

Claims

1. Progressive suspension device (100) for the rear wheel (15) of a motorcycle comprising:

- at least one fork (2) comprising at least a first end (21) pivoted to the frame of a motorcycle and/or to the casing of an engine and a second end (22) adapted to support the rotation axis of the rear wheel (15) of the motorcycle;

- said first (21) and second (22) ends of the fork (2) defining a fork longitudinal axis (X-X);

- at least one spring-damper assembly (3) comprising a head end (4) pivoted to the said fork (2) and a foot end (5);

- at least one rocker lever (9) comprising a lower end (6) pivoted to the foot end (5) of the said spring-damper assembly (3) and an upper end (7) pivoted to the fork (2);

characterized in that said head end (4) of the said spring-damper assembly (3) is pivoted to the said fork (2) below the said fork longitudinal axis (X-X).

2. Progressive suspension device (100) for the rear wheel (15) of a motorcycle according to claim 1, characterized by comprising at least one connecting rod (8) comprising a front end (10) pivoted to the frame (14) of the motorcycle and a rear end (12) pivoted to a middle end (11) of the said rocker lever (9).

3. Progressive suspension device (100) for the rear wheel of a motorcycle according to claim 1 or 2, characterized in that said head end (4) of the spring-damper assembly (3) is pivoted to the said fork (2) at a front position with respect to the vertical passing through the pivoting point of the said first end (21) of the fork (2) to the frame (14).

4. Progressive suspension device (100) for the rear wheel of a motorcycle according to any one of claims 2 to 3, characterized in that said upper end (7) of the rocker lever (9) and said lower end (6) of the rocker lever (9) define a

rocker axis (Z-Z) adapted to form an angle α with respect to the vertical (Y'-Y') passing through the pivoting point of the upper end (7) of the rocker lever (9).

5. Progressive suspension device (100) for the rear wheel of a motorcycle according to claim 4, characterized in that said angle (α) is comprised in the range between $+45^\circ$ and -45° with respect to the vertical (Y'-Y').

6. Progressive suspension device for the rear wheel of a motorcycle according to any one of the claims 2 to 5, characterized in that said middle end (11) of the said rocker lever (9) is pivoted to the rear end of the said connecting rod (8) in a rear position with respect to the rocker axis (Z-Z).

7. Progressive suspension device for the rear wheel of a motorcycle according to any one of claims 2 to 6, characterized in that the said upper end (7) of the rocker lever (9) and said lower end (6) of the rocker lever (9) define a distance D1 and in that the said upper end (7) of the rocker lever (9) and the middle end (11) of the rocker lever (9) define a second distance D2, the ratio D2/D1 being comprised in the range between 0,1 and 0,9, extremes included.

8. Progressive suspension device (100) for the rear wheel of a motorcycle according to any one of the previous claims, characterized in that said upper end (7) of the rocker lever (9) is pivoted to the said fork (2) below said fork longitudinal axis (X-X).

9. Progressive suspension device (100) for the rear wheel of a motorcycle according to any one of the previous claims, characterized in that said spring-damper assembly (3) is arranged along an axis (W-W) adapted to form an angle β with the said fork longitudinal axis (X-X).

10. Progressive suspension device for the rear wheel of a motorcycle according to claim 9, characterized in that said angle β is comprised in the range between 0° and 90° , extremes included.