E. J. BLOOD.

Velocipede.

No. 211,959. Patented Feb. 4, 1879.

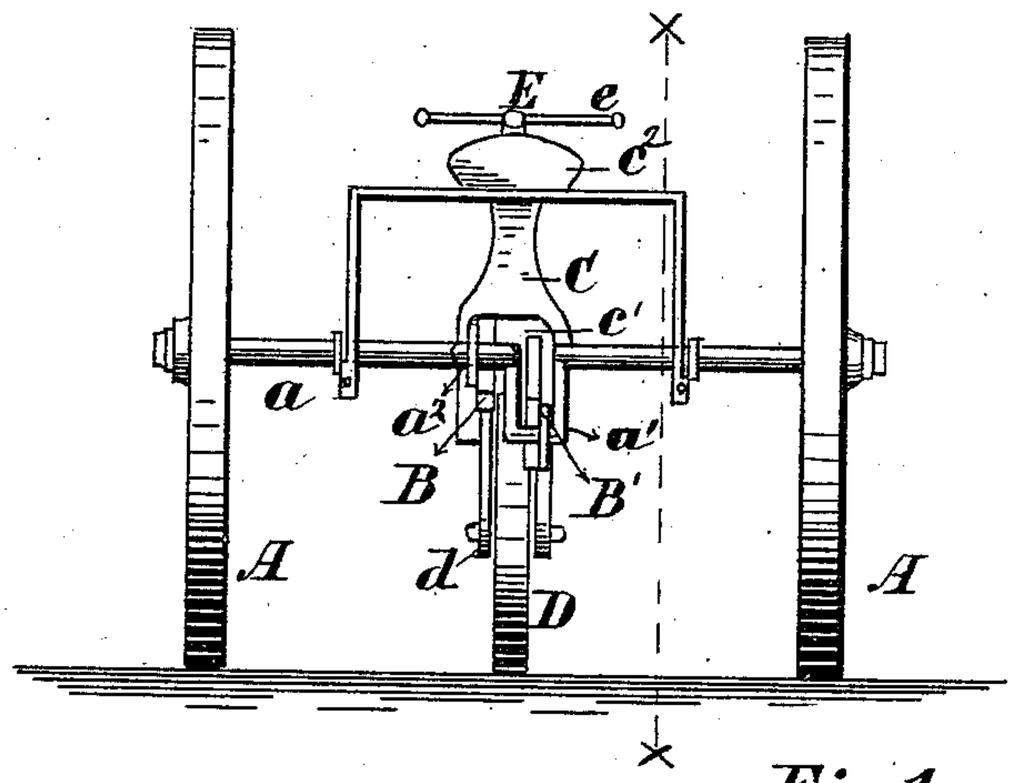



Fig 1

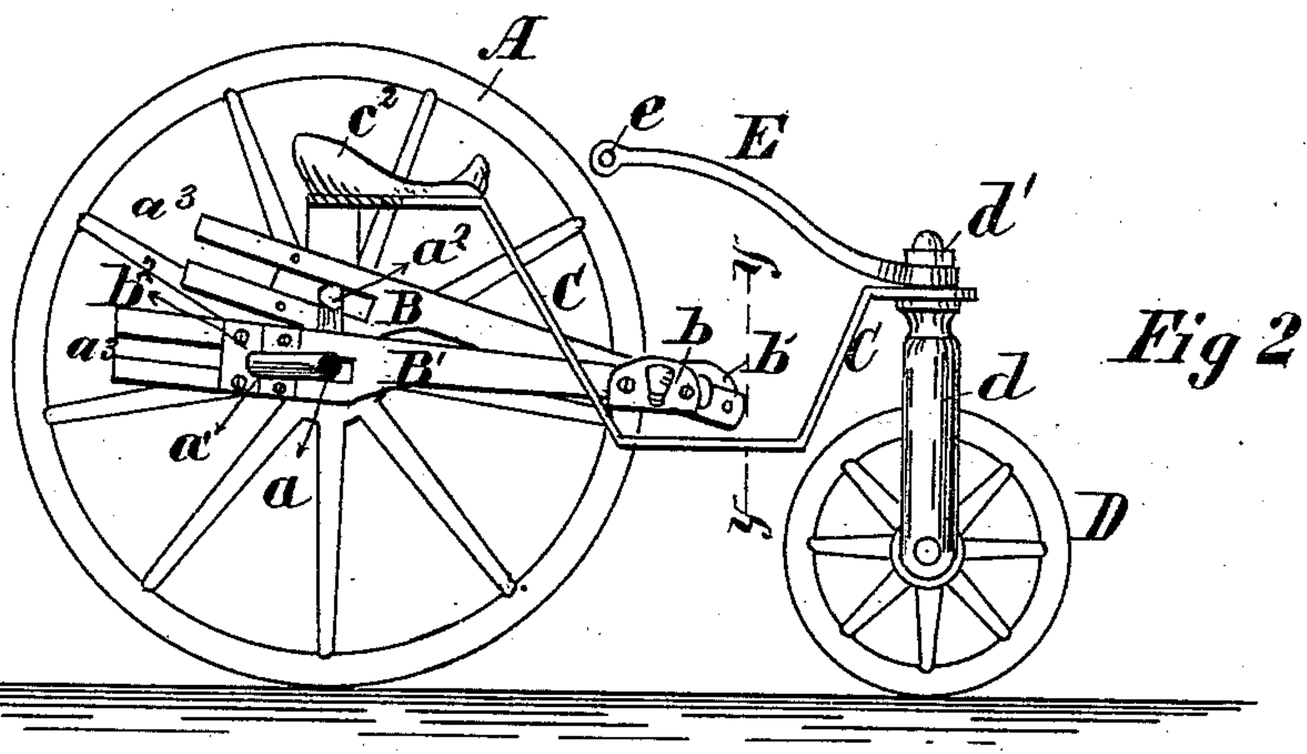
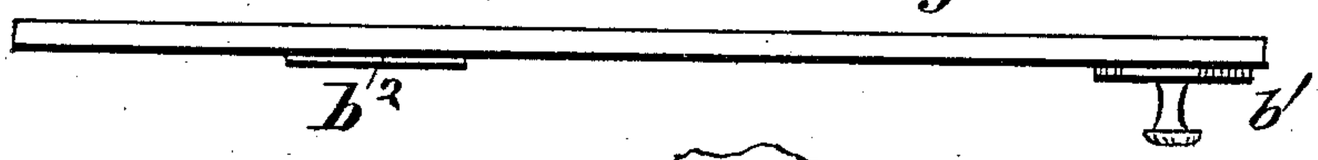



Fig 2

Fig 3



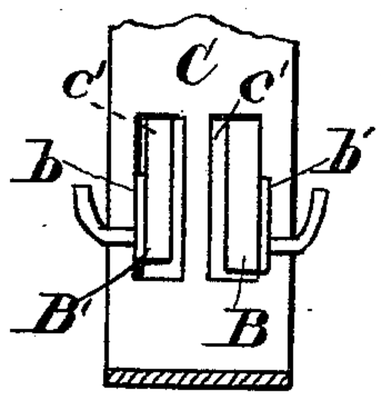




Fig 4

Witnesses

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# UNITED STATES PATENT OFFICE.

EDWIN J. BLOOD, OF MUKWONAGO, WISCONSIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO HERCULES H. CROCKER, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. **211,959**, dated February 4, 1879; application filed February 18, 1878.

*To all whom it may concern:*

Be it known that I, EDWIN J. BLOOD, of Mukwonago, in the county of Waukesha and State of Wisconsin, have invented a new and useful Improvement in the Mode of Propelling Velocipedes, of which the following is a specification:

The following is a description of the drawings accompanying my application and making a part thereof:

Figure 1 is a rear elevation. Fig. 2 is a vertical section of a line, *x x*, of Fig. 1. Fig. 3 is a plan view of bar B′ of Fig. 2. Fig. 4 is a vertical section of Fig. 2 at line *y y*.

The same letters refer to identical parts in all of the figures of the drawings.

My invention relates to velocipedes; and consists of two foot-bars provided with attachments for the feet of the rider, and so connected with cranks in the axle of the velocipede that a horizontal motion of the driver's feet will impart a rotary motion to the driving-wheels; also, of a tiller so constructed and arranged as to provide a support for the driver's hands and body while in the act of impelling the velocipede by the exertions of his body and feet, by adding thereto what draft or strain he may have applied to the tiller by his hands, by which means a greater power can be communicated by the driver to the impelling of the velocipede, and attended with less exhaustion.

A A are the rear wheels of a three-wheeled velocipede, which are rigidly attached to the axle *a*, and used as the driving-wheels. $a^1$ and $a^2$ are cranks formed in the axle *a* at about forty-five degrees of their circle in juxtaposition. B and B′ are foot-bars, provided with slots $a^3$ $a^3$, with the boxes $b^2$ adjustably attached thereto by means of screws, for the purpose of determining the length of the bars B and B′ to suit the length required by different riders. At *b* and $b^1$ are represented the attachments to receive the feet of the operator and impart the motion to the carriage. These attachments *b* and $b^1$ are firmly fixed to the front end of the bars B and B′. At a position horizontal with the axle *a* there is a slot, $c^1$, in the frame C, to support the front end of the rods B and B′ and admit their free action.

The frame C, constructed as represented in the drawings, is so constructed as to rest securely attached to the revolving axle *a*, is provided with a seat, $c^2$, for the driver, and terminates on the upper end of the bifurcated standard *d*, attached thereto by means of the stud and nut *d′*, supported by the smaller wheel, D.

E is the tiller or lever by means of which the operator guides the velocipede, the same being rigidly attached to the stud of the standard *d*, while the attachment of the frame C permits the standard to turn freely therein. The tiller E is provided with a transverse bar or handle, *e*, which serves the double purpose of a guide for the velocipede and a support to the operator, and enables him to transmit, through his body and the mechanism herein described, such draft or pulling force as he may exert on the handle *e* to the impelling of the velocipede.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The bars B and B′, provided with slots $a^3$, in combination with the foot-studs *b* and $b^1$, adjustable boxes $b^2$, and cranks $a^1$ and $a^2$, as and for the purposes substantially as described.

2. The frame C, provided with slots $c^1$ and $c^1$, in combination with the bars B and B′, the standard *d*, tiller E, and handle *e*, as and for the purposes substantially as described.

EDWIN J. BLOOD.

Witnesses:

W. C. CORLIES,

JNO. C. MACGREGOR.