No. 729,418. PATENTED MAY 26, 1903.

J. ROBERTSON.

HANDLE BAR.

APPLICATION FILED JUNE 30, 1902.

NO MODEL.

FIG. 1.

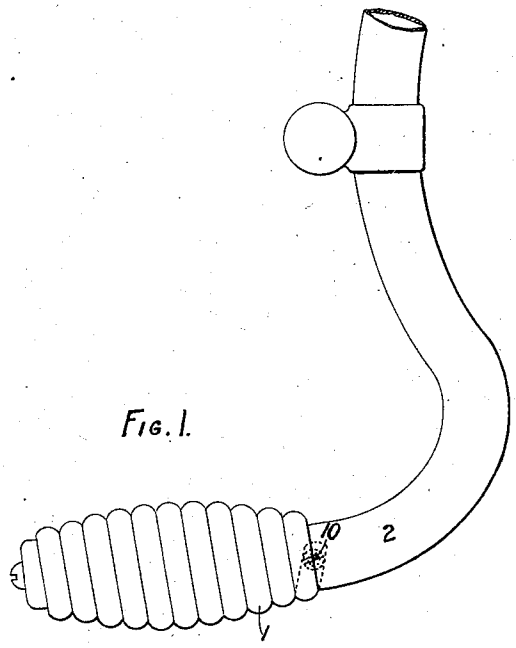


FIG. 2.

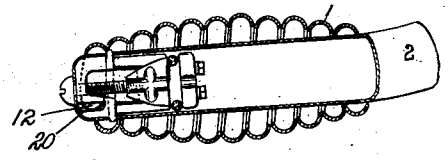


FIG. 4.

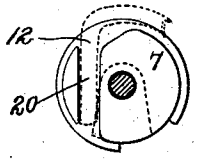


FIG. 3.

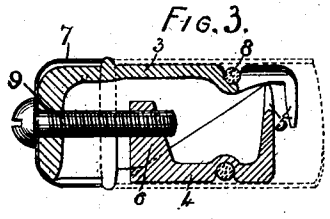


FIG. 5.

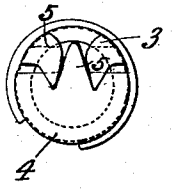
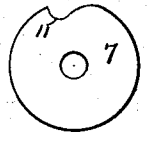


FIG. 6.



WITNESSES

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No. 729,418. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

JAMES ROBERTSON, OF GLASGOW, SCOTLAND.

HANDLE-BAR.

SPECIFICATION forming part of Letters Patent No. 729,418, dated May 26, 1903.

Application filed June 30, 1902. Serial No. 113,815. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROBERTSON, die-sinker, a subject of the King of Great Britain and Ireland, and a resident of Glasgow, Scotland, have invented new and useful improved devices applicable for taking up shock in the handle-bars of cycles and motor-vehicles and to hand-barrow handles, hammer-handles, and the like, (for which an application for a patent has been filed in Great Britain, No. 25,832, dated the 18th of December, 1901,) of which the following is a specification.

The object of my invention is to provide handle-bars of cycles, &c., with such means for taking up shock as will be comfortable to and not liable to injure the user's hands.

The improvement consists in fitting over the ends of the handle-bar or handle a spiral or helical spring formed of a metal ribbon or strip of a concavo-convex cross-section, with the convex face outward, and in securing the end coils of the grip by fastenings to the bar or handle, while the intermediate coils are out of contact with the internal bar.

In the accompanying drawings, Figure 1 illustrates the application of my invention to the handle-bar of a cycle. Fig. 2 is a longitudinal section corresponding to Fig. 1. Fig. 3 is a sectional view, to an enlarged scale, illustrating devices by which the spiral coil can be secured to the end of the handle. Figs. 4 and 5 are views looking at opposite ends of the devices shown in Fig. 3, and Fig. 6 is an end view of the securing-cap.

The spring-strips 1 are coiled spirally, and the central coils are larger in diameter than those toward both ends, so that these central coils shall be out of contact with the central bar 2 when the coiled grip is applied to the latter. Each coil may be made in one piece or in several sectional spiral lengths suitably joined together at their ends. The springs may be made of steel, bronze, aluminium, alloy, or of other suitable metal or alloy.

I make the coils of embossed strips of spring metal—that is, of concavo-convex cross-section, with the convex face outward, as shown in Fig. 2. The reason for thus constructing the spiral coil is to prevent possibility of the skin or flesh of the user's palm being caught between and cut by adjacent coils, and the concavo-convexity must be sufficient to accomplish this purpose. The degree shown in the drawings has been found satisfactory.

The embossed coiled spring-grip may be secured to the bar 2 in any suitable manner; but in Figs. 3 to 6 I have shown one preferred manner of accomplishing this purpose. Two wedges 3 and 4, forming a tubular piece of approximately the diameter of the inside of the handle-bar 2, are held together by a rubber band 8 and inserted within the handle. The wedge 3 has a central opening at its outer end and also a slit 20 across its face, (see Fig. 4,) while the part 4 has a cross-head 6 extending up into the hollow under side of the part 3. A retaining-cap 7 is placed on the whole and has a central opening, Fig. 6. The end 12 of the grip is bent into the position shown by dotted lines in Fig. 4, passing through a side opening 11 in the cap, Fig. 6, and lying within the slit 20 of the part 3. Upon inserting the screw 9 and rotating it the two wedge-pieces 3 and 4 will be moved so as to grasp the inside of the bar strongly by expansion. At the same time the grip will be prevented from moving by its downturned end 12 lying within the slit 11. If desired, the other end of the wire of the grip may be fastened to the bar, as shown at 10, Fig. 1, by a screw; but in all cases the intermediate coils of the grip are out of contact with the bar 2.

I claim as my invention—

1. A handle for bicycles and the like, consisting of a bar having wound spirally around it a spring-strip of concavo-convex cross-section, with the convex face outward, the ends of the spiral spring being secured to the bar, but the intermediate coils being out of contact with the bar, substantially as described.

2. A spring-grip for a hollow handle, comprising a spiral spring-strip of concavo-convex section with the convex face outward, a wedge device within the hollow handle, and a cap having a slot, and the wedge device having a slit in its outer face, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES ROBERTSON.

Witnesses:

J. SIME,

WM. RUTHERFORDS.