(No Model.)

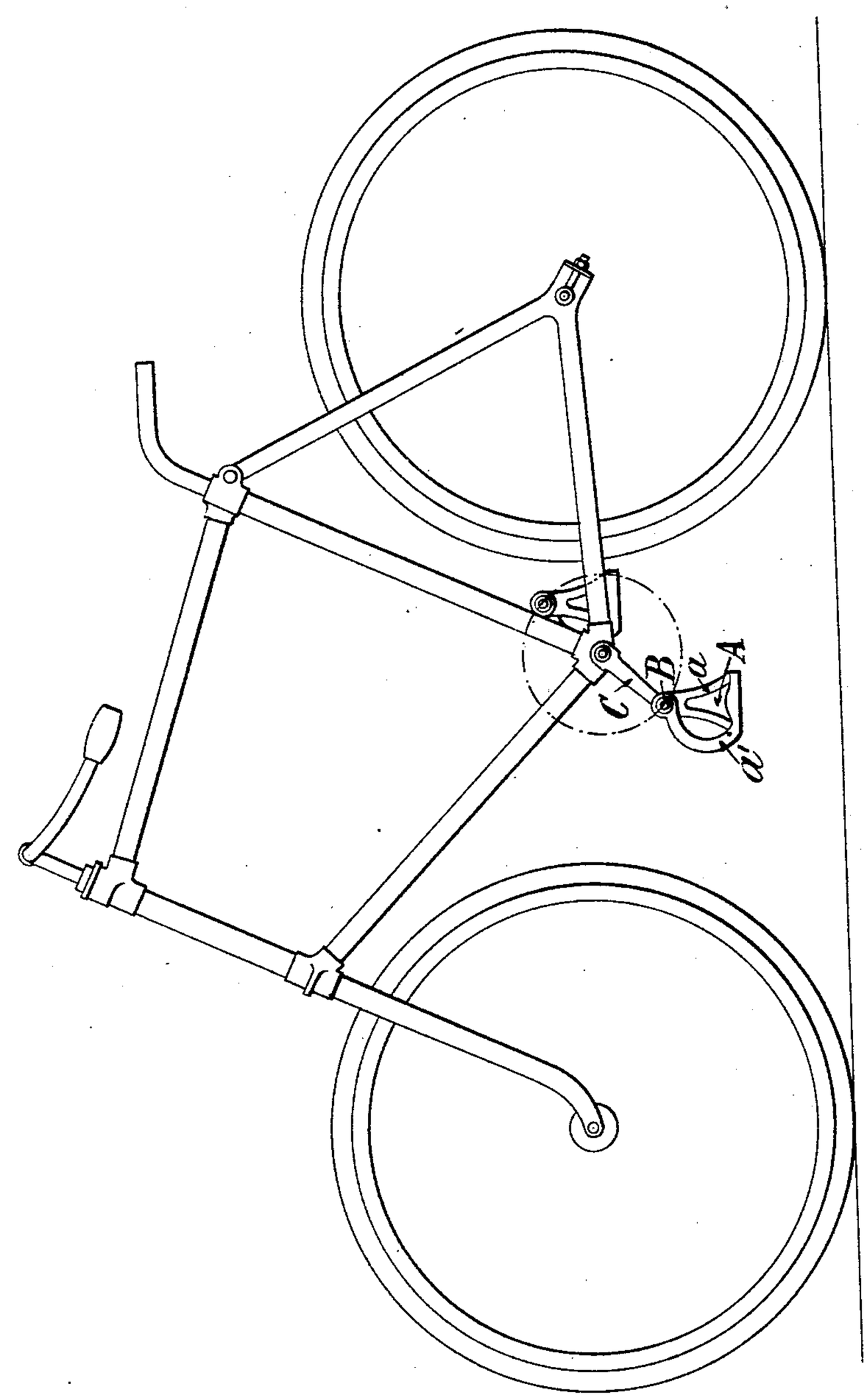
2 Sheets—Sheet 1.

# P. TERVER.

## PEDAL FOR VELOCIPEDES.

No. 587,536. Patented Aug. 3, 1897.

*Fig. 1.*

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(No Model.) 2 Sheets—Sheet 2.

# P. TERVER.

## PEDAL FOR VELOCIPEDES.

No. 587,536. Patented Aug. 3, 1897.

*Fig. 2.*

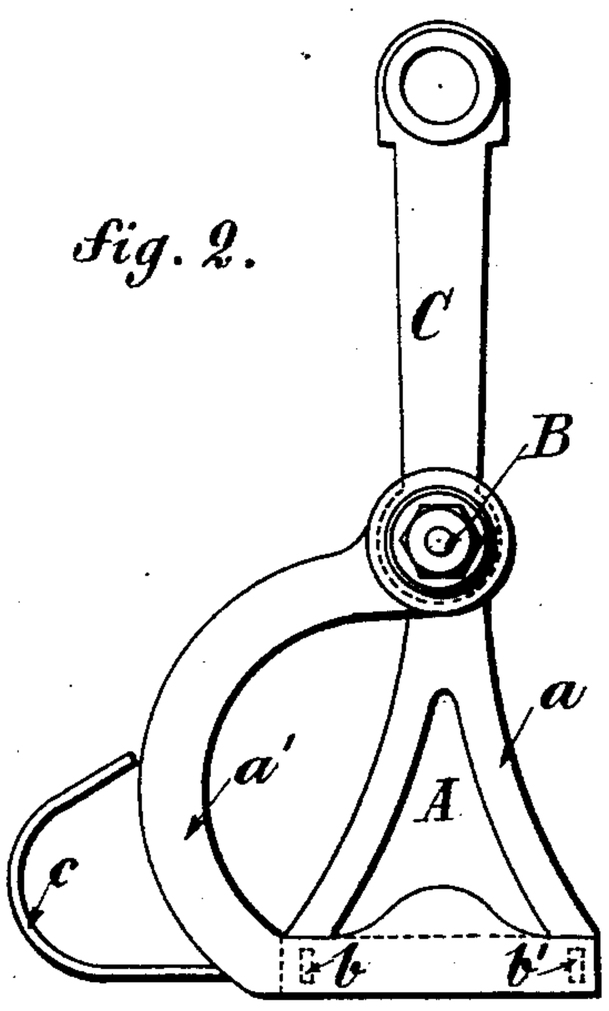



*Fig. 3*

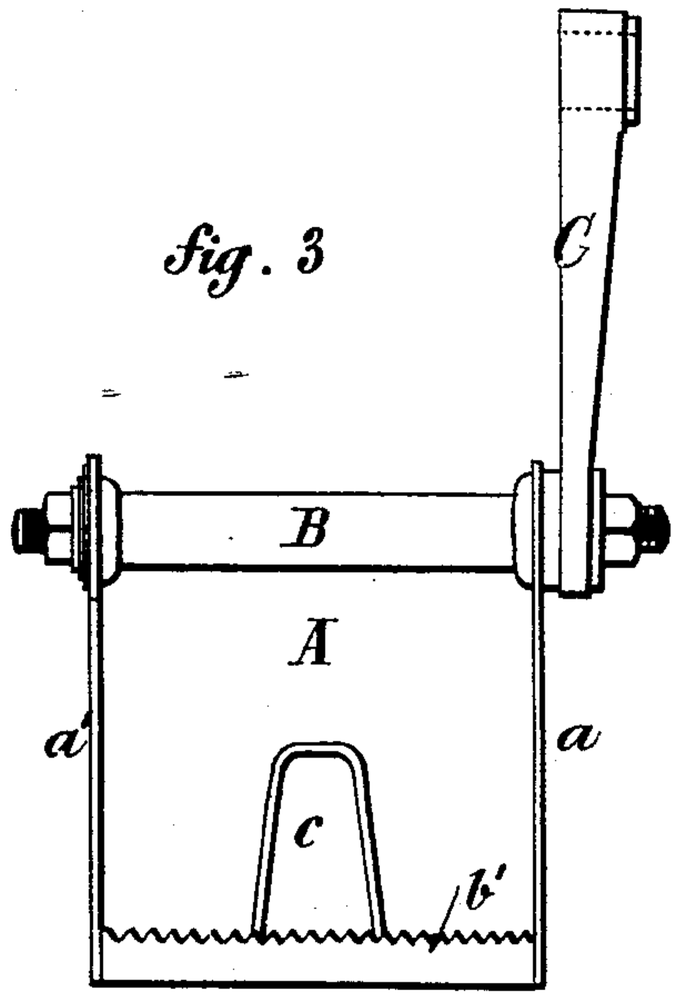



*Fig. 4.*

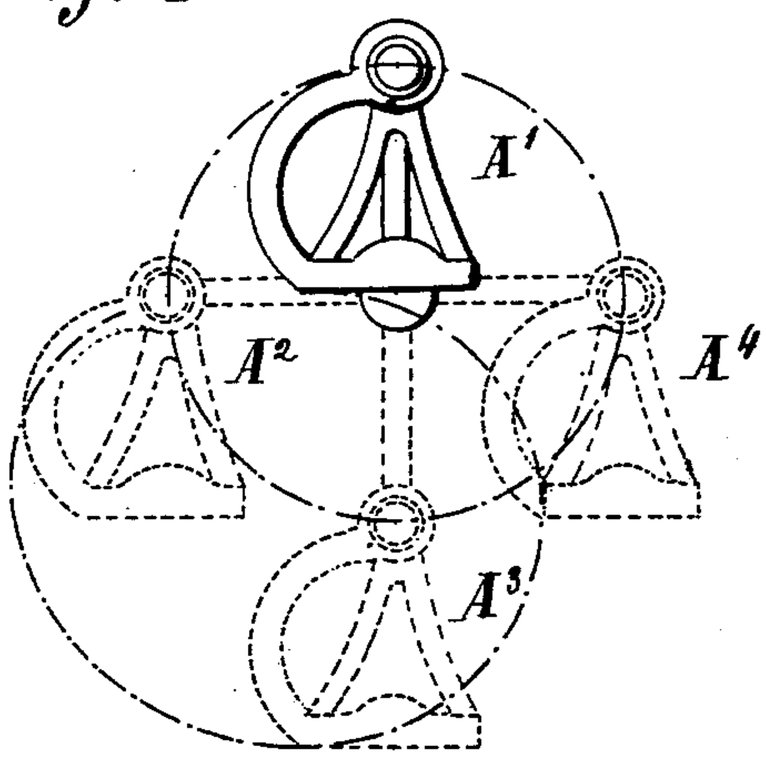
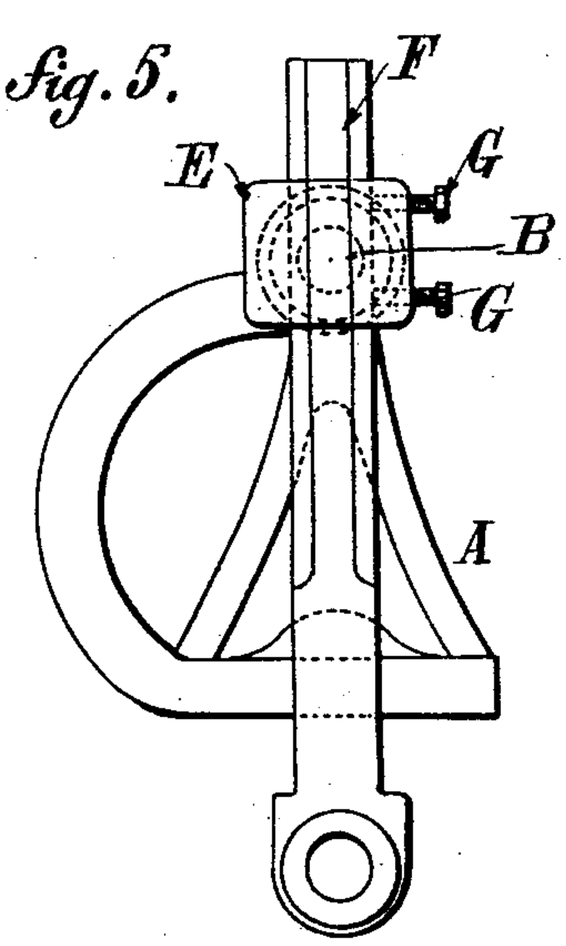



*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

PIERRE TERVER, OF PARIS, FRANCE.

## PEDAL FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 587,536, dated August 3, 1897.

Application filed October 28, 1896. Serial No. 610,284. (No model.) Patented in France April 13, 1896, No. 255,508.

*To all whom it may concern:*

Be it known that I, PIERRE TERVER, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in and Connected with Pedals for Velocipedes, (the same being the subject of Letters Patent in France, No. 255,508, dated April 13, 1896,) of which the following is a specification.

This invention relates to a pedal for velocipedes which is suspended from the crank-pin by means of a stirrup. By this device the cyclist, who extends his leg on the downstroke, acts with a greater leverage upon the crank-shaft. On the upstroke the leverage is greatly reduced and may even be reduced to *nil*. Consequently hills may be mounted with much greater facility, because the muscular strain is much more efficiently utilized than with the ordinary pedal. As the stirrup is suspended it can adjust itself to the various movements of the foot and leg of the cyclist. The suspended stirrup always allows the pedal to take a horizontal position, and as it can be moved forward or backward for avoiding the dead-points the machine can be readily started.

My invention provides such a construction of the suspended stirrup as to facilitate the entry of the foot into place thereon.

Figure 1 of the accompanying drawings is a side elevation of a safety-bicycle provided with my improvements. Fig. 2 is a side view, on a larger scale, showing the crank and pedal. Fig. 3 is a rear elevation thereof. Fig. 4 is a side view in diagram showing four successive positions of the pedal. Fig. 5 is a side elevation illustrating a further feature.

The pedal proper, A, forms the tread of a kind of stirrup suspended from the crank-pin B, the crank-arm C of which is keyed, as usual, upon the crank-axle of the chain-wheel. The pedal is suspended by means of two links or jaws $a\,a'$, connected at the lower part by cross-pieces $b\,b'$, forming the pedal or support for the foot of the cyclist. It may be provided or not with a toe-guard $c$ or any known stop devices.

Considering the pedal in its four principal positions, Fig. 4, it is evident that in the position A', where the crank-pin is directly above the axle, the leverage is *nil* when the pressure is applied vertically downward. From this position to the forward horizontal position $A^2$ of the crank the leverage increases and may be still further increased by pushing the pedal forward. From the last-mentioned position to that where the crank-pin is directly below the axle $A^3$ the leverage is still great, and while the crank-pin is returning from the latter position (through position $A^4$) toward that first mentioned the leverage decreases, to become *nil* when the crank again reaches the upper vertical position.

When at starting the crank is vertical, it is only necessary to push the pedal in order to move it forward of the vertical line passing through its point of suspension and so to obtain sufficient leverage.

In one form of pedal the crank-pin may be slightly forward of the center of the pedal, so as to facilitate the action of the foot.

My improved pedal is extended outward laterally in order to enable the cyclist to more conveniently place his foot thereon. For this purpose one of the jaws or suspension-links $a'$ of the pedal is formed as a curved blade, constituting a side guard.

My pedal may likewise be arranged so as to permit the cyclist to effect a change of speed by varying the length of the crank. To effect this (see Fig. 5) the crank-pin B is fixed on a slide E, in which the crank-arm F may slide, and may be fixed at any suitable point by means of set-screws G G. This very simple arrangement permits of adapting the length of the crank to the road to be traveled, according as the latter is more or less hilly.

I claim as my invention—

A cycle-pedal the tread of which is hung beneath the crank-pin by means of stirrup-plates $a\,a'$, the outer plate $a'$ being curved to leave space for entering the toe of the foot laterally into the pedal, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

PIERRE TERVER.

Witnesses:

MICHEL COQUARB,

EDWARD P. MACLEAN.