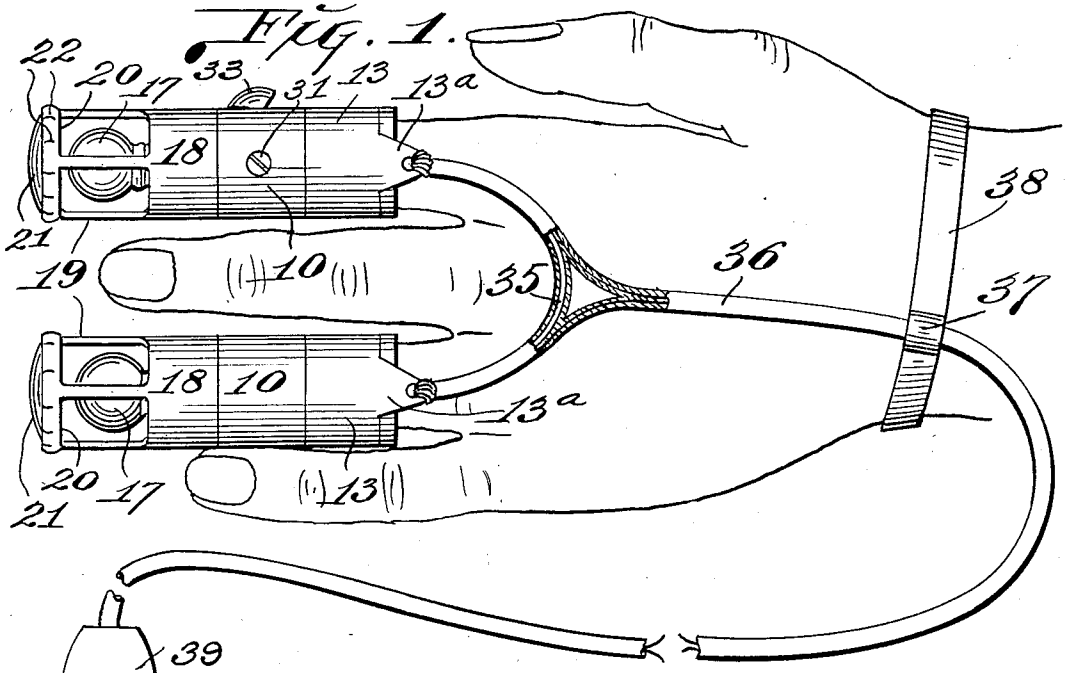
July 24, 1934. G. A. WILLIAMS 1,967,697

COMBINED HAND SIGNAL AND TROUBLE LAMP

Filed Aug. 29, 1928

Fig. 1.



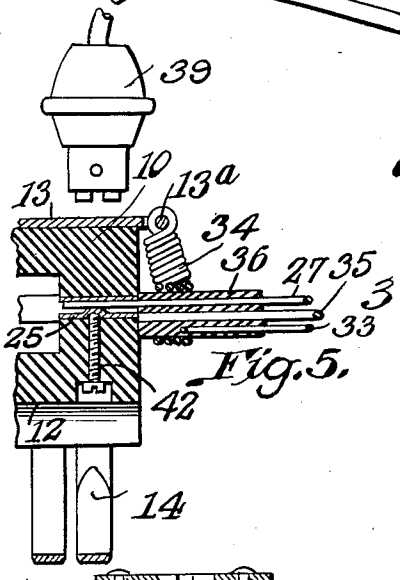


Fig. 5.

Fig. 2

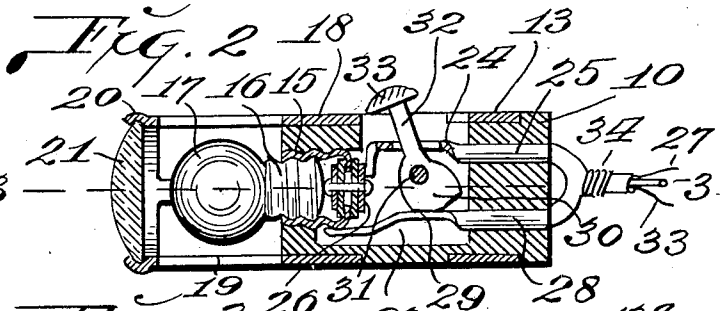


Fig. 3.

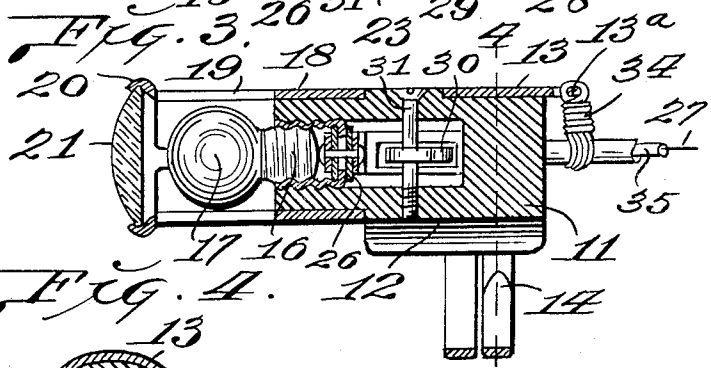
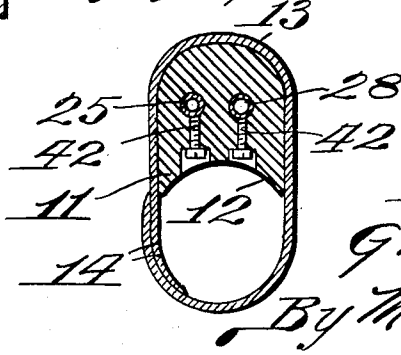


Fig. 4.



INVENTOR:—
G. A. WILLIAMS.
By Martin & Smith, ATTY.

Patented July 24, 1934 1,967,697

UNITED STATES PATENT OFFICE

1,967,697

COMBINED HAND SIGNAL AND TROUBLE LAMP

George A. Williams, Los Angeles, Calif.

Application August 29, 1928, Serial No. 302,727

4 Claims. (Cl. 177—329)

My invention relates to a combined hand signal and trouble lamp, such, for instance, as is disclosed in my copending application for U. S. Letters Patent filed May 7, 1927, Serial Number 189,630, and the principal object of my present invention is to generally improve upon and simplify the construction of the lamp disclosed in my aforesaid application for patent as well as other existing forms of similar lamps.

Further objects of my invention are to provide a combined hand traffic signal and trouble lamp that is equipped with lenses, the same being located immediately over the lamp bulbs so that the rays from the lamp may be intensified and thrown outwardly after the manner of the generally used spot or hand flash lamps, further to provide a combination lamp of the character referred to that is provided with an improved switch that is capable of being readily manipulated to open and close the circuit to the signal lamps and further to provide a combination lamp that may be utilized in connection with the storage battery that forms a part of the equipment of practically all automobiles, or with the standard type storage batteries that are utilized in hand flash lamps.

A further object of my invention is to provide a combined traffic signal and trouble lamp that may be conveniently worn upon the hand and fingers without interfering with the movements of the hand while operating the steering wheel or other controlling parts of an automobile, and to provide a combination lamp that is relatively simple in construction, inexpensive of manufacture, and very effective in performing the functions for which it is intended.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing, in which:

Fig. 1 is an elevational view of a combined hand signal and trouble lamp of my improved construction, the same being shown applied to the user's hand and showing the electrical connections from the lamp to a battery of the type utilized in hand flash lights.

Fig. 2 is a horizontal section taken lengthwise through the center of one of the lamps utilized in my improved device.

Fig. 3 is a vertical longitudinal section taken approximately on the line 3—3 of Fig. 2.

Fig. 4 is a cross section taken on the line 4—4 of Fig. 3.

Fig. 5 is a detail section illustrating an electrical connection between a conductor and a contact member, as contemplated by my invention.

Referring by numerals to the accompanying drawing which illustrates a practical embodiment of my invention, 10 designates the combined base and socket member of the device, which member is preferably formed of suitable insulating material such as hard rubber or compressed fiber, said body being preferably round or oval in cross section and formed integral with the rear portion of said body on the underside thereof is a block 11, the under face 12 of which is made concave in cross section in order that the block will fit snugly upon the back of the wearer's finger.

Encircling the rear portion of the body 10 and block 11 is a band 13, preferably of metal, having a certain degree of resiliency, and this band extends downwardly a short distance beneath the concave seat 12 in order to encircle the finger upon which the combined base and socket is positioned.

In order that the depending portion of the band may fit snugly upon the finger that portion of the band that projects below the block 11 is split lengthwise, thereby forming practically two rings, and each ring is provided with overlapping portions 14, thus enabling the ring to expand and contract and thereby firmly clasping the finger to which the device is applied.

Seated in the forward end of the body 10 is a threaded sleeve 15 of thin metal, which provides a socket for the threaded plug portion 16 of a small electric lamp 17.

Removably seated on the forward end of the body 10 is a short cylindrical member 18, preferably of thin metal, and formed integral therewith and projecting forwardly therefrom is a series of arms 19 that form a cage around the lamp bulb 17 and the outer ends of these arms are connected by an integral ring 20 that is made channel-shaped in cross section in order that it may receive the edge of a lens 21.

In order that this lens may be readily fitted into the ring 20, the outer portion of the latter is provided with a series of short transversely disposed slits 22 the provision of which permits the metal between the slits to spring outwardly as the lens is forced into or removed from the channel-shaped ring 20.

Formed in the intermediate portion of the body 10 is a chamber 23, one side thereof opening on the side of said body 10, and projecting into this chamber is a contact member 24 that is carried by a short tubular base 25, the latter being seated in the rear portion of block 10. The forward end

of the contact member 24 is directly connected to the contact member 26 that is arranged at the inner end of the threaded sleeve 15, said contact member 26 being insulated from said sleeve and adapted to engage the end of the plug 16 of the lamp when the same is screwed into sleeve 15.

One end of a conductor 27 is electrically connected to the outer end of the tubular member 25 in any suitable manner, preferably by extending the bare wire or wires of said conductor into said tubular member and tightening screws 42 so that they slightly compress tubes 25 and 28 and clamp the inserted wires. (See Fig. 5). Seated in the rear portion of block 10 is a tubular member 28 of metal, and projecting from the inner end thereof through the chamber 23 is a resilient contact arm 29, the free end of which is adapted to normally bear on the inner end of the threaded sleeve 15.

Arranged within chamber 23 between the arms 24 and 29 is an eccentric disk 30 that is pivotally mounted on a pin or screw 31 that is seated in block 10 and which passes through the central portion of the chamber 23 and the edge of this disk normally bears against the inner face of the spring arm 29.

Projecting outwardly from the disk 30 through a slot or opening that is formed in the arm 24 is a short arm 32, the outer end of which carries a head or button 33. When the disk 30 and arm 32 occupy the positions as illustrated in Fig. 2, the free end of the arm 29 makes contact with the socket 15 in which the lamp 17 is located, thus establishing the circuit to said lamp and when the arm 32 is swung rearwardly the high portion of the eccentric disk 30 bears on arm 29 so as to move the same away from the socket 15 and consequently open the circuit to lamp 17.

Electrically connected to the rear end of the tubes 28 in the same manner that conductor 27 is connected to tubular member 25 and which connection is illustrated in Fig. 5 is a conductor 33, and adjacent to the point where the conductors 27 and 33 leave the rear ends of the tubular members 25 and 28 a connection 34, preferably a cord or wire, is wound upon the insulated covering of the conductors and this connection leads to a perforated ear 13*a* that projects rearwardly from the top of the band 15 (see Fig. 3). This connection which is very short is utilized for the purpose of preventing the conductors 27 and 33 from being pulled away from the tubes 25 and 28 to which they are connected.

The block 10 carrying the lamp 17, and constructed as just described, is adapted to be positioned on the back of the index finger with the forward portion of said finger fitting in the concave under face 12 of the block and passing through the lower ring-shaped portions of the band 13, and when so positioned, the lamp 17 within its cage occupies a position just beyond the forward end of the finger and button 33 is positioned on the right hand side of the body 10 where it may be conveniently engaged by the thumb when the switch is opened or closed.

A second lamp carrying block 10 is provided and adapted to be worn on the third finger of the hand, but this second block is not provided with the switch that includes the spring 29, disk 30 and arm 32. The lamp that is carried by this second block is connected in series with the lamp that is carried by the block positioned on the index finger, and the conductors that lead from the rear ends of the two blocks are united a short distance from said blocks.

Associated with those portions of the conductors that are immediately adjacent to the rear ends of the blocks is a substantially U-shaped spreader or stiffening device 35 which may be a spring, and this stiffening member tends to hold the lamp carrying blocks in proper position when same are applied to the fingers of the hand and when the device is applied for use the cables leading from the two blocks lie on the back of the wearer's hand, as illustrated in Fig. 1, and the conductors which pass through a suitable conduit 36 are supported by a loop 37 that is formed on the back of a strap 38, and which latter passes around the wrist of the wearer (see Fig. 1). The resilient spreader 35 is enclosed in a sheath or conduit of flexible material, either of woven material or of rubber or rubber composition and this sheath also encloses the conductors 27 and 33 that lead to the tubular members 25 and 28 and said conductors being clamped and maintained in electrical contact with said tubular members by tightening the screws 42. The ends of the sheath or armor for the spreader 35 and the conductors terminate against the rear ends of the blocks or bodies 10 and they are secured thereto by the tie members 34 and also by the ends of the conductors that enter and are clamped to the tubular members 25 and 28 as described.

The spreader when associated with the socket bodies 10, is bent so as to hold said bodies properly spaced apart so as to conveniently receive the first and third fingers of the wearer's hand, as illustrated in Fig. 1 and as the spreader is formed of steel or other resilient metal, it will yield readily as the fingers are spread apart or brought together or as the hand is gripped around the steering wheel.

The tubular members 25 and 28 that pass through the rear portion of block 10 are securely clamped to the block by means of screws 42 that pass upwardly through the body of the block from the concave under surface 12 thereof and the points of which screws bear against the tubular members, as illustrated in Fig. 4. By tightening screws 42 so as to slightly compress the tubular members 25 and 28, the conductors 27 and 33 that enter said tubular members, are clamped therein and such action assists the tie members 34 in retaining the ends of the spreader 35 against the rear ends of the socket blocks 10.

From strap 38 the conductors extend a suitable distance and they are connected to a standard form of plug 39 which may be inserted in a socket located on the dash of a motor vehicle, or at a point convenient to the driver's seat, but said plug may be inserted in a socket 40 that is provided at one end of the housing of an ordinary hand flash lamp that employs the standard forms of storage batteries 41.

In practice I prefer to use a lamp having a white or clear bulb on the block that is positioned on the index finger and to utilize a lamp having a red bulb on the other block for this combination of lights tends to attract attention to a greater degree than where both lights are clear or uncolored.

When my improved signalling lamp is in use the lamp carrying blocks are applied to the fingers as illustrated in Fig. 1, and the plug 37 is inserted in a socket that is connected to a suitable source of electric current supply. The position of the lamp carrying blocks on the fingers enables the hand to be readily manipulated in grasping and operating the steering wheel or other parts of the vehicle.

When button 33 on arm 32 is in its forward position, as illustrated in Fig. 2, the free end of arm 29 is in contact with socket 15, thereby closing the circuit to the two lamps on the signalling device and when it is desired to open the circuit the button 33 is engaged by the thumb and drawn rearwardly, thereby bringing the high portion of the disk 30 into engagement with the resilient arm 29 and moving its free end away from the socket 15, and consequently opening the circuit so that the lamps will cease to burn.

When used as a trouble lamp the fingers are manipulated so that direct rays of light from the lamps will pass through the lenses 21 onto the parts that are under inspection and through the use of the lenses the light rays will be concentrated after the manner of the ordinarily used hand flash lamps.

Thus by providing the lenses 21 at the forward ends of the lamp cages the device may be employed as a trouble light for the inspection, adjustment and repair of parts of a vehicle at night, and the position of the lamp carrying members on the back of the fingers enables the hand and fingers to be readily used in the ordinary manner while making adjustments and repairs, or in the manipulation of tools and parts of the vehicle.

Thus it will be seen that I have provided a relatively simple, practical, inexpensive and readily manipulated device that may be advantageously employed as a motor vehicle traffic signalling device or as a trouble lamp and which device possesses superior advantages in the point of simplicity, durability and general efficiency.

It will be understood that minor changes in the size, form and construction of the various parts of my improved combined hand signal and trouble lamp may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set in the appended claims.

I claim as my invention:

1. A combined hand signal and trouble lamp, comprising a pair of bases, lamps seated in the forward portions of said bases, electrical connections extending through said bases and leading to said lamps, bands extending around and below the rear portions of said bases, the depending portions of which bands are adapted to encircle the fingers of the wearer's hand, perforated ears projecting rearwardly from the upper portions of said hands electric conductors connected to the rear ends ofthe electric connections in said bases, a substantially U-shaped reenforcing spreader of resilient material arranged between the rear portions of said bases and associated with the conductors that lead to said bases, a sheath enclosing said U-shaped spreader and those portions of the conductors that lead to and from the lamp bases, the ends of said sheath and spreader abutting the lamp bases, there being an opening in the sheath adjacent the middle of the U-shaped spreader for connection with a second sheath that encloses the conductors that lead to a battery or source of current and flexible stay connections connected at one end to said perforated ears and the other ends encircling and being clamped to the sheath immediately adjacent to said lamp bases.

2. A combined hand signal and trouble lamp, comprising a pair of bases, the rear portions of the undersides of which are made concave in cross section so as to fit upon the backs of the fingers of a wearer's hand, bands passing around the rear portions of said bases and extending below the grooved portions of said bases to form finger encircling members, a perforated ear projecting rearwardly from the upper portion of each band, a lamp carried by the forward portion of each base and leading to said lamps, electrical connections extending through each base, electric conductors leading to the rear portions of the connections through said bases, a resilient spreader arranged between the rear ends of said bases, a sheath enclosing said spreader and those portions of the conductors that lead to and from the two lamp bases, the ends of which sheath and spreader abut the lamp bases, there being an opening in the sheath adjacent to the middle of the spreader for connection with a second sheath that encloses the conductors leading to a battery or source of current and flexible stays connected at one end to the perforated ears that project rearwardly from the upper portions of the base encircling bands and the other ends of said stay connections encircling and clamping the sheath immediately adjacent to the lamp bases.

3. A combined hand signal and trouble lamp comprising a pair of lamp carrying bases, means for securing said bases on a pair of the fingers of a wearer's hand, electric conductors leading to the rear ends of said bases a substantially U-shaped spreader arranged between said bases, a sheath enclosing said spreader and the adjacent portions of the electric conductors, the ends of which sheath and spreader abut the ends of the lamp bases, flexible stay connections connected at one end to the means utilized for securing said bases to the wearer's fingers, the other ends of which stay connections encircle and clamp the sheath immediately adjacent to the lamp bases and said sheath being provided with an opening adjacent to the middle of the U-shaped spreader for connection with a second sheath that encloses the conductors that lead to a battery or source of electric current.

4. A combined hand signal and trouble lamp comprising a pair of bases, lamps seated in the forward portions of said bases, electrical connections extending through said bases and leading to said lamps, bands extending around and below the rear portions of said bases, the depending portions of which bands are adapted to encircle the fingers of the wearer's hand, electric conductors connected to the rear ends of the electric connections in said bases, a substantially U-shaped reenforcing spreader of resilient material arranged between the rear portions of said bases and connected to and supporting the conductors that lead to said bases, a sheath enclosing said reenforcing spreader and the adjacent portions of the conductors that lead to and from the lamp bases, there being an opening in the sheath adjacent to the middle of the U-shaped spreader for connection with a second sheath that encloses the conductors that lead to a battery or source of current supply and flexible stay connections between the rear portions of the bands that extend around the rear portions of said bases and those portions of the sheaths immediately adjacent to the lamp base.

GEORGE A. WILLIAMS.