No. 777,821. PATENTED DEC. 20, 1904.

R. WALKER.

DENTAL SEPARATOR.

APPLICATION FILED JULY 20, 1904.

NO MODEL.

Fig. 1.

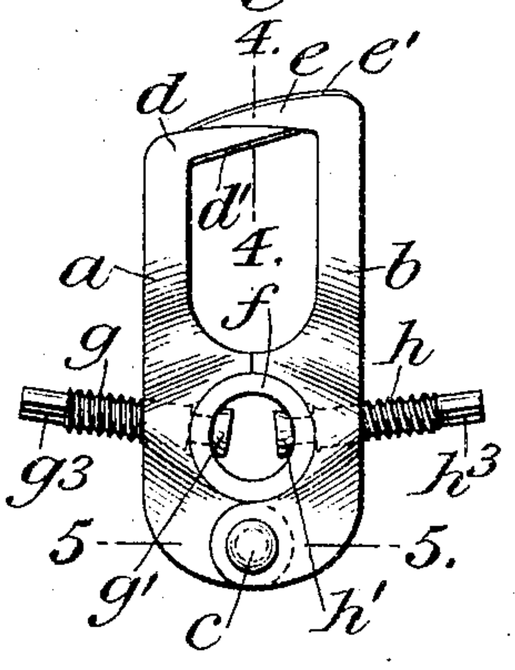


Fig. 2.

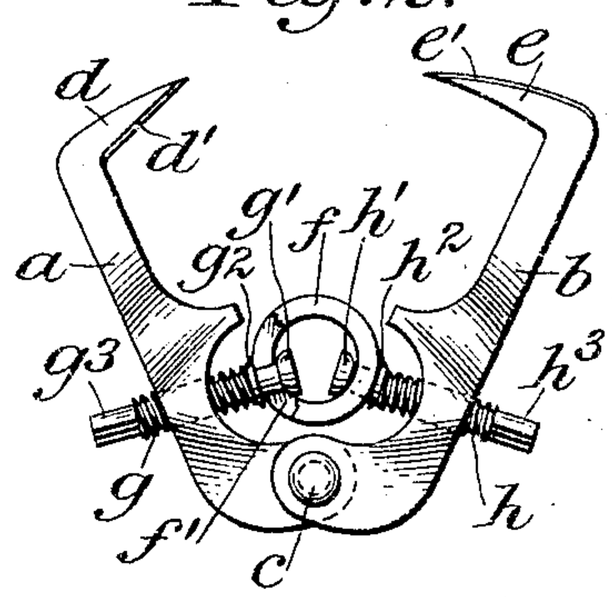


Fig. 3.

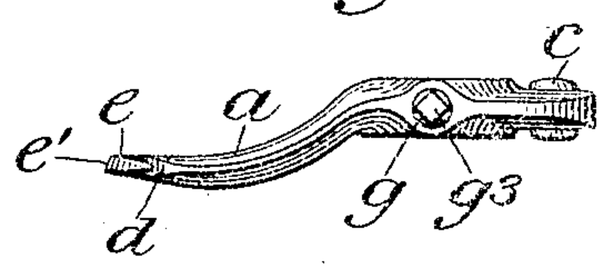


Fig. 4.

Fig. 5.

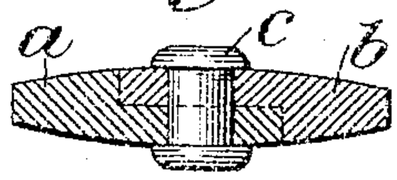
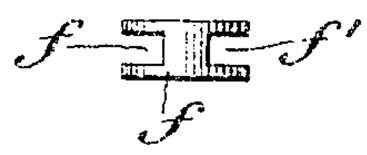


Fig. 6.

Fig. 7.



Attest:
A. N. Jesbera.
Charles A. Foone

Inventor:
Robert Walker
by Redding, Kiddle & Greeley
Attys.

No. 777,821. Patented December 20, 1904.

UNITED STATES PATENT OFFICE.

ROBERT WALKER, OF NEW YORK, N. Y.

DENTAL SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 777,821, dated December 20, 1904.

Application filed July 20, 1904. Serial No. 217,321.

To all whom it may concern:

Be it known that I, ROBERT WALKER, a British subject, residing in the borough of Manhattan, city of New York, in the State of New York, have invented certain new and useful Improvements in Dental Separators, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to devices which are employed in dental work for the purpose of separating adjacent teeth; and it has for its object to produce a device of this class which shall be compact, having no parts which stand in the way of the operator, shall be held securely in any desired position, shall not be liable to slip down upon the gum of the patient, and shall be free from any undesirable relative movement of the working parts.

The invention will be more fully explained hereinafter with reference to the accompanying drawings, in which it is illustrated, and in which—

Figure 1 is a plan view of the improved dental separator, the jaws thereof being in their closed positions. Fig. 2 is a similar view, but with the jaws in their opened positions. Fig. 3 is an edge view. Fig. 4 is a detail view in section on the line 4 4 of Fig. 1 on an enlarged scale. Fig. 5 is a detail view in section on the line 5 5 of Fig. 1 on an enlarged scale. Figs. 6 and 7 are detail edge views from different points of the ring or head, to be referred to hereinafter.

The improved separator comprises two jaws *a* and *b*, which are suitably shaped for the intended purpose, as indicated in Figs. 2 and 3, so that the field of work of the operator shall not be obstructed. The two jaws are pivoted together at one end, as by a pivot-stud *c*, and the joint may be set up closely, so as to prevent any loose movement upon the pivot and to insure the retention of the operating ends of the jaws in the same plane. As clearly shown in Fig. 1, the two jaws are of unequal length, so that the operating parts *d* and *e* thereof shall overlap in the plane of the jaws rather than in a plane parallel with the axis of the jaws. The overlapping of the points of the jaws or the wedges in the plane of the jaws secures a more powerful action of the wedges with less relative movement of the jaws, since the two wedges act upon each other, and the application of the wedges to the adjacent teeth in the same plane is more desirable than the application of the wedges in different planes. As clearly shown in Figs. 1 and 4, the adjacent surfaces of the two wedges *d* and *e* slide in contact with each other, the plane of contact being substantially parallel with the pivotal axis of the jaws, and the outer sides of jaws, as also clearly shown at *e'* and *d'* in Fig. 4, are slightly beveled to conform to the normal bevel of the teeth, so that there shall be a broader surface of contact between the wedges and the teeth, with less liability of cracking the enamel and less liability of slipping down accidentally on the gum, to the great discomfort of the patient.

For the operation of the jaws there is provided between the two jaws an independent head or ring *f*, which is engaged by screws *g* and *h*, which are threaded, respectively, in the jaws *a* and *b*. Each screw is headed within the ring *f*, as at *g'* and *h'*, so that the screws may act as tension-screws to draw the jaws together, and they are also shouldered, as at g^2 h^2, to act against the head or ring *f* as an abutment for the purpose of separating the jaws. They are also squared or otherwise formed, as at g^3 and h^3, for engagement by a suitable key or wrench, by which the screws may be operated to move the jaws. As clearly shown in Figs. 6 and 7, the head or ring *f* is slotted, as at *f'*, for engagement with the headed ends of the screws *g* and *h* and to permit the necessary swinging movement of one or both of the screws with respect to the head or ring as one or both of the jaws are moved.

In the use of the improved separator the jaws are at first opened sufficiently to permit the points of the wedges to clear the teeth, and the separator is then applied to the teeth, and one or both of the screws *g h* are rotated to draw the points of the wedges together between the teeth to be separated. It will be observed that either of the jaws can be moved as occasion may require. Furthermore, the movement of the jaws is always positive, so that there can be no accidental slipping, and

the release of the jaws is also positive. There are no projecting parts to stand in the way of the operator or to seriously inconvenience the patient. There is no possibility of any loose movement between the two wedges in any direction, and there is no possibility of any slipping of the devices in the mouth of the patient.

I claim as my invention—

1. In a dental separator, pivoted jaws having overlapping wedges at their free ends, a central head or ring, and screws threaded in the jaws respectively and engaging said head or ring, substantially as described.

2. In a dental separator, pivoted jaws having overlapping wedges, a central head or ring, and screws engaging said central head or ring and threaded in the jaws respectively, said head or ring being slotted to engage the headed ends of the screws, substantially as described.

This specification signed and witnessed this 19th day of July, A. D. 1904.

ROBERT WALKER.

In presence of—
W. B. GREELEY,
A. N. JESBERA.