(No Model.) 2 Sheets—Sheet 1.

C. H. GILBERT.

DENTAL BRACKET.

No. 267,186. Patented Nov. 7, 1882.

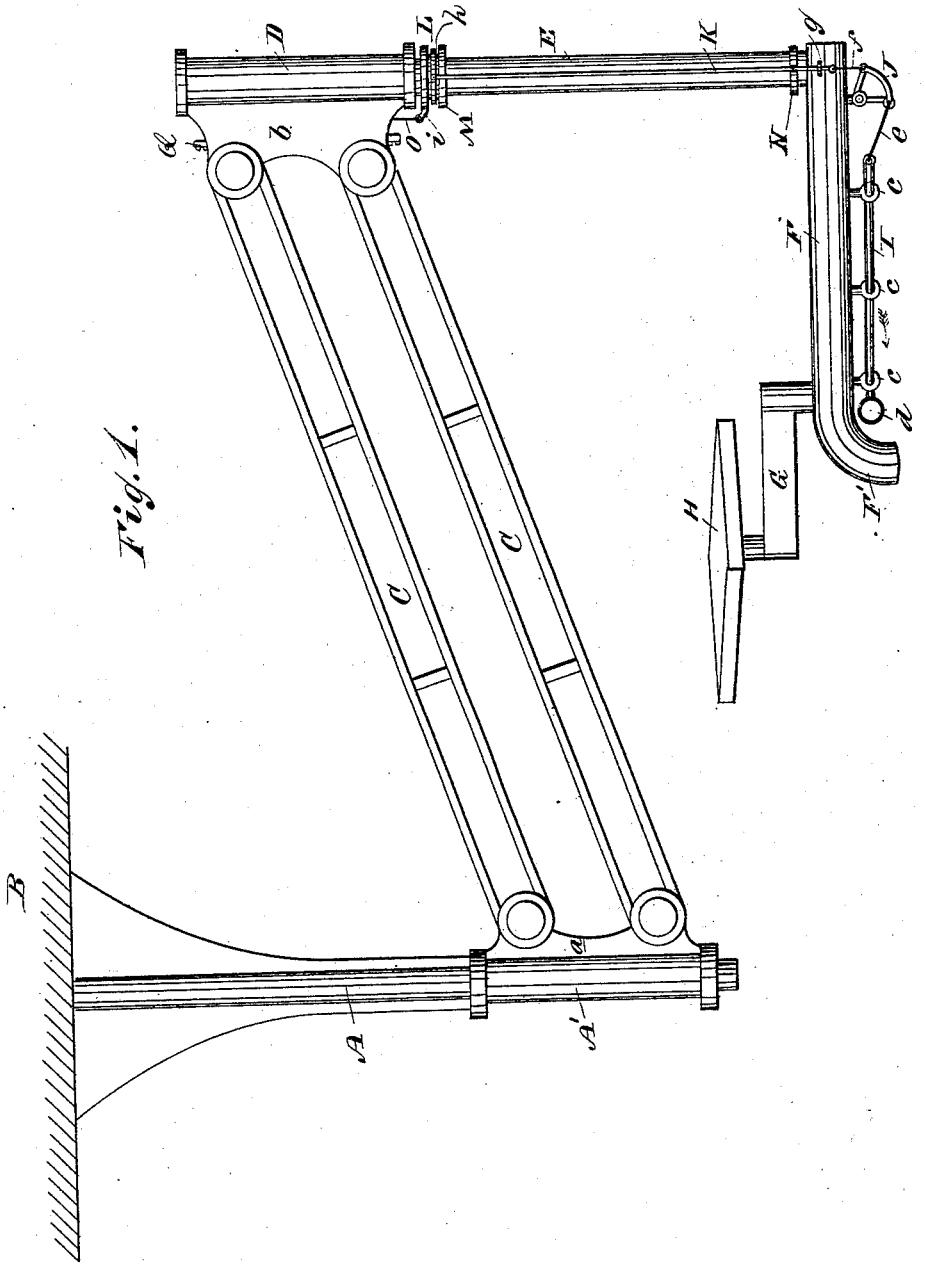

Fig. 1.

WITNESSES:

Theo. G. Hoster.

C. Sedgwick

INVENTOR:

C. H. Gilbert

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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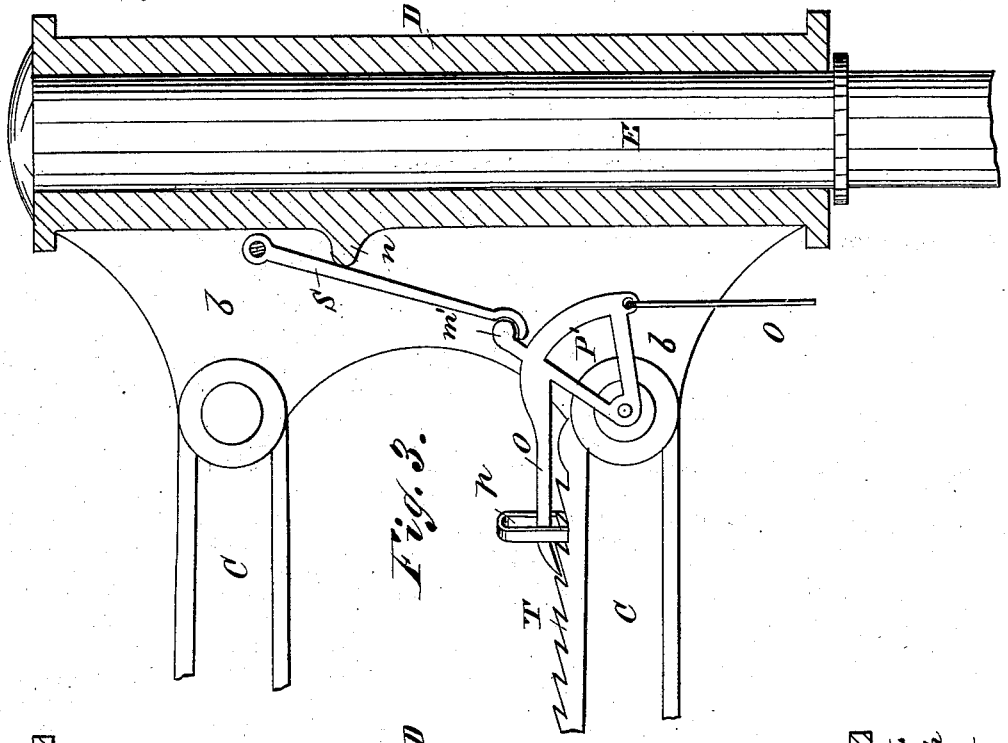

Fig. 3.

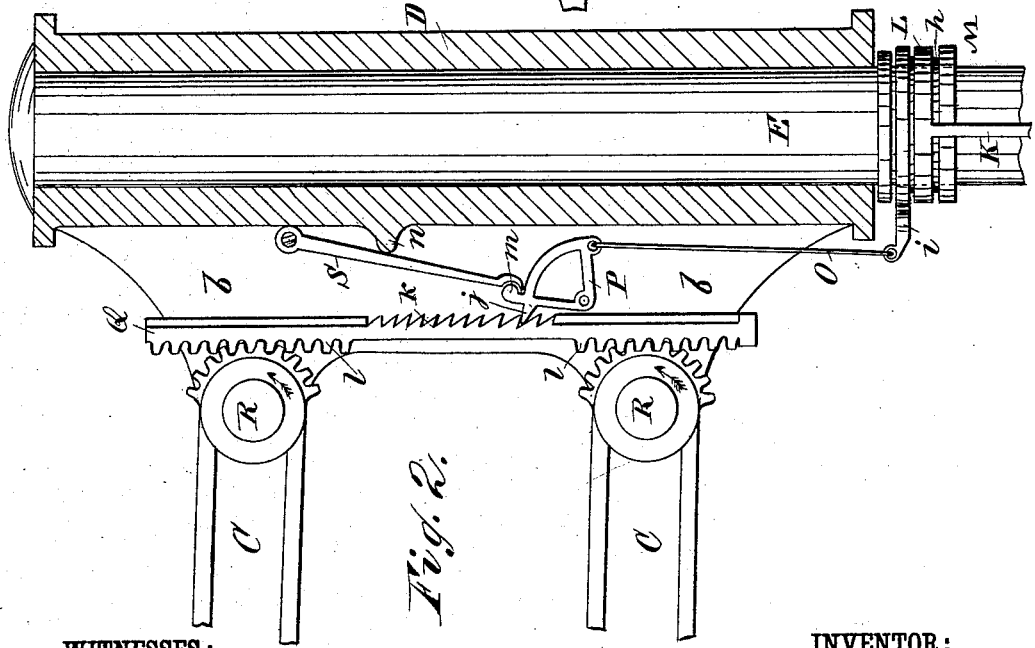

Fig. 4.

WITNESSES:

Fred. G. Hoster.

C. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES H. GILBERT, OF ANDOVER, MASSACHUSETTS.

DENTAL BRACKET.

SPECIFICATION forming part of Letters Patent No. 267,186, dated November 7, 1882.

Application filed February 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY GILBERT, of Andover, in the county of Essex and State of Massachusetts, have invented a new and Improved Dental Bracket, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved swinging adjustable bracket for holding dentists' instruments and for other purposes.

The invention consists in details of construction and in the combinations of parts, as will be fully described hereinafter.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of my improved dental bracket. Fig. 2 is a longitudinal sectional elevation of the sleeve provided with the locking device. Fig. 3 is a longitudinal sectional elevation of the same, showing a modified construction of the locking devices.

A perpendicular supporting-rod, A, is attached to the ceiling B, and on the lower part of this supporting-rod A a sleeve, A′, is loosely mounted to turn on this rod. This sleeve A′ is provided with jaws *a*, to which two parallel arms, C, of equal length are pivoted above each other. The opposite ends of these arms C are pivoted in hollow jaws *b*, projecting from a sleeve, D, loosely mounted to turn on the upper end of a rod or spindle, E, projecting downward from this sleeve D.

To the lower end of the rod E a rectangular arm, F, is attached, the free end of which is bent downward to form a pistol-handle, F′.

An arm, G, is pivoted on the upper side of the free end of the arm F, and on the free end of this arm G a tray, H, adapted to receive the instruments, tools, &c., is swiveled to turn on the end of this arm G.

A rod, I, is held loosely, so as to be adapted to slide longitudinally in a series of guide-loops, *c*, attached to the under side of the arm F. The end of the rod I, at the bent end F′ of the arm F, is provided with a ring or loop, *d*, adapted to receive the forefinger, and the opposite end of the rod I is connected by a wire, *e*, or equivalent device with a quadrant or bell-crank lever, J, pivoted to the under side of the arm F at the fixed end. The opposite end of the quadrant or bell-crank lever J is connected by wires or equivalents *f* with the lower ends of two rods, K, passing through guide-loops *g* on the sides of the arm F, which rods have their upper ends attached to a ring, L, resting loosely in the annular groove *h* in the outer edge of a ring, M, mounted loosely on the rod or spindle E, directly below the lower end of the sleeve D. The rods K are also attached to a guide-ring, N, loosely mounted on the lower end of the spindle or rod E.

The ring M is provided with a finger, *i*, to which is pivoted a rod, O, having its upper end pivoted to a quadrant or bell-crank lever, P, pivoted to and between the jaws *b* of the sleeve D. This quadrant or bell-crank lever is provided at the opposite end with a pawl, tooth, or projection, *j*, engaging with a rack, *k*, on the inner edge of a bar, Q, provided at the top and bottom, on the outer edges, with racks *l*, engaging with pinions R on the ends of the pivoted arms C. The quadrant or bell-crank lever P is provided at its upper end with a finger, *m*, against which the lower end of a spring, S, rests, which spring has its upper end secured to the jaws *b* and rests against a projection, *n*, of the sleeve D.

In the modification shown in Fig. 3 the rack-bar Q and the pinions R are dispensed with. One of the arms C, preferably the lower one, is provided on its upper edge with a ratchet bar or rack, T, and the quadrant or bell-crank lever P′, which is pivoted on the same pivot with the arm C having the rack T, is provided with a long finger, *o*, adapted to catch on the teeth of the rack T, which finger is guided by a guide-frame, *p*, above the rack T. The quadrant or bell-crank lever P′ is provided with a finger, *m′*, against which the lower end of the spring S rests. The rest of the mechanism and the connections are the same as described above.

The operation is as follows: To raise the tray H the same is simply pushed upward, and will be locked in any position by the spring S, the rack-bar Q, and the pinions R. If the tray H is pushed upward, the pinions R will be rotated, as indicated by the arrows, thereby causing an upward movement of the rack-bar Q,

the pawl-tooth *j* of the quadrant or bell-crank lever P sliding over the teeth of the rack *k*. As soon as the arm F′ is released—that is, as soon as the upward pressure on the same ceases—the weight of the tray, the arm F, and the rod E would cause a rotation of the pinions R in the inverse directions of their arrows and a downward movement of the rack-bar Q; but this is prevented by the spring S and the pawl-tooth *j* of the quadrant or bell-crank lever P. If the tray H is to be lowered, the curved handle end F′ of the arm F is seized, and the forefinger is passed into the finger-loop *d*, and the rod I is drawn in the direction of its arrow, whereby the rods K, the ring M, and the lower end of the quadrant or bell-crank lever P are moved downward, whereby the lower end of the spring S is pressed toward the sleeve D, and the pawl-tooth *j* is withdrawn from in between the teeth of the rack *k*, thus permitting the rack-bar Q, the spindle E, and the parts attached to the same to descend. As soon as the rod I is released the spring S presses the pawl-tooth *j* in between the teeth of the rack *k*, and thus locks all the parts in place. In the modification shown in Fig. 3 the finger *o*, engaging with the rack T, locks the several parts in position, and when the rod I is pulled the finger *o* will be raised as the rod O pulls the quadrant P′ downward, and the tray can be lowered and will be locked in position by the spring S and the finger *o* as soon as the rod I is released.

As the sleeve A′ is mounted loosely on the shaft A, the tray can describe a circle with the shaft A as the center of rotation, and as the sleeve D is loosely mounted on the spindle E the tray can describe a circle with the spindle E as its center of rotation.

The herein-described bracket has a very large range, and it can be moved and adjusted in any desired position, so that the operator will always have the tray at his right hand.

This bracket can be attached to the wall of the room or to a standard with slight modification.

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

1. The combination, with the arm F, rod E, and sleeve D, having projection *n*, of the slide-rod I in guide-loops *c*, the wire *e*, the bell-crank lever J, the wires *f*, the rods K in guide-loops *g*, the loose rings L N, the loose grooved ring M, having finger *i*, the pivoted rod O, the bell-crank lever having pawl *j* and finger *m*, the bar Q, having racks *k l*, the pinions R on the ends of the pivoted arms C, and the spring S, as and for the purpose specified.

2. The combination, with arm F F′, of the rod I, having end loop, *d*, the wire *e*, the bell-crank lever J, the wire *f*, the rod K, passing through loops *g*, the loose ring L, the loose grooved ring M, the loose guide-ring N, the spindle E, the rod O, pivoted to a finger, *i*, of ring M, the bell-crank lever P, having pawl *j* and finger *m*, the sleeve D, having jaws *b* and projection *n*, the bar Q, having racks *k l*, the pivoted arms C, having pinions R, and the spring S, as and for the purpose specified.

3. In a dental bracket, the combination, with the fixed shaft or spindle A and the sleeve A′, of the arms C, the spindle D, the rack-bar Q, the quadrant P, the spring S, the pinions R, and devices for releasing the quadrant from the rack-bar, substantially as herein shown and described, and for the purpose set forth.

4. In a dental bracket, the combination, with the spindles A and E, the sleeves A′ and D, and the pivoted arms C, of the arm F, the rods I and K, the quadrants J and P, the ring L, the annularly-grooved ring M, the rod O, the spring S, and a ratchet and pawl for locking the several parts in the desired positions, substantially as herein shown and described, and for the purpose set forth.

CHARLES HENRY GILBERT.

Witnesses:
GEORGE W. FOSTER,
GEORGE FOSTER.