(No Model.)

R. T. TORKELSON.

VELOCIPEDE.

No. 379,258. Patented Mar. 13, 1888.

Fig. 1.

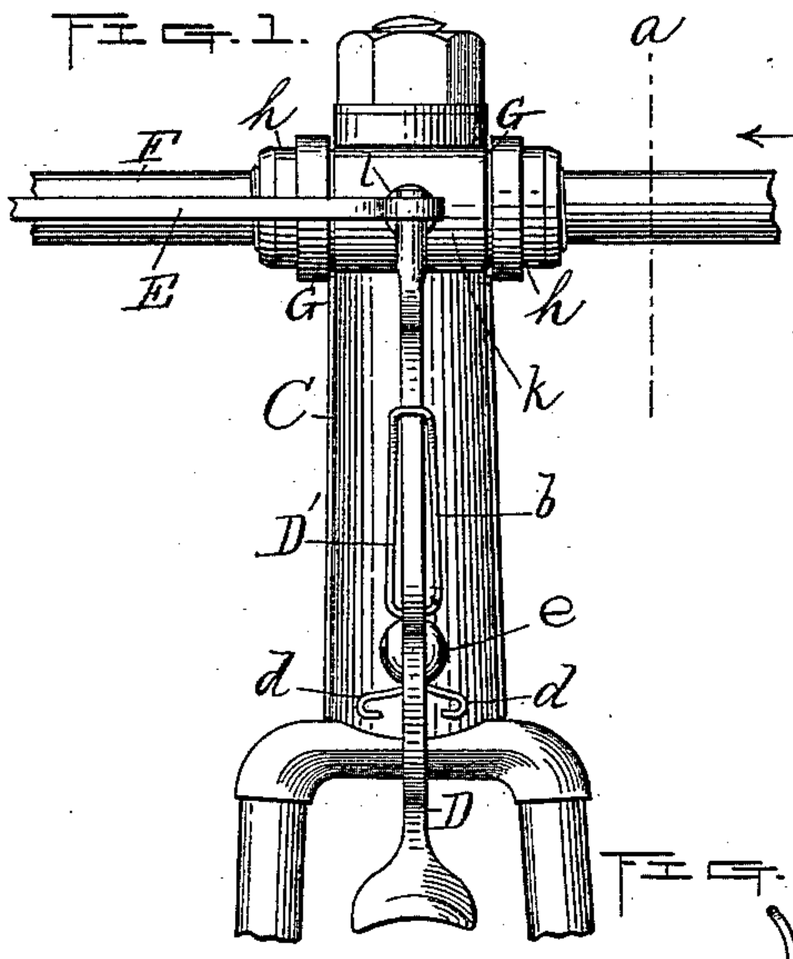


Fig. 2.

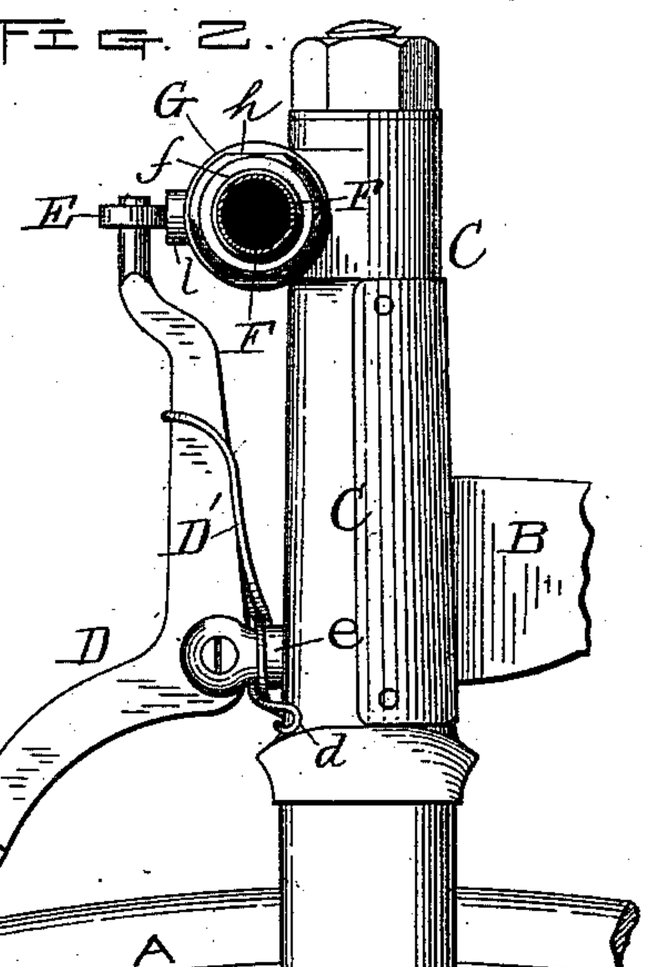


Fig. 5.

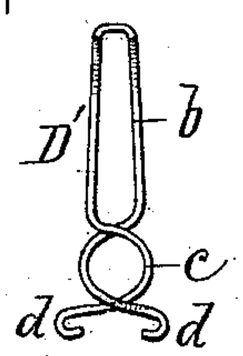


Fig. 6.

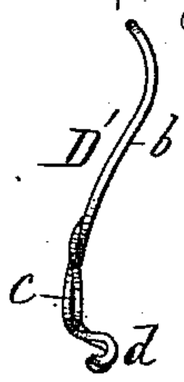


Fig. 3.

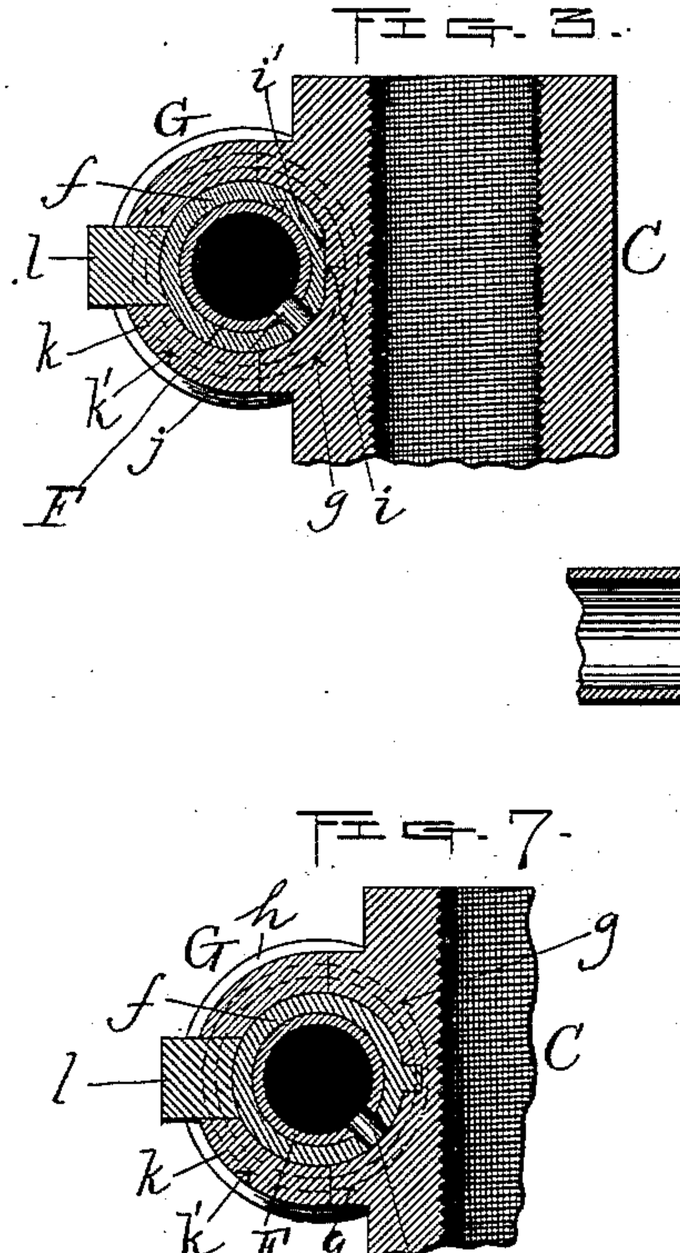


Fig. 4.

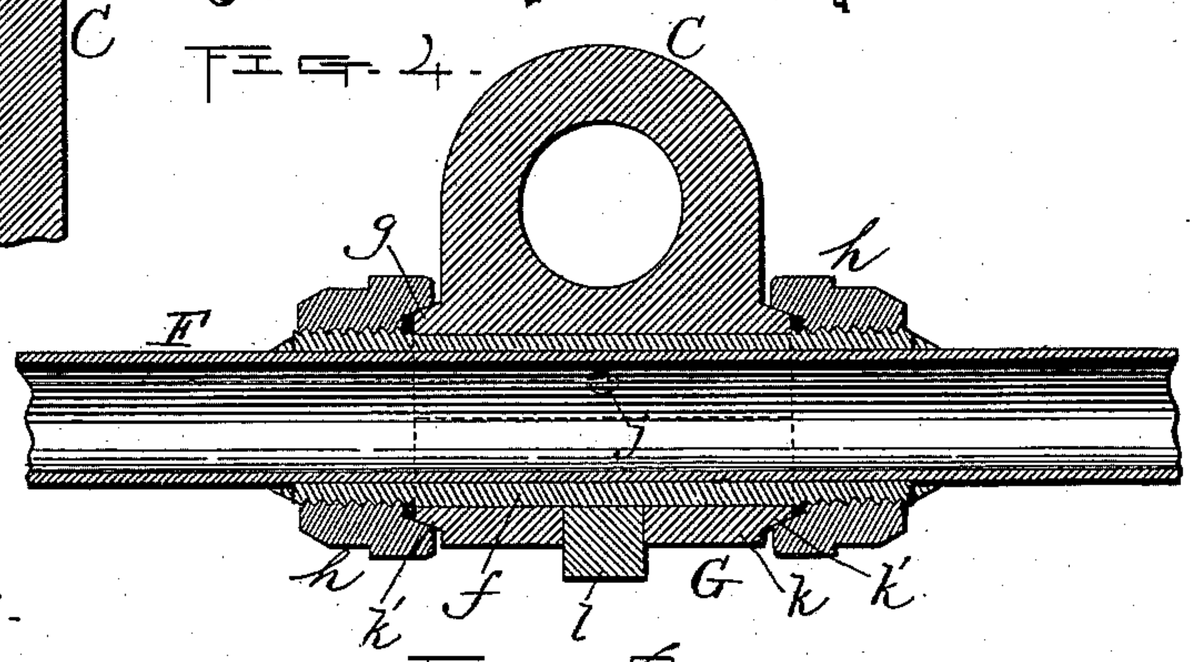
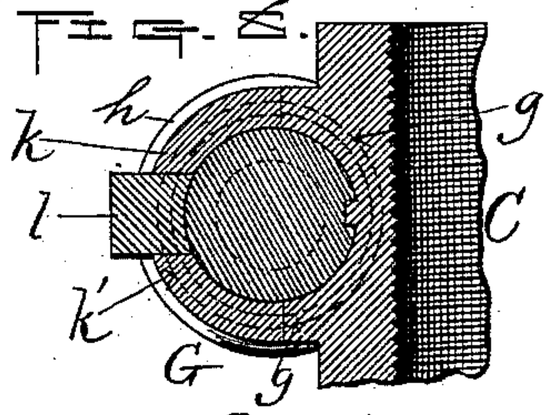


Fig. 7.

Fig. 8.



Witnesses;

Lucius W. Briggs.

C. Forrest Wesson.

Inventor;

Reinhard T. Torkelson.

By A. A. Barker, Atty.

UNITED STATES PATENT OFFICE.

REINHARD T. TORKELSON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO IVER JOHNSON, OF SAME PLACE.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 379,258, dated March 13, 1888.

Application filed August 1, 1887. Serial No. 245,971. (No model.)

To all whom it may concern:

Be it known that I, REINHARD T. TORKELSON, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents so much of a bicycle as is necessary to illustrate my improvements thereon. Fig. 2 is a vertical section taken on line *a* through the handle-bar, showing a side view of the other parts represented in Fig. 1, looking in the direction indicated by arrow *a'*. Figs. 3 and 4 represent, upon an enlarged scale, vertical and horizontal sections, respectively, of parts to which my improvements relate, hereinafter more fully described. Figs. 5 and 6 represent detached front and side views, respectively, of my improved brake-spring; and Figs. 7 and 8 are similar vertical sections, also upon an enlarged scale, showing modifications of my invention, also hereinafter described.

My invention is designed more particularly for use on bicycles, but may be applied to other similar vehicles, if desired.

It relates to the handle-bar attachment and brake mechanism; and it consists in the novel construction and arrangements of parts hereinafter more fully set forth.

To enable those skilled in the art to which said invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more fully in detail.

In the drawings, the part marked A represents part of the bicycle-wheel; B, part of the backbone; C, the head; D, the brake, having combined therewith my improved spring D'; E, part of the brake-lever; F, part of the handle-bar, and G my improved fastening device for holding said lever in position.

All the parts, except those relating to the brake-spring and handle-bar attachment, are of old construction, and it will therefore be unnecessary to fully describe the same to make clear my present improvements.

The purpose of the brake-spring, it will be understood, is to hold the foot of the brake above the periphery of the wheel, as shown in Fig. 2, or, in other words, to exert a pressure upon the brake against its operating-lever. Said spring is made from a single piece of wire bent to form an upper oblong loop, *b*, and the bottom circular loop or eye, *c*, and terminating below the latter loop in the two projecting ends *d d*, extending out laterally a short distance in opposite directions, as shown in Figs. 1 and 5, and preferably made hook-shaped at their extremities, as also shown in said figures. The upper outer end of the oblong loop and said bottom terminal ends are bent outward and inward, respectively, in opposite directions, so that when fitted in position said upper end will extend around over the front side of the brake and the bottom ends will bear upon the surface of the head C, as shown in Figs. 1 and 2, the main portion of the spring occupying a position between the brake and said head. The parts which compose the bottom loop or eye, *c*, extend around either side of the brake-bearing *e* (projecting out from the head) and cross each other above and below said bearing, that portion of the wire forming the left side of the oblong loop being extended down over the right side of the bearing, then returning under, and terminating on the left side of said bearing. The other half of said wire is bent the same, only in reverse directions to those above described.

In carrying out my invention in practice, the wire is first cut into pieces of proper lengths from long strands of untempered wire, then bent into the shape hereinbefore described and shown, after which they are bent or curved back above the loop or eye *c*, as shown in Fig. 6, and, finally, after said bending operations are completed, the springs are subjected to a suitable tempering process, thus finishing them ready for use.

The spring, in connection with the brake, may be readily fitted in position by springing apart the bottom loop and slipping it over the end of the bearing before the brake is hinged thereto. The upper end of said brake then being passed up through the upper oblong loop, also into the opening in the brake-lever, and hinged to its bearing, thereby completes the operation, as shown in Figs. 1 and 2. A spring thus made and fitted, it will be seen,

is both effective and durable, and, being in practice made by means of suitable machinery, may be produced at a trifling cost.

The purpose of my improvement upon the handle-bar attachment is to provide means whereby said handle-bar may be fastened in a firm and secure manner, and at the same time detached in a convenient and expeditious manner, if required for any purpose.

My improved detachable fastening is constructed in the following manner: Upon the central portion of the handle-bar is secured, in any convenient manner, a sleeve, *f*, having threads formed at both ends thereof for a short distance in, as shown in Fig. 4. When fitted in position, the smooth portion of the sleeve between its threaded ends rests in a recess formed in the head C, made for the purpose, and said sleeve and the handle-bar are held in said recess by the lateral flanges *g g*, formed on each side of the head at the ends of the recess, and the holding-nuts *h h*, which may be turned up over the threaded ends of the sleeve and said flanges *g g*, their inner ends being recessed so as to fit over said flanges, as shown in Fig. 4. In practice the flanges *g g* are preferably made beveling upon their outer sides, and the nuts correspondingly beveled to fit over the same, as a more perfect and rigid fastening may thus be obtained, and what little looseness results from wear may be easily taken up to tighten the parts again by simply turning up the nuts against said bevels, provision being made in making said parts to admit of such adjustment.

Various ways may be adopted for holding the sleeve from turning in its recess and the handle-bar from turning in the sleeve. I prefer the method shown in Fig. 3, however, for holding the sleeve, which consists in forming a flat surface, *i*, in the recess of the head and a corresponding flat surface, *i'*, on the sleeve to fit against the same. In Figs. 7 and 8 two other ways are shown—that in Fig. 7 consisting in forming a flange on the sleeve and a corresponding groove in the head, while in Fig. 8 a reverse construction is shown, the flange being formed on the head and the groove in the sleeve. I prefer in practice to braze the sleeve to the handle-bar; but, if desired, the parts may be fastened together by passing a rivet or key-bolt, *j*, transversely through said parts, as shown in Figs. 3, 4, and 7.

The sleeve and handle-bar may be additionally strengthened upon the front side by means of a cap-piece, *k*, having beveled ends *k'*, to correspond with the flanges *g g* on the head, over which the nuts are fitted and whereby said cap is held in position. The cap also serves to enhance the appearance of the fastening device by filling up the space over the sleeve between the nuts. It may be provided upon the front side with a striker, *l*, preferably of rubber, for the inner end of the brake-lever to strike against when forced back by the spring D'. As said cap and striker are not essential to the device, I reserve the right to use the same or not, as desired.

By the construction and arrangement hereinbefore described it will at once be apparent that the operation of detaching the handle-bar from the head of the bicycle may be performed in a very easy and expeditious manner, it being simply necessary to apply a wrench to one of the nuts *h* and turn it back to release and admit of the removal of both the bar and its cap *k*, while at the same time, when said parts are fastened, they are held in a secure and rigid manner.

Although I prefer in practice to employ a threaded sleeve upon the handle-bar, as previously described, the same result may be effected by forming said part upon or integral with said handle-bar; and, if desired, the handle-bar may be made solid at the center, as shown in Fig. 8, without departing from the principle of my invention.

Having described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the head and brake of a velocipede, of a wire spring interposed between said head and brake, whose upper end is provided with an oblong loop to receive the upright arm of the brake above its pivot, also having under said oblong loop a circular loop or eye adapted to encircle the brake-bearing and terminating at the bottom in two bearing ends adapted to bear against the surface of the head, whereby a back-draft is exerted upon the upper end of the brake to elevate its foot above the wheel, substantially as shown and described.

2. A brake-spring for velocipedes, made from a single piece of wire bent to form an oblong loop at one end, curved at its outer extremity, and a circular loop or eye next adjoining the inner end of said oblong loop, and whose end opposite from the oblong loop terminates in two ends projecting laterally in opposite directions, also rearward or in the opposite direction to the curve at the outer extremity of the oblong loop, substantially as shown and described.

3. In a velocipede, the combination of the head thereof, having a horizontal recess to receive the handle-bar and lateral flanges *g g*, with said handle-bar, having a threaded sleeve, *f*, secured thereto, cap-piece *k*, made substantially as described and provided with the striker *l*, and nuts *h h*, having recesses upon their inner sides, all constructed, adjusted, and fastened together substantially as and for the purpose set forth.

4. In a velocipede, the combination of the head thereof, having the lateral beveled flanges *g g* and a horizontal recess to receive the handle-bar, with said handle-bar, provided with threads at each side of where it fits into the head, and threaded nuts *h h*, whose inner ends are recessed and beveled to fit over the bevels of the aforesaid lateral flanges when said nuts

are turned up over the threaded parts on the handle-bar, substantially as and for the purpose set forth.

5. In a velocipede, the combination of the head thereof, having the lateral beveled flanges *g g* and a horizontal recess to receive the handle-bar, with said handle-bar, provided with threads at each side of where it fits into the head, the front cap, *k*, having end bevels corresponding to those on the flanges of the head, and threaded nuts *h h*, whose inner ends are recessed and beveled to fit over the bevels on the aforesaid flanges and cap when said nuts are turned up over the threaded parts on the handle-bar, substantially as and for the purpose set forth.

REINHARD T. TORKELSON.

Witnesses:

ALBERT A. BARKER,

LUCIUS W. BRIGGS.