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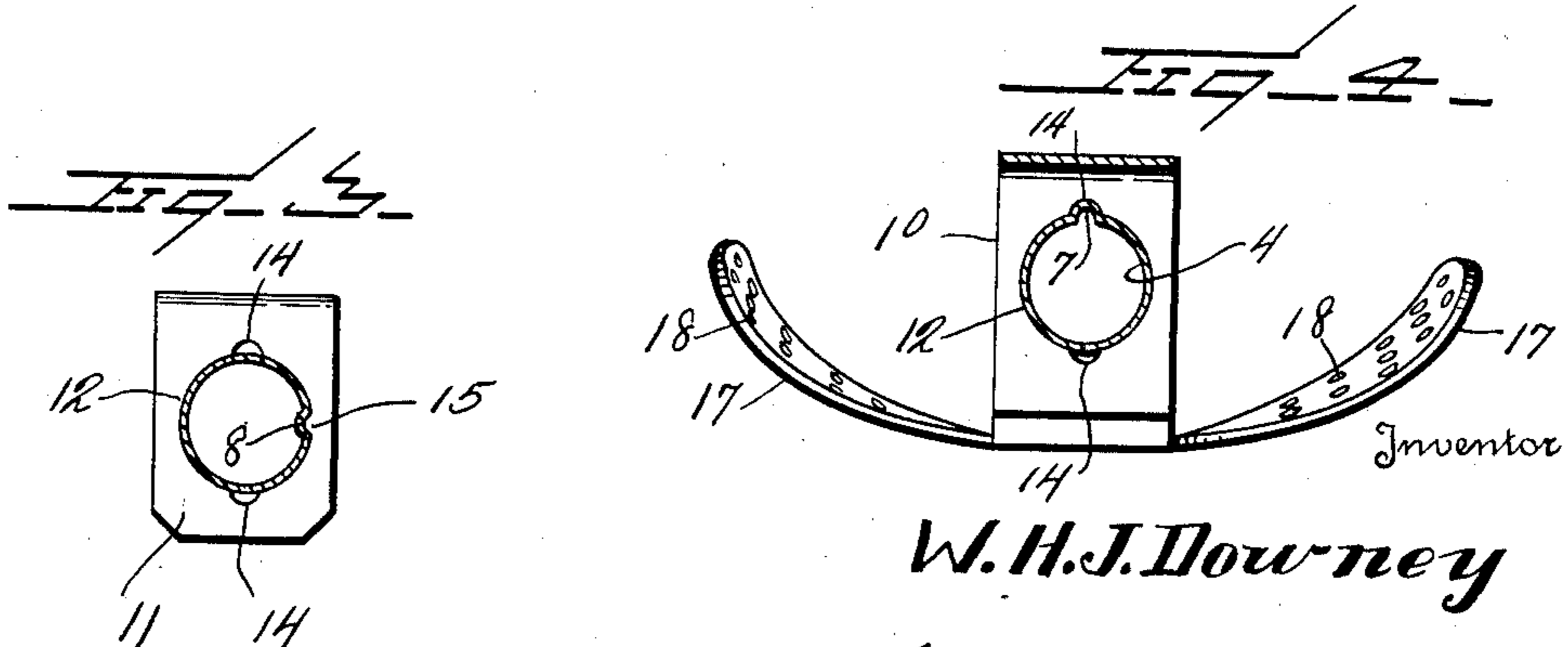
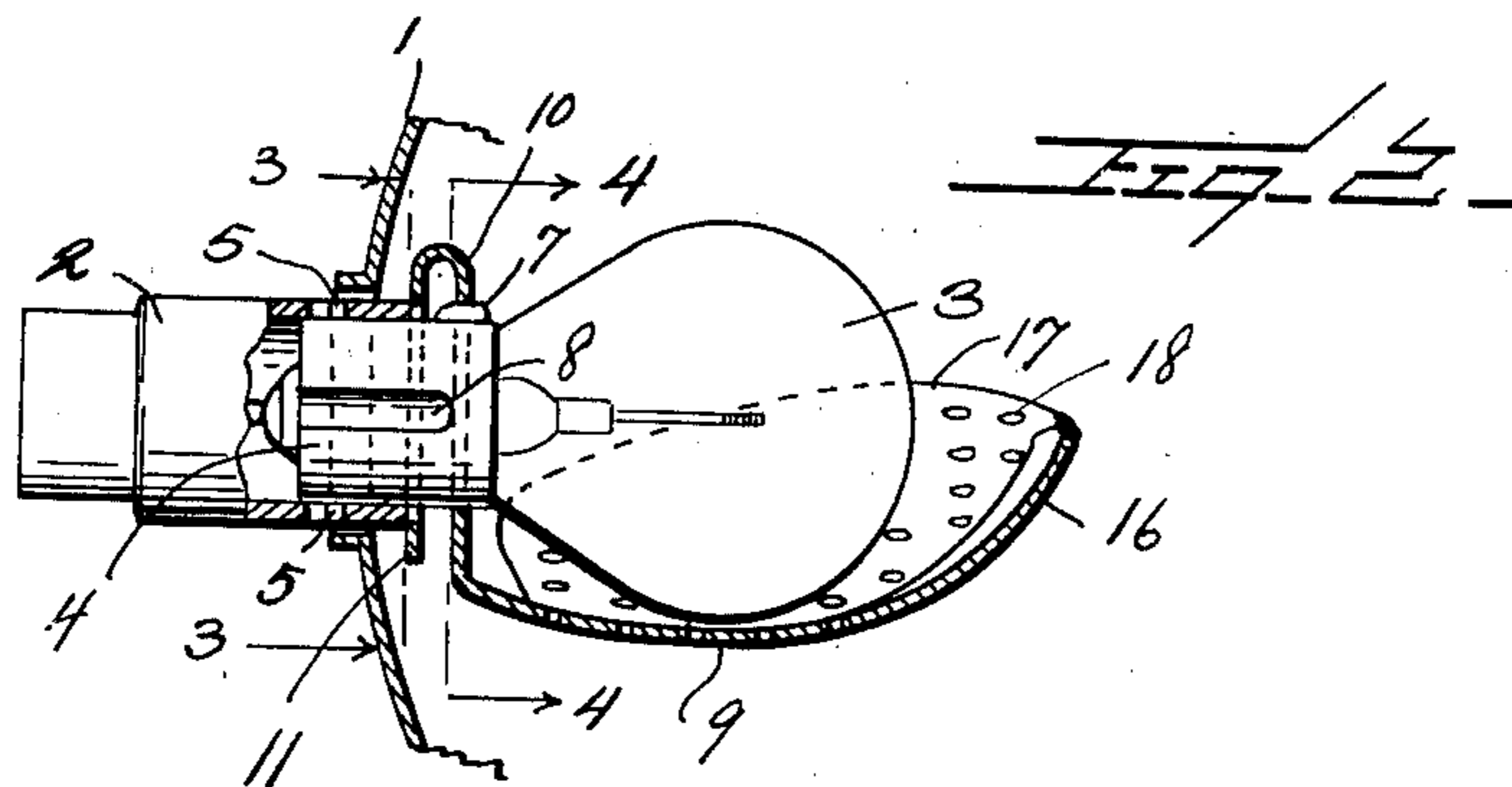
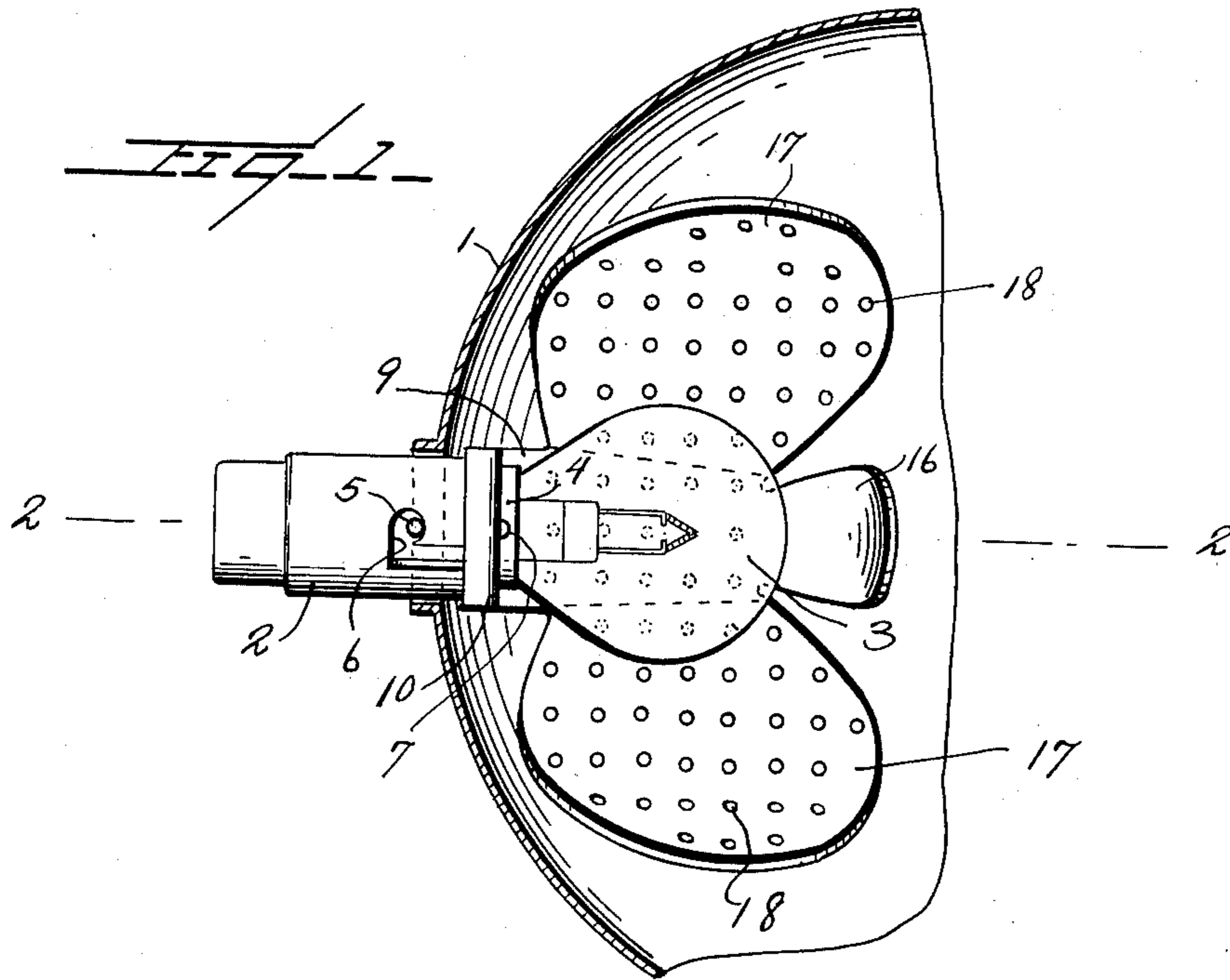
W. H. J. DOWNEY

1,961,284

GLARE BREAKER FOR HEADLIGHTS

Filed Feb. 13, 1932

2 Sheets-Sheet 1



Inventor

W. H. J. Downey

By *Watson E. Coleman*
Attorney

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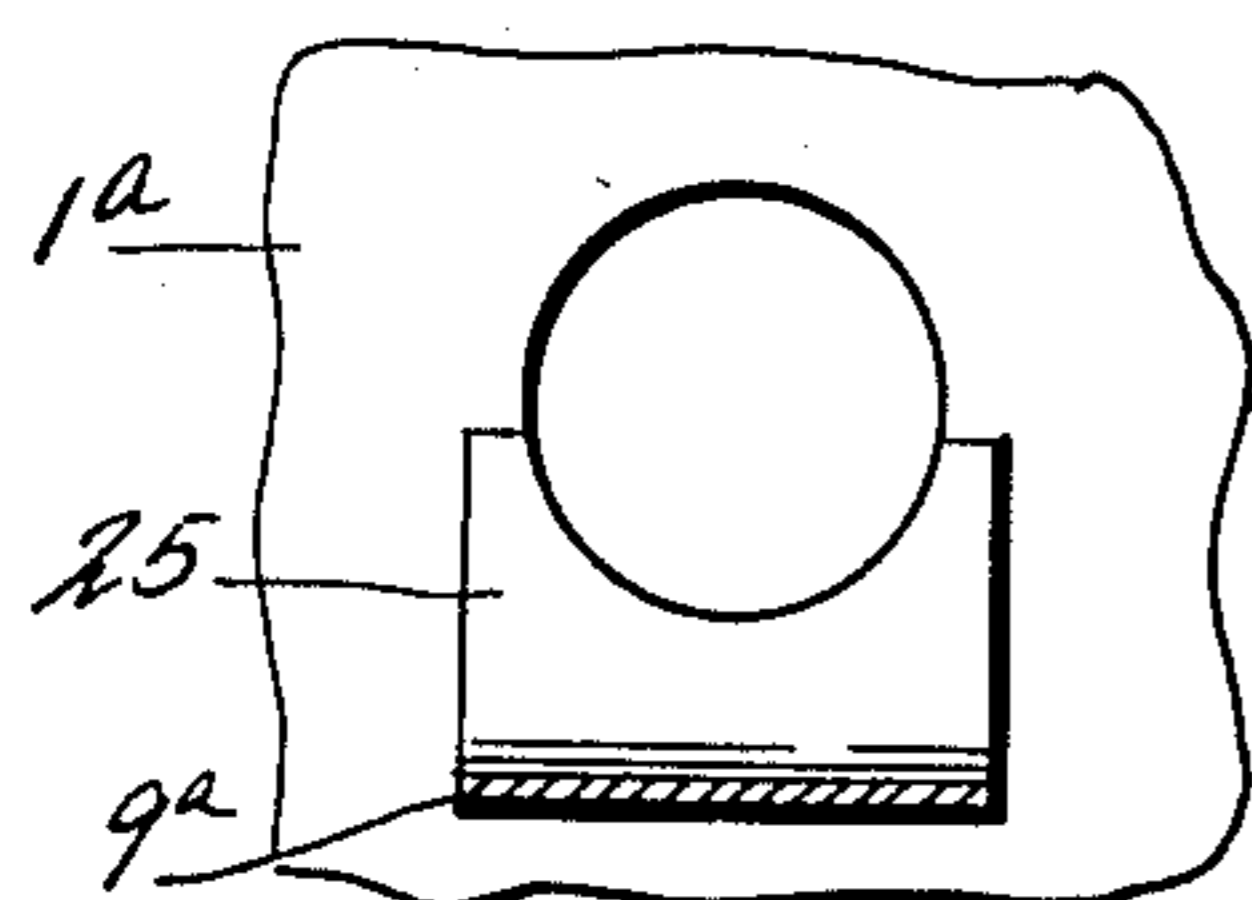
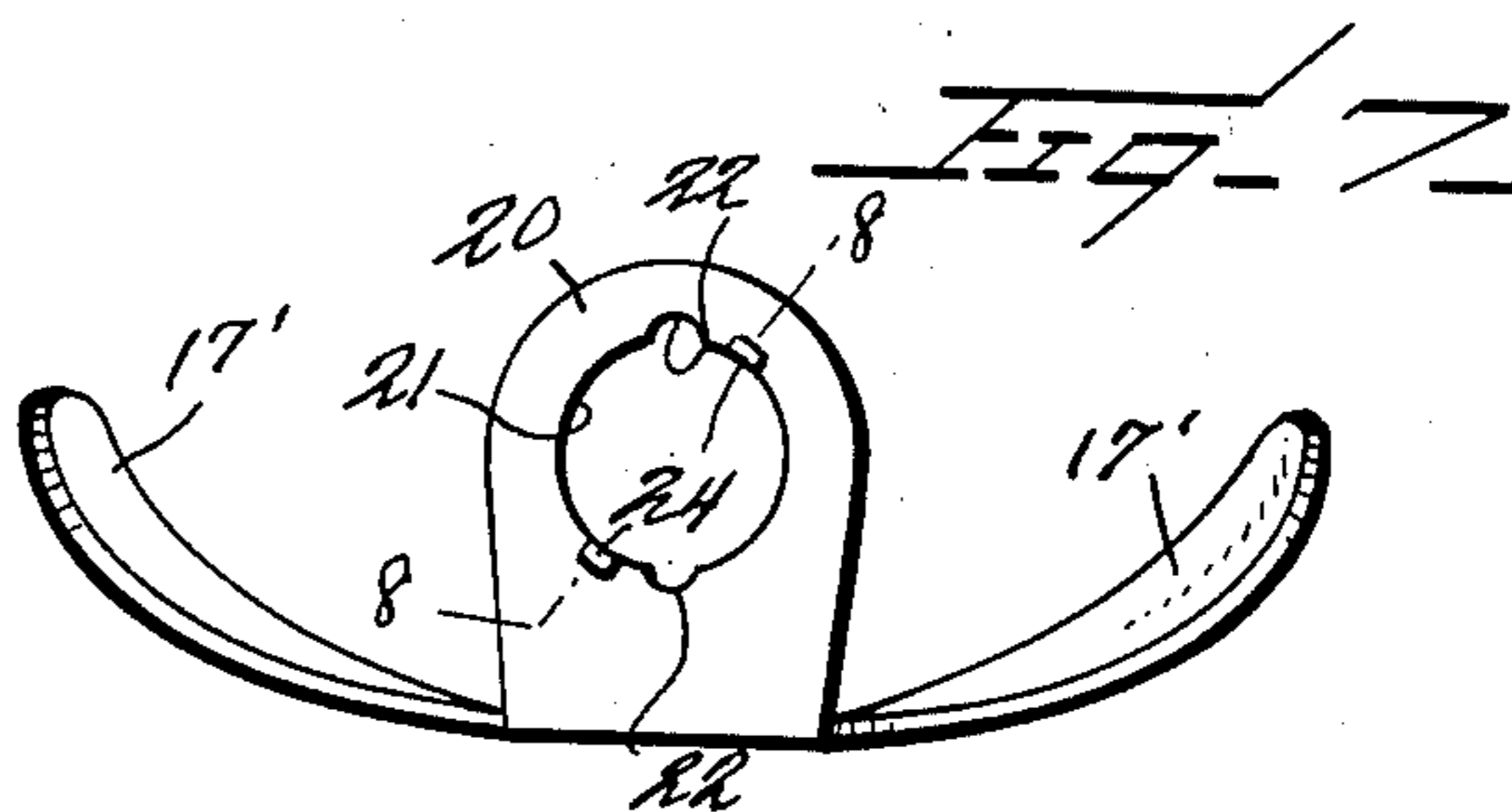
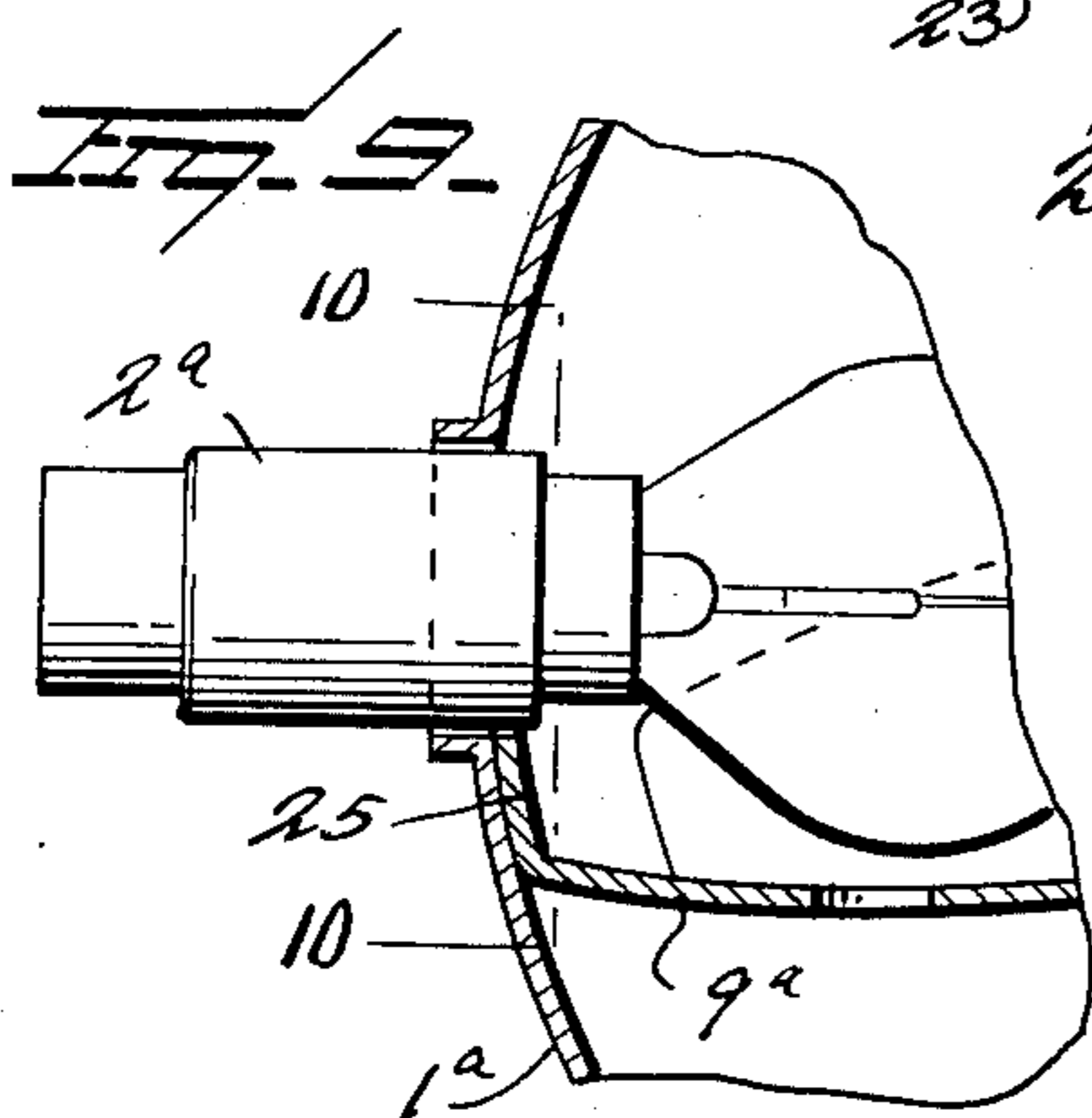
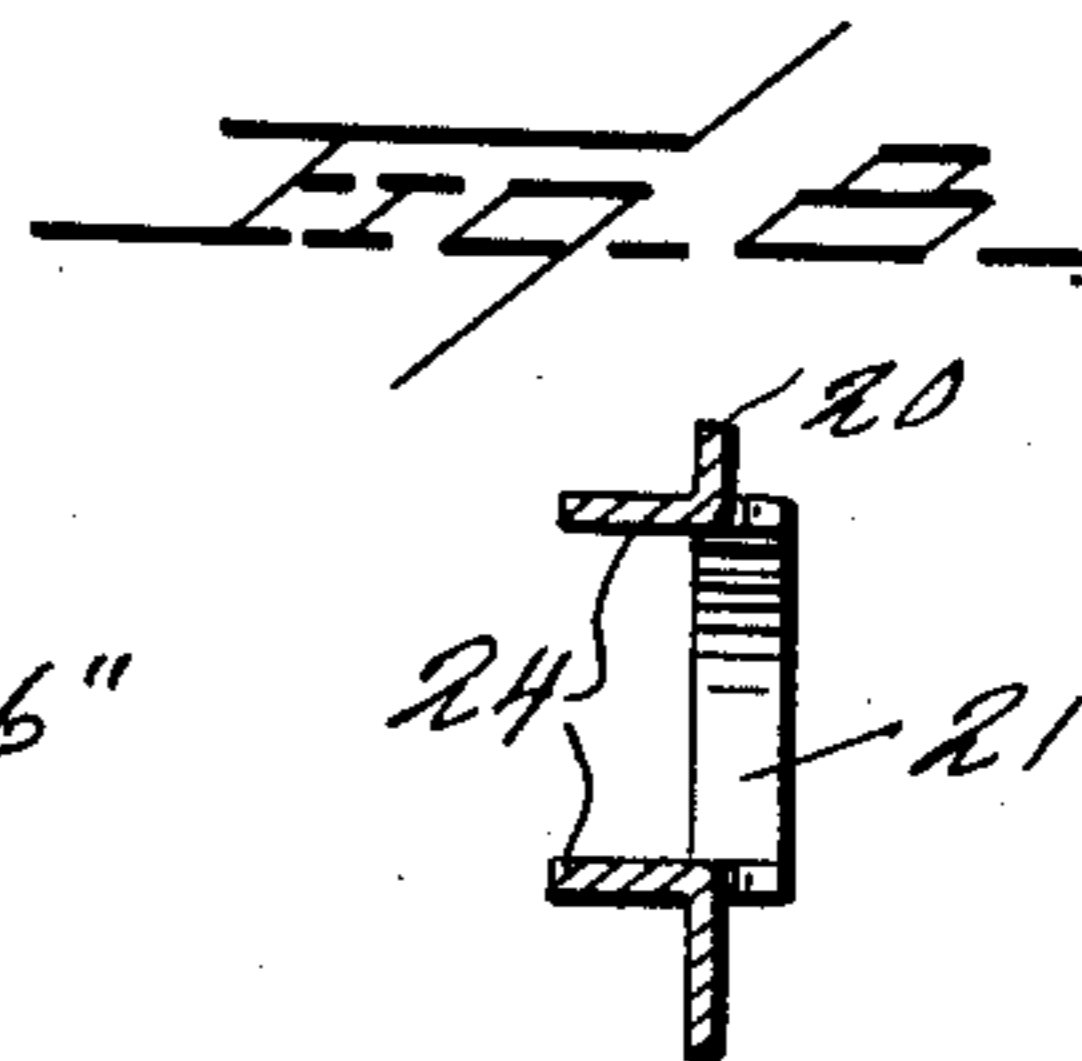
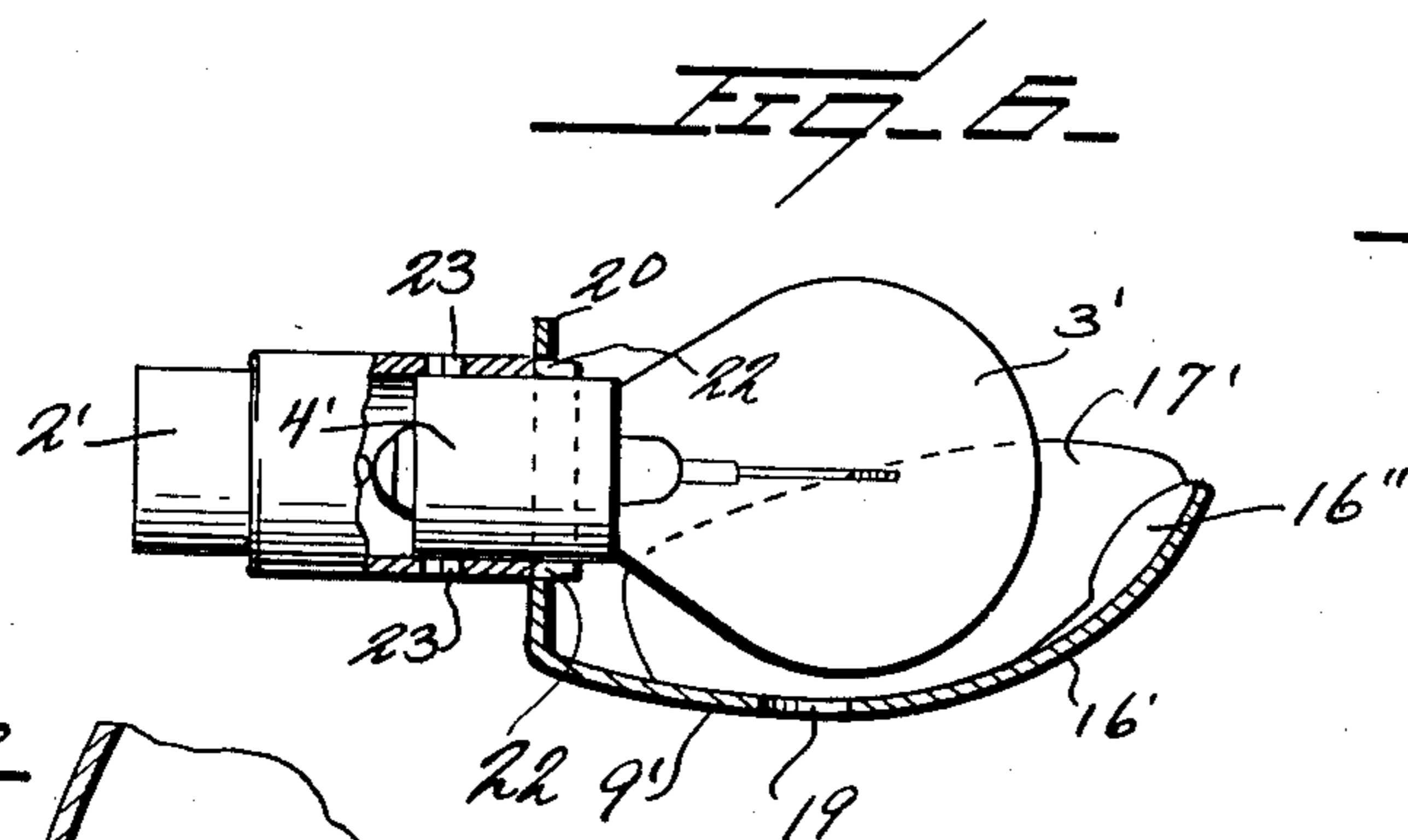
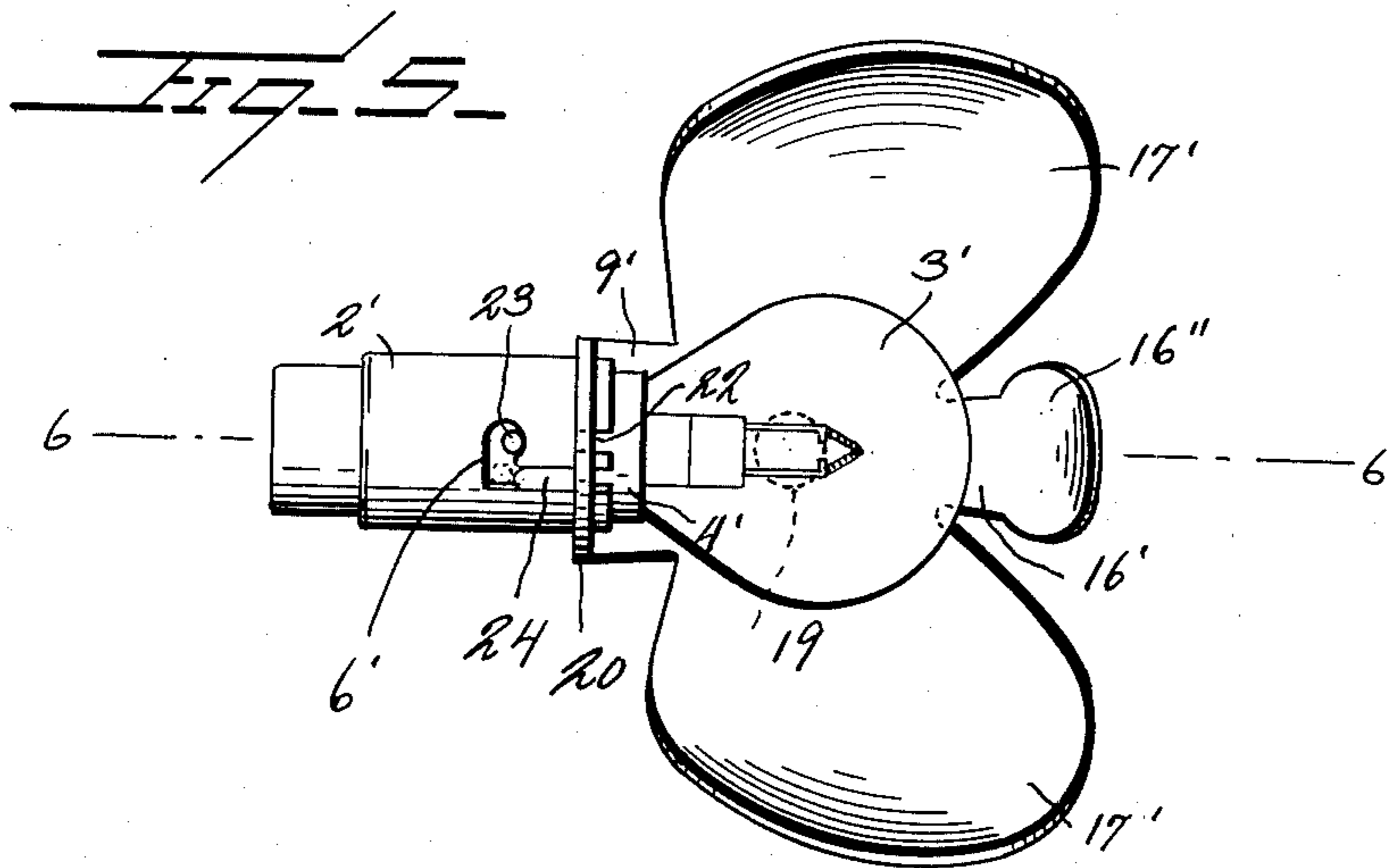
W. H. J. DOWNEY

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GLARE BREAKER FOR HEADLIGHTS

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2 Sheets-Sheet 2



Inventor

W. H. J. Downey

By

Watson E. Coleman

Attorney

UNITED STATES PATENT OFFICE

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GLARE BREAKER FOR HEADLIGHTS

William H. J. Downey, Wilmington, Del.

Application February 13, 1932, Serial No. 592,754

6 Claims. (Cl. 240—48.6)

This invention relates to glare breakers for headlights and is adapted more especially for use with headlights of the type used in connection with motor driven vehicles.

5 It is primarily an object of the invention to provide a device of this kind which is adapted to be applied within a headlight in such position with respect to the bulb or kindred illuminating unit to prevent the light rays from the headlight
10 being thrown upwardly beyond substantially the horizontal and thus eliminating the probability of the light beam from the headlight interfering with the vision of the driver of an approaching car or of an approaching pedestrian.

15 Furthermore, it is an object of the invention to provide a device of this kind which is adapted to be arranged within the headlight at a point below but in relatively close proximity to the bulb or kindred illuminating unit and which
20 when so applied serves to break or substantially eliminate the rays of light which would be thrown upwardly and forwardly from the headlight thus materially providing for safety in driving.

25 An additional object of the invention is to provide a device of this kind which is provided with means to prevent undue pocketing or retention of heat thereby which otherwise might have a tendency to impair the efficiency of the bulb or
30 kindred illuminating unit, together with means for maintaining the device in applied or working position free of such shifting which would have a tendency to allow the device to assume an ineffective position with respect to the bulb or
35 illuminating member.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved glare breaker whereby certain important advantages
40 are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

45 The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—
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Figure 1 is a fragmentary view partly in horizontal section and partly in top plan illustrating a glare breaker constructed in accordance with an embodiment of my invention in applied position;
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Figure 2 is a vertical sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a detailed sectional view taken substantially on the line 3—3 of Figure 2 looking in the direction of the arrow;

Figure 4 is a detailed sectional view taken substantially on the line 4—4 of Figure 2;

Figure 5 is a view in top plan of a device constructed in accordance with a further embodiment of my invention and in applied position
65 with respect to a light bulb;

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 5 with certain of the parts in elevation;

Figure 7 is a view in rear elevation of the device as illustrated in Figures 5 and 6;

Figure 8 is a fragmentary detailed sectional view taken substantially on the line 8—8 of Figure 7;

Figure 9 is a fragmentary view partly in section and partly in elevation illustrating a still further embodiment of my invention;

Figure 10 is a detailed sectional view taken substantially on the line 10—10 of Figure 9.

In the embodiment of my invention as illustrated in Figures 1 to 4 inclusive, 1 denotes a conventional type of reflector for arrangement within the casing of a headlight and said reflector 1 in its rear part carries the socket 2 adapted for connection with the required source
85 of electrical energy. The socket 2 is adapted to have associated therewith in a well known manner a conventional electric bulb 3 or kindred illuminating unit and which bulb or unit 3 in its construction includes the contact base 4 for
90 insertion within the socket 2. This base 4 as is well known is provided with the diametrically arranged outstanding pins 5, each of which being adapted for conventional coaction with a bayonet slot 6 provided in the socket member 2.
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The base 4 adjacent to its forward end has pressed outwardly therefrom a rib 7 for a purpose to be hereinafter more particularly referred to and in its rear part is depressed to provide an elongated groove or channel 8 open at the
100 rear end of the base 4. This groove or channel 8 is also arranged to one side of the outstanding rib 7 hereinbefore referred to.

The breaker or shell embodied in this form of my invention comprises a central plate 9 substantially trapezoidal in plan, and which at its rear end is continued by an upstanding plate 10. The side margins of this plate 9, as indicated in Figure 1, converge toward the outer or front end of the plate. The upper end portion of this plate
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10 is continued by a reverted plate 11, said plates 10 and 11 being substantially in parallelism. These plates 10 and 11 are provided with aligned openings 12 of a diameter to allow said plates 10 and 11 to be snugly engaged upon the forward portion of the base 4 and, as is particularly illustrated in Figure 2, it is to be noted that the plates 10 and 11 are in such spaced relation one with respect to the other to effectively hold the plate 9 against rocking movement in a direction lengthwise of the base 4 whereby the maintenance of the attachment in desired applied position with respect to the bulb 3 is materially facilitated. Furthermore, it is to be noted that the openings 12 are so positioned in the plates 10 and 11 to bring the plate 9 from below at a point in relatively close proximity to the bulb 3.

At diametrically opposed points the marginal portion of the opening 12 in each of the plates 10 and 11 is provided with the notches or recesses 14 to allow the ready passage therethrough of the pins 5 when the base 4 is being operatively engaged with the socket member 2. The rib 7 is positioned to one side of the entrance end of an adjacent bayonet slot 6, this position of the rib 7 being such that after the bulb 3 has been turned to bring the pins 5 into proper engagement with the lateral extensions of the slot 6 the rib 7 will be aligned with one of the notches 14 so that upon slight slippage of the plates 10 and 11 upon the base 4 the rib 7 will be caused to engage within a notch 14 as particularly illustrated in Figure 3 and thereby effectively lock the plates 10 and 11 against independent rotary movement around the base 4.

It is to be understood that in the initial application of the base 4 to the socket 2 the plates 10 and 11 will be adjusted to occupy a position inwardly of the rib 7 so that the plate 10 will offer no hindrance or obstruction to the desired turning movement of the base 4 to effect the proper locking adjustment of the pins 5. To further prevent the plates 10 and 11 having independent turning movement around the base 4, the plate 11 is provided with an inwardly disposed lug 15 which is received within the groove or channel 8 hereinbefore referred to. This interlocking, however, readily permits desired shifting of the plates 10 and 11 lengthwise of the base 4. This interlocking between the plate 11 and the base 4 also further assures the maintenance of the desired assembly whereby the rib 7 will be in proper position for engagement within a notch 14 of the plate 10 upon turning movement of the base 4 to bring the pins 5 into effective locking engagement with the socket 2.

The outer or forward end of the plate 9 is continued by an upwardly disposed and relatively broad arm 16 which extends from below in overlying relation with respect to the outer or forward end of the bulb 3. The relation of the outer or free end of this arm 16 with respect to the bulb 3 may be readily regulated or adjusted by bending the arm 16 in a desired position, it being understood that the arm 9 is of a material to permit such bending.

The plate 9 from its forward end to a point in relatively close proximity to its rear end has its side margins continued by the laterally and upwardly directed wing plates 17 which are disposed on a curvature to overlap from below the opposite sides of the bulb 3. The extent of such overlap as well as the positioning of the wing plates 17 with respect to the bulb 3 may be read-

ily regulated or adjusted by bending said wing plates 17 which are of the same character of material as the arm 16. These wing plates 17 somewhat simulate the wings of a butterfly with the smaller or transversely reduced portions of the wings extending forwardly and beyond the outer end of the bulb 3. Such outline or design of the wings 17 is of advantage as in practice the plates 17 serve effectually to break or obstruct downwardly and laterally directed light rays from the bulb or illuminating member 3 which would otherwise be thrown unduly upward by the reflector 1. It is to be noted that the inner forward marginal portions of the side wings 17 diverge outwardly from the inner end of the extended arm 16 resulting in spaces between the forward or extended portions of the wings 17 and arm 16 through which light rays are directed from the illuminating member.

In this embodiment of my invention the plate 9 together with the wing plates 17 are provided with relatively small perforations 18. These perforations are for the purpose of permitting air circulation and thus eliminate the liability of heated air being pocketed or confined in such close proximity to the bulb 3 as to interfere with the efficiency of the bulb. Without the provision for this air circulation I have found in practice that the life of the bulb 3 is materially shortened.

In the embodiment of the invention as illustrated in Figures 5 to 7 inclusive, my improved attachment is of substantially the same construction as that hereinbefore described with respect to the invention as illustrated in Figures 1 to 4 inclusive except that the plate 9' together with the wing plates 17' are imperforate and the intermediate or central plate 9' in its central part is provided with a relatively large opening 19 to provide for the desired air circulation. The forward end portion of the plate 9' is provided with a relatively large broad arm 16' somewhat similar to the arm 16 in the first embodiment of my invention except that the outer end portion 16'' of said arm is somewhat in the form of a circular disk.

The inner end portion of the plate 9' is continued by an upwardly disposed plate 20 having a central opening 21 through which is adapted to be snugly inserted the base 4' of the bulb 3' or kindred illuminating member. The marginal portion of the plate 20 defining the opening 21 is provided with the opposed recesses 22 to allow the passage therebeyond of the extended pins 23 carried by the base 4' to facilitate the desired interlocking engagement of the base 4' with the socket 2'. To one side of each of the notches 22 the plate 20 is provided with a rearwardly disposed elongated arm 24. Each of these arms 24 is adapted to be received within the entrance portion of a bayonet slot 6' in the socket member 2' whereby the applied attachment is held against rotation around the base 4' when the attachment is in applied or working position. These arms 24 also serve to hold the applied attachment against swinging movement in a direction lengthwise of the base 4'.

In applying the attachment as embodied in this second form of my invention, after the pins 23 have been passed through the notches 22 of the plate 20 the base 4' is rotated to bring said pins 23 into alignment with the arms 24 whereupon said pins 23 and arms 24 are engaged within the bayonet slots 6'. The arms 24, however, do not enter the lateral portions of the slots 6' but the

pins 23 are so positioned that upon proper rotation of the bulb 3' the pins 23 will have desired locking engagement within said lateral extensions of the slots 6'.

5 In the embodiment of my invention as illustrated in Figure 9 the attachment may be of the same general construction as illustrated in either of the two foregoing forms with the exception that the rear portion of the plate 9^a is provided
10 with an upstanding extension 25 which is adapted to be welded or otherwise permanently secured to the reflector 1^a at a point adjacent to the applied socket 2^a.

15 From the foregoing description it is thought to be obvious that a glare breaker for headlights constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be
20 obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and
25 formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

30 1. In combination with a headlight having a socket and an illuminating member having a base insertible within said socket, a glare breaker comprising a plate, laterally disposed wing plates carried by the first named plate, a forwardly directed arm carried by said first named plate, an
35 angularly disposed plate carried by one end portion of the first named plate and having an opening through which the base of the illuminating member is insertible, and coacting means carried by said last named plate and base for holding said last named plate against independent
40 rotation around the base, said last named plate being continued by a reverted plate having an opening through which the base is also insertible, said reverted plate and last named plate being
45 spaced apart to provide means to prevent rocking of the glare breaker in a general direction lengthwise of the base.

50 2. In combination with a headlight having a socket and an illuminating member having a base insertible within said socket, a glare breaker comprising a plate, laterally disposed wing plates carried by the first named plate, a forwardly directed arm carried by said first named plate, an
55 angularly disposed plate carried by one end portion of the first named plate and having an opening through which the base of the illuminating member is insertible, coacting means carried by said last named plate and base for holding said last named plate against independent
60 rotation around the base, said last named plate

being continued by a reverted plate having an opening through which the base is also insertible, said reverted plate and last named plate being spaced apart to provide means to prevent rocking of the glare breaker in a general direction
80 lengthwise of the base, said reverted plate and base having interlocking means to further prevent rotation of the angularly related plate around the base and also to provide means for properly positioning the glare breaker upon the
85 base.

3. A glare breaker for headlights comprising a plate substantially trapezoidal in plan, attaching means carried by the rear portion of said plate, an upwardly directed arm at the outer
90 end of the plate, the upper portion of said arm being transversely enlarged, and materially larger lateral plates extending from the side margins of the first named plate, each of said lateral plates being in simulation of an extended butterfly wing and being disposed on an upward
95 curvature.

4. A glare breaker for headlights comprising a plate substantially trapezoidal in plan, attaching means carried by the rear portion of said plate, an upwardly directed arm at the outer end of the plate, the upper portion of said arm being transversely enlarged, and materially larger lateral plates extending from the side margins of the first named plate, each of said lateral plates being in simulation of an extended butterfly wing and being disposed on an upward curvature, said second named plates extending a material distance in advance of the forward end of the first named plate.
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5. A glare breaker for headlights comprising a plate substantially trapezoidal in plan, attaching means carried by the rear portion of said plate, an upwardly directed arm at the outer end of the plate, the upper portion of said arm being transversely enlarged, and materially larger lateral plates extending from the side margins of the first named plate, each of said lateral plates being in simulation of an extended butterfly wing and being disposed on an upward curvature, the upper end portion of the arm being in the form of a circular disc.
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6. A glare breaker for headlights comprising a plate substantially trapezoidal in plan, attaching means carried by the rear portion of said plate, an upwardly directed arm at the outer end of the plate, the upper portion of said arm being transversely enlarged, and materially larger lateral plates extending from the side margins of the first named plate, each of said lateral plates being in simulation of an extended butterfly wing and being disposed on an upward curvature, the upper end portion of the arm being in the form of a circular convex disc.
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WILLIAM H. J. DOWNEY.

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