M. F. CASTLEMAN.

CUT-OFF SHADE FOR HEADLIGHTS.

APPLICATION FILED MAR. 7, 1912.

**1,051,388.**

Patented Jan. 28, 1913.

2 SHEETS—SHEET 1.

Fig. 1

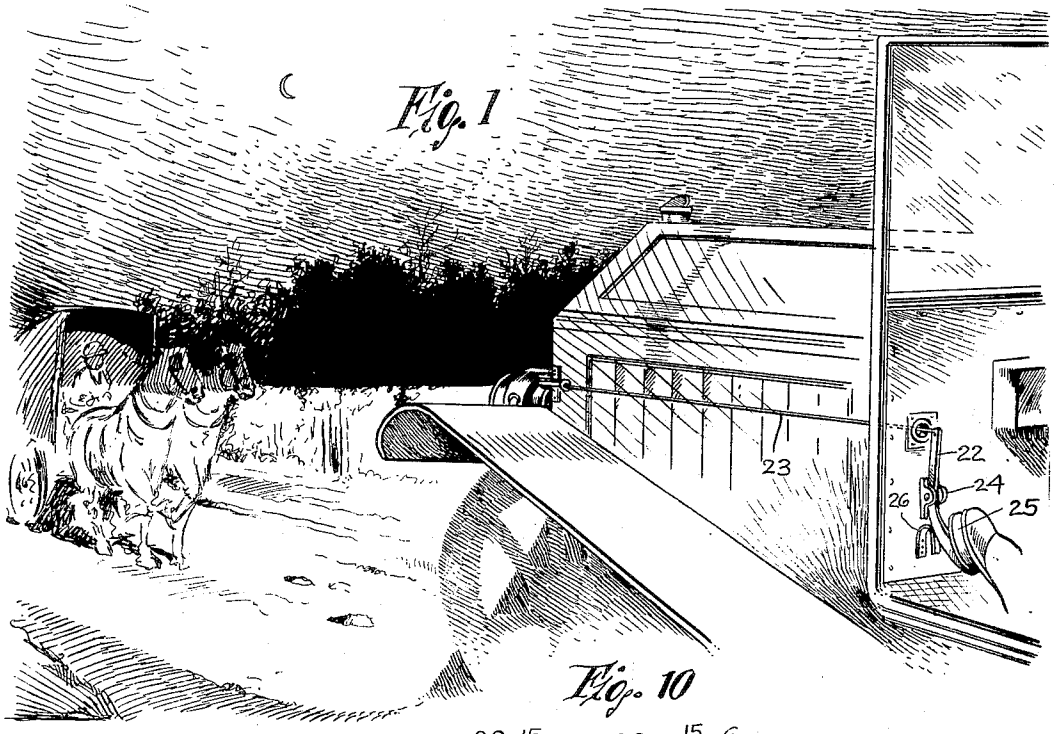



Fig. 10

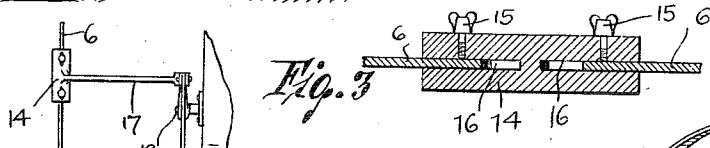



Fig. 3

Fig. 12

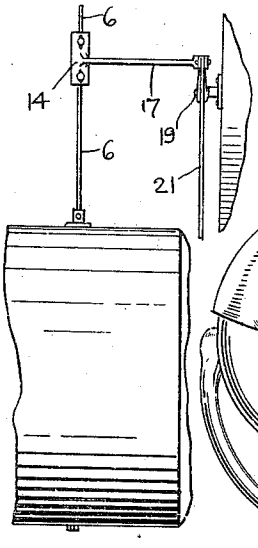
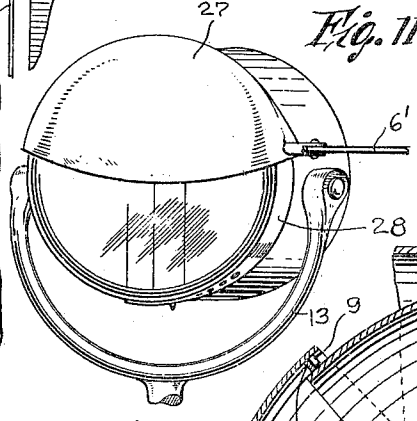



Fig. 11



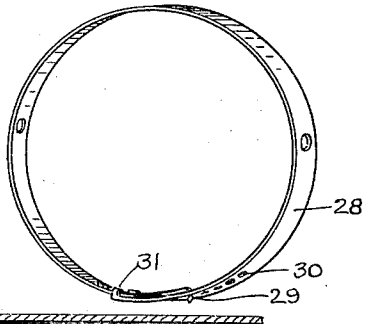
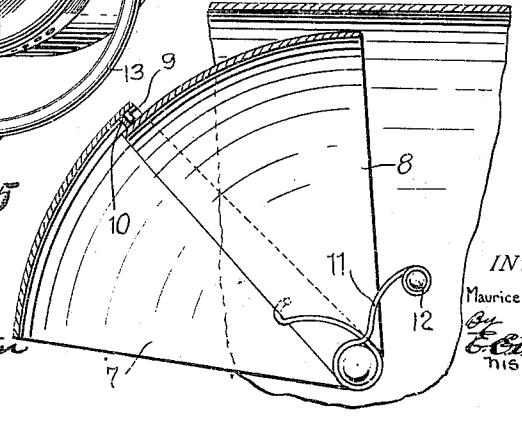




Fig. 5

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2 SHEETS—SHEET 2.

Fig. 2

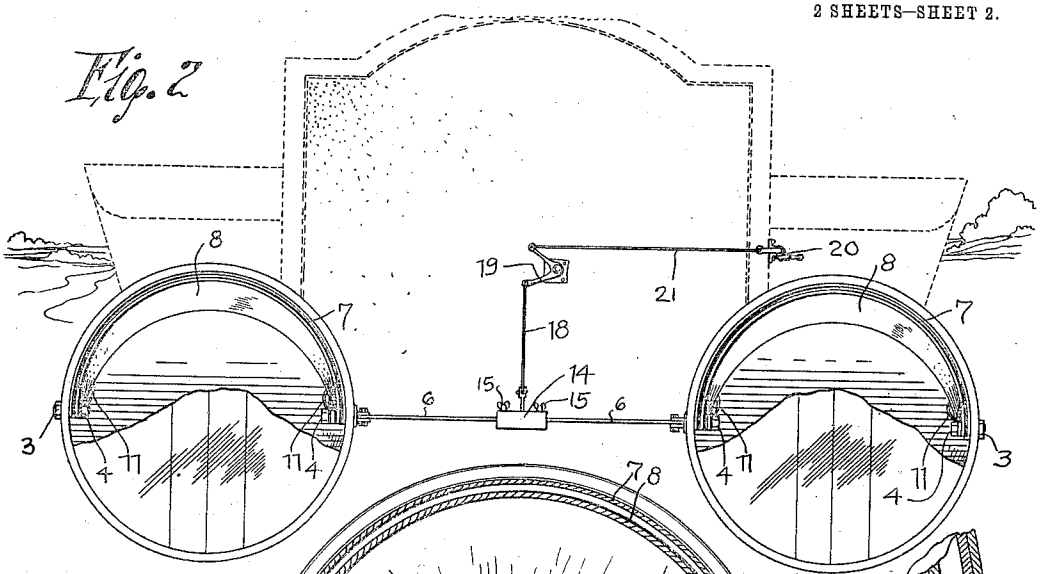



Fig. 4

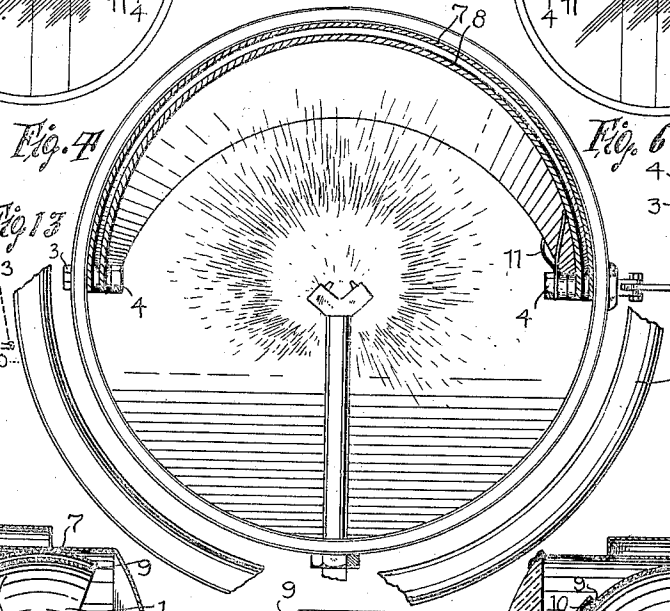



Fig. 6

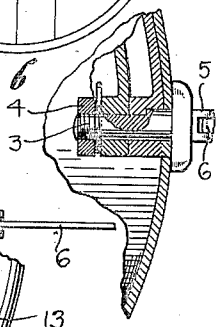



Fig. 7

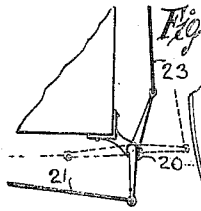
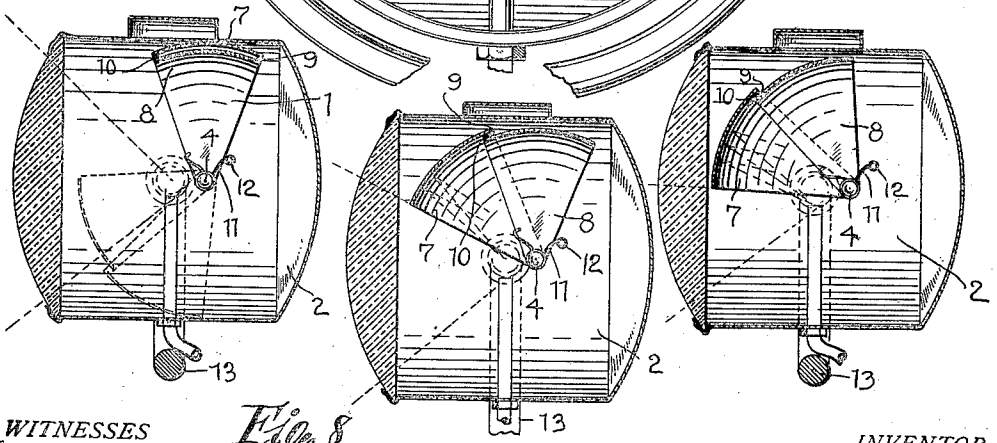



Fig. 9

Fig. 8

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# UNITED STATES PATENT OFFICE.

MAURICE F. CASTLEMAN, OF BERRYVILLE, VIRGINIA.

## CUT-OFF SHADE FOR HEADLIGHTS.

1,051,388. Specification of Letters Patent. Patented Jan. 28, 1913.

Application filed March 7, 1912. Serial No. 682,179.

*To all whom it may concern:*

Be it known that I, MAURICE F. CASTLEMAN, a citizen of the United States, residing at Berryville, in the county of Clarke and State of Virginia, have invented certain new and useful Improvements in Cut-Off Shades for Headlights, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to shades intended for use in connection with automobile headlights, or headlights of other vehicles, and has for its object the production of a simple and efficient means for permitting the driver of the car to cut off any portion of the rays of light from the lamp at will.

The present device is especially intended for use upon automobiles when the same are traveling upon country roads wherein it is often necessary to cut off a portion of the rays of light of the lamp in order to prevent blinding horses or occupants of approaching vehicles. At the same time it should be understood that the present device does not diminish the intensity of the beam thrown from the lamp but merely cuts off a portion of the beam so that the light may be shaded from the eyes of horses approaching and the road over which the machine is traveling will be at the same time fully illuminated.

Another object of this invention is the production of an efficient and simple mechanism whereby the shields or hoods which are adapted to cut off the rays of light may be quickly and efficiently operated.

With the above and other objects in view, the invention consists in general of certain novel constructions, arrangements and combinations of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a perspective view of an automobile showing the shield device attached thereto and also showing the effect of cutting off the rays of light at a desired point. Fig. 2 is a front view of the lamps showing the operating mechanism for the shield hoods, the machine being shown in dotted lines. Fig. 3 is a top plan view of a portion of a machine showing the arrangement of the operating rod which cooperates with the lamp shields. Fig. 4 is a front elevation of the lamp partly broken away showing the shield hoods in cross section. Fig. 5 is an enlarged sectional view showing the shield hoods in a partially extended position. Fig. 6 is an enlarged sectional view through one of the bearings for supporting the shield hoods. Fig. 7 is a central sectional view through the lamp showing the position of the shield hoods when not operated upon by the operating lever. Fig. 8 is a sectional view of the lamp showing the shield hoods with the primary hood cutting off part of the light from the lamp. Fig. 9 is a sectional view of the lamp showing the shield hoods in still another position from that shown in Figs. 7 and 8. Fig. 10 is a longitudinal sectional view of the adjustable connector for connecting the hood-operating rods. Fig. 11 is a modified form of invention showing the shield hood as mounted upon the outside of a lamp. Fig. 12 is a detail perspective of the band for clamping the hood, as illustrated in Fig. 11 to the lamp casing. Fig. 13 is a top plan view of the crank lever carried by one corner of the machine for connecting the operating rods which operate the lamp shields.

As previously stated, the present device is especially adapted to be used upon automobiles and may be so operated by the foot of the operator or driver of the machine so as to easily cut off the rays of light to any desired point and also cause the light to shine to its full intensity without moving from the seat of the vehicle.

In carrying out the objects of the structure above briefly described it should be noted that the device may be applied to the ordinary lamp now in use since the shield or cut off hoods 1 may be journaled upon the inside of the lamp casing 2, as illustrated clearly in Figs. 4 and 7. These hoods 1 are so shaped as to conform to the contour of the inner portion of the lamp casing 2 and are concavo-convex in cross section. The hoods 1 are journaled upon stub shafts 3 which shafts pass through the sides of the casing 2 and carry nuts 4 upon their inner ends for firmly holding the hoods upon the stub-shaft 3. The outer end of the stub shaft 3 is provided with a knuckle joint 5 which joint 5 engages one end of the hood operating rod 6. This rod 6 is rotated through the medium of a mechanism connected to a foot lever, as hereinafter described.

It is preferable to use two hoods as illustrated in Fig. 7, which hoods may be turned

to form a sectional or telescoping shield, and each of these shield hood sections is journaled upon the same shaft 3.

The sectional cut-off hood 1 comprises an outer section 7 and an inner section 8. The outer section 7 is provided upon its underface near its rear edge with a depending lug 9, which depending lug is adapted to abut against the projecting lug 10 upon the upper face of the inner or auxiliary section 8 of the cut-off hood 1.

A coil spring 11 is wound about one of the stub shafts 3 and has one end fixedly secured to the side of the lamp casing 2 as at 12. The opposite end of the coil spring 11 is folded about the front face of the inner section 8 of the cut-off hood 1, as illustrated in Figs. 7, 8, and 9, and this spring 11 is adapted to normally hold the section 8 in a vertical position.

It should be understood, of course, that as soon as the outer hood 7 is brought to such position as to cause the projection 9 carried thereby to engage the projection 10 carried by the inner hood, the inner hood will, in turn, be swung with the outer hood, thereby entirely cutting off the rays of light, or merely cutting off the lower rays by swinging the hoods to a position, as shown in dotted lines in Fig. 7.

Of course, the usual lighting means may be employed in connection with the lamp and the lamp may also be supported upon the usual fork supports 13, or may be supported in any other desirable manner.

It, of course, should be understood that the spring 11 just described may be used upon both ends of the shield hood 1, or may be employed only upon one end.

The hood-operating rods 6 extend transversely of the machine and have their ends positioned in a connecting member 14. These ends are held in an adjusted position within the clamp or connecting member 14 by means of thumb screws 15, which thumb screws firmly engage the hood-operating rods 6 and hold the same within the sockets 16 formed in the connecting member 14. The connecting member 14 is provided with a rearwardly extending integral arm 17 to which arm is connected a link member 18. The link member 18 is connected to a bell-crank lever 19 which lever is pivotally secured to the front of the automobile, as illustrated in Figs. 2 and 3. The bell crank 20 is secured to the machine near its front end, and is connected to the arm of the crank 19 by means of a link rod 21. This bell-crank 20 is also connected to the operating foot lever 22 through the medium of a link rod 23. The foot lever 22 is pivotally mounted upon the bracket 24 and is provided with a foot engaging portion 25. This lever is normally held in such position as to keep the hood 1 in an inoperative position through the medium of a spring 26, as illustrated in Fig. 1.

In Fig. 11 there is illustrated an embodiment of the present invention wherein the shield hood is formed or carried upon the outer portion of the lamp casing 2. This cut-off or shield hood 27 is pivotally secured to a band 28, which band may be made of spring metal, and the hood 27 is connected to a rod 6′ which may be operated in like manner as described with reference to the rod 6. The band 28 is provided at one end with an angularly-extending hook 29 which engages one of the adjusting apertures 30 formed in the band 28. The opposite end of the shaft 28 is formed so as to provide a pair of overhanging ears 31 for constituting a guide for the band 28. Through the medium of the adjusting apertures 30 it will be obvious that the band may be adjusted to accommodate different sized lamps.

The structure, as illustrated in Figs. 11 and 12, is especially adapted for use where the hood is attached to the outer casing of the lamp and where it is desired to attach the shield device or cut-off hood to the ordinary lamp without injuring the casing. In the structure as illustrated in Fig. 11 it should be noted that this hood will not only act as means for cutting off a portion of the ray of light but will also act as a shield for preventing moisture from collecting upon the face of the lamp, such as snow or ice.

From the foregoing description it will be obvious that a very efficient and useful device has been produced whereby the light of the lamp of an automobile or other vehicle may be cut off to a different line without reducing the intensity of the light.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material principles thereof and it is therefore not wished to confine the device to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

What is claimed is:

1. In a device of the class described, the combination with a plurality of lamp casings, hoods carried by said lamp casings, stub shafts connecting said hoods and projecting laterally therefrom, hood-operating rods connecting said stub shafts, a coupler member engaging said hood-operating rods, a bell crank being adapted to be carried by the front of the vehicle, an operating link being adapted to pass along the side of the machine and connected with said bell crank lever, and means coöperating with said last-mentioned link for controlling the swinging of said cut off hoods so that the light from said lamp casing may be cut off to a certain determined line.

2. In a vehicle of the class described, the

combination with a plurality of lamp casings, cut-off hoods carried by said casings, stub shafts carried by said casings, hood-operating rods extending transversely of said vehicle, coupler means connecting said rods whereby the hood of each lamp may be simultaneously operated with the hood of the other lamp, a foot lever carried by said vehicle, and means coöperating with said coupler for swinging the same vertically whereby the cut-off hoods may be swung upon said casings so as to cut off the desired portion of a beam of light from said lamp casings.

3. In a lamp of the class described, the combination with a casing, of a sectional hood comprising an outer and inner section, said outer section provided with a depending lug, said inner section provided with an upwardly extending lug being adapted to be engaged with said depending lug by said outer section for causing said inner section to be swung when said outer section has been swung to a desired point, and spring means connecting said inner sections and secured to said lamp casing for normally holding said inner section in its vertical position while said outer section is being independently swung.

4. In a lamp of the class described the combination with a casing, of a sectional hood comprising an outer and an inner section, means for pivotally supporting said sections within said casing, and holding said hoods in the top of said casing, and means coöperating with said hoods for causing the same to drop down in front of a light whereby the light from said casing will be cut off from the top of the lamp so as to shield the eyes of an approaching horse or a driver of an approaching vehicle.

5. In a lamp of the class described the combination with a casing, of a sectional hood comprising an inner and an outer section, said sections being segmento-spherical in shape, means for pivotally connecting said sections to said casing, a coil spring secured to said casing and engaging said inner section for normally holding the outer ends of said hoods in a vertical position in the top of said casing, and means coöperating with said hoods for causing said hoods to be dropped from the top of said casing in front of a light contained within said casing whereby rays of light may be shielded to protect the eyes of an approaching horse or the eyes of the driver of an approaching vehicle.

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

MAURICE F. CASTLEMAN.

Witnesses:

JAS. W. FOLEY,

CORNELIUS VAN DEVENTER.