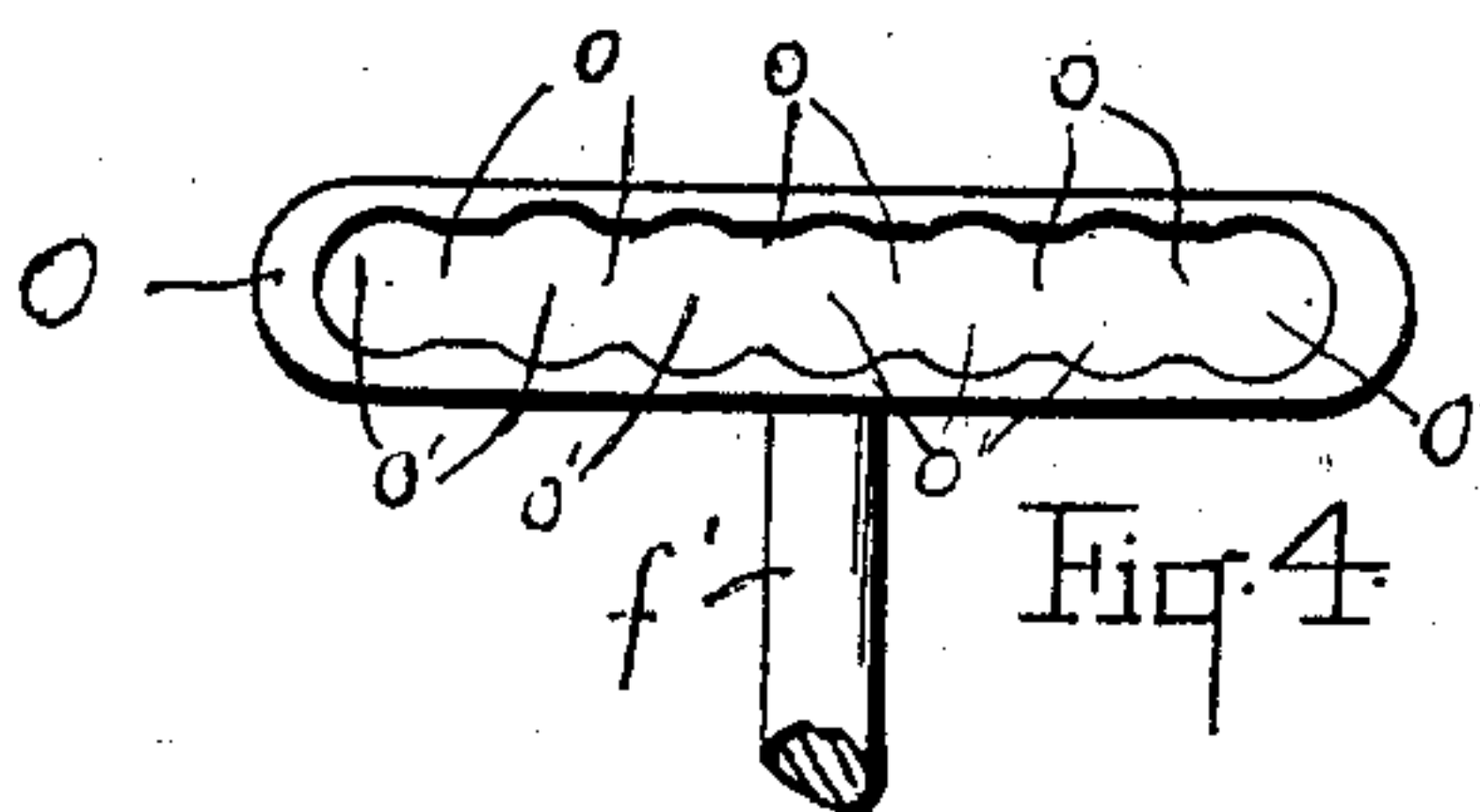
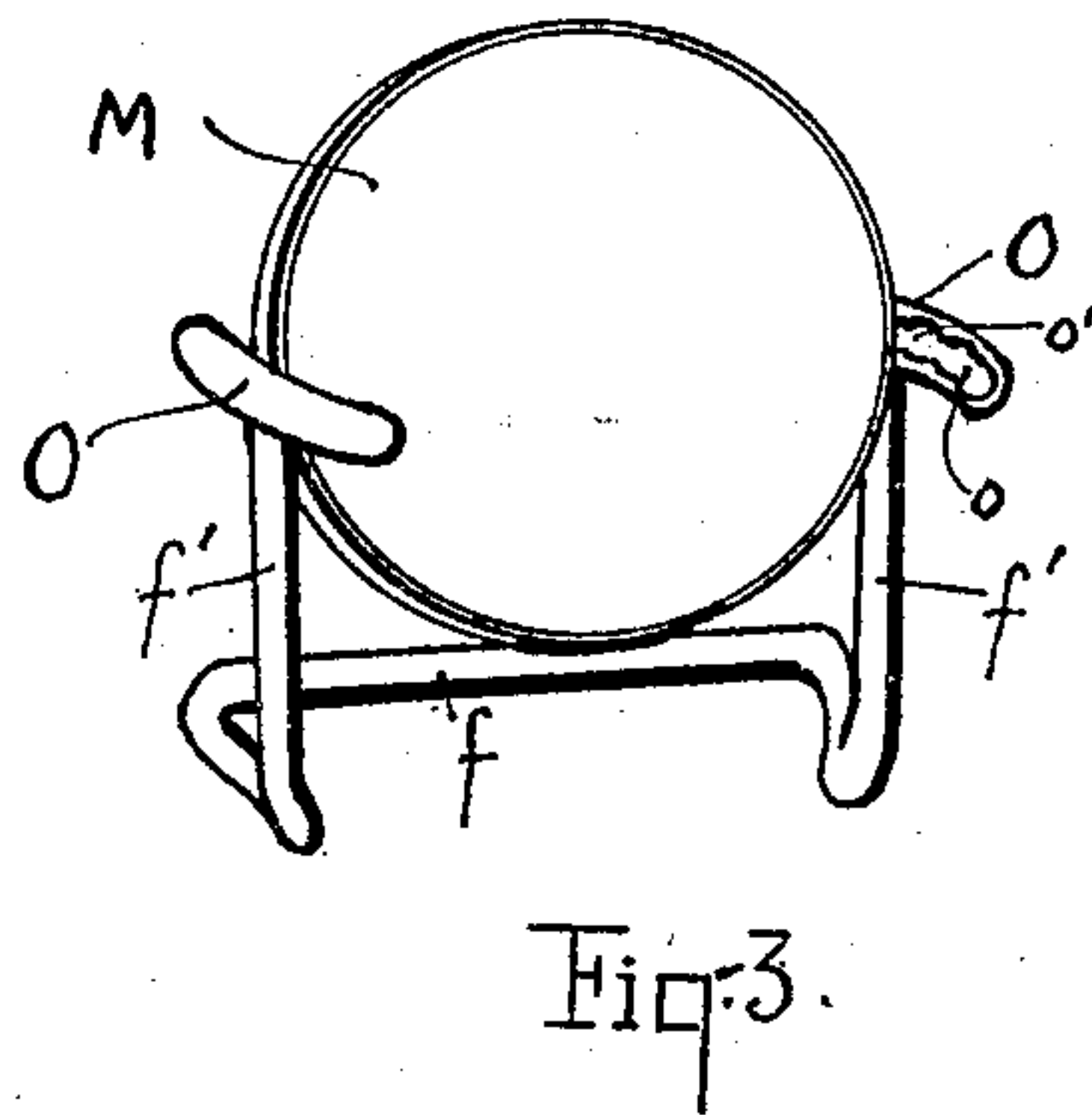
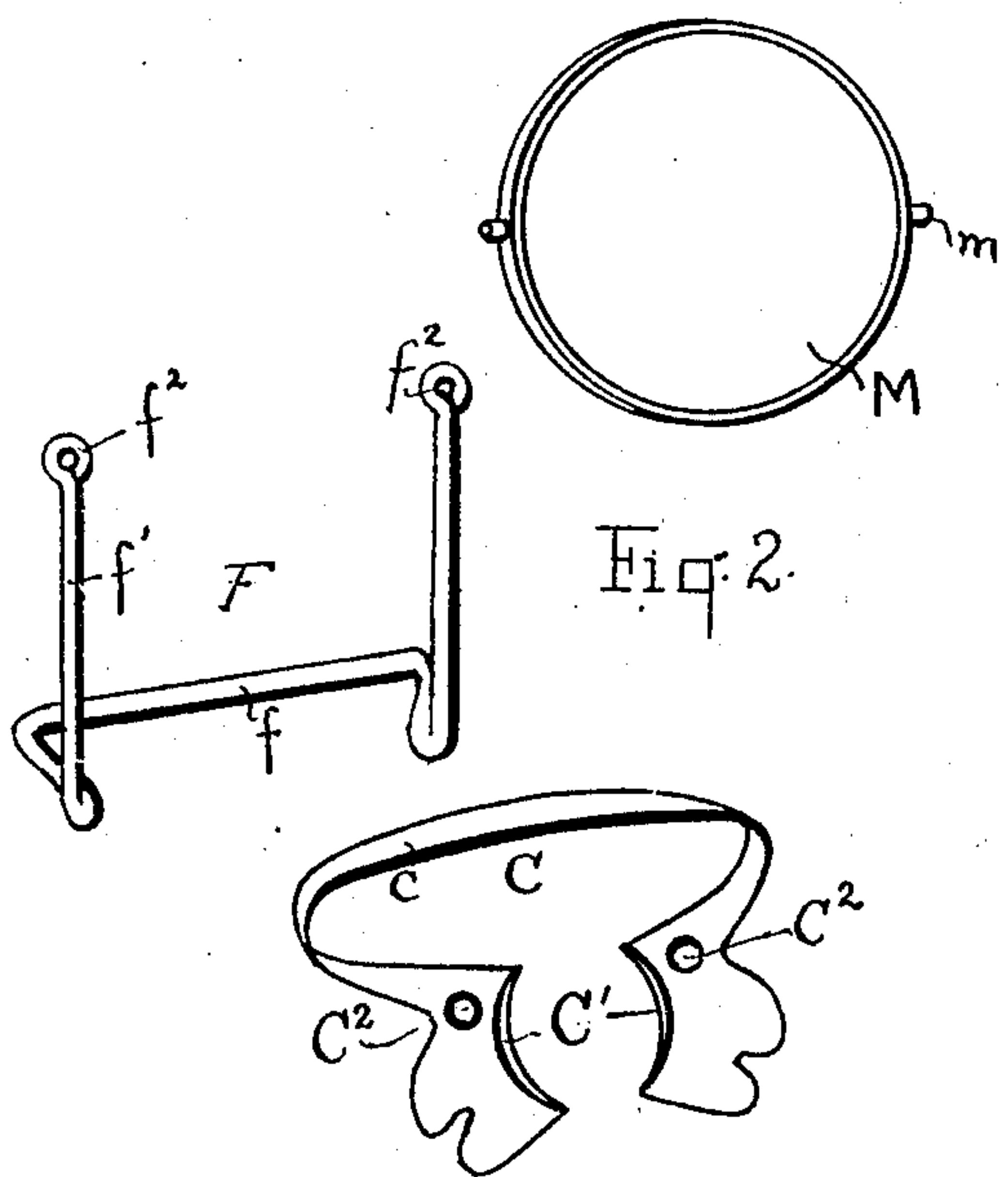
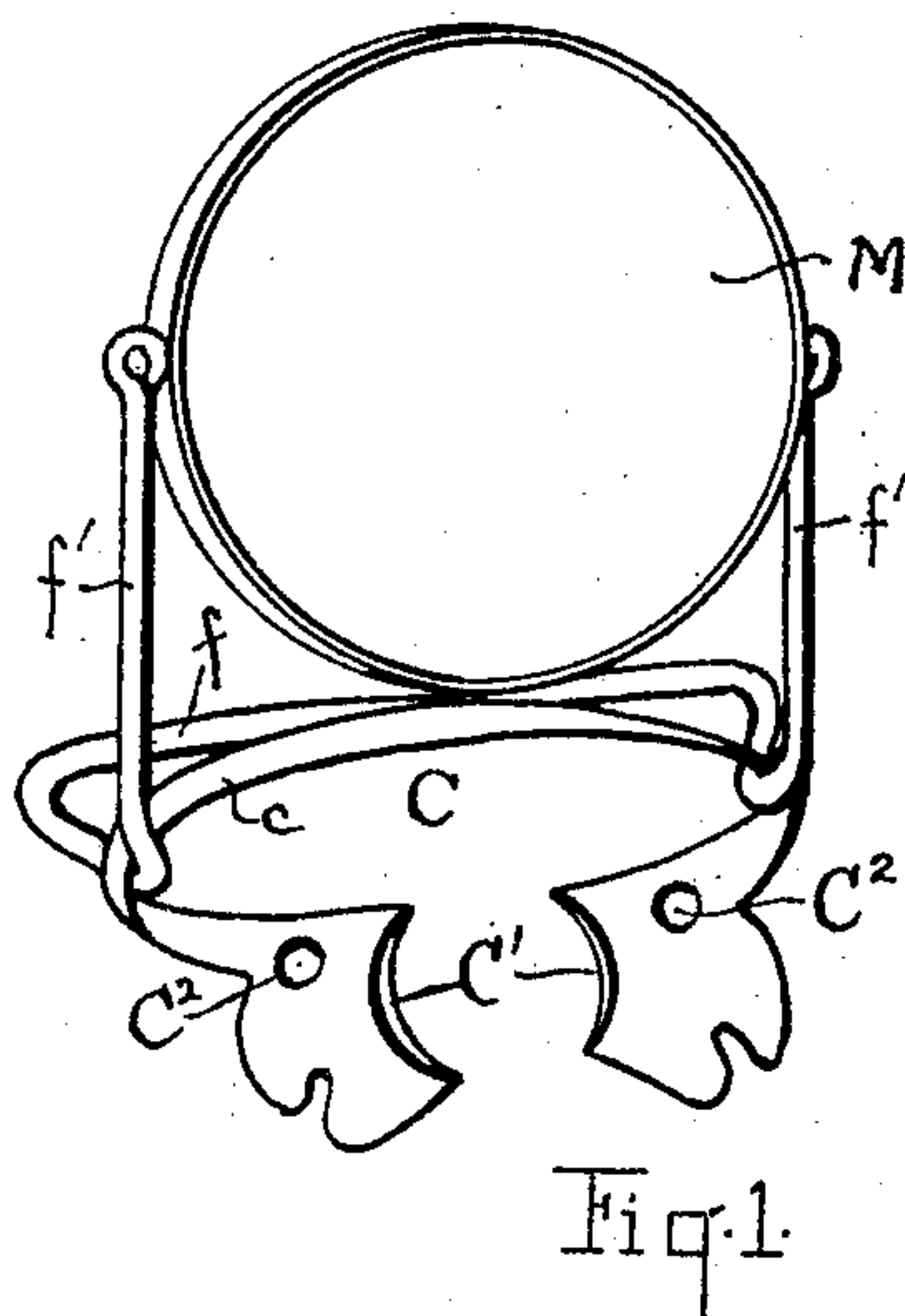


No. 836,967.

PATENTED NOV. 27, 1906.

W. H. GRANT.  
DENTAL MIRROR.  
APPLICATION FILED MAR. 14, 1906.



Witnesses

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# UNITED STATES PATENT OFFICE.

WALTER HENRY GRANT, OF BOSTON, MASSACHUSETTS.

## DENTAL MIRROR.

No. 836,967.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed March 14, 1906. Serial No. 306,069.

*To all whom it may concern:*

Be it known that I, WALTER HENRY GRANT, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Dental Mirrors, of which the following is a specification.

This invention relates to a dental mirror, and particularly to a mirror adapted to be clamped on a tooth to allow the operator to have both hands free for his work.

It is the object of the invention to provide a mirror which can be used with the ordinary tooth-clamps which are commonly found among the instruments of dentists, to provide a device which will be simple in structure, capable of ready adjustment with these clamps of varying sizes, and at the same time be in a form which can be easily applied, taken apart, and sterilized. To this end I have devised a mirror having a frame so bent as to interengage with these spring-clamps as commonly used and to be held and supported thereby. The parts are, moreover, constructed and arranged to cooperate in matters of adjustment and operation by certain details and arrangement of parts, which will be more fully described later.

In the drawings, in which like letters of reference indicate corresponding parts throughout, Figure 1 shows the mirror assembled; and Fig. 2, the frame, the mirror, and the clamp separated. Fig. 3 is a view of the mirror and frame constructed for sidewise adjustment, and Fig. 4 is a detail of the adjusting-segment shown in Fig. 3.

C is the ordinary dental clamp, which consists of a spring-bow *c*, terminating in the opposing tooth-engaging portions *C'*.

*C*<sup>2</sup> represents holes for the tips of the forceps in expanding the clamp to put it in place.

F is a frame consisting of a bow *f*, which is continued to form supports *f'* and loops *f*<sup>2</sup>. This frame is preferably of some spring material, such as steel wire, so that it will coact with the spring of the tooth-clamp C, with which it interengages, and be more firmly held and allow for and take up any differences in size in different clamps in the set.

M is a mirror having on its rims lugs or pivots which enter the loops *f*<sup>2</sup> of the frame to support the mirror and allow it to be adjusted to the proper angle.

In operation the mirror is used as follows:

The clamp having been sprung apart by the forceps, the frame F is slipped into it, so that its loop *f* is behind the spring-bow *c* and the projecting ends *f'* pass within and are gripped by the sides of said bow. Thus assembled the clamps and frame are inserted into the mouth of the patient and the clamp adjusted to the proper tooth. The mirror M is then slipped into place, the arms *f'* yielding sufficiently to allow the ears *m* to slip into the loops *f*<sup>2</sup>. This allows the mirror to be warmed to the temperature of the patient's mouth and to be inserted promptly. As it is not removed from time to time, as in the case of a hand-mirror, it is maintained at that temperature and is not liable to film over.

In case of a great variation in the sizes or styles of clamps it may be necessary to change the shape of the spring-bow *f* of the frame to allow it more play; but for use with the ordinary clamps the style shown is found satisfactory. Where one size of clamp alone is used, the spring of the frame is not so necessary if the clamp-spring fits the frame closely. The tooth-clamp shown is usually made in two styles, molar and bicuspid, and, if desirable, two frames F may be provided, one for each style and each adapted to hold the same mirror M.

In the modification shown in Figs. 3 and 4 short arc-pieces O are soldered to the ends of the arms *f* to allow the mirror to be turned sidewise. These arc-pieces are grooved at *o*, and recesses *o'* are provided along said groove to prevent the ears *m* from slipping in said grooves. These parts are assembled and applied as described in connection with the first form, and the mirror is readily turned sidewise to the extent of the arc-pieces.

What I therefore claim, and desire to secure by Letters Patent, is—

1. In a dental mirror, the combination of a tooth-clamp having opposing spring-pressed tooth-engaging portions, a mirror-frame having an interengaging portion adapted to be clamped between said spring-pressed portions, and a mirror supported by said frame.

2. In a dental mirror, the combination of a tooth-clamp consisting of a spring-bow terminating in opposing tooth-engaging portions, a mirror-frame having an interengaging portion adapted to be clamped within said bow, and a mirror supported by said frame.



3. In a dental mirror, the combination of a tooth-clamp consisting of a spring-bow terminating in opposing tooth-engaging portions, a mirror-frame having an interengaging portion adapted to be clamped within said bow, and a mirror adjustably supported by said frame.

4. In a dental mirror, the combination of a mirror-frame, a pair of segmental supports on said frame, a mirror, pivots on said mirror and means for adjusting said pivots to hold the mirror turned laterally in said frame.

5. In a dental mirror, the combination of a clamp having opposing tooth-engaging portions, and a spring-bow normally pressing said portions inwardly, a mirror-frame also having a spring-bow adapted to interengage with said first-named bow and to be compressed thereby, the ends of said second-named bow forming supports for a mirror, and a mirror pivotally mounted between said supports.

6. In a dental mirror, the combination of a clamp having opposing tooth-engaging por-

tions, and a spring-bow normally pressing said portions inwardly, a mirror-frame also having a spring-bow adapted to interengage with said first-named bow and to be compressed thereby, the ends of said second-named bow forming supports for a mirror, and a mirror mounted upon said supports.

7. In a dental mirror, the combination of a tooth-clamp having opposing, inwardly-pressing portions, a mirror-frame having a resilient interengaging portion adapted to be compressed by said clamp portions, and a mirror mounted on said mirror-frame.

8. In a dental mirror, the combination of a tooth-clamp, a mirror-frame supported by said clamp, a pair of segmental supports on said frame, a mirror, pivots on said mirror, and means for adjusting said pivots to hold the mirror turned laterally in said frame.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER HENRY GRANT.

Witnesses:

WM. B. POOR,  
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