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2,168,939

CYCLE FIXTURE

Filed Oct. 17, 1936

2 Sheets-Sheet 1

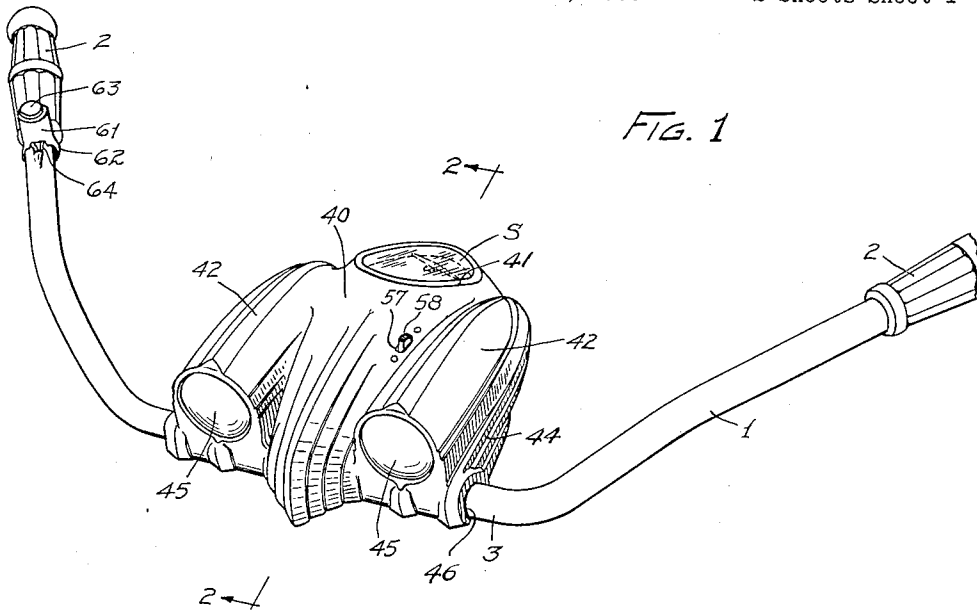


FIG. 1

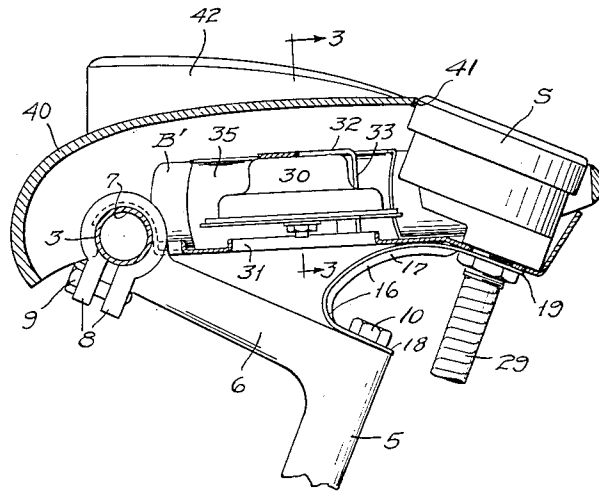


FIG. 2

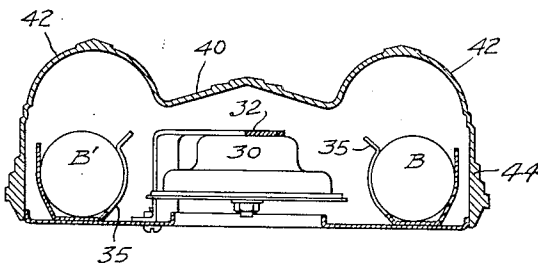


FIG. 3

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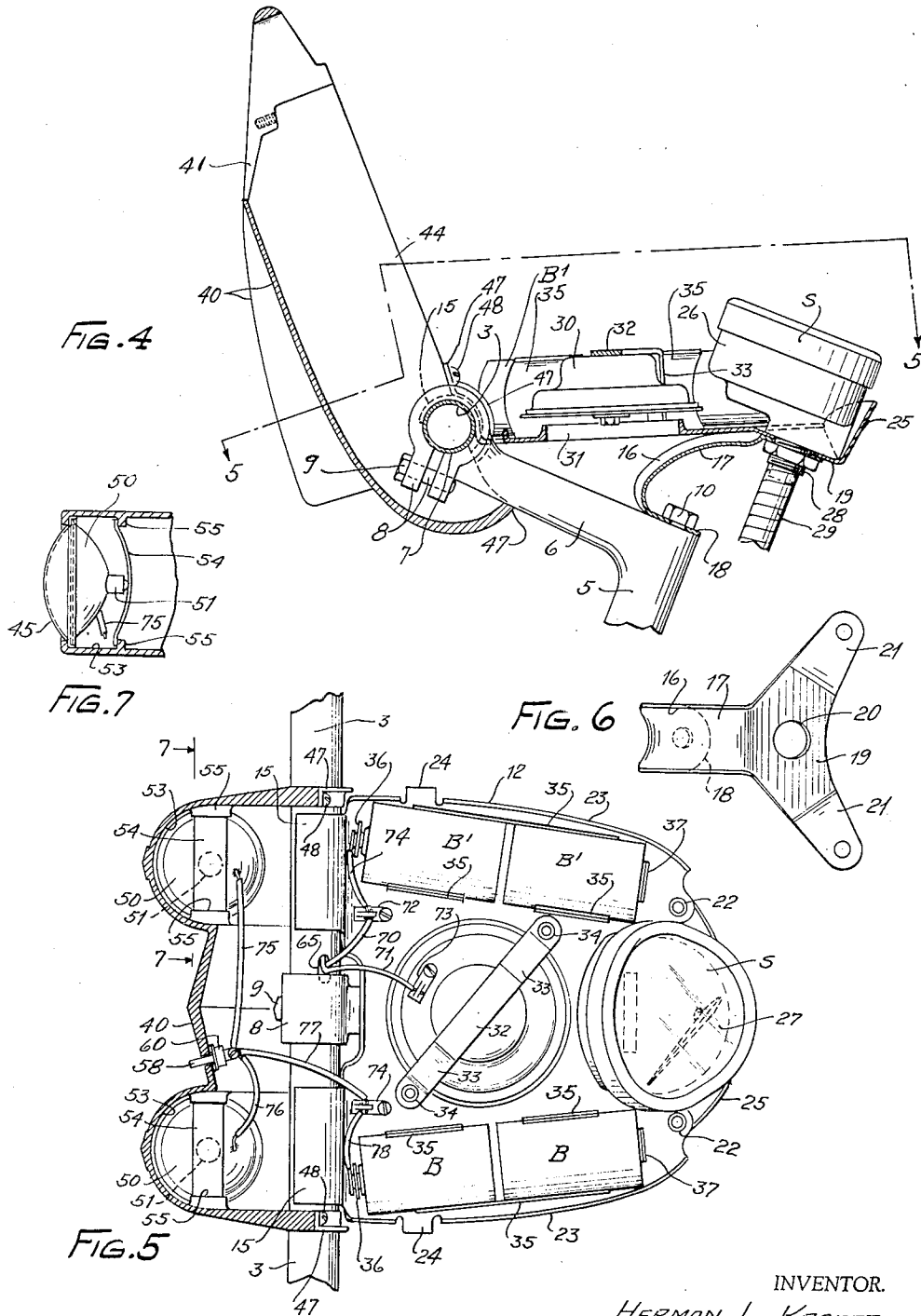
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# UNITED STATES PATENT OFFICE

2,168,939

## CYCLE FIXTURE

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Application October 17, 1936, Serial No. 106,184

5 Claims. (Cl. 177-7)

This invention relates to an improved and simplified unit or fixture for supporting certain instrumentalities ancillary to a bicycle or tri-  
 5 cycled. The principal object is to provide an improved unit and fixture of the class above mentioned. A further object is to provide a compartment structure, for instruments such as lights, audible signals and speedometers, which structure with the instruments mounted thereon,  
 10 will form a complete unit which is readily attachable to a handle bar or handle bar assembly of a cycle.

Another object is to provide a simple and effective supporting and housing structure for instruments ancillary to a cycle, which structure is so  
 15 arranged as to permit ready accessibility to the interior thereof for service to, or replacement of, the instruments or parts of such, contained by the housing.

Further objects include the provision of an improved speedometer mounting, an improved lighting fixture, and an improved audible signal for cycles.

Other objects and features of the invention will become apparent from the following description, relating to the accompanying drawings, showing the preferred form. The essential characteristics are summarized in the claims.

In the drawings, Fig. 1 is a perspective view of a handle bar unit incorporating the present invention; Fig. 2 is a central, longitudinal sectional view of the combined unit or fixture showing its mounting on the handle bar and post; Fig. 3 is a transverse sectional view, as indicated by the  
 30 line 3-3 on Fig. 2; Fig. 4 is a central sectional view, similar to Fig. 2, but with the upper portion of the compartment structure swung to a position rendering the interior accessible; Fig. 5 is a sectional plan view of the structure as shown in  
 40 Fig. 4, the sectional portion of the view being taken as indicated at 5-5 on Fig. 4; Fig. 6 is a plan view of a mounting bracket for securing the compartment structure to the handle bar post, and Fig. 7 is a sectional plan view of the preferred light socket and mounting, as indicated  
 45 at 7-7 on Fig. 5.

Referring first to Figs. 1 and 2, a handle bar of a common type, is shown at 1. The particular bar shown is for bicycles, and has the usual  
 50 handle grips 2. 3 indicates a substantially straight horizontal central portion of the bar. Said horizontal portion is secured to a handle bar post 5, through the intermediary of a forwardly extending arm 6 of the post, having a  
 55 cylindrically formed recess 7, on its lower side.

The recess embraces the central portion of the handle bar as shown at 8, and the latter is held in adjusted position as by a clamping screw 9. The post 5 extends downwardly into the usual head cluster (not shown) of the cycle frame, and is attached to the front or steering fork, (not shown) by means of a screw or bolt having a head, such as indicated at 10. The handle bar and post comprise the handle bar assembly.

The compartment structure comprises a bottom member or base 12 and a top member or cap 40. The base, which is preferably made of sheet-metal, extends from the horizontal portion 3 of the handle bar, rearwardly over the post, and in spaced relation to it, as shown in  
 15 Figs. 2 and 4. The base is generally heart-shaped, and its forward end portion is formed with one or more supporting arm portions, two being shown at 15, which are cylindrically concave on their lower sides, so as snugly to clasp  
 20 the upper surface of the handle bar for support. The rearward end is supported by a curved bracket 16, having a flanged body portion 17 (actually C shaped) and flat end portions. The lower flat end 18 rests on top of the post and is  
 25 secured to it by the cap screw or bolt which has the head 10. The upper end of the bracket 16 underlies a downwardly depressed portion 19 on the base 12. The bracket may be secured only  
 30 at the central opening shown at 20, in Fig. 6, which receives the hollow driving shaft stud of a speedometer, S, to be later described more in detail. However, the bracket 16, as shown, has laterally extending arms 21 underlying the side  
 35 portions of the rear of the base, and these lateral extensions preferably form the main rearward support for the base 12. Attaching devices, such as bolts or screws 22 enter openings positioned as shown in Fig. 5 to couple the bracket  
 40 16 and the base. Preferably the screws extend upwardly from the base for detachably securing the rear portion of the cap. Such screws or securing devices enter suitable threaded apertures on the bottom surface of the cap and may make quick detachable connection therewith (not  
 45 shown), but which may be made like an ordinary bayonet lock.

The base may have strengthening flanges 23 on its sides, lateral extensions 24 of which serve as abutments for the bottom side of the cap, so  
 50 that when the cap is attached in operating position, it holds the forwardly extending arms 15 snugly against the handle bar. The rear portion of the base also has a diagonally upwardly extending flange effect at 25, Figs. 2, 4 and 5. This  
 55

partially surrounds the speedometer instrument S.

The speedometer may be of any suitable type. As shown, it has a body 26 which rests on the diagonally downwardly extending portion 19 of the base (or it may rest only on the portion 19 of the bracket 16). A dial is indicated at 27. Such speedometer is usually equipped with a threaded hollow extension, such as indicated at 28; reduced therebelow for connection with the usual driving cable assembly. This threaded extension carries a nut 29, which clamps the body 26 and the base stamping against the bracket portion 19, thereby firmly securing the speedometer in place and also additionally securing the base to the handle bar post.

A suitable audible signal or resonator assembly 30 of a known type, is mounted over a flanged opening 31 in the base, as on a diagonally extending bracket 32, having downwardly turned ends 33, which are attached to the base, as by suitable bolts or screws at 34. This has an electro-magnetically operated diaphragm on its underside facing the opening 31, so that the sound generated by the resonator passes out freely.

On opposite sides of the resonator and speedometer, suitable cradle-like battery holders 35 of sheet metal are shown as carrying batteries B and B'. These holders may be of any form and attached to the base so that the batteries can be put in from the top side. Contact members 36 and 37, which spring against opposite pole projections or surfaces of the batteries, complete the battery holding arrangement.

It may be mentioned that instead of having the batteries accessible from the top side of the base, these may occupy suitable downwardly facing recesses in the base, bridged by any suitable arrangement, or closure, to hold them in. Also, the batteries might be secured to the cap 40, in a manner similar to that illustrated in Fig. 5. Since such modification would necessitate only a rearrangement of the conductor wires and fasteners, it is not illustrated. The resonator may likewise be fastened on the cap 40 instead of on the base.

Referring further to the cap or top member 40, this is preferably formed as a die-casting. It will be seen from Fig. 1 that the cap is generally arch-shaped at its central portion, so as to provide adequate space beneath it for the instruments mentioned, including the speedometer which is exposed through an upwardly facing opening 41 in the cap. The cap, as shown is in general accordance with my copending design patent application, Serial No. D-64,878, filed September 16, 1936. It may also be like the design of my application D-64,879 filed concurrently therewith, showing a single lamp.

The cap may have generally bullet-shaped, hollow side portions 42, the forward ends of which are open to expose the light through suitable lenses 45 mounted inside the cap, in suitable sockets.

For attachment to the base (through the intermediary of the handle bar), the side walls 44 of the cap 40 have circularly formed downwardly facing slots or recesses 46, which are in straddling relation to the forwardly extending arms 15 of the base, and which snugly embrace the handle bar portion 3 at each side of the base. These downwardly recessed side portions of the cap are connected pivotally with the handle bar portion 3, by curved clamping plates 47, each of which may be secured at one or both ends of the cap. As

shown, there is a single attaching screw 48 for each clamp, passing upwardly into suitable bosses on respective side walls 44. Since the base is effectively secured to the handle bar assembly so as to comprise a unit therewith, it will be seen that the top member is, in effect, pivotally secured both to the base and to the handle bar. This pivoted arrangement and detachable securing means for the cap, already described, permits the cap to be swung upwardly substantially into the position shown in Fig. 4, wherein a central depending portion 47 of the cap contacts with the lower surface of the arm 6 of the handle bar post and forms a stop.

The lighting fixtures include, as shown, particularly in Figs. 5 and 7, reflector members 50, which receive the shanks 51 of the bulb, and make electrical contact therewith. The reflectors are dome-shaped shells, the outer margins of which lie in socket formations formed at the outer margins of the lenses. The lenses, in turn, are seated in sockets 53 formed in the cap casting. Since the lenses would naturally be of insulating material (glass, or plastic, e. g., Celluloid or the like) the shells are insulated thereby from the cap. Yielding means are provided to hold the reflector socket devices in snug contact with the lenses, and this, as shown, comprises detachable spring strips 54, the central portions of which contact with the electric-contact-projections of the bulbs and the end portions of which are sprung to underlie oppositely positioned lugs 55, formed within the cap.

The cap 40 preferably supports a suitable switch 60 (Fig. 5) for the lights. The operating arm 58 of such switch passes through a suitable opening 57 in the cap. The body of the switch is secured on the underside of the cap, as by suitable oppositely positioned rivets. The light switch may occupy any other position on the cap, and moreover, may be mounted on one of the handle bar arms in accordance with the description of such a switch mounting given below.

Since it is desirable that the audible signal control be located close to one of the handle grips, for quick accessibility by the user of the cycle, the arrangement includes a switch device 61, having a suitable hollow housing with an annular supporting base 62 embracing the handle bar. An operating button 63 extends from the top of the switch. The handle bar, as usual, is hollow, and the terminal wires of the switch pass into a lateral opening 64 in the bar, and thence along the bar to an opening 65 near the handle bar post. In Fig. 5 the two wires from the switch 61 (indicated at 70 and 71) are seen to pass out of the opening 65 and thence to respective binding devices 72 and 73 on the base and signal 30, respectively. The binding device 72 is appropriately insulated from the base. With further reference to Fig. 5, it will be seen that the signal 30 is operated when the circuit, including the conductors 70 and 71 is closed, by reason of the fact that both the batteries B' and the signal are grounded to the base, the conductor 70 being connected to one terminal of the battery assembly, by means of a flexible conductor 74, connecting the contact 36 with the binding device 72.

The connections between the lights, light switch and the batteries B include, as shown, flexible conductors 75 and 76, which may be soldered to the insulated reflector members 50 and similarly connected to one side of the switch 60. A third flexible conductor 77 leads from the other side of the switch down to a binding device 74, 75

which is in turn electrically connected with the battery unit B, as by a short conductor wire 73. The binding device 74 is insulated from the base and all of the devices 72, 73 and 74 are preferably of the spring clamping type, readily releasable by the human fingers.

It will be seen that there is no necessity for disconnecting any of the flexible connections, when the cap is swung upwardly to the position shown in Fig. 4. Such opening of the compartment structure permits access to the batteries, inspection of the audible signal and ready removal and replacement of the light bulbs. Removal and replacement of the batteries is simply a matter of slipping them out of the holder and putting new ones in place.

Removal of the light bulbs is simply a matter of taking out the spring strips 54, and the reflectors, replacing the bulbs and re-inserting the reflectors and strips. It will be noted that notwithstanding the compactness of instrument arrangement in the compartment structure, there is no danger of shortening of electrical connections. If it is desired to remove the cap entirely from the base and handle bar this may be done simply by releasing the spring connectors 72-74 and removing the clamping plates 47.

It may be mentioned that when a speedometer mechanism is not desired or is not present on a cycle to which the fixture is to be applied, then the top opening 41 is closed by a "dummy" dial containing appropriate decorations. This may be sprung into place in the speedometer dial opening in the cap, or otherwise suitably secured.

The expression "handle bar assembly" as used herein shall be interpreted to describe a handle bar and support or post, whether made in two or more parts, say as shown, or as one integral part.

I claim:

1. A fixture to be mounted upon the handle bar of a cycle, comprising a compartment structure adapted to carry instruments ancillary to a cycle, said structure comprising a top member and a bottom member hinged together substantially on the axis of the handle bar, and means detachably connecting the two members in a region remote from the hinge axis to permit one of the members

to be swung open relative to the other member, whereby access to the compartment is afforded.

2. In a cycle having a handle bar assembly, a casing for electrical apparatus, said casing comprising separate top and bottom casing sections, means securing one of the sections in fixed position on the handle bar assembly, and means hingedly connecting the other section thereto, on an axis substantially coincident with the handle bar axis to permit access to the casing.

3. In a cycle having a handle bar, a casing for electrical apparatus, said casing comprising a base member, means to support the base in fixed position on the handle bar, a top member, means pivotally connecting the top member to the base adjacent the handle bar, and means detachably connecting the top member to the base in transversely spaced relation to the pivot axis.

4. In a cycle having a handle bar and supporting post, a fixture having thereon mounting means for a speedometer instrument and depending drive shaft for it, a bracket extending downwardly from the fixture below the instrument and connected with the handle bar post as a support for the fixture, said bracket being of sufficient length to space the structure above the post a distance that will provide substantial working clearance above the post, whereby to facilitate connecting the speedometer to driving means disposed in close proximity to the post.

5. In a cycle having a handle bar and supporting post, a fixture comprising a top housing part, means connecting the top part to the handle bar so that the part can swing upwardly about the handle bar axis to an open position, a bottom housing part, an indentation on a forward portion of the bottom part providing surfaces adapted to engage the top side of the handle bar, and an independent rearward support for the bottom part, means to connect together detachably the rearward portions of the two housing parts, and abutment means between intermediate portions of said housing parts, which acts consequent upon establishment of the detachable connection, to maintain said surfaces of the indentation snugly in contact with the handle bar.

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