

E. R. CROSSLEY.
 HEAD CLAMP AND EYELID HOLDER FOR SURGICAL OPERATIONS ON THE EYE.
 APPLICATION FILED NOV. 18, 1916.
 1,230,873. Patented June 26, 1917.
 2 SHEETS—SHEET 1.

Fig. 1

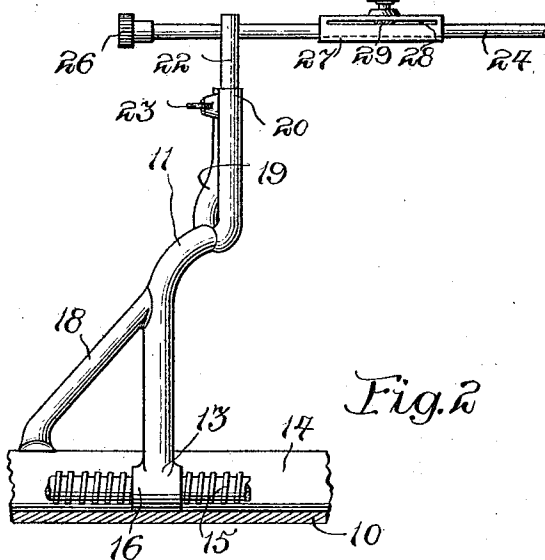
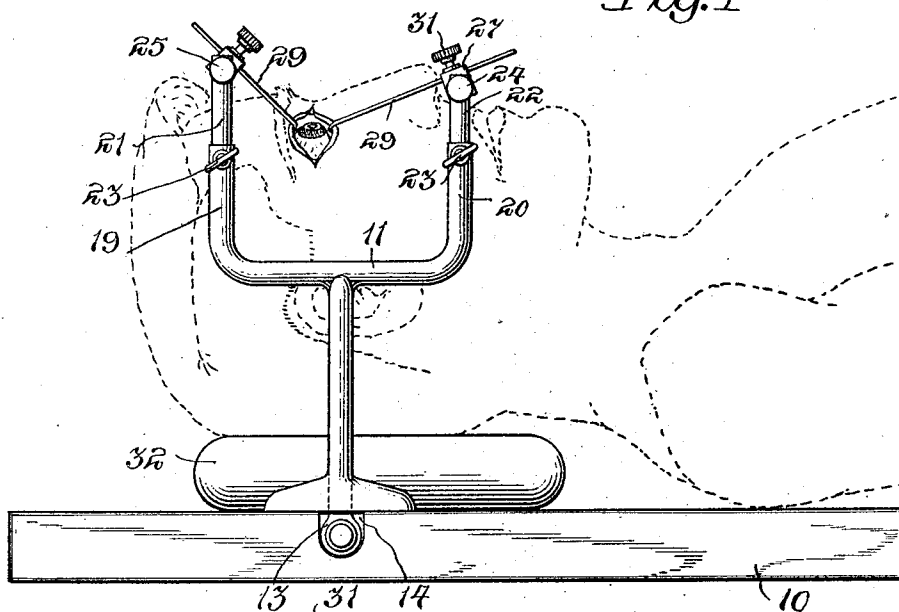


Fig. 2

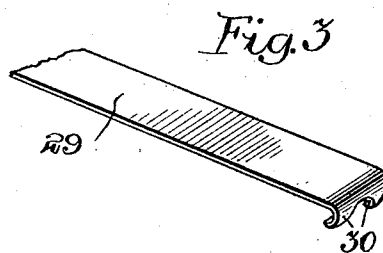


Fig. 3

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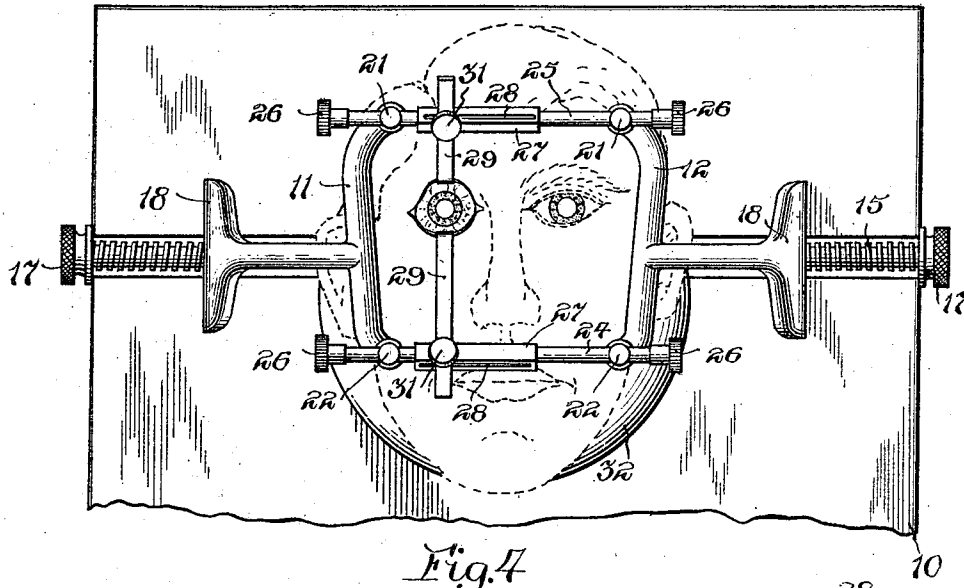


Fig. 4

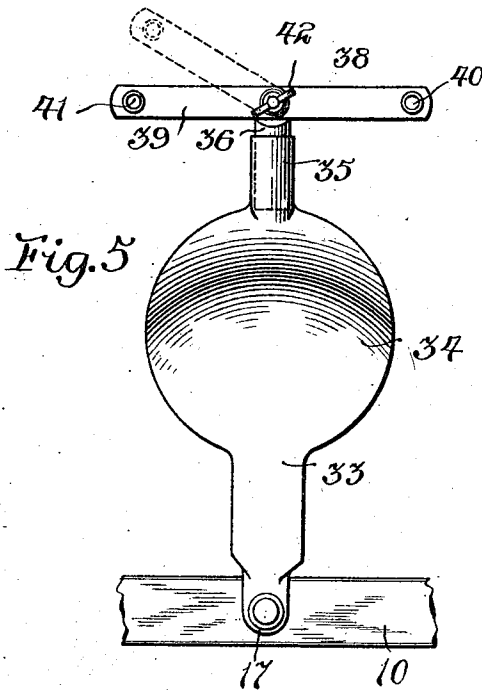


Fig. 5

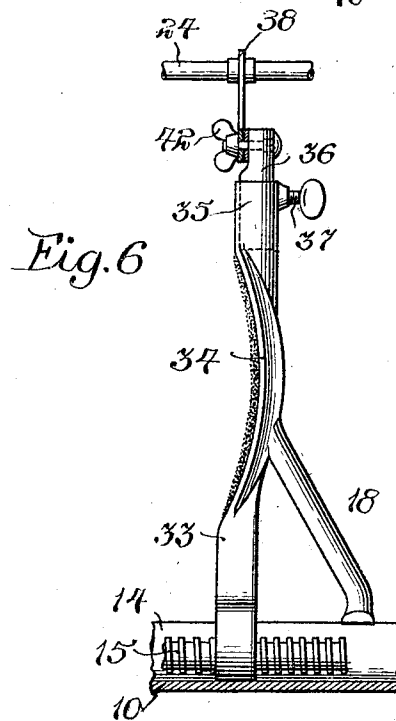


Fig. 6

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HEAD-CLAMP AND EYELID-HOLDER FOR SURGICAL OPERATIONS ON THE EYE.

1,230,873.

Specification of Letters Patent. Patented June 26, 1917.

Application filed November 18, 1916. Serial No. 132,009.

To all whom it may concern:

Be it known that I, ELIJAH R. CROSSLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Head-Clamps and Eyelid-Holders for Surgical Operations on the Eye, of which the following is a specification.

10 This invention relates to improvements in head clamp and eyelid holder for use in performing operations on the eye and has for one of its objects the provision of an apparatus of this character by means of which 15 the head of the patient may be securely held against movement and the eyelid held retracted during such operation.

A further object is to provide an apparatus of this character in which the parts 20 are out of the way of the operator and are detachable for sterilization.

A further object is to provide an apparatus of this character which will be comparatively light, simple, durable, cheap and 25 compact in construction and effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists 30 in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating the 35 invention and in which—

Figure 1 is a side elevation of an apparatus of this character, constructed in accordance with the principles of this invention.

40 Fig. 2 is an enlarged view partly in elevation and partly in section of a portion of the apparatus.

Fig. 3 is a detail perspective view of the eyelid retractor.

45 Fig. 4 is a top plan view of the parts shown in Fig. 1.

Fig. 5 is a side elevation of a modified form of the invention.

Fig. 6 is a view partly in end elevation 50 and partly in section of the parts shown in Fig. 5.

Referring more particularly to the drawings, the numeral 10 designates a supporting

base which may be constructed of any desired size and material and is provided with 55 cooperating clamping members 11, 12, which are mounted to slide toward and away from each other, so as to clamp the side of the head.

The clamping members are provided with 60 a portion 13, which slides within a groove 14 within the support 10, and in order to effect the clamping and unclamping operation, any suitable means may be provided for 65 moving them toward and away from each other, such as a screw 15, which is mounted within the groove 14 and has threaded engagement with each of the clamping members as at 16, and the screw may be provided 70 with handles 17 at its extremities by means of which the screw may be manipulated and the threads on the screw are arranged right and left, so that when the screw is operated, it will correspondingly adjust the clamping 75 members with respect to each other according to the direction of movement of the screw.

The clamping members are of any desired shape so as to grip the side of the head 80 of the patient and hold the same immovable, and if desired, braces 18 may be provided which are adapted to rest upon the face of the support 10, and are connected with the clamping members so as to hold the members 85 steady.

In the form of the invention shown in Figs. 1 to 4, the clamping members are provided with tubular portions 19, 20, into 90 which uprights 21, 22 respectively telescope, and fastening devices 23 such as set screws may be provided for holding the uprights 22 in adjusted positions.

Extending across the space between the clamping members 11, 12, are cross bars 24, 25, which have sliding or loose engagement 95 respectively with the uprights 22 and 21, so as to permit the clamping members 11 and 12 to be adjusted toward and away from each other when desired.

Each of these rods are provided with 100 heads 26 on the extremities thereof, and one of which heads may be removable in order to permit the rods to be detached.

Sliding upon each of the rods 24, 25, is a guide or holder 27, having a slot 28 105 through which an eyelid retractor 29, having

a hooked end 30, is adapted to slide, and the holder 27, together with the retractor 29 is secured in position in any suitable manner such as by means of a clamp screw 31.

5 In use, the head of the patient is placed upon a cushion 32 which rests upon the support 10 between the clamping members 11, 12 and the screw 15 is then operated to cause the clamping members to engage the side
10 of the head and clamp the same. During this adjustment, the clamping members will have adjustment with respect to the bars 24, 25.

When the head of the patient is firmly
15 clamped, the holders 27 are adjusted to a position that the retractors 29 will be properly positioned so that the hooked end 30 may be engaged under the eyelids and when the eyelid is so engaged, the retractor 29 is
20 drawn through the holder 27 until the eyelid is retracted to the proper distance. The clamping element 31 is then adjusted and the eyelid will be retained in the retracted position. The retractor will also serve to
25 elevate the eyelid from the eyeball.

When the parts are in this position, it will be manifest that the eyelids will not only be held retracted, but it will be impossible for the patient to move his head.

30 Furthermore, the eyeball will be exposed for operation thereon, and the parts of the holder and clamp are so arranged that they will be out of the way of the operator.

In the form of the invention shown in
35 Figs. 5 and 6, the clamps 33 are provided with a solid body portion 34, which is preferably slightly concaved, and projecting above the body 34 is a tubular portion 35, into which a stem 36 telescopes and is held
40 by means of a fastening screw 37. Pivottally connected with the stem 36 are arms 38, 39, having guide openings 40, 41, therein respectively for the rods 24, 25. The arms 38, 39 are adapted to be clamped in any position
45 with respect to each other by means of a clamping nut 42.

With this improved construction it will be manifest that either one or the other of the rods 24, 25 may be adjusted into differ-
50 ent horizontal planes and thereby elevate or lower the retractors, and both of the retractors may be raised or lowered with respect to each other. This adjustment also permits the retractors to be properly posi-
55 tioned with respect to the various patients.

It will also be obvious with these forms of the invention that the parts are detachably secured together in such a way that they may be readily separated and the parts
60 sterilized.

While the preferred forms of the invention have been herein shown and described, it is to be understood that various changes may be made in the details of construction

and in the combination and arrangement 65 of the several parts without departing from the spirit of this invention.

What is claimed as new is:

1. A device of the character described, embodying means for clamping and holding 70 the head, and means for retracting and holding the eye lid.

2. A device of the character described, embodying a head clamp and holder, and means coöperating therewith for retracting the eye 75 lid.

3. A device of the character described, embodying clamps adapted to engage the side of and hold the head, and means supported by said clamps for retracting the eyelid. 80

4. A device of the character described, embodying a head clamp for holding the head, and means adjustably supported by the clamp for engaging and retracting the eye- 85 lid.

5. A device of the character described, embodying a head rest support, clamping members thereon and adjustable toward each other to clamp the head, and eyelid retractors connected with the clamping members 90 and adjustable in two different directions with respect to said members.

6. A self-contained device of the character described, embodying head clamping means, and means adjustable independently 95 of the clamping means and adapted to, engage and retract the eyelid.

7. A self-contained device of the character described, embodying an adjustable head clamping means, and an adjustable eyelid 100 retracting means, both of said means being adjustable independently with respect to each other.

8. A device of the character described, embodying a head rest, clamps adjustably supported by the rest for clamping the head, and an eyelid retractor adjustably and detachably connected with the clamp. 105

9. A device of the character described, embodying coöperating head clamps, a sup- 110 port upon which said clamps are adjustably mounted, supplemental supports adjustably connected with the clamps, and eyelid retractors adjustably connected with the supplemental supports. 115

10. A device of the character described, embodying coöperating head clamps, a sup- port upon which said clamps are adjustably mounted, supplemental supports adjustably and detachably connected with the clamps, 120 and eyelid retractors adjustably connected with the supplemental supports.

11. A device of the character described, embodying head clamps for engaging and clamping opposite sides of the head; a sup- 125 port upon which the clamps are adjustably mounted, supplemental supports adjustably connected with the clamps and projecting

uprightly therefrom, a guide extending from one of the clamps to the other and adjustably connected with the supplemental supports; and an eyelid retractor adjustably mounted to move upon said guide.

two subscribing witnesses, on this 15th day of November, A. D. 1916.

E. R. CROSSLEY.

Witnesses:

IRMA M. BARING,
J. H. JOCHUM, Jr.

In testimony whereof I have signed my name to this specification, in the presence of

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."