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OPERATING-LEVER CONSOLE FOR A GEARSHIFT MECHANISM OR THE LIKE

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FIG. 1

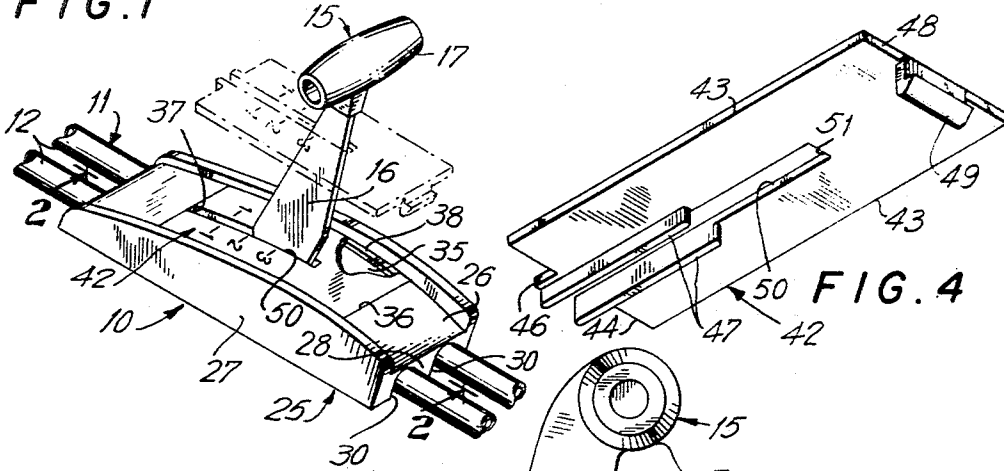


FIG. 4

FIG. 2

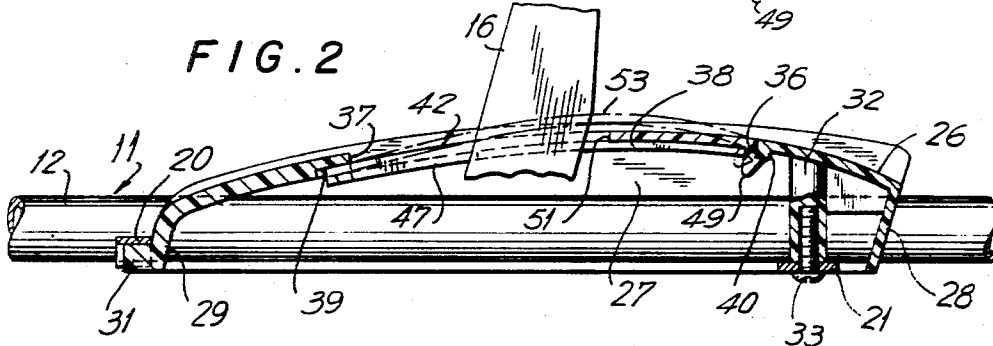
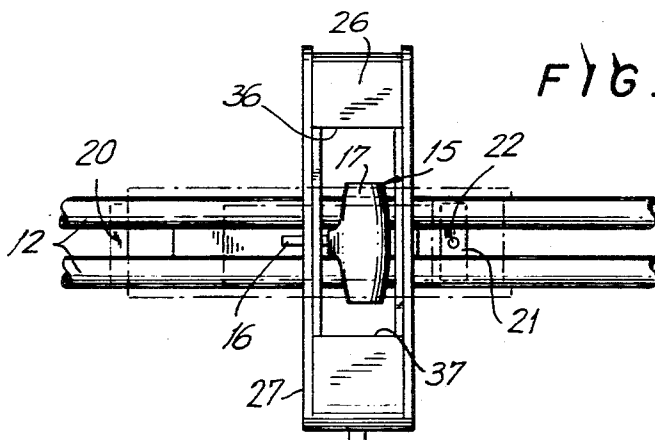


FIG. 3



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3,473,404 OPERATING-LEVER CONSOLE FOR A GEARSHIFT MECHANISM OR THE LIKE

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6 Claims

ABSTRACT OF THE DISCLOSURE

The instant disclosure is concerned essentially with a console construction for an operating lever, wherein the lever extends swingably through a slot in a closure plate removably mounted in a cover member; and, the closure plate is removable from the cover member and from the lever, after which the cover member is also removable from the lever.

Background of the invention

While the operating-lever console of the present invention has been primarily developed and employed for use in bicycles, as a gearshift-lever console, and will be illustrated and described hereinafter with particular reference thereto, it is appreciated that the instant device may be employed with equal advantage in any operating-lever-console environment, say on a motorcycle, in a sports car, or wherever an operating-lever console of the instant type may be desired. All such applications are intended to be comprehended herein.

Summary

It is an important object of the present invention to provide an operating-lever console of the type described which is extremely simple in construction, durable and reliable throughout a long useful life, and which can be quickly and easily removed and replaced, as required, without removal of the operating lever, its handle, or any part thereof.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawing, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described.

Brief description of the drawing

FIGURE 1 is a top perspective view showing an operating-lever console of the present invention in operative condition, partly broken away for clarity of illustration, and illustrating in phantom an intermediate stage of console removal.

FIGURE 2 is a longitudinal sectional elevational view taken generally along the line 2—2 of FIGURE 1, illustrating in phantom the intermediate stage of console removal shown in FIGURE 1, and an earlier stage of such operation.

FIGURE 3 is a top plan view of the console of FIGURES 1 and 2, illustrating a later stage in the console-removal procedure.

FIGURE 4 is a bottom perspective view showing a closure-plate member of the instant console apart from the remainder thereof.

Description of the preferred embodiment

Referring now more particularly to the drawing, and specifically to FIGURES 1 and 2 thereof, an operating-lever console is there generally designated 10, and illustrated as mounted on a supporting structure or frame-

work 11, say of a pair of parallel members 12. Upstanding from the console 10 may be the operating lever 15, including an upstanding arm 16 and a transverse handle 17 on the upper free end of the arm 16. The lower end of the arm 16 (not shown) is connected by any suitable means to a mechanism to be operated, such as a gearshift mechanism or the like, wherein operation is effected by swinging movement of the lever 15 as between the numbered positions illustrated in FIGURE 1.

The framework 11, may include the pair of parallel side members 12, and a pair of cross members 20 and 21 extending transversely between and secured to the parallel members at spaced locations therealong. The cross member 21 may be provided with a thru hole 22, for a purpose appearing presently.

The console 10 may include a top member or cover 25, which may be integrally formed of plastic, as by molding, or otherwise formed, if desired. The cover 25 may include a top wall 26, a pair of longitudinally extending side walls 27 depending from opposite sides of the top wall, and a pair of end walls 28 and 29 depending from opposite ends of the top wall extending laterally between the side walls 27. The end walls 28 and 29 may be suitably configured or cut out to receive the frame members 12, as by notches 30 in end wall 28.

Extending outwardly from the end wall 29 may be a lip 31 for engagement beneath the crosspiece frame member 20, and a socket 32 may depend from the top wall 26 to the frame-member crosspiece 21 for receiving a fastener, such as a screw 33 extending upwardly through hole 22 threadedly into the socket 32. In this manner, the cover 25 is removably, but fixedly secured in position on the framework 11.

The top wall 26 of the cover 25 may be formed with a relatively large thru opening 35 extending generally longitudinally of the cover between end edges 36 and 37 respectively adjacent to cover end walls 28 and 29. The opening 35 in the cover top wall 26 extends laterally between the side walls 27, and is provided along each side wall with a longitudinally extending, upwardly or outwardly facing shoulder 38. The end edge 37 of opening 35 is cut out or grooved on its underside to form a downwardly or inwardly facing shoulder 39, while the end edge 36 of the opening 35 is provided on its underside with a rib defining a downwardly or inwardly facing shoulder 40.

A closure member or plate is generally designated 42, and may be of generally rectangular-outline configuration, advantageously fabricated of resiliently flexible sheet material such as plastic, or other. The closure plate 42 is sized for removable and conformable insertion in the opening 35, having its side edge margins 43 resting on the outwardly facing shoulders 38. One end edge 44 of the cover plate 42 is provided with a pair of end extensions 46, and on its underside the closure plate 42 is formed with a pair of longitudinal reinforcements or ribs 47 extending in parallelism with each other from the end extensions 46 toward and terminating short of the opposite end edge 48 of the closure plate. Depending from the end edge 48, the closure plate may be formed with a hook-like member or catch 49.

Extending longitudinally of the closure plate 42, and spaced laterally medially between the side edges 43, the closure plate may be formed with a slot 50, which opens at one end between the end extensions 46 through the end edge 44, and terminates at its other end 51 short of the end edge 48.

In assembly with the cover 25, the closure plate 42 is inserted in the cover opening 35, having its side edge margins resting on the respective upwardly or outwardly facing shoulders 38, with its end extensions 46 engaged beneath the downwardly facing shoulder 39. The depending catch 49 is snap engaged beneath the downwardly

facing shoulder 40; and, by the inherent resilience of the closure plate 42, it maintains itself in position within the cover opening 35. It will be noted that the closure-plate slot 50 receives the shank or arm 16 of the operating lever 15, permitting swinging movement of the arm within the slot to the enumerated positions.

Disassembly is quickly and easily accomplished by mere flexure of the closure plate 42, as shown at 53 in FIGURE 2, so that the catch 49 is released by the shoulder 40. The closure plate may then be swung upwardly and moved rightward for removal from the cover opening 35, and separation from the handle 15 by rightward movement of the closure plate to remove the arm 16 from the slot 50 through the open end thereof. Of course, replacement of the closure plate may be effected by reversal of the above-described procedure.

Further, the cover 25 may be quickly and easily removed by mere withdrawal of fastener 33, whereupon the cover member may be swung upwardly or shifted forwardly to remove the extension or tongue 31 from beneath crosspiece 20, and the cover may then be elevated to a position just below the handle 17. The size and configuration of the handle may be such that it extends transversely of the opening 35 a distance greater than the lateral dimension of the opening. However, the opening 35 is sufficiently large to permit of rotation of the disconnected cover 25 to the position shown in FIGURE 3, with the opening 35 in alignment with the handle 17. In this condition, the cover 25 may be raised for complete removal from the operating lever. Of course, replacement of the cover is effected by reversal of the above-described procedure.

From the foregoing, it is seen that the present invention provides an operating-lever console which is well adapted to meet practical conditions of manufacture and use, and which otherwise fully accomplishes its intended objects.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention.

What is claimed is:

1. An operating-lever console for a gearshift mechanism or the like, said console comprising a protective cover removably secured in position and having a relatively large thru opening, an operating lever extending spacedly through said opening for swinging movement

therein, said lever terminating in a free end, an enlarged handle on the free end of said lever, and a closure plate removably inserted in closing relation within said opening, said plate having a thru slot extending longitudinally of lever-swinging movement for receiving said lever and permitting swinging movement of the latter. said slot opening through one edge of said closure plate for separation of said closure plate from said lever upon removal of said closure plate from said thru opening.

2. An operating-lever console according to claim 1, said cover opening extending longitudinally of said slot and being of a width greater than the maximum thickness of said lever, said cover thereby being rotatable about said lever upon cover removal from said position, said handle extending transversely and of a size less than said cover opening for separation of said cover by passing of said handle through said opening upon rotation of said cover.

3. An operating-lever console according to claim 2, in combination with inwardly facing end shoulders on said cover at opposite ends of said opening, and outwardly facing side shoulders on said cover at opposite sides of said opening, said closure plate being resiliently flexible for removable snap engagement beneath said end shoulders and bearing engagement on said side shoulders.

4. An operating-lever console according to claim 3, in combination with a catch on one end of said closure plate for snap engagement beneath the adjacent end shoulder.

5. An operating-lever console according to claim 4, in combination with longitudinally extending reinforcements on said closure plate adjacent to the other end thereof to reduce flexure adjacent to said other end.

6. An operating-lever console according to claim 5, said reinforcements comprising parallel ribs on the underside of said closure plate, said ribs extending beyond said other plate end for engagement beneath the adjacent end shoulder.

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