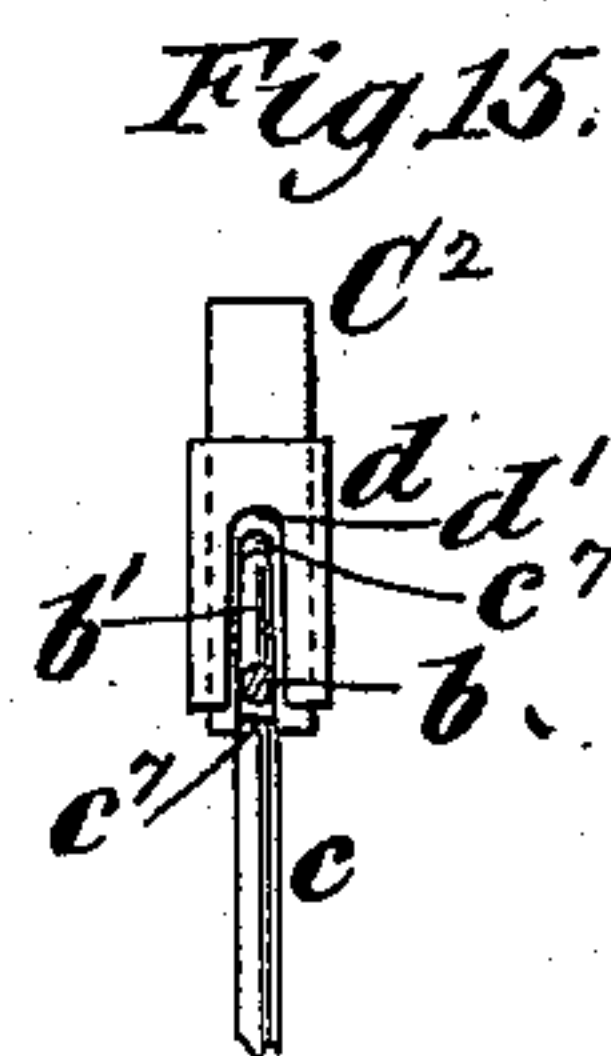
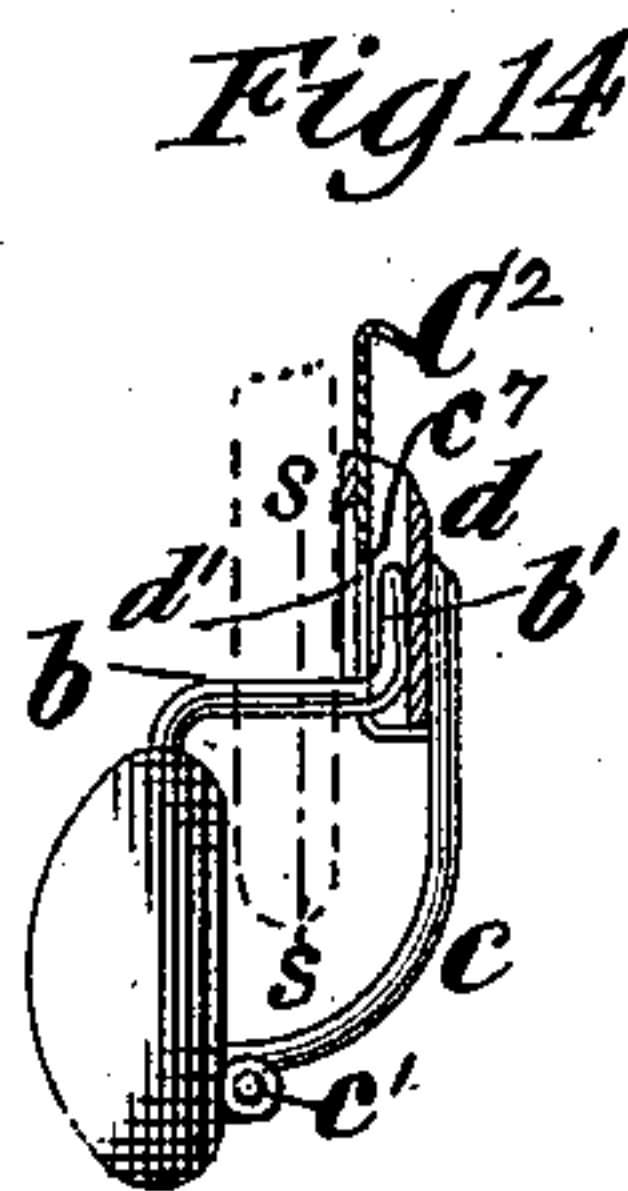
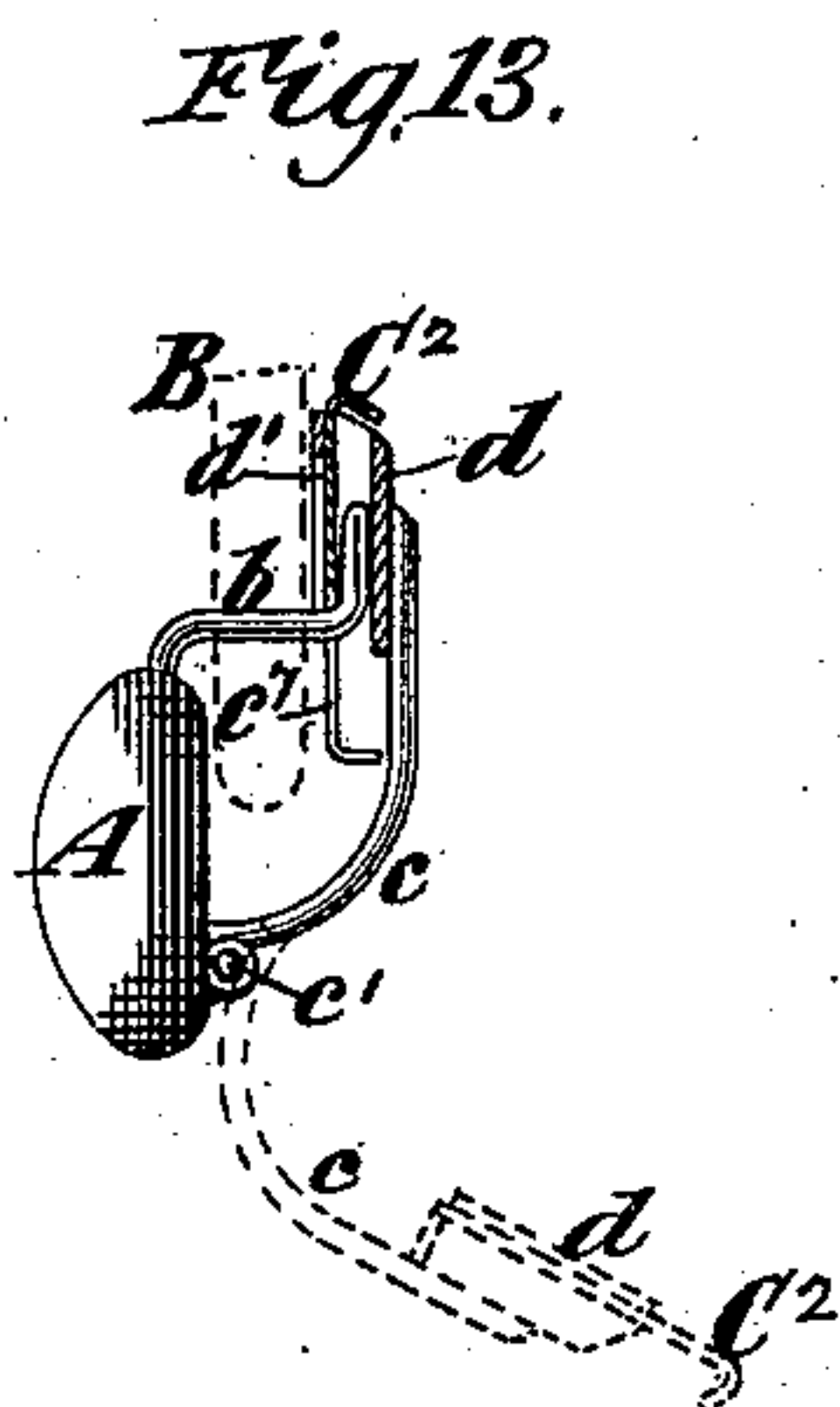
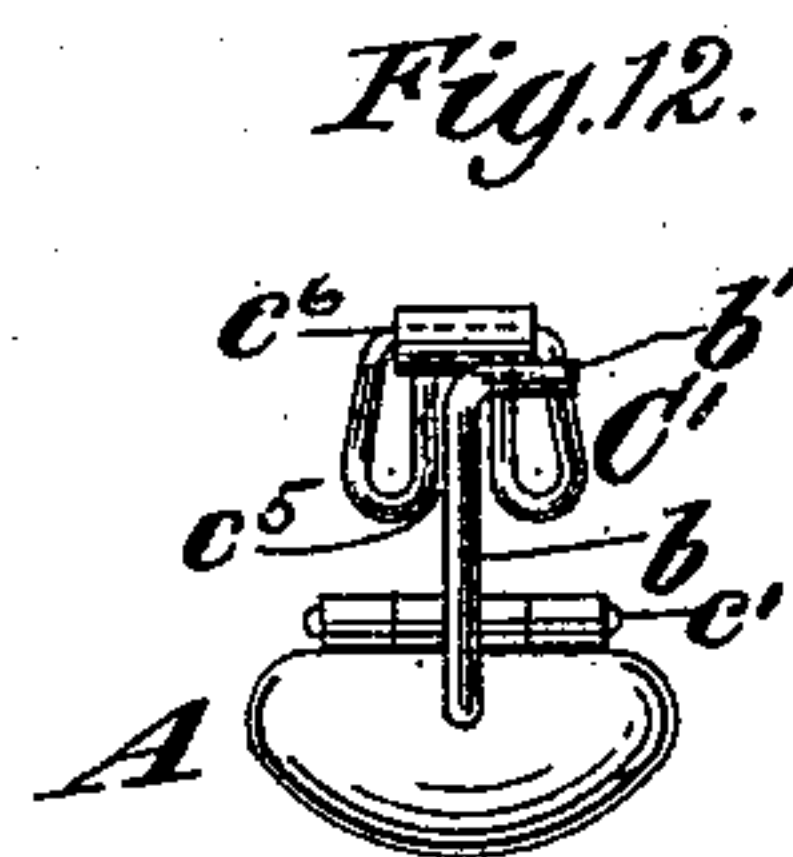
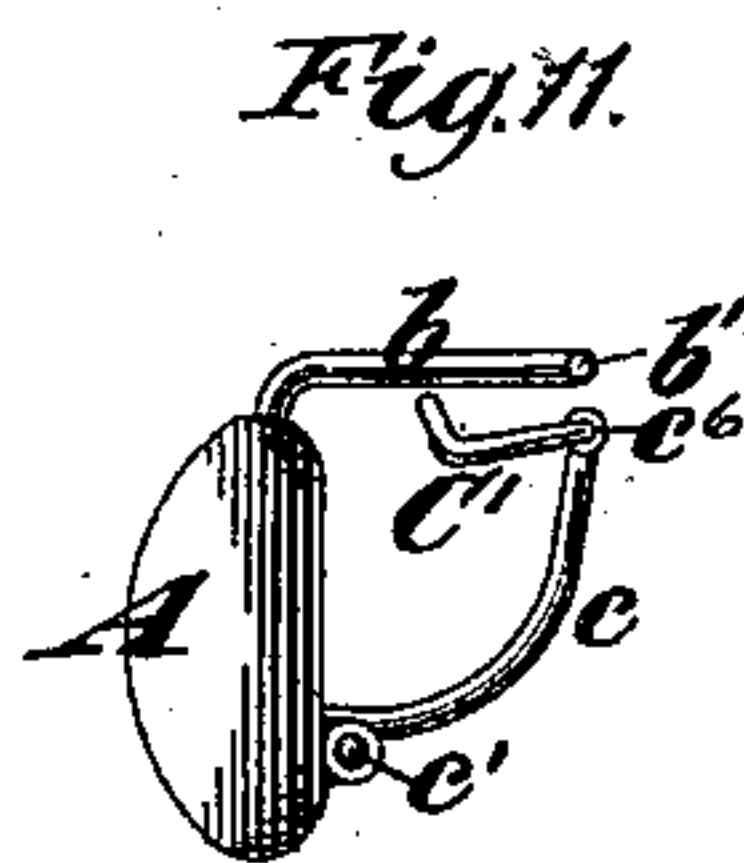
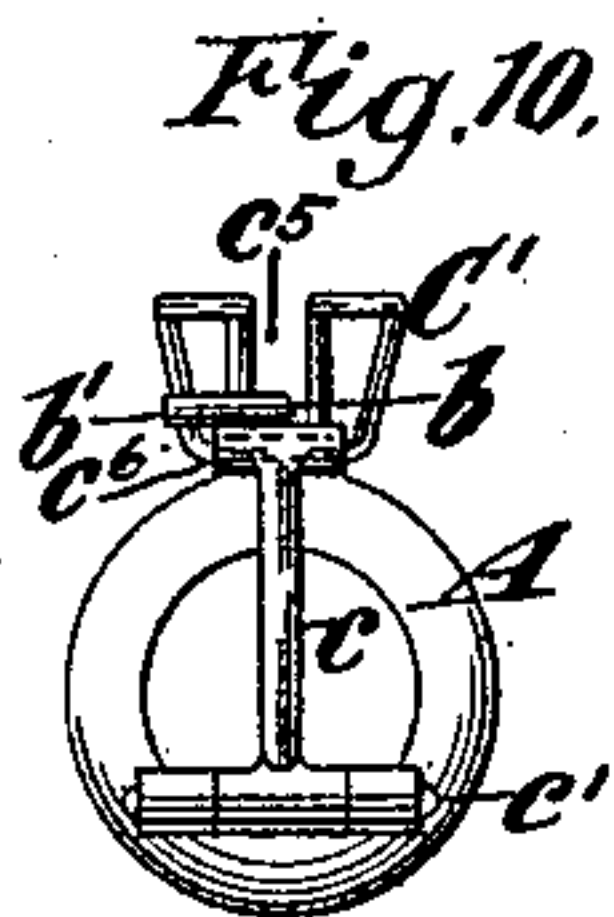
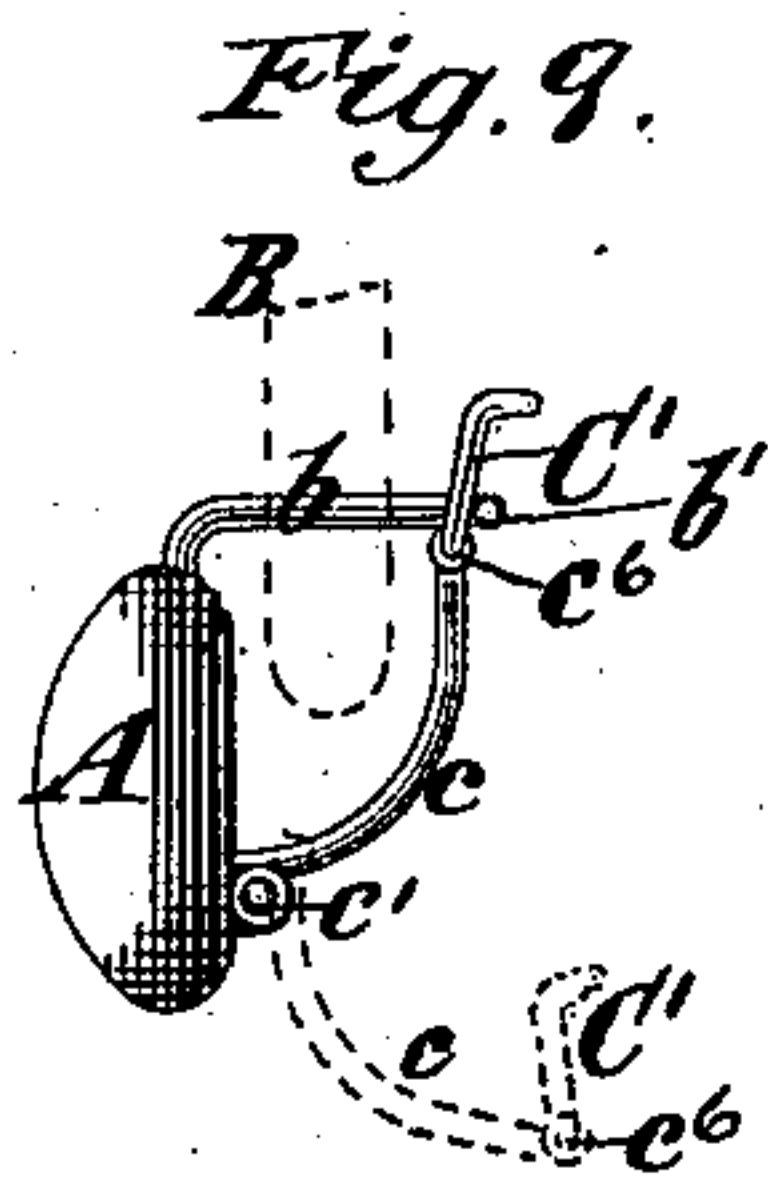
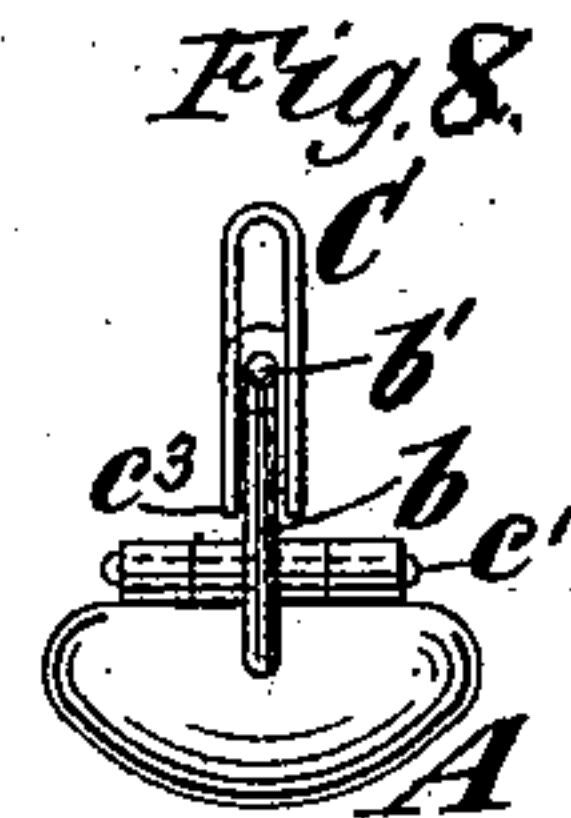
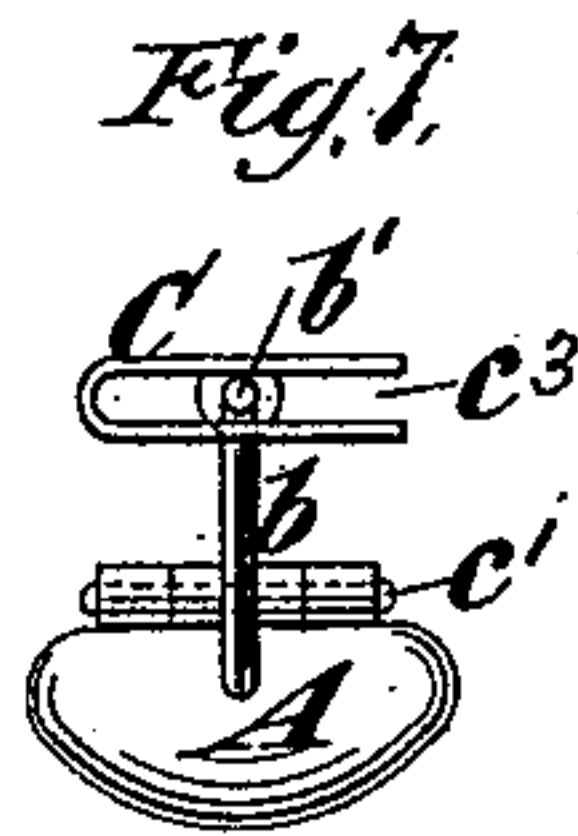
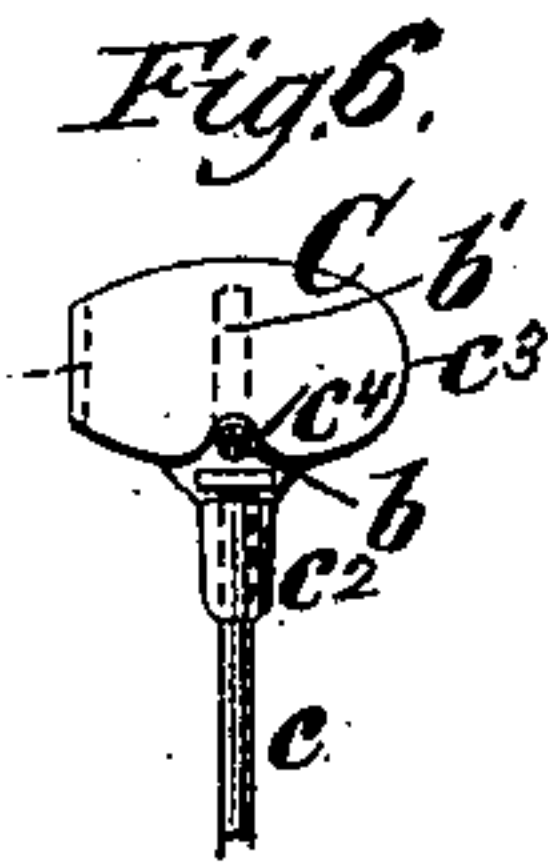
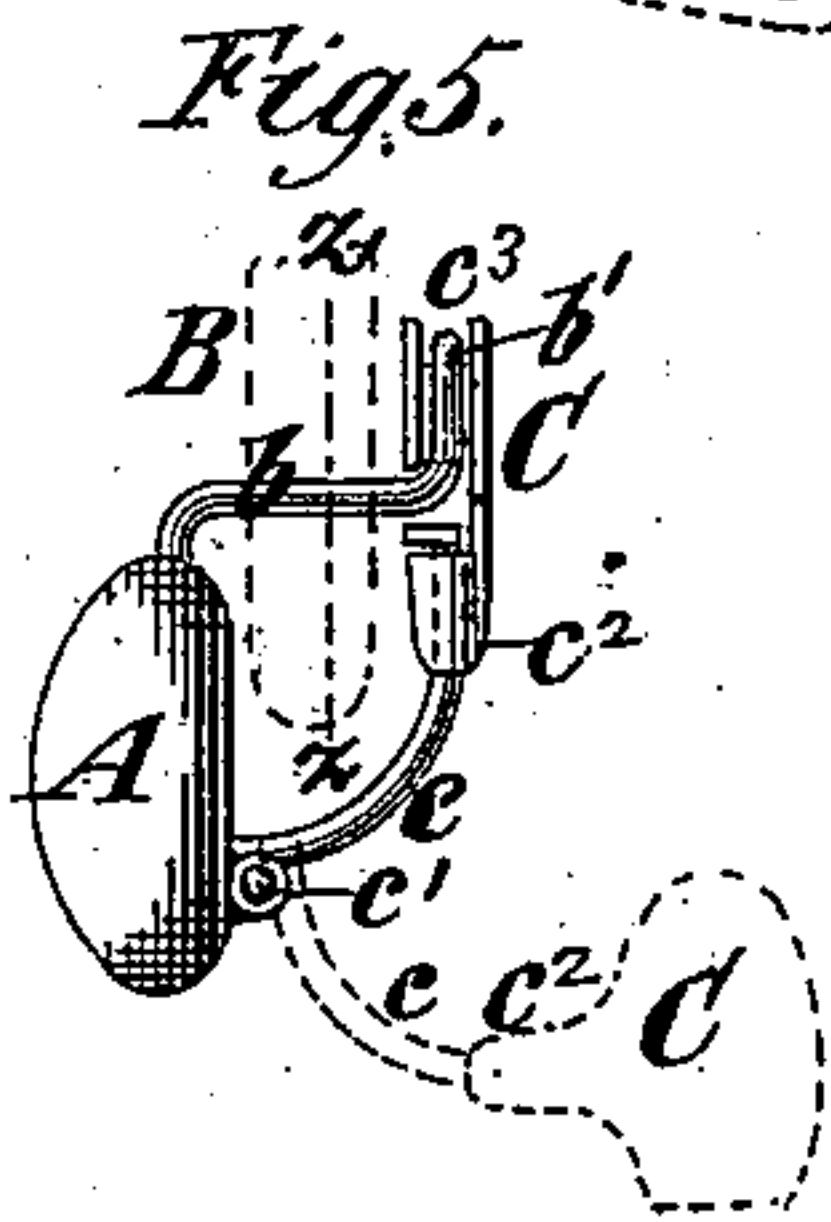
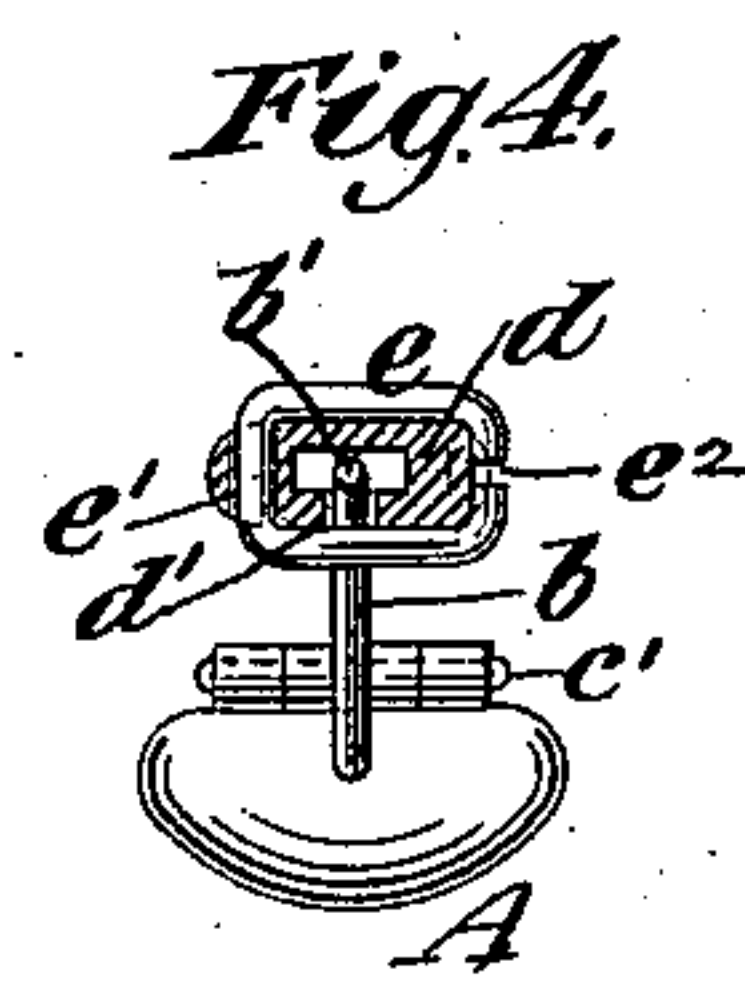
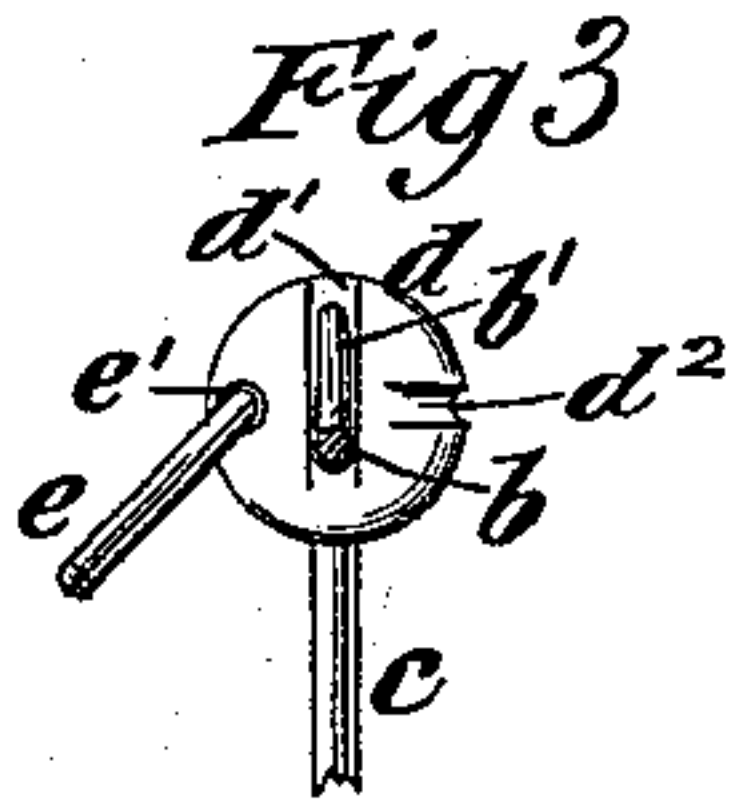
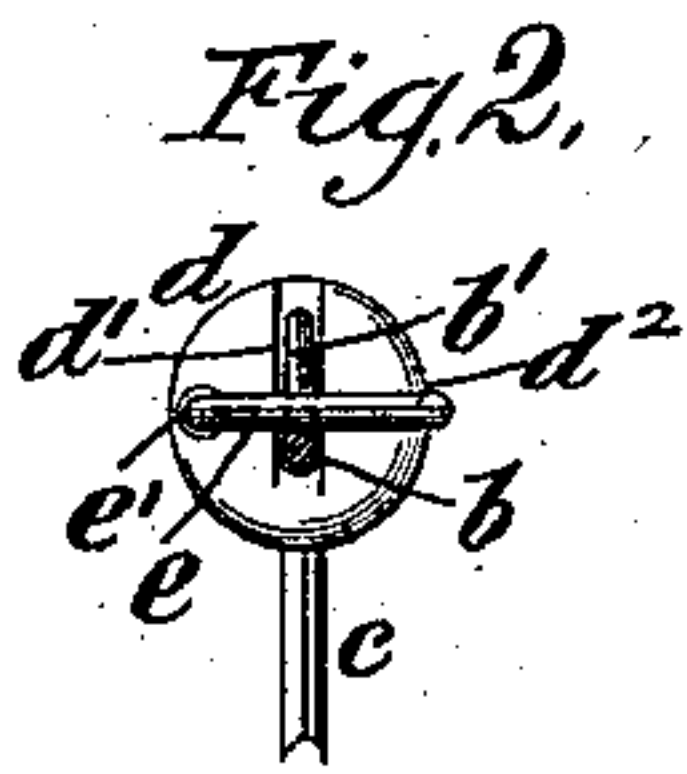
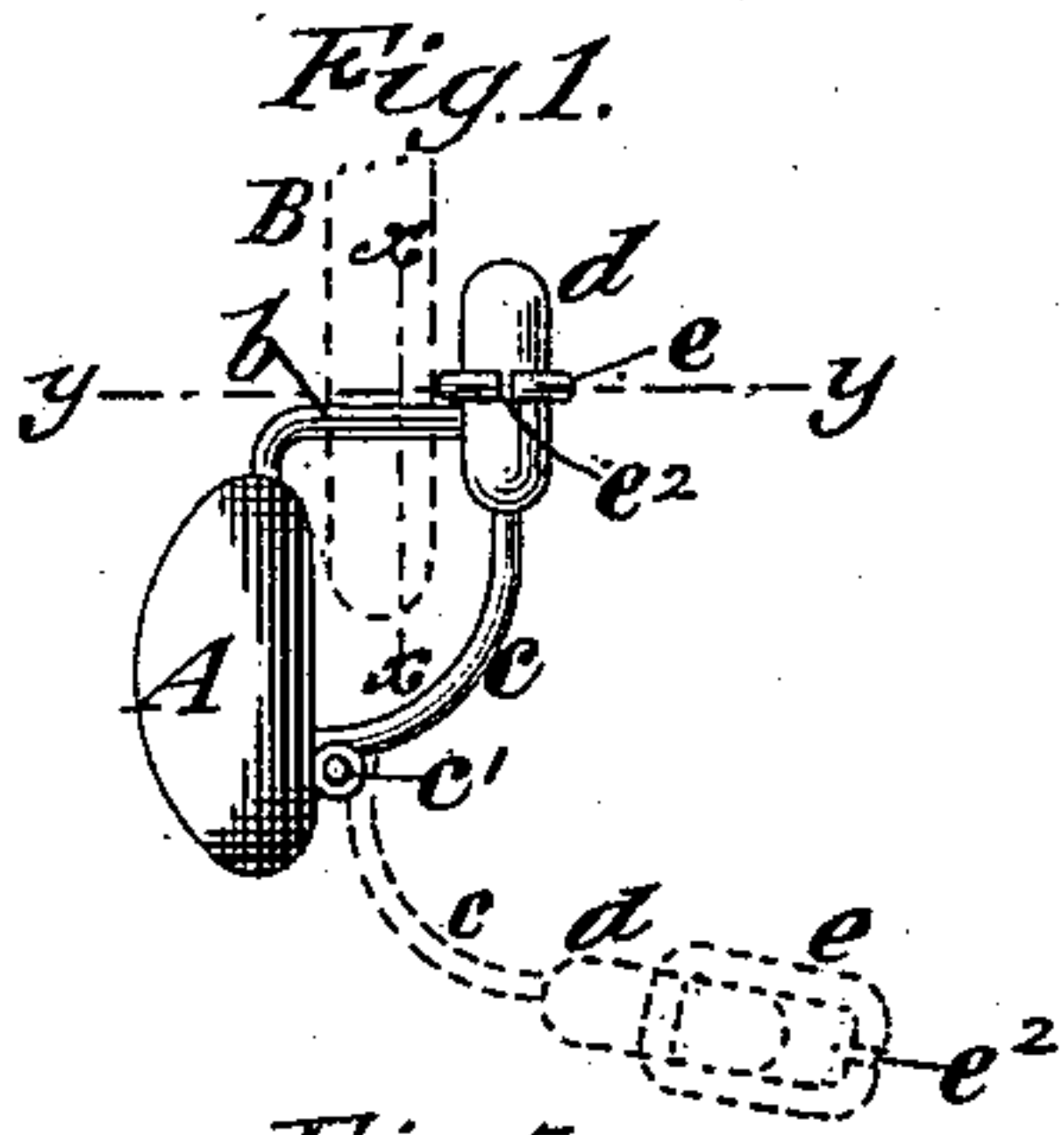


(No Model.)

T. W. F. SMITTEN.  
FASTENING FOR EAR RINGS.

No. 364,140.

Patented May 31, 1887.



Witnesses.  
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O. Sundgren

Inventor:  
Thomas W. F. Smitten  
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Brown & Hall.



# UNITED STATES PATENT OFFICE.

THOMAS W. F. SMITTEN, OF BROOKLYN, NEW YORK.

## FASTENING FOR EAR-RINGS.

SPECIFICATION forming part of Letters Patent No. 364,140, dated May 31, 1887.

Application filed August 10, 1886. Serial No. 210,511. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. F. SMITTEN, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Fastenings for Ear-Rings, of which the following is a specification.

My invention relates to ear-rings which comprise an ear-wire extending from the body for insertion through the ear and a movable wire which is or may be jointed or pivoted to the body and is movable relatively to the ear-wire, the parts being so combined that when the movable wire is moved in one direction, or away from the ear-wire, the ear-wire is left uncovered or free to be inserted through the ear, and when the movable wire is carried or moved in the opposite direction its upper end portion is brought adjacent to the end of the ear-wire.

In one style of fastening heretofore in use the movable wire has its upper end closed directly upon the end of the ear-wire, and has been held in such position by the yielding force exerted by a spring applied to the movable wire.

The object of my invention is to provide a fastening which is so constructed that the upper end of the movable wire may be positively engaged with and locked to the end of the ear-wire, so that loss of the ear-ring is absolutely prevented, and so that when the ear-ring is applied to the ear the locking device which is employed will lie directly against the inner side of the ear, and will thereby prevent the ear-ring from turning or twisting into an abnormal position, and will itself be prevented from becoming unlocked so as to release the fastening.

My invention may be carried out by combinations of parts which differ slightly from each other in their construction and arrangement, but in all of which the same essential principles are involved.

The invention consists, essentially, in the combination, in an ear-ring fastening, with an ear-wire for insertion through the ear and provided at the end with a transverse shoulder, of a lower wire extending upward to the extremity of the ear-wire and movable relatively to the ear-wire, and having at the upper end a positive lock for engaging with the shouldered end of the ear-wire. The shoulder upon

the end of the ear-wire will usually be formed by bending the end portion of said wire transversely to its length, and the lower movable wire may be jointed or pivoted to the body of the ear-ring, so as to enable it to swing upward and downward relatively to the ear-wire.

In all the examples of my invention the lock which is provided at the upper end of the movable wire for engaging the bend or shouldered end of the ear-wire will preferably be of such form as to afford a broad surface for bearing against the inner side of the ear between the ear and the bent or shouldered end of the ear-wire, and the lock may consist of a box or case secured upon the upper end of the movable wire and a keeper which is movable relatively to or in the box or case for engaging the bent end of the ear-wire.

The above-referred-to features of construction and combination are all included in my invention, and will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of an ear-ring embodying my invention, showing the movable wire as locked in positive engagement with the ear-wire. Fig. 2 represents a sectional view upon the plane of the dotted line *xx*, Fig. 1, looking toward the right hand from said line, and showing a pivoted keeper which is comprised in the lock as adjusted to locking position. Fig. 3 is a view similar to Fig. 2, showing the keeper as swung back or unlocked to permit the swinging of the movable wire away from the ear-wire. Fig. 4 is a horizontal section and plan upon the plane of the dotted line *yy*, Fig. 1, showing the parts in the same position as Figs. 1 and 2. Fig. 5 is a side view of an ear-ring having a fastening of slightly-modified form, also embodying my invention, and which comprises a pivoted or rotary keeper for engaging the end of the ear-wire. Fig. 6 is a sectional view on the plane of the dotted line *zz*, Fig. 5, looking toward the right from said line, and showing the keeper as in locked position. Fig. 7 is a plan of an ear-ring, also showing the keeper in locked position; and Fig. 8 is a plan showing the keeper as adjusted to an unlocked position preparatory to the disengagement of the movable wire from the ear-wire. Fig. 9 is a side view of an ear-ring embodying still another slight modification of my invention, and



showing the movable wire as locked to the ear-wire. Fig. 10 is a back or rear view of the ring, showing the parts in the same position as Fig. 9. Fig. 11 is a side view similar to Fig. 9, and showing the movable wire as unlocked from the ear-wire; and Fig. 12 is a plan showing the parts in the same position as Fig. 11. Fig. 13 is a side view and partial section of an ear-ring embodying my invention in another slightly-modified form, and showing the movable wire as locked to the ear-wire. Fig. 14 is a side view and section similar to Fig. 13, showing the movable wire as unlocked from the ear-wire preparatory to being swung away therefrom; and Fig. 15 is a sectional view upon the plane of the dotted line *s s*, Fig. 14, looking toward the right hand of said line.

All the figures are drawn upon a somewhat enlarged scale, and in all the figures similar letters of reference designate corresponding parts.

In all the examples of my invention, *A* designates the body of the ear-ring, which may be of any suitable form or construction, and to which my invention in no wise relates, and in all such examples *b* designates an ear-wire, which is shown as rigidly connected with and projecting from the upper part of the body *A*, and *c* designates a lower wire, which is movable relatively to the ear-wire *b*, and, as here shown, is pivoted or jointed at *e'* to the lower part of the body *A*.

In all the examples of my invention the movable wire *c* may be swung downward, as shown by dotted lines in Figs. 1, 5, 9, and 13, so as to leave the ear-wire entirely free for insertion through the ear, and in all cases the upper end of the movable wire is provided with a positive lock for engaging with a shoulder upon the end portion of the ear-wire *b*, so as to absolutely prevent accidental disengagement from the ear-wire and consequent loss of the ear-ring.

In all examples of my invention the lock which is at the upper end of the movable wire *c*, for engaging with the ear-wire *b*, lies directly upon or against the inner side of the ear, which is shown by dotted lines at *B* in Figs. 1, 5, 9, and 13, and between the inner side of the ear and the shouldered portion of the ear-wire *b*. In all the examples of my invention here shown the shoulder upon the ear-wire is formed by bending the end portion of the ear-wire *b* transversely to the body portion of the wire, as shown at *b'*.

In the examples of my invention shown in Figs. 1 to 8, inclusive, and Figs. 13 to 15, inclusive, the bent portion *b'* extends upward from the body portion of the ear-wire *b*, and in the examples shown in Figs. 9 to 12, inclusive, such bent portion *b'* extends horizontally or sidewise from the ear-wire *b*. Such end portion *b'* of the ear-wire will be bent either upward, downward, or sidewise, according to the character of the locking device which is provided upon the upper end of the movable wire *c* for engaging with the bent portion *b'*.

Referring now to Figs. 1 to 4, inclusive, *d* designates a small box or case, shown as of circular form and rigidly secured upon the upper end of the movable wire *c* in a plane parallel with the body *A*. The box or case *d* is represented as having flat sides, and when secured in the ear its flat side will bear against the inner side of the ear, as shown by the dotted lines *B* in Fig. 1. Upon the inner side of the box or case *d*, which is the side coming next the ear, is a slot, *d'*, which receives within it the bent portion *b'* of the ear-wire *b*, as shown in Figs. 2, 3, and 4, and when the movable wire is swung upward after inserting the ear-wire *b* through the ear the bent portion *b'* will pass directly into the slot *d'*, and will be shielded within the box or case *d*.

In order to hold or lock the bent portion *b'* of the ear-wire *b* within the box or case, and thereby to lock the lower movable wire, *c*, positively to the ear-wire *b*, I have represented a pivoted keeper, *e*, which is made in the form of a loop, as shown in Fig. 4, embracing the box or case *d*, and pivoted therein at *e'*. At the end of the loop opposite the pivot *e'* there may be a gap or division in the loop, as shown at *e''*, which will give the same elasticity in the direction of its width, and will enable it to spring over the box or case *d* and to engage with shallow recesses or depressions *d''* in the box or case, which are shown in Fig. 3. When the ear-ring is to be inserted in the ear, the keeper *e* is swung over to the position shown in Fig. 3, the movable wire *c* is swung downward to the position shown dotted in Fig. 1, and the ear-wire *b* is inserted through the ear. The movable wire *c* is then swung back to the position shown by full lines in Fig. 1, the bent end of the ear-wire passing into the slot *d'*, and the keeper *e* is then swung back, so as to embrace the box or case *d*, as shown in Figs. 1, 2, and 4, and the bent end *b'* of the ear-wire is by the keeper absolutely prevented from withdrawal from the box or case *d*.

I will now describe the example of my invention shown in Figs. 5 to 8, inclusive. In this case the movable wire *c* has pivoted vertically upon its upper end a rotary locking device or keeper, *C*, which has a socket, *c'*, receiving within it and turning upon the straight end portion of the movable wire *c*, and which is made of sheet metal bent into U-shaped form in its horizontal section, as shown in Figs. 7 and 8, the keeper having at one end or side a gap or opening, *c''*, into which the bent end *b'* of the ear-wire may pass when the keeper is turned to the proper position. In order to disengage the movable wire *c* from the ear-wire *b*, or to engage it therewith, the keeper *C* must be turned to the position shown in Fig. 8, so as to lie in the same plane with the ear-wire *b* and the movable wire *c*.

To insert the ear-ring the keeper *C* is turned to the position shown in Fig. 8. The movable wire *c* is then swung downward to the position shown by dotted lines in Fig. 5. The ear-wire *b* is then inserted through the ear and the mov-



able wire *c* swung back to the position shown by full lines in Fig. 5. When swinging the movable wire *c* back to the position shown in Fig. 5, the bent end *b'* of the ear-wire *b* passes directly into the keeper *C* through the opening or gap *c'* in the end or side thereof, and after so entering the box or case the keeper is turned to the position shown in Fig. 7, so as to lie with its greatest length transverse to the plane in which are the ear-wire *b* and the lower movable wire, *c*, and by such turning the bent end *b'* of the ear-wire is securely locked in the keeper *C*.

I have represented in the lower edge of the keeper *C* a notch or upward recess, *c'*, and the slight elasticity which the ear-wire *b* commonly has enables the lower edge of the keeper to slightly depress the ear-wire *b*, and as soon as the keeper reaches the position shown in Fig. 7 the ear-wire *b* springs upward into the notch or recess *c'*, and thereby holds the keeper *C* against accidentally turning from the position shown in Figs. 5, 6, and 7.

It will also be observed that when the keeper *C* is turned to locking position, as shown in Figs. 5, 6, and 7, its flat side will lie directly against the inner side of the ear, and contact with the ear will also prevent the keeper from turning accidentally.

Referring now to Figs. 9 to 12, inclusive, it will be seen that the lower movable wire, *c*, is provided with a keeper or lock, *C'*, which may be made of wire or sheet metal, and which has a central vertical gap or slot, *c''*, adapted to receive the ear-wire *b*, as shown in Figs. 9, 10, and 12. This keeper *C'* is pivoted or jointed horizontally at *c''* to the upper end of the movable wire *c*, and may therefore be readily swung from the position shown in Fig. 9 to that shown in Fig. 11, or vice versa. When the ear-ring is to be inserted, the keeper *C'* is swung downward out of engagement with the ear-wire *b* to the position shown in Figs. 11 and 12. The movable wire is then swung downward to the position shown by dotted lines in Fig. 9. The ear-wire *b* is then inserted through the ear and the movable wire *c* swung back to the position shown by full lines in Fig. 9, and the keeper *C'* is then swung upward to the position shown in Figs. 9 and 10, thereby positively locking the movable wire *c* to the bent end *b'* of the ear-wire *b*. In this example of the invention, also, the flat side of the keeper *C'* will, when it is swung upward to the position shown in Figs. 9 and 10, lie directly against the inner side of the ear, and the keeper *C'* will, by its contact with the ear, be prevented from accidentally swinging downward to the unlocked position shown in Figs. 11 and 12.

Referring now to the examples of the invention shown in Figs. 13 to 15, inclusive, it will be seen that the upper end of the movable wire *c* has secured to it a box or case, *d*, of oblong form, which has at the inner side a slot, *d'*, to receive the bent end *b'* of the ear-wire *b*. In the box or case *d* is fitted a vertically-moving

slide or keeper, *C''*, which is also slotted at *c''*, to pass over the ear-wire *b* behind the bent end *b'* thereof. This slide *C''*, when moved down to the position shown in Fig. 13, locks the bent end *b'* of the ear-wire *b* securely in the box or case *d*, and when moved upward to the position shown in Figs. 14 and 15 the bent end *b'* may be withdrawn from the box or case through the slot *c''* in the slide *C''*.

To insert this ear-ring the slide or keeper *C''* is pushed upward to the position shown in Figs. 14 and 15. The movable wire *c* is then swung downward to the position shown dotted in Fig. 13. The ear-wire *b* is then passed through the ear and the movable wire *c* swung upward to the position shown by full lines in Figs. 13 and 14, the bent end *b'* of the ear-wire being thus sheathed in the box or case *d*, and the slide or keeper *C''* is then pushed downward to the position shown in Fig. 13. In this example of the invention, also, the flat side of the box or case *d* lies against the inner side of the ear when the ear-ring is secured therein, and the ear-ring is thereby prevented from turning or twisting in the ear. In all the examples of my invention shown the lock or fastening device, by bearing against the inner side of the ear, prevents the ear-ring from canting forward or inward, and in case of diamond or other settings it renders it impossible for the stone to work under the ear, and thereby prevent a proper display.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an ear-ring fastening, the combination, with an ear-wire for insertion through the ear and provided at the end with a transverse shoulder, of a lower wire extending upward to the extremity of the ear-wire and movable relatively thereto, and having at the upper end a positive lock for directly engaging the shouldered end of the ear-wire, substantially as herein described.

2. The combination, with an ear-ring, of an ear-wire for insertion through the ear and having its end bent transversely to its length, and a lower wire movable relatively to the ear-wire and having at the upper end a positive lock for receiving and engaging the bent end of the ear-wire, substantially as herein described.

3. The combination, with an ear-ring, of an ear-wire rigidly secured thereto and having its end bent transversely to its length, and a lower wire jointed to the ear-ring and having at the upper end a positive lock for engaging the bent end of the ear-wire, substantially as herein described.

4. The combination, with an ear-ring, of an ear-wire for insertion through the ear and provided at the end with a transverse shoulder, and a lower wire extending upward to the extremity of the ear-wire and movable relatively thereto, and provided at the upper end with a positive lock for directly engaging the shouldered end of the ear-wire, said lock, when en-



gaged positively with the ear-wire, affording a broad surface for bearing against the inner side of the ear, substantially as herein described.

5 5. The combination, with an ear-ring, of an ear-wire bent transversely to its length at the end, a movable wire provided at the upper end with a box or case for receiving the bent end of the ear-wire, and a keeper movable  
10 relatively to the socket or case for engaging the bent end of the ear-wire, substantially as herein described.

6. The combination, with an ear-ring, of an ear-wire bent transversely to its length at the end, a movable wire, and a pivoted locking device or keeper at the upper end of the movable wire for engaging the bent end of the ear-wire, substantially as herein described.

7. The combination, with an ear-ring, of the ear-wire *b*, bent transversely to its length at the end, a movable wire, *c*, provided at the upper end with a box or case, *d*, slotted on one of its flat faces to receive the bent end of the ear-wire, and the pivoted keeper *e*, embracing the box or case and movable to expose the slot for the entrance of the bent end of the ear-wire, or to extend across the slot and lock the bent end of the ear-wire therein, substantially as herein described. 20 25

T. W. F. SMITTEN.

Witnesses:

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