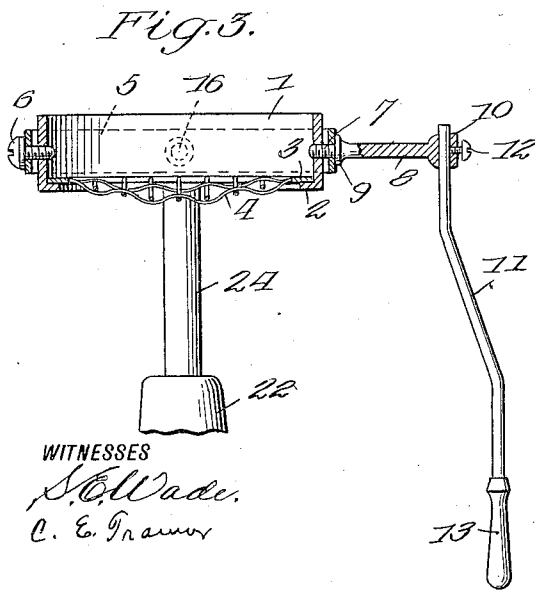
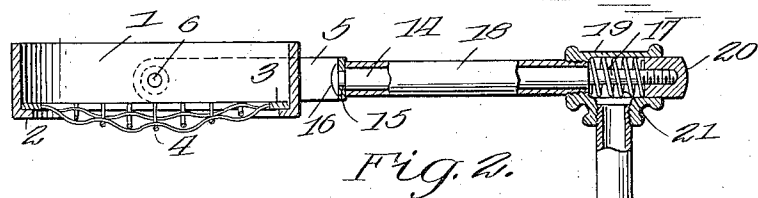
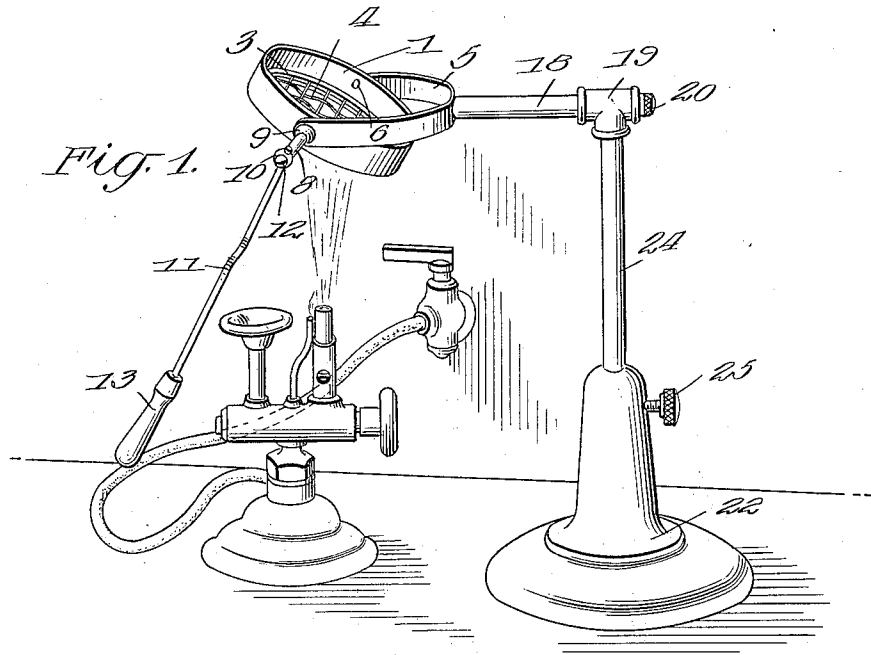


F. E. BUCK.
DENTAL APPARATUS.
APPLICATION FILED MAY 17, 1912.

1,036,441.

Patented Aug. 20, 1912.



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DENTAL APPARATUS.

1,036,441.

Specification of Letters Patent.

Patented Aug. 20, 1912.

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To all whom it may concern:

Be it known that I, FRED E. BUCK, a citizen of the United States, and a resident of Jacksonville, in the county of Duval and State of Florida, have made certain new and useful Improvements in Dental Apparatus, of which the following is a specification.

My invention is an improvement in dental apparatus, and has for its object the provision of a simple, inexpensive, and easily operated device of the character specified, wherein a holder is provided having a perforate bottom, and mounted to permit a maximum adjustment, both laterally, angularly and vertically, and wherein any adjustment may be made with one hand, and with a single handle.

In the drawing: Figure 1 is a perspective view of the improvement in use, Fig. 2 is a longitudinal vertical section, and Fig. 3 is a section of the holder at right angles to Fig. 2.

The present embodiment of the invention comprises a ring 1 of suitable depth and diameter and provided at its lower edge with an internal annular flange 2. A grating or screen is held on the flange 2 and forms a bottom for the ring. The grating or screen comprises a ring or annular frame 3, and a screen 4 extending across the ring, the screen being formed of crossed wires, and being concave on its upper face, thus adding to the depth of the holder, consisting of the ring 1 and the screen. The ring or frame 3 is seated on the flange 2, and the said ring is of such size that it fits closely within the ring 1 and is thus held in place. The ring or frame may however be secured in place if desired.

The holder is supported by a semicircular spring steel frame 5, the free ends of the said frame each having a transverse opening for receiving a screw to hold the holder in place. The opening at one end of the frame is traversed by a screw 6, which engages an opening in the ring 1, and the opening at the other end is traversed by a screw 7. The screw 7 is formed by reducing the end of a stem 8, and an annular shoulder 9 is formed between the stem and the reduced end. The screw engages the opening at the end of the frame 5 and a registering

opening in the ring 1, and the shoulder 9 bears against the outer face of the spring frame. The outer end of the stem is enlarged to form a head 10, and the said head is perforated to receive one end of a rod 11. A set screw 12 is threaded through the head into the perforation and engages the rod to secure it in adjusted position. The respective ends of the rod 11 are off-set laterally from each other, Fig. 3, and a grip 13 is secured to the outer end. It will be evident that the holder may be moved in the spring frame by means of the rod, and the handle formed by the grip and rod may be lengthened or shortened if desired.

A rod 14 is secured to the center of the spring frame 5, one end of the rod being reduced, as shown at 15 to pass through an opening in the frame, and the reduced end is headed on the opposite side of the frame, as shown at 16. The other end of the rod is also reduced, as shown at 17, and the extremity of the reduced portion is threaded. The rod 14 is held in a sleeve 18, one end of the sleeve abutting against the spring frame 5, and the other end is threaded into one end of a T 19. The reduced portion 17 of the rod is beyond the adjacent end of the sleeve 18, and the threaded end of the reduced portion is engaged by a nut 20, which fits in the other end of the T. A spring 21 is arranged between the nut 20, and the shoulder formed between the reduced portion, and the body of the rod.

A support or standard is provided for the T, the said support consisting of a base or outer section 22, having a vertical opening 23, in which is secured the tubular inner section 24 of the support. The upper end of the inner section is threaded into the lateral branch of the T, and a set screw 25 is provided for holding the sections of the support or standard in adjusted position.

The nut 20 is provided with a roughened or milled surface for convenience in turning the same, as is also the set screw 25. It will be evident that by loosening the set screw 25, the holder may be adjusted vertically, and by manipulating the handle the holder may be swung in the spring frame. The frame may also be oscillated by the handle, the rod 14 turning in the sleeve 18.

The spring 21 holds the frame in adjusted position, and the tension of the spring may be adjusted by means of the nut 20. The spring presses the sleeve 18 against the frame, and causes sufficient friction to hold the frame in the position in which it is placed.

The improved apparatus is designed for use in soldering cases of bridge work, especially large cases, where several different positions are necessary.

I claim:—

1. A device of the character specified, comprising a holder consisting of a ring and having at its lower end an internal annular flange, a grating comprising an annular frame fitting within the ring and resting on the flange and a perforate screen arranged across the frame and secured thereto, said screen consisting of crossed wires and being concave on its inner face, a semicircular spring frame embracing the ring, a screw passing through each end of the spring frame and engaging the ring, said screws engaging the ring at opposite points, a rod secured to the spring frame at its center, a support comprising an outer section or base having a vertical opening, and an inner section or sleeve slidable in the opening, a set screw for holding the sections in adjusted position, a T at the upper end of the inner section, the lateral branch of the T engaging the said upper end, said rod extending through the T, a sleeve on the rod, one end of the sleeve engaging the frame and the other being secured in the end of the T, a nut threaded onto the outer end of the rod, said nut fitting within the end of the T, one of the screws connecting the frame to the ring being extended longitudinally and having a head provided with a transverse opening, a rod passing through the opening at one end and having a grip at the other, and means for securing the rod to the head.

2. A device of the character specified, comprising a holder consisting of a ring and having at its lower end an internal annular flange, a grating comprising an annular frame fitting within the ring and resting on the flange and a perforate screen arranged across the frame and secured thereto, said screen consisting of crossed wires and being concave on its inner face, a semicircular spring frame embracing the ring, a screw passing through each end of the spring frame and engaging the ring, said screws engaging the ring at opposite points, a rod secured to the spring frame at its center, an adjustable support, a rotatable connection between the support and the rod, yielding means for holding the frame in adjusted position, and a rod secured to one of the connecting screws between the frame and the ring, said rod having a grip at its outer end.

3. A device of the character specified, comprising a holder consisting of a ring and having at its lower end an internal annular flange, a grating comprising an annular frame fitting within the ring and resting on the flange and a perforate screen arranged across the frame and secured thereto, a semicircular spring frame embracing the ring, a pivotal connection between the ends of the frame and the ring, said connections being at opposite points of the ring, a rod secured to the ring at one of the said connections for swinging the ring, an adjustable support, a rod connecting the frame to the support and rotatable in the support, and yielding means for holding the frame in adjusted position.

4. A device of the character specified, comprising a ring, a screen or grating arranged transversely of the ring at one end, a substantially semicircular spring frame, a pivotal connection between each end of the frame and the ring, said connections being at diametrically opposite points on the ring, a radially extending stem at one of the said connections and rigid with the ring, said stem having a transverse perforation at its outer end, a rod having one end in the opening and provided with a grip at the other end, a rod secured to the center of the frame, a sleeve on the rod adjacent to the frame, a nut threaded onto the outer end of the rod, a spring between the nut and the sleeve, and an adjustable support connected to the sleeve.

5. A device of the character specified, comprising a ring, a screen or grating arranged transversely of the ring at one end, a substantially semicircular spring frame, a pivotal connection between each end of the frame and the ring, said connections being at diametrically opposite points on the ring, a handle rigidly connected to the ring at one of its pivotal connections, a rod secured to the center of the frame, a sleeve on the rod adjacent to the frame, a nut threaded onto the outer end of the rod, a spring between the nut and the sleeve, and an adjustable support connected to the sleeve.

6. A device of the character specified, comprising a ring, a screen or grating arranged transversely of the ring at one end, a substantially semicircular spring frame, a pivotal connection between each end of the spring frame and the ring, said connections being at diametrically opposite points on the ring to hold the ring in any desired position, a handle rigid with the ring, a rod secured to the center of the frame, a sleeve on the rod adjacent to the frame, a nut threaded onto the outer end of the rod, a spring between the nut and the sleeve, and an adjustable support connected to the sleeve.

7. A device of the character specified,

comprising a ring, a screen or grating arranged transversely of the ring at one end, a substantially semicircular spring frame, a pivotal connection between each end of the
5 spring frame and the ring, said connections being at diametrically opposite points on the ring, a support for the frame, a rod con-

nected to the frame at its center and rotatable on the support, and a handle secured to the ring.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."