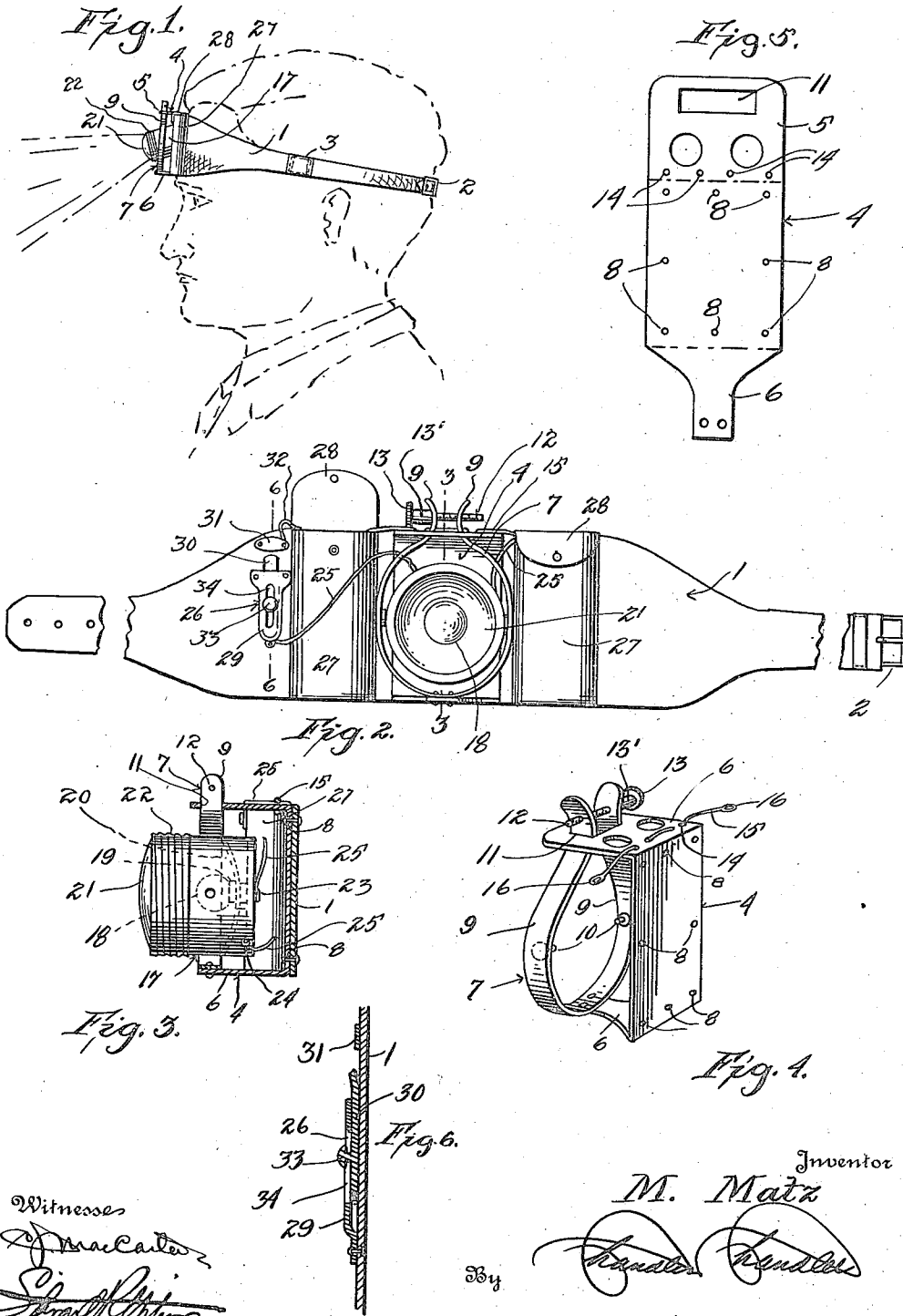


M. MATZ.
SEARCH LIGHT.
APPLICATION FILED MAY 19, 1916.

1,215,043.

Patented Feb. 6, 1917.



Witnesses
J. MacCallister
S. J. MacCallister

By

Inventor
M. Matz
H. H. H. H.

Attorneys

UNITED STATES PATENT OFFICE.

MICHAEL MATZ, OF MINEOLA, NEW YORK.

SEARCH-LIGHT.

1,215,043.

Specification of Letters Patent.

Patented Feb. 6, 1917.

Application filed May 19, 1916. Serial No. 98,643.

To all whom it may concern:

Be it known that I, MICHAEL MATZ, a citizen of Germany, residing at Mineola, in the county of Nassau, State of New York, have invented certain new and useful Improvements in Search-Lights; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention belongs to the class of search lights, and has particular reference to portable electric appliances for use by doctors, mechanics, chauffeurs and others whose work requires the use of a light source whose rays may be variably directed while still permitting the operator to have the use of both hands.

Generally speaking, it is the object of my invention to provide a portable electric head lamp which may be mounted upon the operator's body in such a manner as to permit its rays to be directed at will upon the work in hand, the search light being a self-contained entity, and not requiring the aid of an outside current source.

More particularly, it is the object of my invention to provide a self-contained head lamp which is so compactly arranged that the entire apparatus may be mounted upon the forehead of the user, so that its rays may be directed by the movement of the head into dark corners, cavities or other points where it would be otherwise difficult to suitably direct light rays while simultaneously working.

It is a further object of the invention to provide a search light of the above defined type in which the light source may be adjusted relative to its support, so to vary the intensity of the light directed upon the work.

With the above and other objects which will hereinafter appear in view, my invention will now be fully set forth and described, reference being had to the accompanying drawings.

In said drawings:—

Figure 1 is a view of the device showing it in practical use,

Fig. 2 is a front elevation of the device,

Fig. 3 is a vertical section on line 3—3 of Fig. 2,

Fig. 4 is a detail perspective view of one of the parts of the invention,

Fig. 5 is a plan view of the metallic blank

which forms the body of the light support, and

Fig. 6 is a sectional view on line 6—6 of Fig. 2.

Referring more particularly to said drawings 1 denotes a flexible head band which may be made of any suitable material, preferably a light calf-skin leather. One end of said head band is provided with a suitable buckle 2 and the intermediate points with elastic sections 3, so that when the band has once been adjusted to the user's head, the buckle need not be unfastened in order to remove the band from the head. The central portion of the band 1, which is adapted to pass across the user's forehead is widened, and carries, at its middle point, the frame or housing 4. Said frame or housing 4, as best seen in Fig. 5, is formed from a single metallic plate preferably aluminum, the top 5 and the bottom 6 being turned forwardly from the body of the plate, and forming supports for a spring yoke 7 which carries the lamp inclosure, as will hereinafter appear.

The back of the frame or housing 4 is provided with openings 8 in suitable number to secure the housing to the band 1, as by rivets. Riveted to the forward end of the bottom extension 6 is the spring yoke 7 above mentioned, said spring yoke being formed of any suitable spring material. At the lower or closed end of the spring yoke 7, which is that portion which is secured to the bottom extension 6, the metal forming the yoke is of reduced thickness, the arms 9 of the yoke being gradually increased in thickness to provide substantial supports for the bearing studs 10, which are suitably brazed, riveted or otherwise fastened to the inner faces of said arms 9. The upper ends of the arms 9 extend through a transversely elongated opening 11 in the top 5, the ends of said opening 11 providing stops to limit the maximum opening or spreading of the arms 9. Above the opening 11, one of the arms is provided with a threaded opening and the other arm has a smooth bored opening alined with said threaded opening through which is passed the adjusting screw 12, said adjusting screw being provided with a knurled head 13 which extends sufficiently beyond the arms 9 to permit the operator to readily turn the screw for tightening or loosening the arms 9 and has a shoulder 13' which bears against the outer face of the corresponding arm 9. The top 5 is also provided

with a transverse series of openings 14 through which is threaded a suitably insulated conductor cord 15, said conductor cord having its opposite ends provided with suitable contacts 16. The conductor cord 15 is thus located permanently upon the frame or housing 4 in proper relation to connect the terminals of the battery which is carried by the band in the manner hereinafter described.

10 Mounted upon the trunnions or bearing studs 10 between the arms of the yoke 7 is the casing 17 in which are mounted the usual lamp 18, socket 19 and reflector 20, which in this, form no part of this invention, and need not be further described herein.

A condensing lens 21 mounted in the front of the casing 17 in the usual manner, as by means of the screw collar 22 directs the light source from the lamp 18 forwardly from the casing. The casing 17 is provided with terminals 23 and 24 which are connected to the lamp socket within the casing, and two conductor cords 25 outside of the casing, one of said cords 25 being provided with a terminal for removable connection to one of the battery cells, while the outer cord 25 is connected to the switch 26. Upon each side of the housing 4, the band 1 is provided with suitably shaped pockets 27 which may be formed of leather, hard rubber, or other material, the pockets preferably being flattened to receive battery cells of the flattened type now found in the market for use in pocket electric flash lights. The battery cells inserted in these pockets 27 are retained therein by means of flaps 28 which are formed as extensions from the upper edge of the band 1. When the cells are placed in position, the negative terminal of one battery is connected to one of the terminals 16 of the cord 15, while the opposite terminal 16 is connected to the positive side of the other cell, thus connecting them in series. Located at one side of, or upon, one of the pockets 27, in convenient reach of the wearer, is mounted the switch 26 hereinabove mentioned. Said switch consists essentially of a casing 29 (Fig. 6), in which is slidably mounted the contact element 30, the end of the latter being adapted to be slid into contact with the contact plate 31 which is also mounted upon the band 1, or other suitable position, and is electrically connect-

ed as by a cord 32, with the battery carried in the pockets 27. The contact element 30 is provided with a head 33 which operates in the slot 34 in the body of the casing 29. Said casing is electrically connected to the contact 23 of the lamp casing 17 by one of the cords 25.

From the foregoing description it will be evident that I have provided a simple and compact head lamp arrangement, which may be economically manufactured, and may be so lightly constructed that its use will not inconvenience the wearer thereof. Its operation is obvious from the foregoing, but it might be noted that the angle at which the rays of light are projected may be vertically varied by swinging the casing 17 upon the trunnions 10, the screw 12 having first been loosened to free the casing from the pressure of the arms 9. The battery can be quickly changed and the connections are readily made, so that the apparatus provides an economical and efficient commercial device.

What I claim as my invention is:—

1. A head lamp, comprising in combination with a head band, a battery support on said head-band, a housing also on said head-band, a lamp casing, spring arms mounted in said housing and having trunnions supporting said lamp casing to swing between said arm, and a screw element passing through said spring arms and adapted to draw the latter into fastening engagement around said casing.

2. A head lamp, comprising in combination with a head band, battery pockets carried by said head band, a housing on said head band and including top and bottom extensions, a spring yoke supported on said bottom extension and having its arms projected through said top extension, means for drawing said arms together, a lamp casing having bearings on said spring arms, a switch, and electrical connections adapted to complete the circuit through said lamp casing and said switch, and cells mounted in said battery pockets.

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

MICHAEL MATZ.

Witnesses:

STACY HALL,
CHARLES ANDERSON.