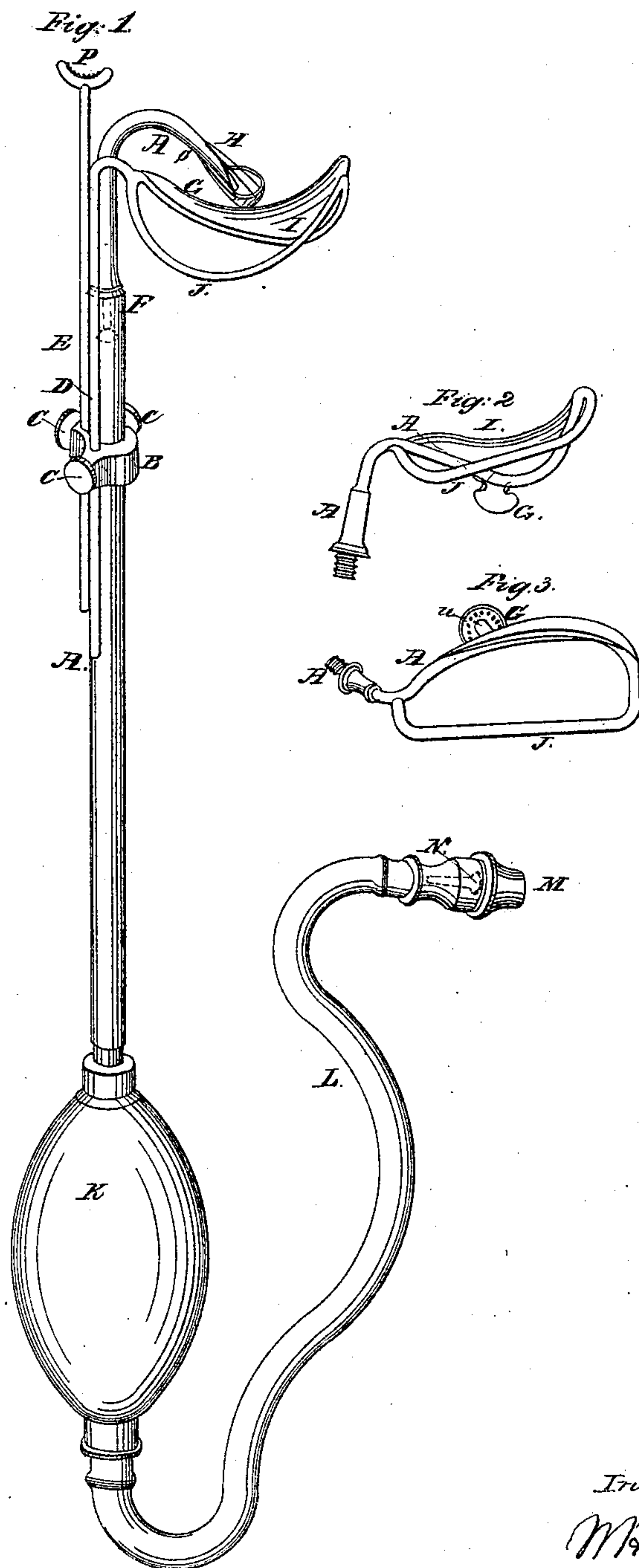


W. H. Dibble,
Dental Apparatus.

N^o 50,461.

Patented Oct. 17, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. DIBBLE, OF BORDENTOWN, NEW JERSEY.

IMPROVEMENT IN DENTAL APPARATUS.

Specification forming part of Letters Patent No. 50,461, dated October 17, 1865.

To all whom it may concern:

Be it known that I, WILLIAM H. DIBBLE, of Bordentown, in the county of Burlington and State of New Jersey, have invented a new and useful Improvement in Dental Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents an apparatus made according to my invention. Fig. 2 shows a modification in the way of making and connecting the tongue-holder with the main tube, the tongue-holder being seen in side view. Fig. 3 is a plan thereof.

Similar letters of reference indicate corresponding parts.

The object of this invention is to facilitate the dental operations of repairing and filling the teeth of the lower jaw and to prevent saliva from wetting them while the work is going on; and it consists in means for holding the tongue away from the teeth; also, in means for supporting the upper jaw and so assisting the muscles which keep the mouth open; and in means for pumping the saliva out of the mouth as fast as it is discharged by the glands, the several devices by which these objects are brought about being attached to the same stock and composing one implement.

A designates a metallic tube whose lower end is connected to a pump, K, of rubber, from whose opposite end proceeds a rubber or other elastic tube, L, the end of which is fitted with a valve, N, opening outwardly or toward the mouth M of the tube. The tube A should be of such a length as to reach to the mouth while one in a sitting attitude is holding the pump K in his hand. The tube A may be of any rigid material sufficiently stiff to remain erect, and its upper end is greatly reduced in diameter, and is bent over to a semicircular form, so that its end which is left open is directed downward. This open end is surrounded by a basin, G, which is attached to the pipe or tube A by means of wires H, which extend from the edge of the basin round about, up around the sides of the pipe, to which they are attached by soldering or in any other convenient way. The back part of the basin may

also have a rigid connection with the pipe by means of an arm, O, extending from the basin's edge. These wires and the arm O prevent the mucus membrane from coming in contact with and so closing the end of the tube, and they also effectually protect the inside of the basin from the tongue, while they do not prevent the flow of saliva into it. The upper part of the pipe or tube, below its curved top, has a valve, F, opening inward.

B is a collar, which, in this example of my invention, is fixed about the tube; but it may be placed loose thereon and be made capable of adjustment by means of a set-screw. Through the edge of this collar are perforations to receive the rods of the supporter P and of the tongue-holder I. It may also have perforations to enable it to sustain a tongue-holder on the opposite side of the mouth. The rods D E of these devices are upheld in the collar by means of set-screws C.

The device designated by the letter P is a curved bed having a roughened surface and placed on the end of a rod, E, which is sustained at any desired height by a set-screw, C, as above explained. The office of this device is to relieve the muscles of the face by supporting the upper jaw, and so keeping the mouth open for a long time, while the lower teeth are being operated on or are being filled. The upper teeth will rest on the curved bed P, whose roughened surface will keep them from slipping on it. The rod D carries in its upper end a plate, I, which is so curved and bent as to present a concave upper surface along its longitudinal axis, while it is also convex on its upper surface in a transverse direction. Its ends are narrow, and it gradually increases in width from its ends on its right-hand side, at the same time inclining downward at an angle of about forty-five degrees. Its inner or right-hand side, which is also highest, is nearly on the same vertical plane throughout its length.

J is a bow of wire whose ends are fixed to the ends of plate I. It curves not only outward from the plate, but also downward, so as to lie outside the lower teeth and hold the cheek away from them.

The shape of the bow is not intended by me to be arbitrarily fixed, but it may be changed to suit the operator both in respect to its elevation and its convexity. The plate I may also

be changed, according to the judgment of the operator. Its office is to hold back the tongue away from the teeth which are to be filled or operated on, so that they and the gold or other filling to be put in them and the cavities in them may be kept perfectly dry while the dental operations are being carried on.

The plate I should be adjusted to such a height as to be a proper distance below the basin G, to enable the latter to receive the saliva discharged into the mouth about the tongue. The open end of the tube A is near the bottom of the basin, so that when the latter is full of liquid the mouth of said tube is covered, thus allowing the pressure of the atmosphere to drive the liquid into the tube when the syringe-pump K is operated. When the patient or the operator compresses the pump the air in it and in the elastic tube L will be partly driven out through the valve M. When the pump is released its elastic sides become restored to their places, a partial vacuum is formed within it, and the valve N becomes closed by the pressure of the atmosphere. At the same time the pressure of the atmosphere upon the surface of the liquid in the basin G drives that liquid into the tube A, whence it runs by gravity through the pump and elastic tube L and out of the valve N. The side of the mouth where the bow J comes may be also cleared of saliva by running a branch tube around along outside of the bow. It is only necessary to make the plate I and its bow the converse of the shape here shown and to secure the rod on the opposite side of the collar B in order to use my invention on the right side of the mouth.

The modification in the tongue-holder seen in Figs. 2 and 3 enables me to connect it directly to the main tube, thereby making the apparatus less bulky, and therefore relieving

the patient by taking up less space in the mouth. The separate rod to support the tongue-holder is here dispensed with, and the basin G is placed on its lower side, the tube A being continued along that side, and forming one of the edges of the holder, and an open tube, U, being extended down from the tube A into the bottom of the basin.

The mouth of tube U should be protected from contact with the mucus membrane by a cage, H, as shown in Fig. 1, or in any other suitable manner.

The basin G may be placed at any other point that is chosen for it on the tongue-holder, according to the will and judgment of the operator.

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

1. The apparatus above shown, for the use of dentists in filling and operating on the teeth, whereby the tongue and cheek are held off from the teeth, the mouth is kept open by giving artificial support to the upper jaw, and liquid is drawn from the mouth without interfering with the operations of the dentist by means of a pump, substantially as shown.

2. The combination of the basin G and tube U with the tongue-holder I, constructed substantially as shown.

3. The combination of the tube A and basin G, with a pump, substantially as shown.

4. Protecting the end of the tube from the mucus membrane and protecting the interior of the basin from the tongue by the cage H, substantially as shown.

5. The bow J, for holding the cheek away from the teeth, substantially as shown.

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Witnesses:

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