

Aug. 15, 1939.

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2,169,256

CYCLE FIXTURE

Filed April 19, 1937

2 Sheets-Sheet 1

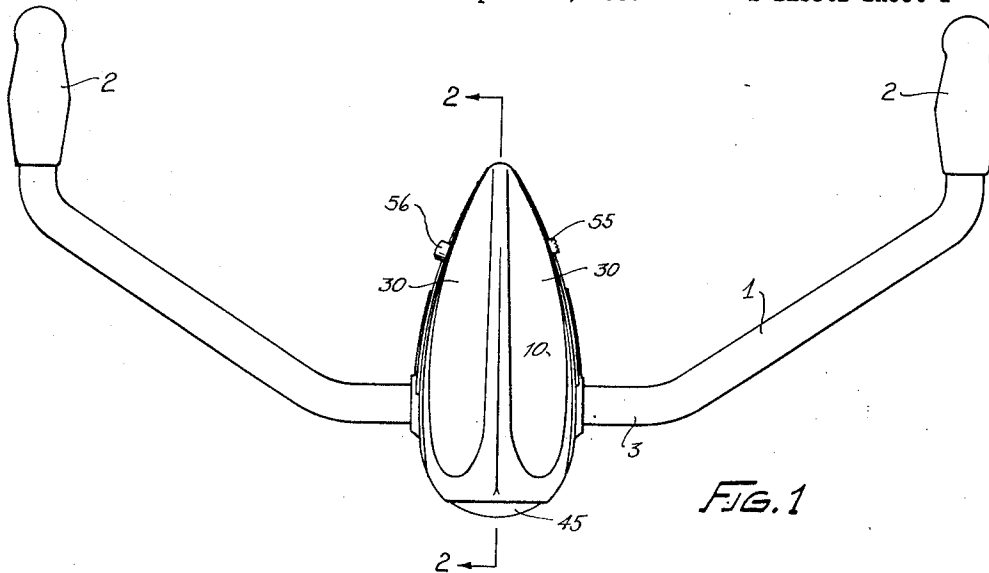


FIG. 1

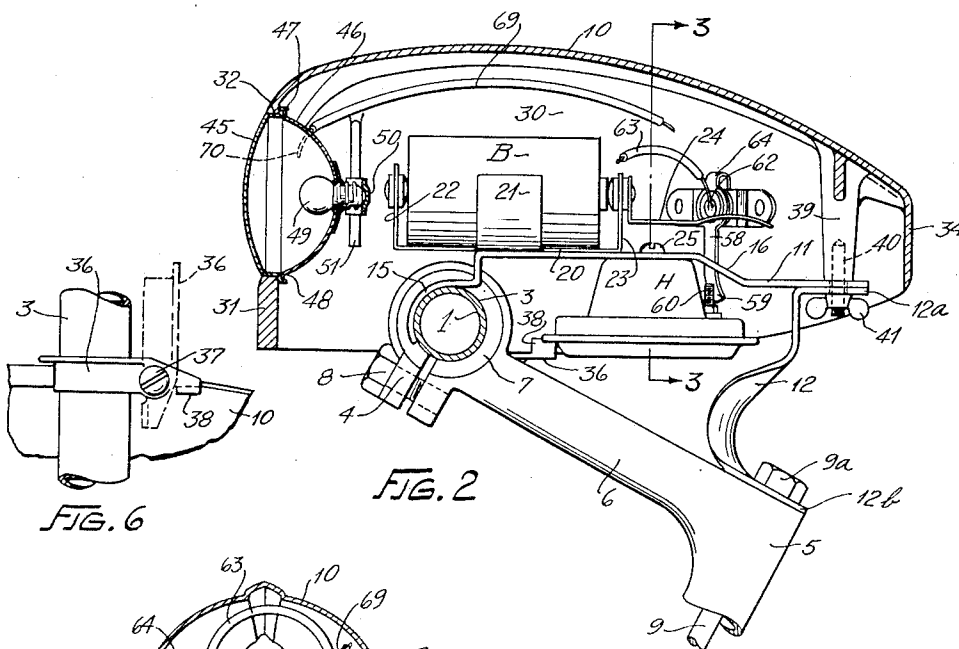


FIG. 2

FIG. 6

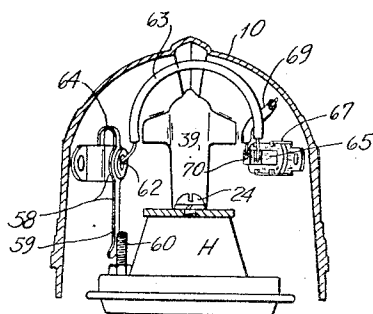


FIG. 3

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2 Sheets-Sheet 2

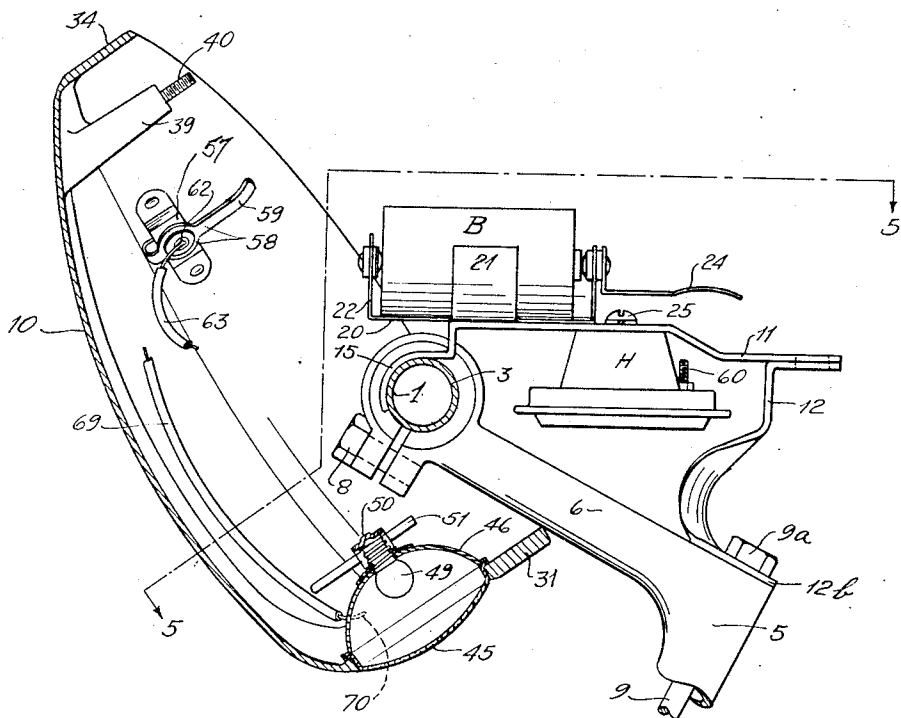


FIG. 4

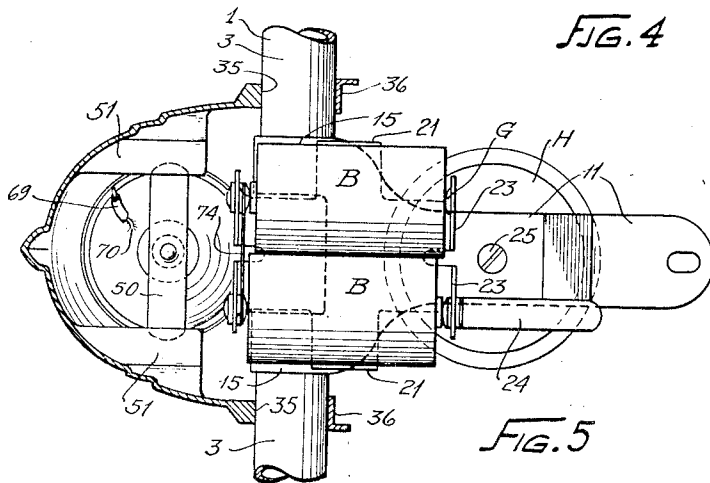


FIG. 5

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CYCLE FIXTURE

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Application April 19, 1937, Serial No. 137,629

3 Claims. (Cl. 177-7)

This invention relates to a fixture for cycles, which fixture is on the order of that shown in my prior application, Serial No. 106,184, filed October 17, 1936. The primary object is to provide an improved fixture of the type shown in said application.

A further object is to provide a device which is capable of being mounted on a cycle as a head lamp and/or sound-producing instrument and battery holder, wherein parts of the electrical instrumentalities are supported on different units of the device, as complete assemblies, and electrical connection therebetween is established when the units are assembled in operating relationship.

Another object is to provide a simplified support for a battery and sound-producing device.

A further object is to provide an improved and simplified connection between casing parts of a lighting and/or signal instrument for use on a cycle.

A further object is to provide an improved electrical contact connector for relatively movable parts of a cycle fixture of the class shown.

Further objects, including improvements in the disposition of electrical apparatus and control switches, will become apparent from the following description relating to the accompanying drawings, which show the preferred form. The essential characteristics are summarized in the claims.

Referring to the drawings, Fig. 1 is a plan view of a handle-bar showing the manner in which the fixture hereof may be related to the handle-bar; Fig. 2 is a central, longitudinal sectional view of the fixture, adjacent portion of the handle-bar and the supporting post for such handle-bar, as indicated by the line 2-2 on Fig. 1; Fig. 3 is a transverse sectional view, as indicated by the line 3-3 on Fig. 2; Fig. 4 is a view, similar to Fig. 2, showing the two main body assemblies of the fixture when positioned to permit changing of batteries; Fig. 5 is a transverse sectional view taken as indicated by the staggered line 5-5 on Fig. 4, and Fig. 6 is a detail bottom plan view of an attaching member for the forward portion of the top member of the fixture.

Referring further to the drawings, a handle-bar of the common type is shown at 1. The particular bar shown is for bicycles. This has the usual arrangement of handle grips 2. A substantially straight central portion of the handle-bar is indicated at 3, and the outward arm portions of the bar bend rearwardly therefrom, as

indicated. The straight central portion of the handle-bar may be secured as by means of a clamp 4 to a handle-bar post. Portions only of the post are shown, but the post is of inverted L-shape, having a forwardly projecting arm 6, which carries the clamp 4. The clamp may have inside it the usual arrangement of split-ring 7, embracing the portion 3 of the handle-bar, and clamping may be effected as by a bolt or screw 8. The post 5 extends downwardly in the usual head-cluster (not shown) of the cycle frame, and is attached to the front or steering fork (not shown) as by means of a screw or bolt 9, passing through the post and having a head, such as 9a, surmounting the upright arm of the post. The handle-bar and post comprise the handle-bar assembly.

Referring now to the fixture per se, this, as shown, comprises a cap 10, preferably made as a die-casting, a generally horizontal base member 11, preferably made of sheet-metal, and a bracket 12, also preferably made of sheet-metal. The base and bracket may be fastened permanently together, as by welding.

The base 11 may close as much of the bottom as desired, it having been found unnecessary to close the bottom at all, in view of the weather protection afforded by the top or cap. The shape of the base part 11 is best shown in Fig. 5. As shown, it comprises a metal strip, with a narrow rear portion and forwardly disposed laterally extending spaced arm portions 15. These are curved to extend partially around the straight portion 3 of the handle bar, shown in Figs. 2 and 4, forming clasps (see Fig. 2). Preferably, the arms reach sufficiently far around the handle-bar so as to hold the front end of the base from being raised, thereby to prevent the base assembly from rattling. The rearward end, beyond the downward offset 16, rests on a horizontal flange 12a of the bracket 12. The bracket 12 extends generally diagonally downwardly and then curves rearwardly to overlie the upper part of the post 5, as at 12b, and the flange portion 12b is clamped into place as by the head 9a of the bolt 9.

With the base 11 and bracket 12 permanently attached to each other, as above mentioned, the apparatus which is carried on the base (particularly batteries B, and a sound instrument H), may be mounted on the handle-bar and post as a complete unit, by first slipping the bar clamping portions of the arms 15 over the handle-bar and then attaching the bracket 12 by means of the bolt 9, as described.

The support for the battery may comprise a pressed-metal cradle 20, the base portion of which is secured flatwise onto the top of the base. The cradle has spaced C-shaped arms 21 forming a spring clasp for the battery, (two separate dry cells B, being shown), and upwardly extending arms or brackets 22 and 23, which support contacts for the terminal portions of the cells. The bracket 23 also carries a spring contact arm 24, extending rearwardly underneath the cap and adapted to make automatic connections to circuit portions on the cap when the cap is set into place over the base, as will later be described more in detail. The spring contact 24 is electrically associated with the central pole of the lower battery, as shown on Fig. 5.

The sound instrument H (e. g. a vibrator with appropriate diaphragm) is suspended beneath the upstruck central portion of the base 11, as by a screw 25, in which position the sound instrument is guarded by the base 11, bracket 12, and the side walls of the cap.

Referring further to the construction of the cap, it will be seen that this has downwardly curving side walls 30, integral with a rounded front wall 31, which is apertured, as at 32, to receive a head light lens and reflector assembly to be described later. The side walls converge rearwardly and join at a relatively narrow rear wall 34. As illustrated in Figs. 5 and 6, the side walls are circularly recessed or notched, as at 35, on their under sides, to fit over the handle-bar portion 3, the walls of the sides are locally thickened for reinforcement, as indicated particularly in Fig. 5, at the region of contact with the handle-bar.

To secure the handle-bar in the notches 35, sheet-metal clasp members 36 are preferably used, one being illustrated in Fig. 6, and both in Fig. 5. These are pivoted, as on attaching screws 37, which extend upwardly into the thickened portions of the side walls 30, and may be made fast by lock washers. As suggested by broken lines in Fig. 6, each clasp may be swung aside, whereupon the cap can be moved downwardly into mounted position on the handle-bar or taken off. When the clasps are swung into cap-securing position (full lines, Figs. 5 and 6), upwardly extending lugs 38 on the rear end portions of the clasps abut respective adjacent side walls 30, preventing the clasps from being turned accidentally inwardly out of position, as in seating the screws.

The rearward attachment of the cap to the base and bracket assembly 11—12, comprises, as shown, a central depending boss 39, formed as part of the cap casting, the lower end of which abuts the upper face of the base 11. The boss carries a stud 40, which extends downwardly through aligned openings in the base and bracket (see Fig. 2), and a suitable quickly detachable securing means, such as a wing-nut 41, may be associated with the lower end of the stud, to clamp the rear portion of the cap tightly in place.

The lens and reflector of the light, mentioned above, and indicated at 45 and 46, respectively, form an assembly which is insertable into the forwardly positioned opening 32 of the front wall 31, from inside the cap. This assembly may be held in place by a spring contact member of simple construction, already shown and claimed in my prior application. The lens which is preferably made of insulative material, such as Bakelite or Celluloid, has a stepped flange 47, part of which seats against the margin of the open-

ing 32 to prevent outward movement of the lens, and part of which forms a retainer for the outer rim portion 48 of the reflector. The reflector is of metal and centrally apertured and/or threaded, as desired, to receive the threaded shank of a light bulb 49. The shank extends through the reflector, and makes electrical contact therewith at the threaded connection. The central terminal of the bulb contacts with a sheet-metal strip 50, which, as can be seen from Figs. 2 and 5, has its ends sprung over a pair of flange effects 51, extending inwardly from the side walls 30 of the cap. The strip 50 grounds one terminal of the light bulb to the cap, as will be obvious, and the lens 45, by reason of its seating flange effect 47, prevents the reflector 46 from being grounded.

The necessary controls for the electrical apparatus described are mounted permanently on the cap, and preferably on the side walls in the positions indicated. The operating handle for the light switch is shown at 55, in Fig. 1, and the horn button at 56. Preferably, the switch controlled by 55 is a sliding type switch which will remain in position when the arm 55 is adjusted forwardly and rearwardly; and the button 56 a suitable spring-released button, which breaks contact as soon as the button is released. Such switches are well known, and any form thereof may be used. The individual switch housings may be fastened to the inside of the cap, as by rivets,—as suggested in Figs. 2, 3 and 4.

The housing 57 for the horn button (see Figs. 2 and 3) insulatingly supports a terminal member 58. This has a depending spring arm, which makes contact with an electrical terminal in the form of a stud 60 on the sound instrument H, when the cap is set down on the base 11, as illustrated in both Figs. 2 and 3. The sound instrument is additionally connected in circuit with the battery, as by reason of both the battery and the general housing for the sound instrument being grounded to the base 11. A central terminal 62 is insulatingly carried on the horn button housing 57, and a wire 63 leads from the central terminal to another portion of the circuit. The central terminal 62 and the depending spring contact 59 are electrically associated when the button 56 is pressed, by reason of a looped contact piece 64, (part of 58), which reaches inside the housing 57, and normally holds a shouldered inner end of the button outwardly against the side wall of the cap. To complete the circuit which includes the switch 62, 64, for the horn, the wire 63 leads to a terminal post 65 on the housing 67 of the light switch. This post 65 is moved into contact with the spring arm 24 of Fig. 2 when the cap 10 is set down on the base. Since the contact 24 is connected with an ungrounded portion of the battery, the horn will sound whenever the switch button 56 establishes electrical connection between the contact 64 and the central terminal 62.

The manner in which the light bulb 49 is grounded to the cap has already been described. The reflector 46 may be connected, as by a flexible wire 69 (one end of which is soldered e. g. to the reflector as at 70) to another post of electrically conductive material, indicated at 70 in Fig. 3, on the light switch housing. The sliding member 55 of the light switch electrically connects the posts 65 and 70 when slid in one direction, and thereby completes the light circuit to the battery. Current passes from the reflector through the wire 69 to the post 70, across to the post 6, and thence through the spring arm 75

24 to the side of the battery which is not grounded.

The two cells of the battery are shown connected in series. The upper cell (as shown on Fig. 5) is grounded as at G to the base through one of the battery-retaining arms 23. At the opposite end of the same cell the central pole is connected to the outside terminal of the other cell, as by a cross-strip 74, insulatively supported on the upright arms 22 of the battery supporting cradle.

I claim:

1. A combination electric signal and light unit for cycles comprising a base member adapted and arranged to be supported by a handle-bar assembly of a cycle, a battery and sound instrument mounted on the base, the instrument being electrically connected to one terminal of the battery by conductor means on said base, a cap detachably supported by the base, an electric light mounted inside the cap and exposed through one of its walls, conductor means on the cap for connecting the light to the battery, conductor means on the cap for completing the circuit from the sound instrument to the other pole of the battery, each of said means including a switch which switches are respectively adapted and arranged to render the light and instrument operative and inoperative, said conductor means of the base and cap being rendered effective subject to the control of the switches to establish the aforesaid circuits when the cap is attached to

the base and ineffective when detached from the base.

2. In combination with a cycle handle bar assembly which includes an inverted L-shaped handle bar post and transversely extending handle bar carried by one of the arms of the post, a base structure adapted detachably to support a battery, said structure having means arranged to engage the handle bar and other means attachable to the post at the intersection of its arms and cooperating with the first named means in supporting the base, and means adapted for electrical connection with and for operation by such battery, surmounting the base and attached thereto.

3. In a cycle light, a metal housing having an aperture in one of its walls, a lens of transparent material seated in the aperture and having a marginal annular flange turned inwardly of the housing, a centrally apertured reflector of electrically conductive material adapted to be supplied by current and having a rim portion adjacent the inner surface of the flange, a light bulb having an electric terminal portion seated in the central aperture of the reflector and projecting therethrough to expose another electric terminal, and metallic means arranged to supply current to such other electric terminal, said means being supported by abutting contact with the housing and reacting on said other terminal in a manner to hold said rim portion of the reflector seated against the lens.

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