DEVICE FOR CHANGING THE GEAR OF A BICYCLE

Field

The present disclosure relates to a bicycle component, in particular a device for changing the gear of a bicycle.

Background

Cyclists change gears during use of bicycle to enable an editable ride experience. This allows the user to tailor the gear of the bicycle to the terrain on which the user is travelling. It is important for a gear changing system to deliver a change of gear when expected by a user. Bicycles are used in all weather conditions and lighting conditions on busy and quiet roads. It is important for a gear changing system to provide a reliable gear change when operated by a user.

Summary of the Invention

According to a first aspect of the present invention, there is provided a device for changing a gear of a bicycle, the device comprising: a casing; a lever moveable relative to the casing for actuating a gear change of a bicycle; and a rail arranged on the casing: wherein the rail extends between a first end and a second end, wherein the lever is configured to move along a length direction of the rail, which extends between the first end and the second end of the rail, for actuating the gear change of the bicycle, the rail extends about a width direction, and projects from the casing about a height direction, the casing comprises a flange located at the second end of the rail, wherein the flange is configured for inhibiting the lever to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail; the flange at least partially spans a width of the rail; and wherein the flange projects beyond a width of the rail by at least 1mm.

According to a second aspect of the present invention, there is provided a device for changing a gear of a bicycle, the device comprising: a casing; a lever moveable relative to the casing for actuating a gear change of a bicycle; and a rail arranged on the casing: wherein the rail extends between a first end and a second end, wherein the lever is configured to move along a length direction of the rail, which extends between the first end and the second end of the rail, for actuating the gear change of the bicycle, wherein the rail extends about a width direction, and wherein the rail projects from the casing about a height direction, wherein the casing comprises a flange located at the second end of the rail, wherein the flange is configured for inhibiting the lever to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail, and wherein the flange: at least partially spans, and projects beyond, a

first side of the rail, at least partially spans, and projects beyond, a second side of the rail, wherein the second side is opposite the first side; and projects beyond each side of the rail by at least 2 mm.

According to a third aspect of the present invention, there is provided a handlebar for a bicycle comprising the device as defined in the first aspect.

According to a fourth aspect of the present invention, there is provided a bicycle comprising the device as defined in the first aspect.

There is disclosed a method for controlling the movement of a lever, from a device for changing the gear of a bicycle, wherein the method comprises: moving the lever along a length direction of a rail from the device, wherein the length direction extends between a first end and a second end of the rail, and wherein the rail projects from a portion of the device about a height direction; and inhibiting the lever, to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail, using a flange located at the second end of the rail, wherein the flange at least partially spans a width of the rail.

There is disclosed a method for controlling the movement of a lever, from a device for changing the gear of a bicycle, wherein the method comprises: moving the lever along a length direction of a rail from the device, wherein the length direction extends between a first end and a second end of the rail, and wherein the rail projects from a portion of the device about a height direction; inhibiting the lever, to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail, using a flange located at the second end of the rail, wherein the flange: at least partially spans, and projects beyond, a first side of the rail; at least partially spans, and projects beyond, a second side of the rail, wherein the second side is opposite the first side; and projects beyond each side of the rail by at least 2 mm.

It will be appreciated that features and aspects of the claimed invention described above in relation to the various aspects of the claimed invention are equally applicable to, and may be combined with, embodiments of the claimed invention according to other aspects of the claimed invention as appropriate, and not just in the specific combinations described herein.

Brief Description of the Drawings

Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 shows a front-on view of a device for changing the gear of a bicycle;

CLAIMS

1. A device for changing a gear of a bicycle, the device comprising:

a casing;

a lever moveable relative to the casing for actuating a gear change of a bicycle; and

a rail arranged on the casing:

wherein the rail extends between a first end and a second end,

wherein the lever is configured to move along a length direction of the rail, which extends between the first end and the second end of the rail, for actuating the gear change of the bicycle,

the rail extends about a width direction, and projects from the casing about a height direction,

the casing comprises a flange located at the second end of the rail, wherein the flange is configured for inhibiting the lever to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail;

the flange at least partially spans a width of the rail; and

wherein the flange projects beyond a width of the rail by at least 1mm.

2. The device according to claim 1, wherein the flange completely spans a width of the rail.

3. The device according to claim 1, wherein the flange at least partially spans a height of the rail.

4. The device according to claim 1, wherein the flange completely spans the height of the rail.

5. The device according to claim 1, wherein the flange projects beyond a height of the rail.

6. The device according to claim 1, wherein the flange:

at least partially spans, and projects beyond, a first side of the rail; and

at least partially spans, and projects beyond, a second side of the rail, wherein the second side is opposite the first side.

7. The device according to claim 1, wherein the flange projects from the width of the rail by at least 1 mm and no more than 10 mm.

8. The device according to claim 1, wherein the flange projects from each side of the rail by at least 2 mm.

9. A device for changing a gear of a bicycle, the device comprising:

a casing;

a lever moveable relative to the casing for actuating a gear change of a bicycle; and a rail arranged on the casing; wherein the rail extends between a first end and a second end,

wherein the lever is configured to move along a length direction of the rail, which extends between the first end and the second end of the rail, for actuating the gear change of the bicycle,

wherein the rail extends about a width direction, and wherein the rail projects from the casing about a height direction,

wherein the casing comprises a flange located at the second end of the rail,

wherein the flange is configured for inhibiting the lever to continue moving beyond the second end of the rail in a direction which extends away from both the first end and the second end of the rail,

and wherein the flange:

at least partially spans, and projects beyond, a first side of the rail,

at least partially spans, and projects beyond, a second side of the rail, wherein the second side is opposite the first side; and

projects beyond each side of the rail by at least 2 mm.

10. The device according to claim 9, wherein the flange at least partially spans a width of the rail.

11. The device according to claim 9, wherein the lever is further configured to rotate about the casing for actuating the gear change of a bicycle.

12. The device according to claim 11, wherein the flange is configured to prevent the lever from rotating about the casing by an angle of more than 180 degrees.

13. The device according to claim 12, wherein the flange is configured to prevent the lever from rotating about the casing by an angle of more than 120 degrees.

14. The device according to claim 9, wherein the lever is configured to move, along the rail, between a first circumferential position about the casing and a second circumferential position about the casing.

15. The device according to claim 1, wherein the casing comprises:
a first casing portion; and
a second casing portion configured to releasably engage with the first casing portion;
wherein the rail projects from the first casing portion and the second casing portion.

16. The device according to claim 15, wherein the first casing portion comprises a first casing half, and wherein the second casing portion comprises a second casing half.

17. The device according to claim 15, wherein the lever at least partially covers the first casing portion and the second casing portion.

18. The device according to claim 9, wherein the device is configured to be attached to a handlebar portion of the bicycle.

19. A handlebar for a bicycle comprising the device of claim 1.

20. A bicycle comprising the device according to claim 1.