(No Model.)

T. B. JEFFERY.

VELOCIPEDE.

No. 366,218. Patented July 12, 1887.

Fig. 1.

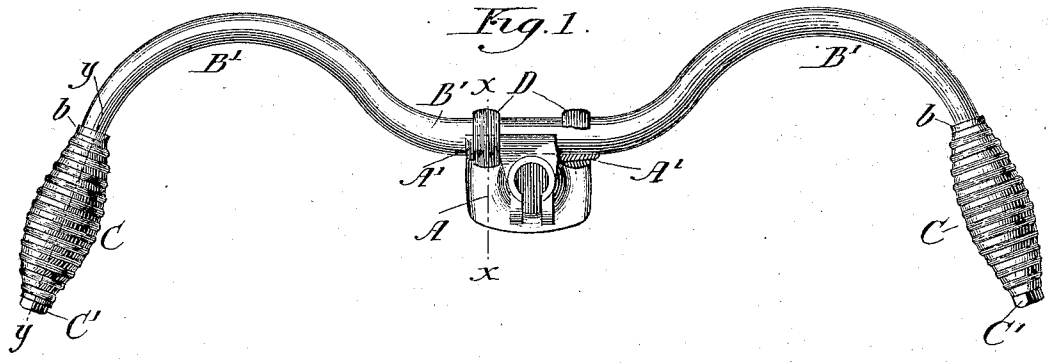


Fig. 2.

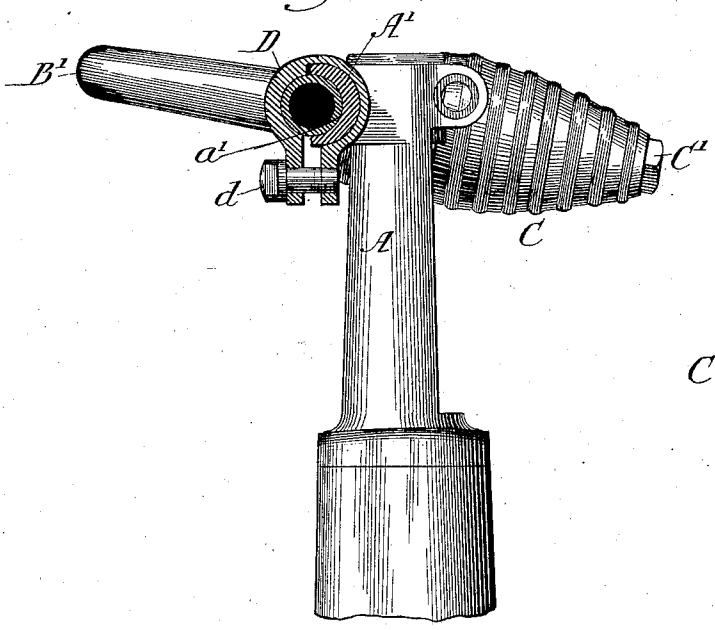
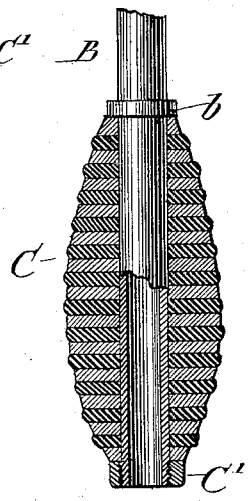


Fig. 3.



Inventor:

Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS B. JEFFERY, OF CHICAGO, ILLINOIS.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 366,218, dated July 12, 1887.

Application filed October 14, 1886. Serial No. 216,243. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. JEFFERY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Velocipedes, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof, wherein—

Figure 1 is a plan of the head and handle-bars. Fig. 2 is a vertical section at X X, Fig. 1. Fig. 3 is an axial section of the handle, as at Y Y, Fig 1.

A is the head. A′ A′ are cross-arms or lateral lugs thereon at the upper end.

B is the handle-bar.

C C are the handles.

D D are clamps, which secure the handle-bar to the head.

d d are bolts, which effect the clamping described.

The handle-bar is preferably tubular, as shown in cross-section in Fig. 2. It has been usual to form velocipede handle-bars with a bow upward on each side of the head, in order to allow space for the limbs of the rider to move in operating the pedals; but this form necessitates an additional bend in order to bring the end of the handle-bars in proper position for the handles. Inasmuch as the limbs of the rider are inclined from the seat downward and forward, the space for their proper movement can be obtained by bowing the handle-bars forward, in substantially a horizontal plane, as well as by bowing them upward, and when thus bowed the ends extended tangentially from the end of the curve are in proper position for the handles, thus obviating the necessity for an additional bend. I therefore adopt this form, the bows B′ B′ being in substantially a horizontal plane instead of a vertical, as heretofore. This form also enables me easily to bring the handles in position at the side of the rider, where they may be grasped while holding the arms in an easier and less fatiguing position than is required when the handles are much in front. If the bows are made in a plane slightly inclined from horizontal, as in the drawings, the bar may be slightly curved upward at the handles to bring them more nearly horizontal.

The handle-bar is made of one piece throughout, and on account of its curves could not well be connected to the head by being inserted through it from the side, but must be applied to it from the front or rear. I form the head with the lateral arms or lugs A′ A′ projecting from the upper part and provided on the front side with a semi-cylindrical hollow, *a′*, extending horizontally across the head through the entire length of both the lugs A′ A′, and into this hollow or groove the handle-bar is placed, and secured by the loops or clamps D D, which are first slipped onto the handle-bars, and then, after it is placed in position in the groove *a′* are passed over the lugs A′ A′, respectively, and tightened by the clamping-bolts *d d*, which connect the lower end of each loop. In order to give the lugs A′ A′ the necessary strength in the direction in which the pressure applied to the handle-bar in guiding the machine acts upon them without giving them any greater weight than is unavoidable, I form them thickest in the horizontal plane of the diameter of the handle-bar, and, for convenience in finishing I make their exterior outline semicircular, but eccentric to the cavity in which the handle bar fits, thereby gaining the increased thickness at the desired point.

The necessity of the loops encircling both the lugs A′ and the handle-bar, and for the bolts being on the lower side of the loops, arises from the fact that any projection from the cross arm or lugs A′ on the upper side—such as would be necessary in order to secure a clamp otherwise than by making it encircle the bars and lugs, as shown, or the projecting ends of the loop, if bolted together above the bar—would frequently be in the way of the rider and cause annoyance.

The handles C C are made of alternate sections of yielding and unyielding material, preferably disks, arranged alternately on a spindle, the end of the handle serving the purpose of such spindle, and compressed axially, as by a nut, *c′*, on the end of the handle-bar, a shoulder, *b*, being formed on the bar to afford a stop for the other end of the handle. I prefer cork or soft rubber, or a like compressible and elastic substance, for one of the materials, and vulcanized fiber, hard rubber, or metal

for the other; and I prefer to cause the softer disk to project slightly beyond the harder by applying sufficient pressure axially, as by screwing up the nut c', to cause the softer disk to bulge equatorially, as shown in the drawings. I do not, however, limit myself to this mode of causing them to protrude, but they may be originally made slightly greater in diameter. The sections of hard and soft material may alternate circumferentially instead of axially, being thus sectoral in form, the dividing-planes being axial, and, if preferred, the outer portion only may be formed as described, the central part and greater portion of the bulk being homogeneous. Thus a handle may be made of cork or like soft material, and a strip of metal wound upon it and sunken in it, throwing up the ridges of cork between the coils of the encircling metal band. The advantage of this form of the handle is that it affords the hand firmer grasp than a smooth handle, or than an entirely incompressible handle, as one made solely of metal or having a metal surface, and by reason of the furrows between the soft sections there is opportunity for slight but sufficient ventilation, which prevents the prespiration from the hand accumulating and rendering the grasp of the hand insecure and uncomfortable; also, the materials proposed for the compressible disk are poorer conductors of heat than metal or most harder substances, and, since the hand comes into contact with these and not with the hard or metallic disks, the hands are less liable to become cold from grasping the handles in cold weather.

A special purpose and advantage of this invention is to render possible the use of cork as a handle. Cork alone has not sufficient strength for a handle, and even when provided with a metal spindle it would crush and tear if exposed over large surfaces unprotected; but it has very many properties which make it desirable, being yielding, a non-absorbent of moisture, a non-conductor, or very poor conductor of both heat and electricity, and not unpleasant to the touch nor liable to become too smooth or polished with use to afford a secure grasp to the hand. In order, therefore, to take advantage of these desirable properties and provide the lacking quality of strength, I make the combination described with the hard substance, so that only small sections of the cork are exposed, and each section protected by adjacent sections of hard material.

I claim—

1. In combination with the head, the handle-bar secured thereto, and having the arms extended thence first forward and outward and then rearward, whereby they are made concave toward the seat and provided with handles at the ends, substantially as set forth.

2. In combination with the head, the handle-bar secured thereto, and having the arms bowed forward on each side in an approximately horizontal plane, and thence extending back approximately parallel and terminating rearward of the transverse vertical plane of the head, substantially as set forth.

3. A velocipede-handle composed of sections of yielding and unyielding material, the yielding sections being slightly greater in diameter than the unyielding sections, whereby their peripheries form the surface in contact with the hand of the operator, substantially as set forth.

4. A velocipede-handle composed of disks of yielding and unyielding material, alternately arranged on an axial stem and axially compressed to cause the yielding disks to bulge beyond the unyielding disks, substantially as set forth.

5. The velocipede-head provided with cross-arms or lugs A', exteriorly circular, having a hollow in front to receive the handle-bar and thickened at the rear, substantially as set forth.

6. The velocipede-head having cross arms or lugs A', provided with a semi-cylindrical hollow in front to receive a round handle-bar, and having their rear surfaces curved eccentrically to the said front hollow, substantially as set forth.

7. In combination with the head having the cross arm or lug A', hollowed in front, the handle-bar located in such hollow, and the clamping-loop encircling both the handle-bar and the cross-arm, and having its ends connected, as by the clamp bolt, on the under side of the handle-bar, substantially as set forth.

8. A handle the outer or superficial portion of which is composed of sections of cork, alternating with and compressed between sections of hard material, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

THOS. B. JEFFERY.

Witnesses:
R. PHILIP GORMULLY,
CHAS. S. BURTON.