(No Model.)

W. J. GROTENHUIS & H. T. SIDWAY.

VELOCIPEDE.

No. 606,541. Patented June 28, 1898.

Fig. 1.

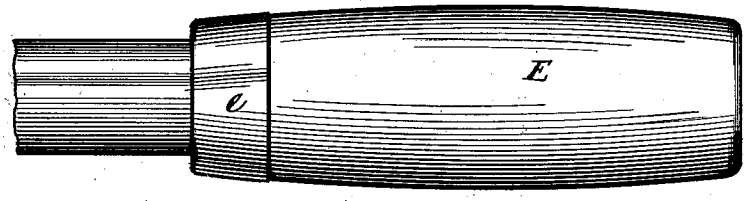


Fig. 2

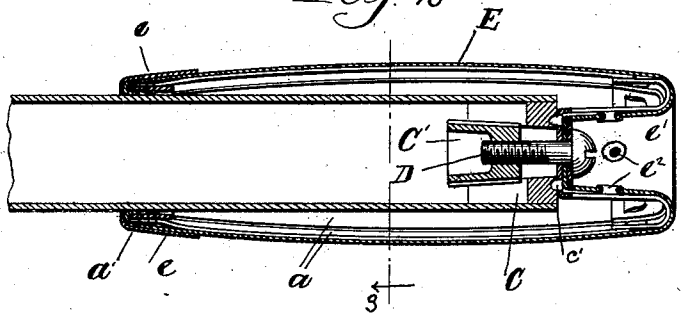


Fig. 3.

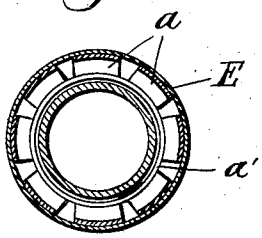


Fig. 4.

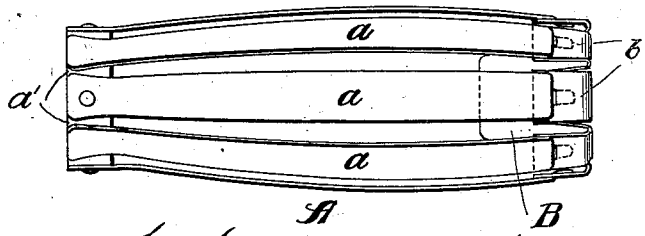


Fig. 5

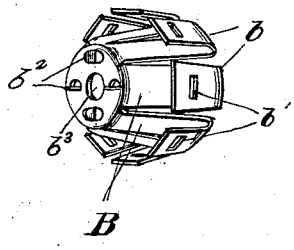
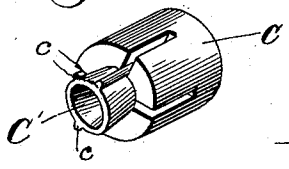


Fig. 6.



Fig. 7.



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VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 606,541, dated June 28, 1898.

Application filed April 13, 1897. Serial No. 631,898. (No model.) Patented in England April 27, 1897, No. 10,471, and in France April 27, 1897, No. 266,381.

To all whom it may concern:

Be it known that we, WILLIAM J. GROTENHUIS and HENRY T. SIDWAY, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Handles for Velocipedes, of which the following is a specification, and on which Letters Patent have been granted in England, dated April 27, 1897, No. 10,471, and in France, dated April 27, 1897, No. 266,381.

Our invention relates particularly to the handle portion of bicycles, tricycles, and similar vehicles, and especially to that class of handles known as "flexible" or "yielding" handles, and has for its object the providing of a simple, economical, and efficient handle.

The invention consists principally in the combination of an elastic metallic core adapted to be secured to the handle-bar of velocipedes and a fibrous flexible covering for inclosing the same.

The invention consists, further, in the combination of an elastic metallic core formed of a series of elastic metal strips independently and longitudinally arranged, a fibrous flexible casing for inclosing the same, and means for securing the handle portion at one end thereof to the handle-bar.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an elevation of a handle constructed in accordance with our improvements; Fig. 2, a longitudinal sectional elevation of the same; Fig. 3, a cross-sectional view taken on line 3 of Fig. 2, looking in the direction of the arrow; Fig. 4, a side elevation of the elastic metallic core portion; Fig. 5, a perspective view of the cup-shaped end portion; Fig. 6, a perspective view of the end of one of the elastic metallic strips, showing the means by which it is detachably and removably secured to the cup-shaped end portion; and Fig. 7, a perspective view of the means by which the handle portion is secured to the handle-bar.

In the art to which this invention relates it is well known that a rider of a bicycle, tricycle, or similar vehicle in taking long rides, or even during short rides, over rough roads experiences a feeling of numbness or "cramp" in the hands due to the constant succession of small shocks that are transmitted to the hands during the vibrations of the handle-bar. It is also well known that during riding the hands of the rider perspire quite freely, which causes excessive friction between the hands and the handle-bar, to the discomfort and annoyance of the rider. Our invention, therefore, is designed principally to overcome these objections by providing a structure such as will be more fully hereinafter set forth.

In constructing a handle-bar in accordance with our improvements we provide an elastic core A, formed of a series of independent elastic strips *a*, longitudinally arranged and secured at one end to a securing-ring *a'* by means of rivets or otherwise. It will be noticed that these strips, as suggested, are independent strips—that is, they are flexibly secured together, so that each and every strip may have an independent lateral movement, adapting them to yield to hand-pressure and vibrations, and thus soften the shock to the hand. To flexibly secure these strips together at their opposite free ends and to the handle-bar, we provide a cup-shaped portion B, having a plurality of strips *b*, forming in one integral portion and which are preferably, when considering the base, S-shaped in longitudinal view. The end of each of these strips of the cup-shaped portion is provided with a notch, slot, perforation, or opening *b'*, into which the bayonet-shaped projections a^2 of the longitudinal strips of the core may be inserted, as shown particularly in Fig. 4, and which locks such strips to the cup-shaped end portion and acts to flexibly secure them together. The provision of this cup-shaped end portion, as shown in the sectional view of Fig. 2, gives an additional yielding motion to each of the free ends of the longitudinal strips and makes them better suited to obtain the results desired.

In securing the cup-shaped end portion to the handle-bar a slotted cylindrical securing-block C is provided, having a central conical wedge-shaped piece C', provided with several lugs *c*, adapted to enter one or more of the

slots in the securing-block, which prevents the rotation of such securing-block. The securing-block is also provided with a number of indentations c', into which projections b^2 of the cup-shaped piece may be inserted to prevent such parts from having independent rotations. The conical wedge is provided with a threaded opening, into which a securing-screw D may be inserted, as shown in Fig. 2, so that by passing such screw through the opening b^3 of the cup-shaped portion and into the threaded opening of the conical wedge the tightening of such screw causes it to secure such parts together and to the handle-bar.

To protect the hands, keep them cool, and present a finished appearance to the handles, a covering E is provided, formed, preferably, of fibrous or similar material, such as leather or cloth, and is secured to the strips at one end by means of a ferrule e and is passed around into the cup-shaped end portion, as shown at e' in Fig. 2, where it is held in position by means of the securing-screw. It is further provided with a series of openings e^2 in the cup-shaped portion, where by the compression and expansion of the handle during the riding of the vehicle it acts in the manner of a bellows to exhaust and draw in a fresh supply of air, thus serving to keep the hands cool and prevent in a large measure the usual perspiration.

The advantages of our improvements are, first, that a flexible handle is provided for absorbing the small shocks and vibrations incident to riding, while at the same time it furnishes sufficient rigidity for imparting power to the handle-bar; second, the shape of the end of the handle permits the rider to take hold of that portion in the hollow of his hands and at the same time provides a cushion to receive shocks and prevent injury to the handle-bar during the falling of the wheel, and, third, in a large measure prevents heating of the hands and consequent perspiration.

We claim—

1. In a handle-bar for velocipedes, the combination of an elastic core formed of a series of metallic strips longitudinally arranged, a ring for rigidly securing the ends of one portion of the longitudinal strips together, a cup-shaped disk flexibly securing the other ends of the metallic strips together, an expanding cylindrical block adapted to be inserted into the handle-bar and provided with one or more indentations, projections on the cup-shaped disk adapted to enter the indentations on the block, and means for securing the cup-shaped disk to the block to expand the same and hold the parts in operative position, substantially as described.

2. In a handle for velocipedes, the combination of an elastic core formed of a series of metal strips longitudinally arranged and secured rigidly together at one end by means of a securing-ring and provided with bayonet-shaped free ends, a cup-shaped end portion having a series of strips formed integrally with a base portion—the free ends of such strips having indentations perforations or openings adapted to receive the bayonet-shaped ends of the metallic strips and flexibly secure the parts together, substantially as described.

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