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B7E
(71) Applicant
Cinelli SpA
Via Folli 45
20134 Milan
Italy
(72) Inventor
Gianfranco Salvemini
(74) Agents
D Young and Co
10 Staple Inn
London WC1V 7RD

(54) **A device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle**

(57) The device comprises a lower element 2 provided with a tubular portion 3 which is connected to the steering sleeve or tube by a screw-threaded bolt 4, the lower element 2 having an upper element14 hinged thereto by a pin 13 and said elements 2 and 14 receiving between them the handle bar 1 which is clamped by said elements, a screw-threaded member 11 being provided for locking the two elements 2 and 14 together.

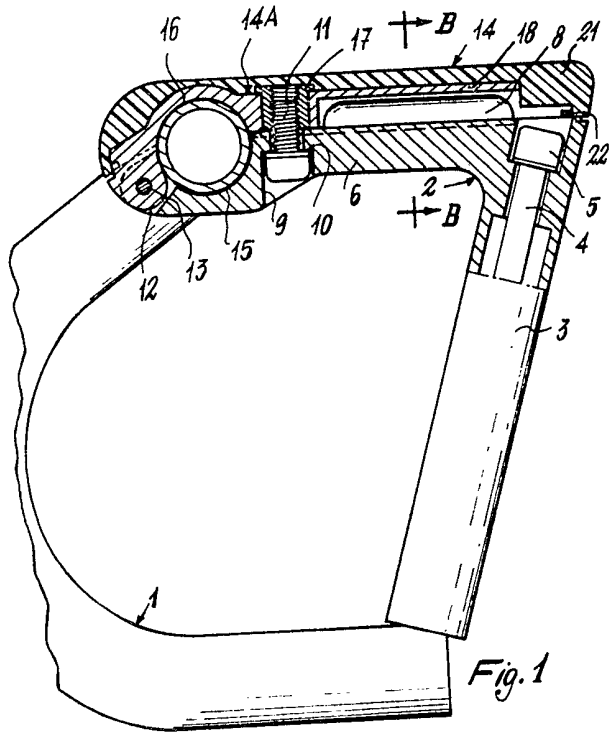

Fig. 1

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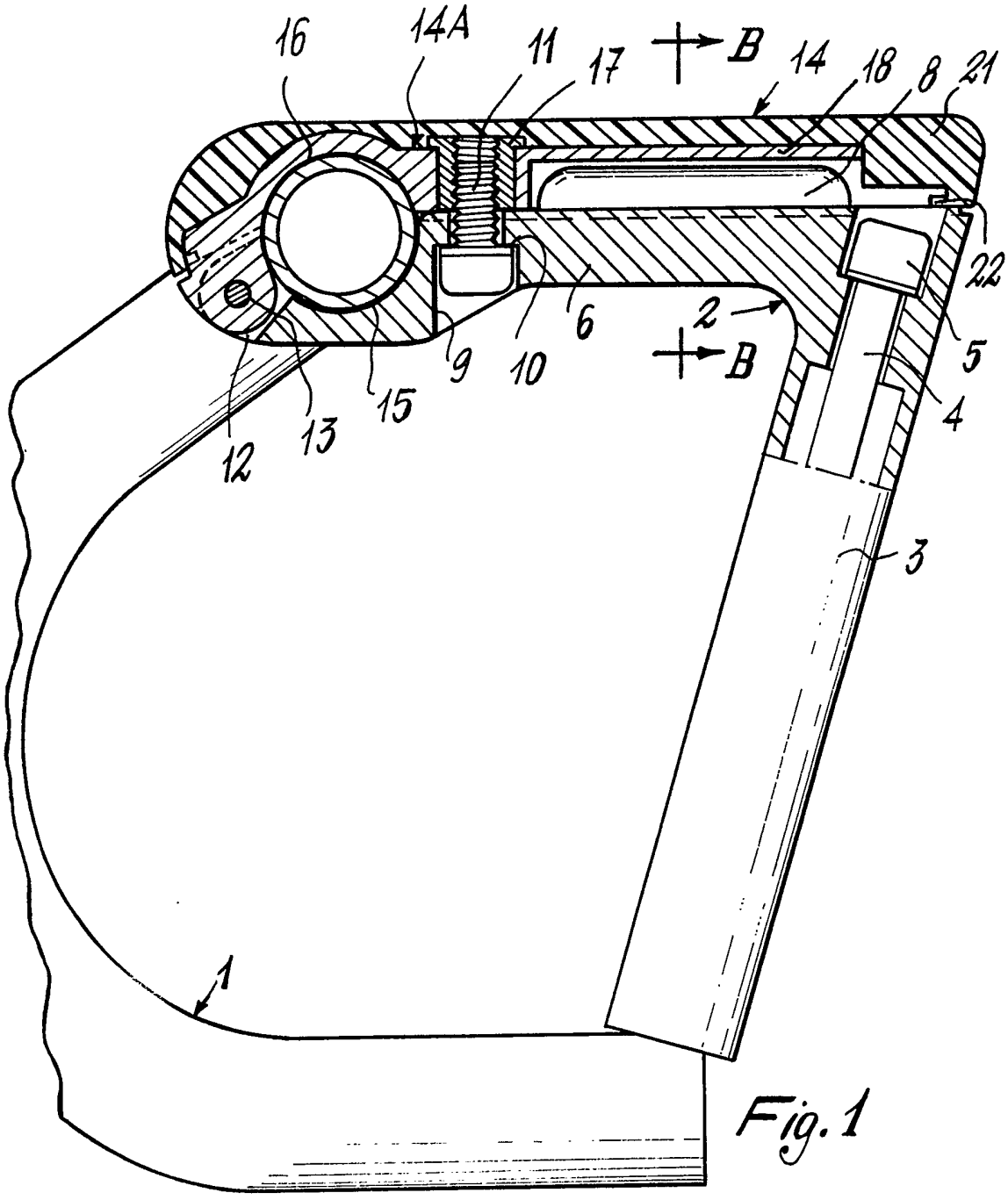

Fig. 1

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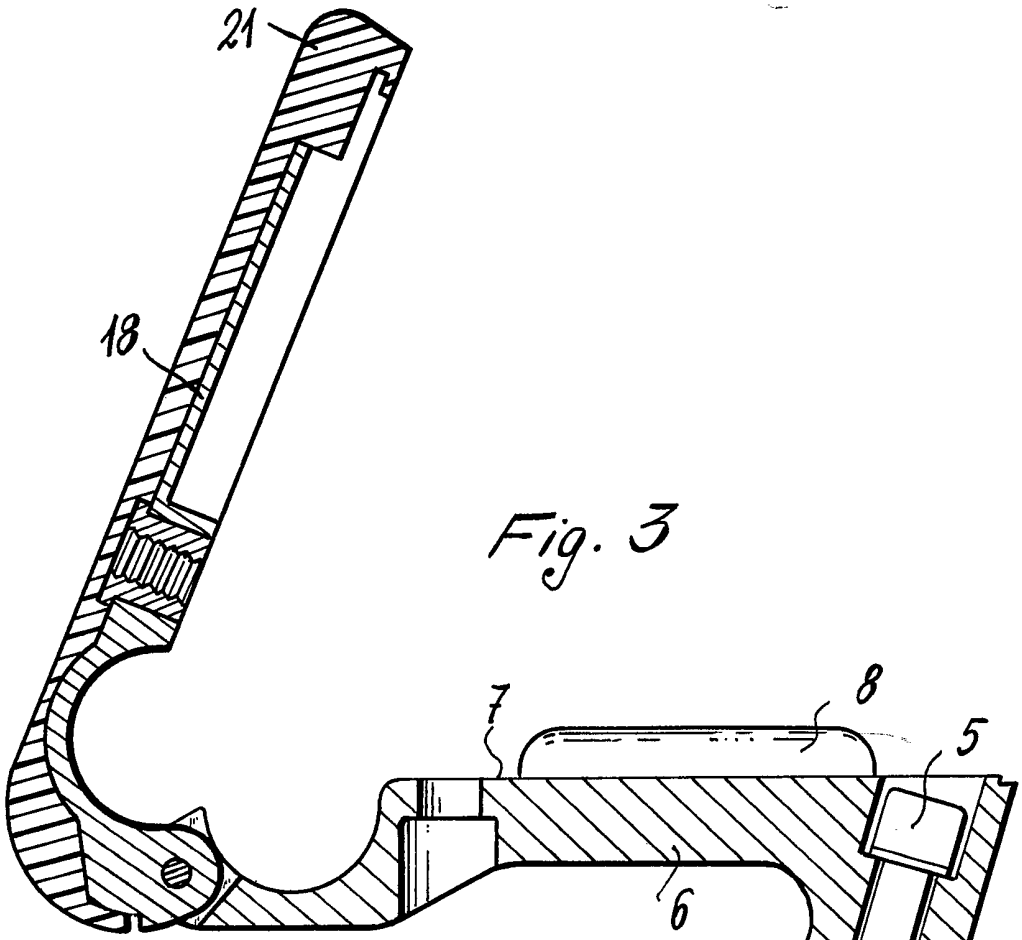

Fig. 3

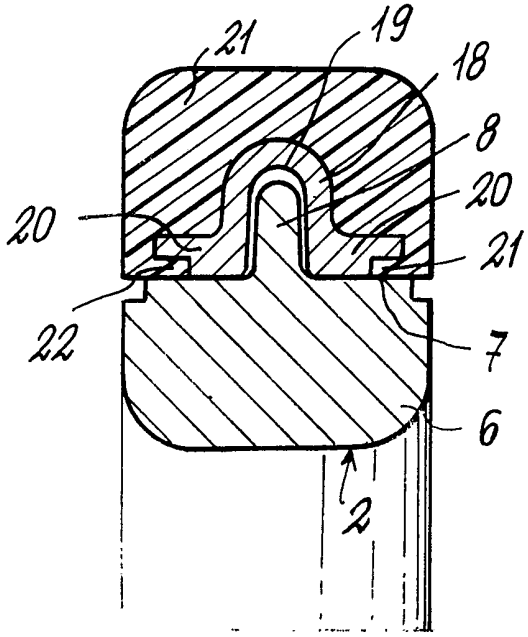

Fig. 2

SPECIFICATION

A device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle

This invention relates to a device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle, such as a bicycle, motor-bicycle and motorcycle.

Various types of devices are known for connecting a handle bar to the steering sleeve or tube of two-wheeled vehicles. Such devices are generally inconvenient, involve a plurality of set screws, are anti-aesthetic, complicated and also dangerous.

According to the present invention there is provided a device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle, comprising two elements which are hinged together and between which a handle bar can be received so as to be clamped by said elements, screw means for locking the two elements together in the clamping position, and one member being provided with a portion which can be connected to a said steering sleeve or tube.

The two interhinged elements comprise an upper element and a lower element, which is connected with or forms a part of the steering sleeve or tube and has a seat for accommodating the set screw, the latter being thereby hidden to sight.

Advantageously, for safety reasons, the upper element of the device may comprise a coating of soft shock absorption plastics material, such as polyurethane, which further confers a particular aesthetic value to the device and acts as a seal avoiding harmful water seepages.

An embodiment of the invention will now be described, by way of an example with reference to the accompanying drawings, in which:–

Figure 1 is a longitudinal sectional view showing a device according to the present invention connected to a curved handle bar for a sporting bicycle;

Figure 2 is a sectional view taken along the line B-B of Fig. 1, and

Figure 3 is a view of the device similar to that of Fig. 1, but with the parts of the device shown in the unlocking or handle-bar release position.

In the example shown, the device is shown as being applied to a handle bar of a sporting bicycle, that is of the type having an arcuate handle bar 1, commonly referred to as "curved". However, this is for exemplary purpose, and the invention is not limited thereto.

The device for connecting the handle bar 1 to the steering sleeve or tube (not shown) of the bicycle comprises a first element, also referred to as a lower element, designated as a whole at 2, preferably made of die-cast forged metal. Said first or lower element 2 has a tubular portion 3 designed for connection to the steering sleeve or tube by a screw tension rod 4 located internally of said tubular portion 3 and the head 5 of the rod 4 abuts against an annular step provided inside the tubular portion 3. In addition to the latter, the first or lower element 2 has a overhanging portion 6 angularly located relative to the tubular portion 3. The overhanging portion 6 has an upper face 7 which is substantially flat except for a longitudinal reinforcing, centering and guiding rib, the latter being designated at 8. This overhanging portion 6 also has a through hole 9 provided with a shoulder 10, on which the head of a clamping screw 11, to be further discussed hereafter, abuts. At its front end said first or lower element 2 has a concave zone 15 and the front end is cnfigurated as a fork. The second element of the device, designated as a whole at 14 and referred to asan upper element, is hinged by a pin 13 between the legs 12 of said fork. In this exemplary embodiment, said upper element 14 compasses a metal portion 14A which has a concavity 16 facing the corresponding concavity 15 of the other element 2, and in the gap or opening resulting from the combination of the two concavities 15 and 16 the handle bar 1 extends and is locked therebetween when tightening the screw 11 in a flanged screw-threaded bush or sleeve 17 mounted on the metal portion 14A of the upper element 14, or alternatively the screw 11 engages in a screw-threaded hole provided in said upper element 14. Beyond said sleeve 17 or threaded hole, this metal portion 14A has a tail portion 18 having a longitudinal groove 19 co-operating with the above mentioned rib 8 of the lower element 2 for the guide of the upper element 14. The tail portion 10 has two side wings 20.

In the example shown, the upper element 14 is completed by a covering or coating 21 made of a soft plastics material, such as polyurethane, having partially embedded therein the above described metal portion 14A which, in order to retain the covering plastics material 21 thereon, peripherally has a depression 22 occupied by the covering plastics material 21, whereby the latter will form an undercut. Moreover, when the two elements 2 and 14 are clamped against each other by means of the screw 11, the plastics material placed within the undercut 22 acts as a seal preventing water and moisture seepages within the device and tubular portion 3.

From the foregoing, the operation of the device will be evident. When the screw 11 is removed and the upper element 14 is fully outwardly rotated about the pin 13 to the position shown in Fig. 3, the handle bar 1, on which the ordinary fittings, such as the brake levers, bell, hand grips, tapings or coatings, etc. may be already mounted, is positioned

with its center portion in the concavity 15 of the lower element 2. Then, the upper element 14 is rotated to the position shown in Fig. 1, in which the assembly is locked by mounting and tightening said screw 11. Of course, disassembling occurs in inverted direction and still without disassembling the fittings of the handle bar 1.

It is of interest to point out that the metal portion 14A of the upper element 14 is of such a design that it can be used with overhanging portions 6 of the lower element 2 which are considerably different from one another. In case of moderate overhanging portions, it will be only needed to mechanically remove a more or less considerable portion of the end of tail 18, which would then be dimensioned so as to correspond to the maximum expected overhanging portion.

The upper element 14 may be totally made of metal or of a mechanically strong plastics material. Also the portion 14A could be made of mechanically strong plastics material.

The screw tension rod 4, 5 may be internally hidden from sight, as shown in the drawings, or its head 5 could be exposed (in this case, the upper element 14 will bored for the passage of the tension rod 4).

CLAIMS

1. A device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle, comprising two elements which are hinged together and between which a handle bar can be recieved so as to be clamped by said elements, screw means for locking the two elements together in the clamping position, and one member being provided with a portion which can be connected to a said steering sleeve or tube.

2. A device as claimed in claim 1, in which the two elements comprise an upper element and a lower element, the latter being provided with a screw-threaded tension rod by which it can be connected with the steering bush or sleeve and having a hole provided with a seat for accommodating the screw means.

3. A device as claimed in claim1 or claim 2, in which the upper element has a portion for use with lower elements of any size.

4. A device as claimed in any one of the preceding claims, in which said upper element has a covering or coating made of a plastics material.

5. A device as claimed in claim 4, in which said covering or coating of plastics material partially encloses the structural portion along at least part of the periphery thereof, thus acting as a seal.

6. A device as claimed in calim 2 or any preceding claim when dependent upon claim 2, in which said screw tension rod is hidden to sight and access thereto can be obtained after rotably opening said upper element.

7. A device as claimed in claim 2 or one of claims 3 to 5 when dependent upon claim 2, in which the head of said screw tension rod is exposed.

8. A device as claimed in any one of the preceding claims, in which said two elements are hinged at the front end.

9. Adevice as claimed in any one of the preceding claims, in which said two elements have interengageable guide portions.

10. A device for connecting a handle bar to the steering sleeve or tube of a handle bar steered vehicle, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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