

(No Model.)

W. A. HEATH.
VELOCIPEDE.

No. 266,820.

Patented Oct. 31, 1882.

Fig. 1

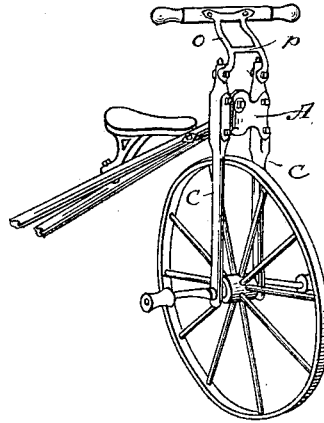


Fig. 3.

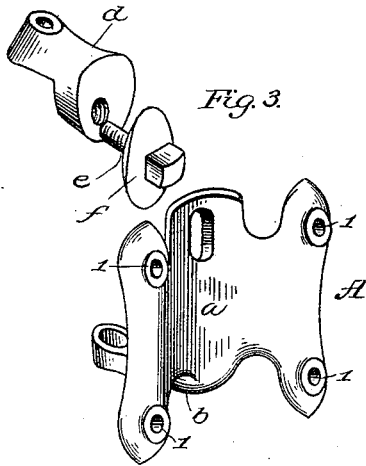


Fig. 2.

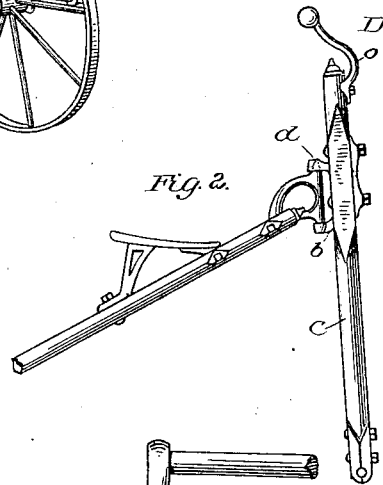


Fig. 4.

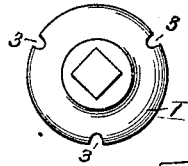


Fig. 5.

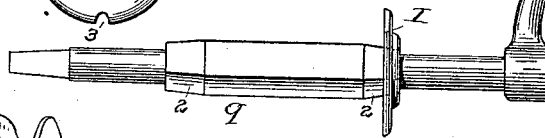
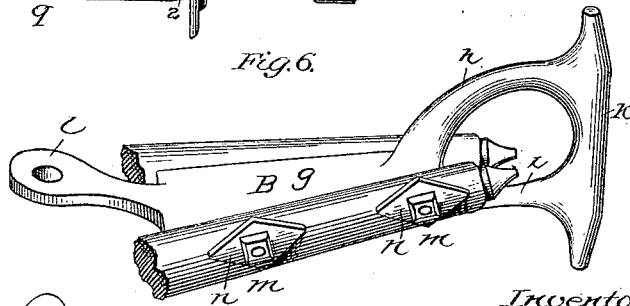


Fig. 6.



Attest:

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UNITED STATES PATENT OFFICE.

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VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 266,820, dated October 31, 1882.

Application filed July 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, WATSON A. HEATH, of Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to velocipedes of that class, principally, in which three wheels are used, with a double standard in front and a double reach extending from the axle of the rear wheels to the front standards.

It consists, first, of an improved casting or bracket having an adjustable bearing for the pintle of the reach-casting, whereby the said pintle may be adjusted to a vertical position after the connections are formed between the reach and the standard.

It consists, also, of an improved casting or clamped block, which carries the pintle, and is clamped to the forward ends of the reach-rods.

The third part of my invention is an improved bracket for supporting the tiller and connecting it to the standards; and the fourth part consists of an improved axle and means for securing the same to the hub.

In the accompanying drawings, Figure 1 represents a perspective view of a velocipede, showing a part of my improvements. Fig. 2 shows a side elevation of the standard and part of the reach. Fig. 3 represents in perspective the casting or bracket which connects the reach to the standard, the parts being separated. Fig. 4 shows the axle and collars. Fig. 5 shows a modification of parts shown in Fig. 3. Fig. 6 represents the clamped block and pintle.

Referring to the first part of the invention, I premise that a difficulty found in setting up velocipedes of the class shown consists in getting the pintle and bearings connecting the reach and standard in vertical plane. As the parts are made the upper and lower bearings of the bracket which supports the pintle will unavoidably vary somewhat from a true vertical position when the velocipede is set up. This is ordinarily remedied imperfectly and rudely by bending the castings; but this remedy cannot safely be repeated, and the bearings are liable thus to get out of perpendicular in use. To remedy this I have made one bear-

ing (preferably the upper) adjustable laterally. The bracket which is provided with these bearings is represented at A. Its general form is improved over those in common use. It has a central web, *a*, and a fixed lower arm, *b*, preferably cast with the web and forming the lower bearing for the pintle. On each side of the web, and cast therewith, are concave wings, the concave faces bearing against the front sides of the standard-rods *c c*. There are holes *l l* in the wings for connecting-bolts, and plain-faced bosses for the nuts. I have shown the web *a* as concave on the front face; but it may be plain, though not with so good effect. The lower arm curves down and rearward to give vertical space for the pintle, and the solid web renders the whole bracket strong and durable. The upper arm, *d*, in which is the upper bearing for the pintle, is a separate casting. The end which bears against the rear face of the web is fitted thereto, and is held thereupon by means of a screw-bolt, *e*, which passes through the web and screws into a threaded hole tapped in the arm.

In order to permit lateral adjustment of the arm, the hole in the web is made wider than the diameter of the bolt, the width being sufficient to allow all the necessary adjustment. With this the velocipede may be set up, all the castings being secured in place, and the necessary vertical position may be given to the pintle by moving the upper arm to one side or the other, as the case may require, when the screw-bolt may be turned up and the arm held securely in place.

I provide for wear of the bearings and pintle by vertical enlargement of the hole in the web. This allows the upper arm to be set down, when the pintle and bearings wear. The upper arm may obviously be solid with the web and the lower movable, with the same effect.

I provide a washer, *f*, shaped to fit the web, and large enough to cover the slot in the web.

The casting or clamped block which carries the pintle whereby the reach is pivoted upon the standard is shown at B. Heretofore this connection has been made by means of two castings, one above and the other below, formed to be clamped upon the ends of the reach-rods. My object is to simplify this con-

struction, and also to increase the strength thereof. To this end I make the entire block and pintle which forms the connection aforesaid in one piece and fit it to be clamped between the ends of the reach-rods. This is shown more clearly in Fig. 6, in which the part which is included between the ends of the reach-rods is indicated at *g*. This is cast open for greater lightness, and to permit the bolts to pass through which hold the rods to the iron. The front end is formed with a curved upper and lower arm, *h* and *i*, which are integral with the pintle *k*. Its rear end has an ear, *l*, to which the front end of the saddle is attached. Transverse bolts *m m* hold the rods to the casting, said casting having preferably hollowed sides to fit said rods.

The washers *n n* are all alike, preferably cast with inner faces fitted to the round rods. The forward ends of the washers are made thicker to give a square bearing for the nuts and prevent bending the bolts. This gives a perfectly secure connection between the rods and the casting, and renders the fitting and setting up of the parts an easy matter.

The tiller-bracket is indicated in the drawings at D, Figs. 1 and 2. It is made separate from the other castings, and in this respect differs from those heretofore used. It consists of side arms, *o o*, the lower ends of which are formed to fit the upper ends of the standard-rods, and has preferably a cross-bar, *p*. The upper end has also a cross-bar curved on its rear face to fit the tiller. This bracket may be easily fitted to the standards, and is cheaply made, and, being separate, is more convenient for packing and shipping.

The improved axle is shown in Fig. 4. Heretofore these axles have been made with a cast collar on one end and a threaded collar upon the other. To simplify this I have formed the square or polygonal part of the axle *q* with slightly-beveled ends *2 2*, and cast the collars *I I* with square inclined holes fitted to the beveled ends. The axle is turned or swaged down outside the square part, and the square shoulders between the two parts may, if desired, be slightly upset to hold the collars in place; but the collars may be simply driven on after the hub has been placed, and brads be driven in

through the notches *3 3* in the edges of the collars.

In Fig. 5 I have shown a modification of the bracket A, in which modification an upper and lower cross-bar are used instead of the web.

What I claim as my invention is—

1. In a velocipede, the casting A, adapted to be attached to the standard, and having a laterally-adjustable arm and bearings, in combination with a pintle fixed to the reach and fitted to said bearings, substantially as described.

2. In a velocipede, the casting A, adapted to be attached to the standard, and having a laterally and vertically adjustable arm and bearings, in combination with a pintle rigidly attached to the reach and fitted to said bearings, substantially as described.

3. The casting A, having the web *a*, the fixed arm *b*, and movable arm, with bearings in said arms, and the enlarged hole in the web, with threaded nut, whereby the movable arm may be adjusted, substantially as described.

4. The combination of the reach-rods of a velocipede with the block B, having pintle cast therewith, hollowed side for the reach-rods, and openings for the transverse bolts, and placed between the said reach-rods, substantially as described.

5. In a velocipede, the tiller-bracket having the side bars and the cross-brace *p*, and secured to the forks independently of the reach connection, substantially as described.

6. The axle for a velocipede, having the square shank with beveled ends, in combination with the washers fitted thereto, substantially as described, and for the purpose set forth.

7. The described axle for velocipedes, consisting of the square or polygonal part, having tapered ends, in combination with the washers fitted thereto, and having holes or notches for brads, all substantially as described.

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

WATSON A. HEATH.

Witnesses:

E. A. DICK,
DAVID H. MEAD.