, and thus limit the movement of the plugging-point. Within the casing *N'* is a sliding hammer or follower, O, which is adapted to be forced to the front end of the casing and strike the disk on the end of the plugging-point when the charge of air in the pump has been forced through the flexible pipe, said plugging-point being retracted by the spiral spring. The air which may be in casing *N'* in advance of the hammer or follower is forced out by the same when it ad-



vances through holes or openings in the head  
o. Upon the standard F is provided an arm  
or rest, P, from which the plugger and air-  
pump may be suspended when not in use.

5 The sliding hammer is provided on one end  
with a rubber disk, *u*, and when the device is  
to be used to fill cavities in the rear sides of  
teeth the sliding hammer is reversed, so that the  
end having the rubber disk thereon will strike  
10 against the disk *r* on the end of the plugging-  
point, said point being held stationary by the  
set-screw *q*. In this a plugging-point having  
a hooked end is employed. The rubber disk  
striking the disk *r* causes the hammer to re-  
15 bound, and as the drill is held stationary the  
plugging-point is caused to strike in the cav-  
ity in the rear side of the tooth.

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

1. The combination, with the standard F  
and the band-wheel and treadle of a dental  
machine, of an air cylinder carrying clamp-  
ing-brackets engaging with said standard, a  
25 piston working in said cylinder, and a rod,  
J, having a pivot for the piston-rod, and con-  
nected to the band-wheel of the dental engine,  
and adapted to be operated thereby, substan-  
tially as described.

2. The combination, with a standard and the 30  
band-wheel and treadle of a dental engine, of  
an air-cylinder having an exhaust-port con-  
trolled by a valve, brackets secured to said  
cylinder and adjustably secured to the stand-  
ard F, a piston-rod working in said cylinder, 35  
a rod, J, carrying a pivot for the piston-rod  
and having a swiveled lower end adapted to  
engage the band or drive-wheel of a dental  
engine, and a rod, I, connected to the clamp-  
ing-brackets and carrying a guide for the pis- 40  
ton-rod, substantially as described.

3. The combination of the plugger-cylin-  
der, a plugging-point having a hooked end  
and a disk, a coiled spring arranged between  
the cylinder-head and the plugger-point disk, 45  
a set-screw working through a collar secured  
to the cylinder-head and adapted to clamp the  
plugging-point, and a reversible follower hav-  
ing an elastic disk, substantially as described.

In testimony that I claim the foregoing as 50  
my own I have hereto affixed my signature in  
presence of two witnesses.

WALTER K. MOORE.

Witnesses:

AMOS HOLGATE,  
JOHN P. HOLGATE.