

No. 659,684.

Patented Oct. 16, 1900.

J. A. W. LUNDBORG.
DENTAL RUBBER DAM HOLDER.

(Application filed Oct. 14, 1899. Renewed Sept. 4, 1900.)

(No Model.)

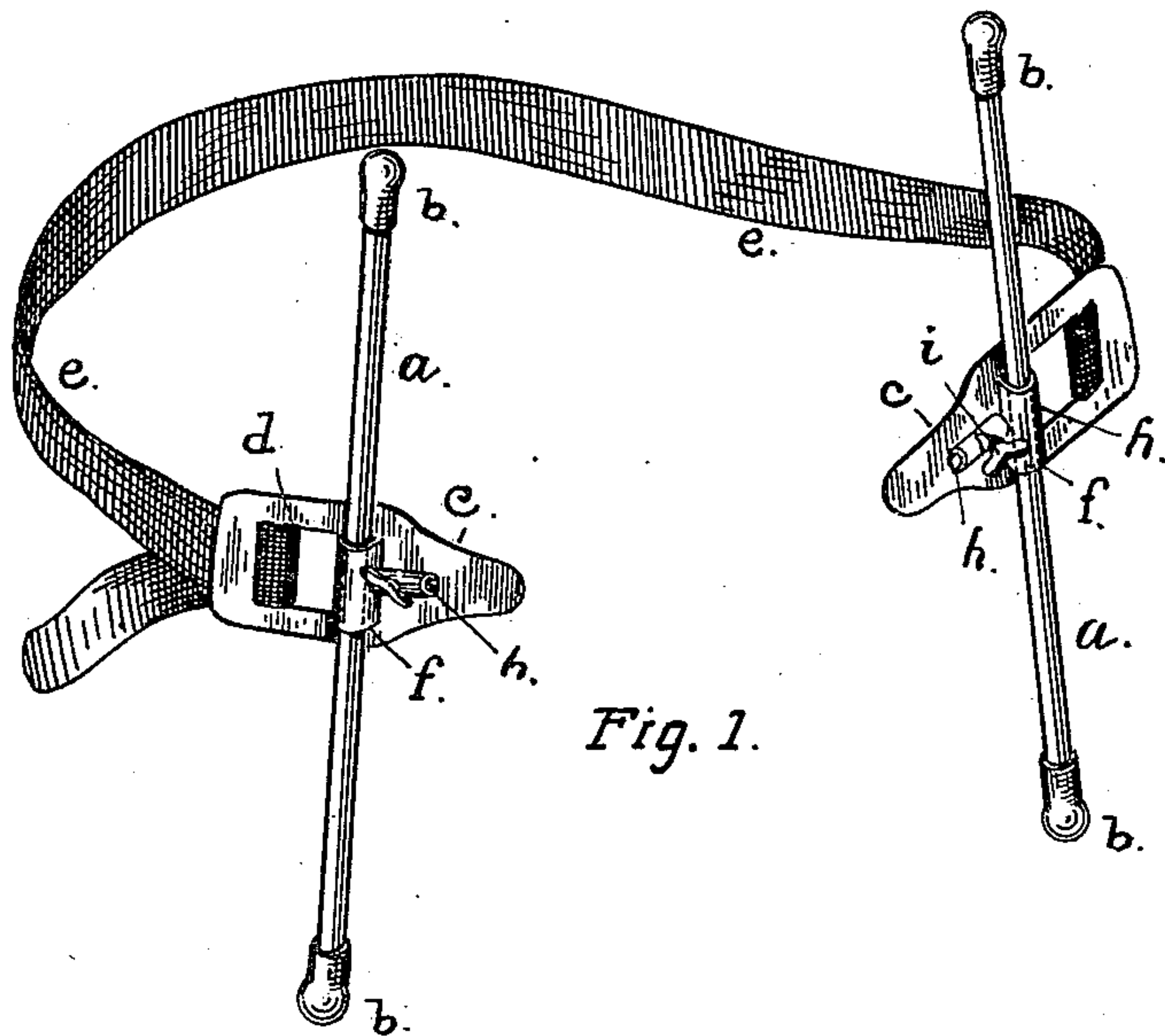


Fig. 1.

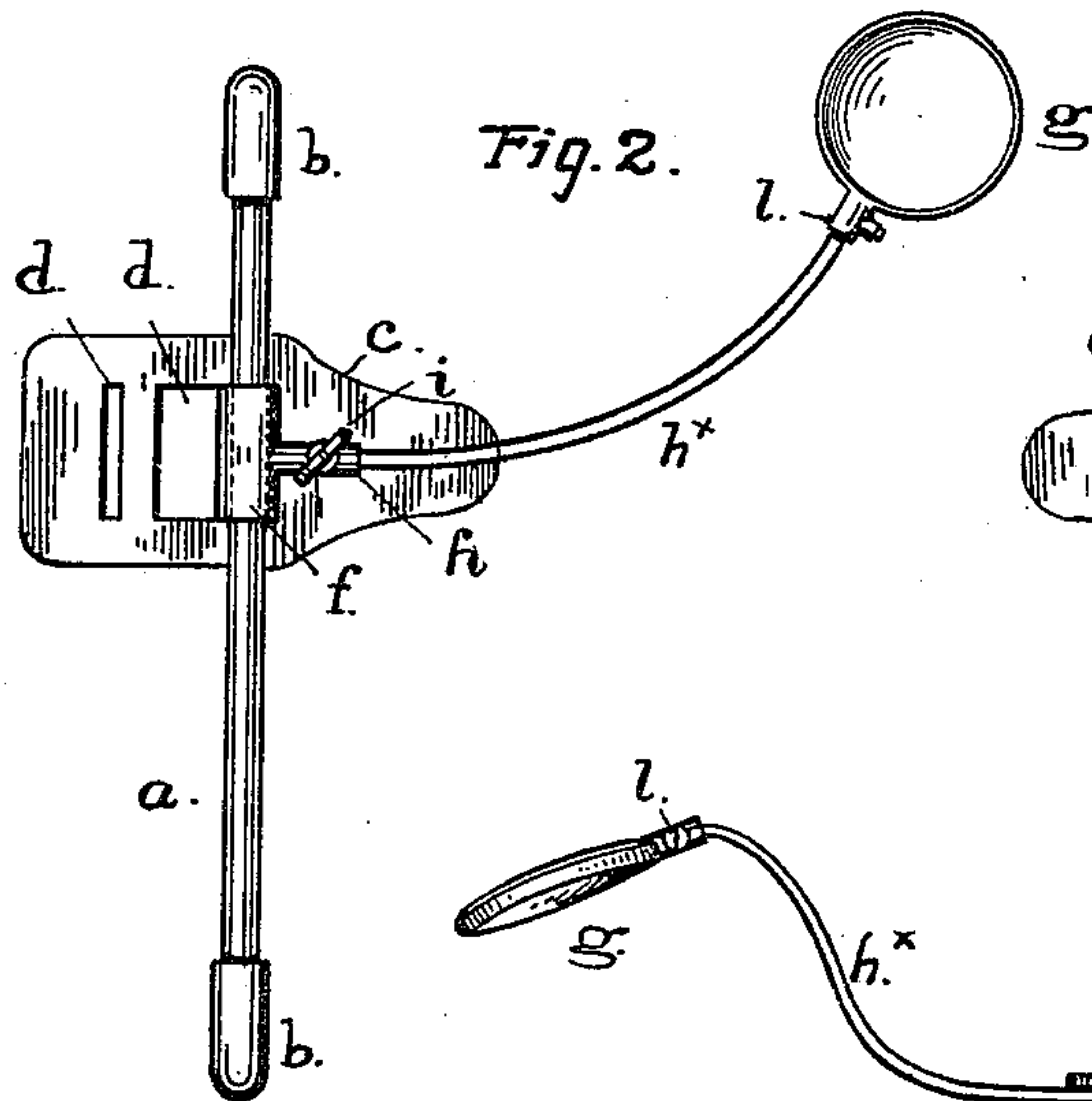


Fig. 2.

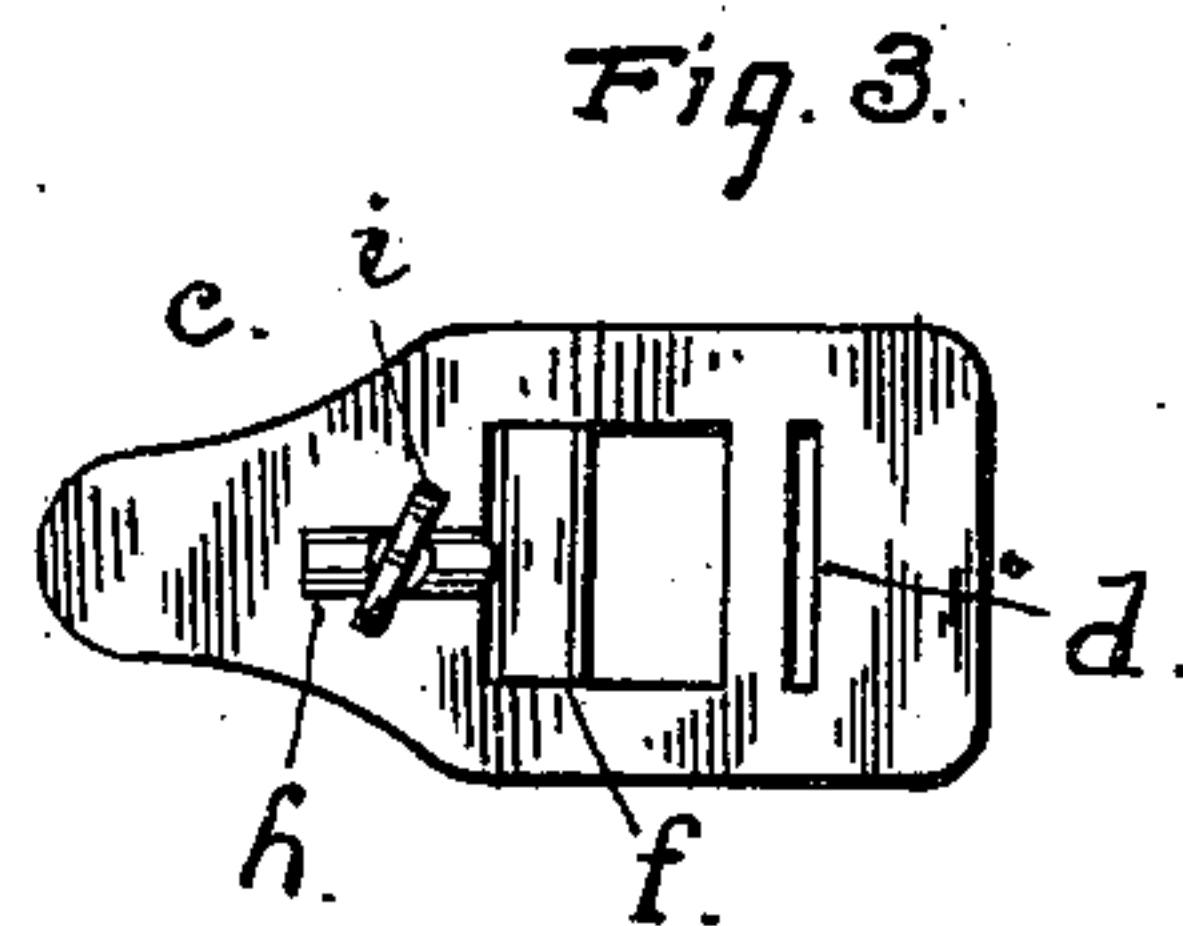


Fig. 3.

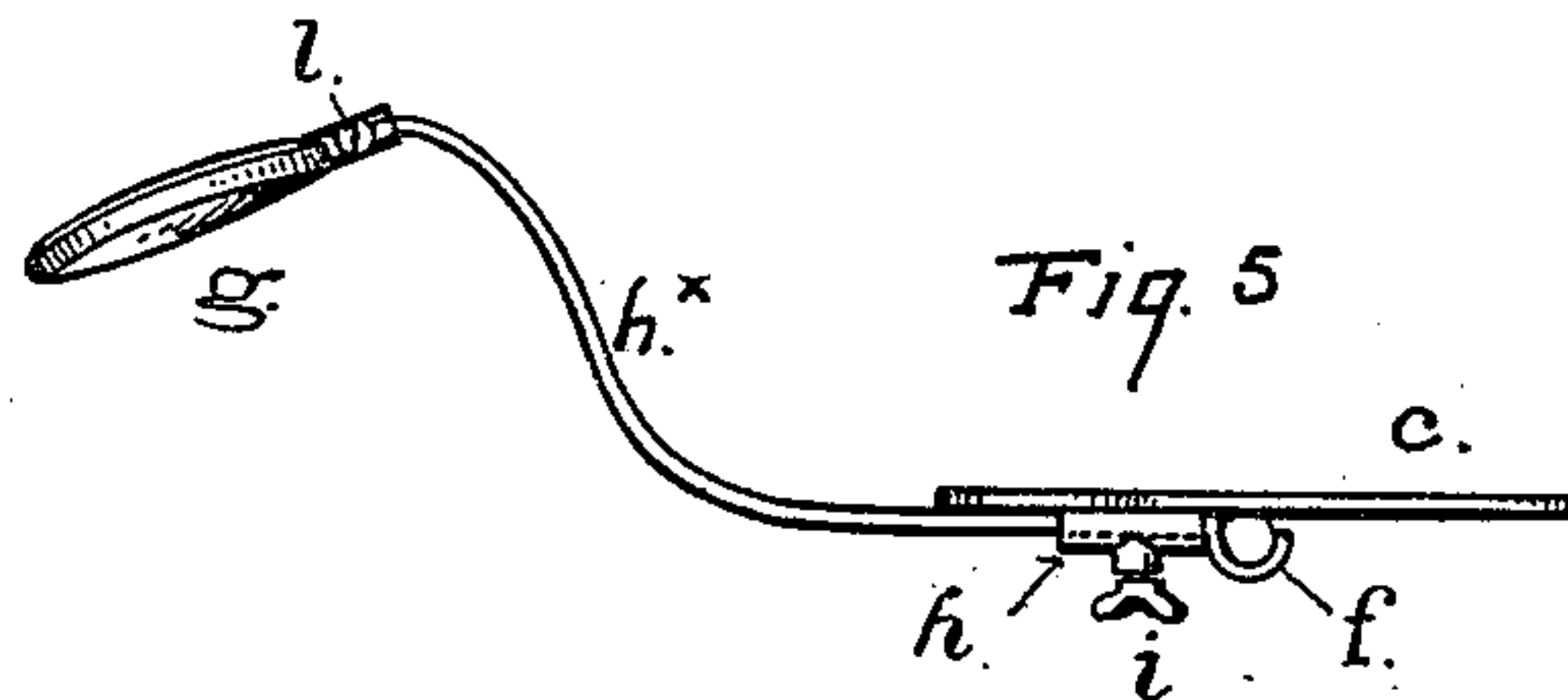


Fig. 4.

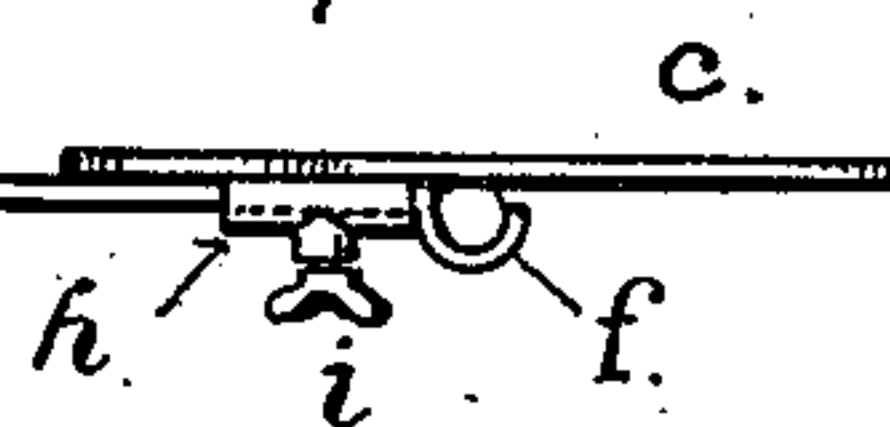


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN A. W. LUNDBORG, OF SAN FRANCISCO, CALIFORNIA.

DENTAL RUBBER-DAM HOLDER.

SPECIFICATION forming part of Letters Patent No. 659,684, dated October 16, 1900.

Application filed October 14, 1899. Renewed September 4, 1900. Serial No. 28,974. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. W. LUNDBORG, a citizen of the United States of America, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Dentists' Rubber-Dam Holders and Mirror-Supports, of which the following is a specification.

This invention relates to improvements made in devices for stretching and holding in position the strip of rubber fabric known as a "rubber dam," which is used by the dentists in the operation of filling cavities in teeth; and the invention consists in certain novel parts and combination of parts producing an improved rubber-dam holder having novel features of adjustability, as hereinafter more fully described and set forth.

The following description explains at length the nature of my said improvements and the manner in which I proceed to construct, apply, and carry out the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 of the drawings represents in perspective a rubber-dam holder constructed in accordance with these improvements. Fig. 2 is a side view of one of the adjustable bars and the cheek piece or plate with a mouth-mirror attached. Figs. 3 and 4 are side views of one of the bars and its cheek-piece. Fig. 5 is a top view of Fig. 2.

The part *a*, which I have termed the "bar," is formed of a straight metal rod, with the ends rounded or tipped with knobs *b*. These ends are covered with rubber to insure a better hold on the rubber dam than the smooth uncovered metal affords.

The part *C*, termed the "cheek-piece," is a plate smoothly finished on the inner face to lie against the cheek of the patient and having slits *d d* to admit the neck-straps *e* and form a buckle or grip or holding means to secure the plate on the strap without slipping when the strap is under tension and to allow the strap to be lengthened or shortened when the tension is taken off. On the front or outer face of the plate a socket *f*, with an opening of proper size to admit the bar, holds that part transversely across the plate. The bar fits the socket with sufficient friction or grip on the bar to keep it from slipping in the

socket under the strain or pulling force of the dam, and at the same time the bar can readily be moved in the socket by pressing against either end in the direction of its length. The bar can be fitted in this manner to hold it in any position without the use of fastening devices, because the strains which the bar is required to resist are applied laterally and not in the direction of the length of the bar. Two of these bars and their holding-plates, with an elastic neck-strap, constitute the complete holder.

The manner of placing and adjusting this holder will be readily understood by the operator familiar with the use of the rubber dam. After the sheet or strip of rubber has been drawn over the tips of the bars on both sides of the mouth the proper degree of tension is secured by drawing up the strap, and the direction of the strain or pulling force is adjusted or shifted to a greater degree in an upward direction above the line of the mouth than below that line simply by shifting the bar in its socket on the plate, so that the draft of the strap is thrown below the middle of the bar, or if the greater strain is required in the contrary direction or downward the bar is pushed down, so that the plate is set above the middle of the bar, as represented in Fig. 2 of the drawings. In addition to this function of holding the bars the plate *c* is made to serve as a support for a mouth-mirror *g* by fixing in the front of the plate a tubular socket *h*, provided with a clamp-screw *i* and adapted to take the end of a wire stem or support *h^x*, on the opposite end of which the mirror *g* is secured by means of a socket *l* and a set-screw *m*. The plate thus combines in one piece or article a bar-holder and a mouth-mirror support in which the mirror can be adjusted in any required position by loosening the screws and turning the wire in the sockets.

By using a copper wire of sufficient pliability to withstand bending, and also of proper rigidity or stiffness to support the weight of the mirror, a universal adjustment of the mirror is afforded without the use of hinge-joints.

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

1. In a rubber-dam holder, the combination of the cheek-piece having a means for attaching a neck-strap, and a socket on the outer face, with a cross-bar fitted to said socket extending above and below the line of the plate and movable longitudinally therein.

2. The combination with the cheek-plate having means for attaching to it a neck-strap, and provided with a socket for a cross-bar,

of a socket on the outer face of the plate having means for clamping thereto a mirror-supporting rod.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

JOHN A. W. LUNDBORG. [L. S.]

Witnesses:

EDWARD E. HOAG,
A. J. HENRY.