

C. MAYER.
MOUTH BRACE.

APPLICATION FILED AUG. 6, 1909.

Patented Dec. 14, 1909.

943,361.

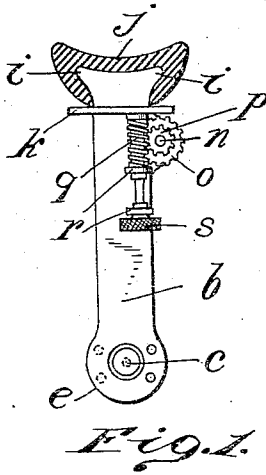


Fig. 1.

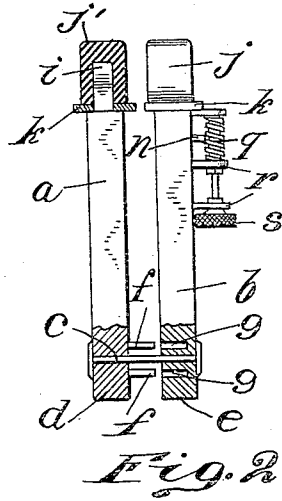


Fig. 2.

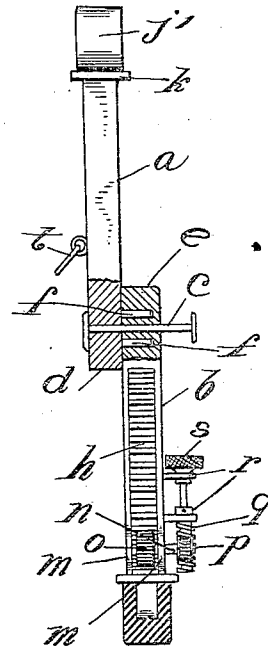


Fig. 3.

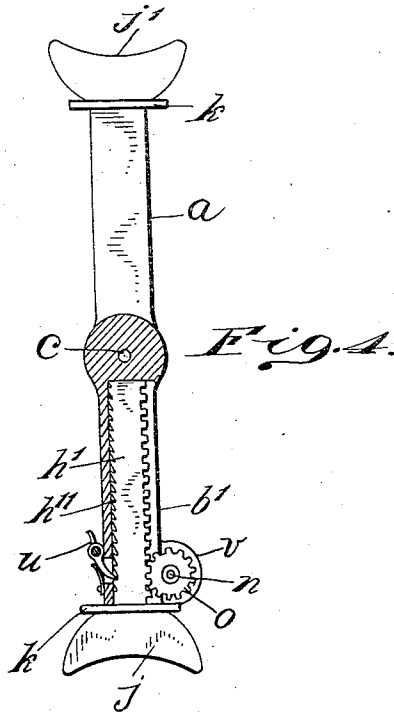


Fig. 4.

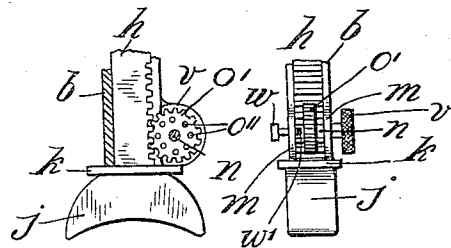


Fig. 5. Fig. 6.

Witnesses:

H. K. Ketchum
R. M. Jones.

Clarence Mayer Inventor

By his Attorney
James Hamilton

UNITED STATES PATENT OFFICE.

CLARENCE MAYER, OF NEW YORK, N. Y.

MOUTH-BRACE.

943,361.

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To all whom it may concern:

Be it known that I, CLARENCE MAYER, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Mouth-Braces, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in 10 mouth-braces for use in dental and other surgical operations; and an object of my invention is to provide a mouth-brace which may be readily adjusted in position and removed quickly at the will of the operator.

15 Another object of my invention is to provide a device of the character just described which may be readily adjusted without releasing the device.

A further object of my invention is to provide a mouth-brace which will be simple in 20 construction, comparatively cheap in manufacture and most efficient in use.

In the drawings illustrating the principle of my invention and the best mode now 25 known to me of applying that principle, Figure 1 is an elevation partly in section showing the device folded; Fig. 2 shows the parts folded but separated from each other; Fig. 3 shows the device extended, parts being 30 shown in sectional view for clearness; Fig. 4 illustrates a modified form; and Figs. 5 and 6 are details illustrating another modification.

The legs *a*, *b*, are connected by the headed 35 pivot-pin *c* upon which they may be swung to fold them, as shown in Figs. 1 and 2. The adjacent ends *d*, *e*, of the legs *a*, *b*, respectively, are each formed with a pair of studs *f*, *f*, and a pair of sockets *g*. The 40 studs *f*, *f*, on the end of one leg are adapted to fit snugly and slidably in the sockets *g*, *g*, formed in the adjacent end of the other leg. The pivot-pin *c* is of sufficient length to permit the studs *f*, *f*, to be pulled out of the 45 sockets *g*, *g*, which is done by separating the ends *d*, *e*, from each other, as is best shown in Fig. 2. When, however, the legs are to be extended and brought into operative position, they are thrown into the position shown 50 in Fig. 3 and the studs *f*, *f*, are engaged in the sockets *g*, *g*, whereby a rigid connection is made between the legs *a*, *b*. In the leg *b* is fitted a rack-bar *h*, the outer end of which is formed with prongs *i*, *i*, which engage in 55 holes in the inside of a cap *j* of rubber or other suitable material. The inner end of

the cap *j* rests upon a collar *k* and the cap *j* may be readily removed and replaced by a fresh cap to prevent danger of infection. Further, since the cap *j* may be readily re- 60 moved, the end of the leg *b* may be readily cleaned. A cap *j'* is similarly fitted upon the outer end of the leg *a*. The leg *b* is formed with a pair of ears *m* in which is rotatably mounted a shaft *n* upon one end 65 of which is fastened a pinion *o* and upon the other end of which is fastened a worm-wheel *p*. The latter meshes with a worm *q*, while the pinion *o* meshes with the rack *h*. The worm *q* is supported by the lugs *r* and is 70 turned by the milled head *s*. The worm-wheel *p* and worm *q* constitute an efficient brake which prevents the inward movement of the rack *h*. Further, by turning the milled head *s*, the worm *q*, worm-wheel *p* 75 and pinion *o*, are made to move the rack *h* so as to adjust with great nicety the device, while the latter is held between the teeth resting on the caps *j*, *j'*. The leg *a* is provided with a ring *t* by which the operator 80 may handle the device.

In Fig. 4, the worm *q* and worm-wheel *p* are dispensed with and the rack *h'* is formed with ratchet-teeth *h''* on one side. A pawl 85 *u* is carried by the leg *b'* and its toe engages the ratchet-teeth *h''* thereby serving to prevent the inward movement of the rack *h'*. Upon the shaft *n* is mounted the pinion *o* and the milled head *v* by which the shaft *n* 90 is turned to rotate the pinion *o* and thereby actuate the rack *h'*.

In Figs. 5 and 6 another construction is shown for locking the pinion *o'* against 95 backward rotation due to the inward movement of the rack *h*. The pinion *o'* is provided with a series of holes *o''* arranged on a circle concentric with the shaft *n* upon the outer end of which is mounted the milled head *v*. In one of the lugs or ears *m* there 100 is slidably mounted a locking-pin *w*, the inner end of which is adapted to be forced into one of the holes *o''*, when the rack *h* has been moved to its adjusted position. A collar *w'* prevents the pin *w* from falling out. 105

The instrument hereinbefore described is adapted to be used by an operator for holding open the mouth, when operating with or without anesthetics. The device may be used for holding apart the jaws of horses, 110 dogs and other lower animals, as well as for holding open the mouth of a human being.

It will be obvious that the instrument may be extended without requiring a new hold to be taken and without permitting the jaws to close from their previous position.

5 I claim:

1. A mouth brace consisting of a pair of pivoted legs; a bar slidably mounted in one of said legs; and actuating mechanism carried by the last-named leg for moving said
10 bar therein in opposite directions.

2. In a mouth brace, the combination with a leg; of a toothed bar extendibly mounted therein; and actuating toothed mechanism which engages said bar and which is movable; the actuation of said mechanism serving to displace positively said bar in said
15 leg in opposite directions.

3. In a mouth brace, the combination of a leg; a rack-bar mounted therein; a pinion for actuating the latter; and means for locking said rack-bar against movement in one
20 direction.

4. A mouth brace consisting of a pair of legs pivotally fastened together and adapted to be folded upon each other; said legs being
25 slidable lengthwise of their pivotal axis from each other and being formed with co-operating means for holding said legs against rotation, when the same are extended.

5. A mouth brace consisting of a pair of legs pivotally fastened together and formed one with a stud and the other with a socket, the stud on one leg being shaped to fit in the
30 socket in the other leg.

In testimony whereof I have hereunto set my hand, at said New York city, N. Y., this
35 4th day of August, A. D., 1909, in the presence of the two undersigned witnesses.

CLARENCE MAYER.

Witnesses:

ALFRED FRANKENTHALER,
SYLVESTER MAYER.