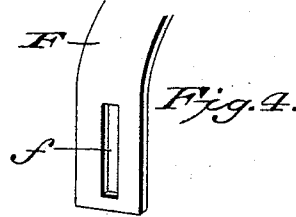
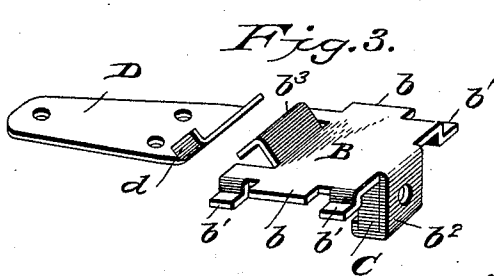
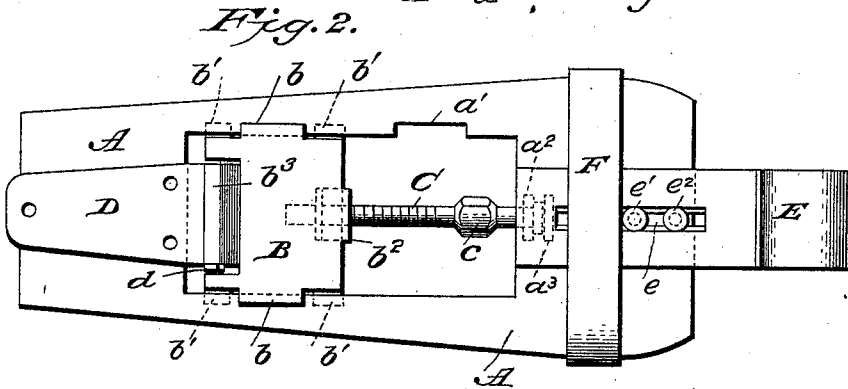
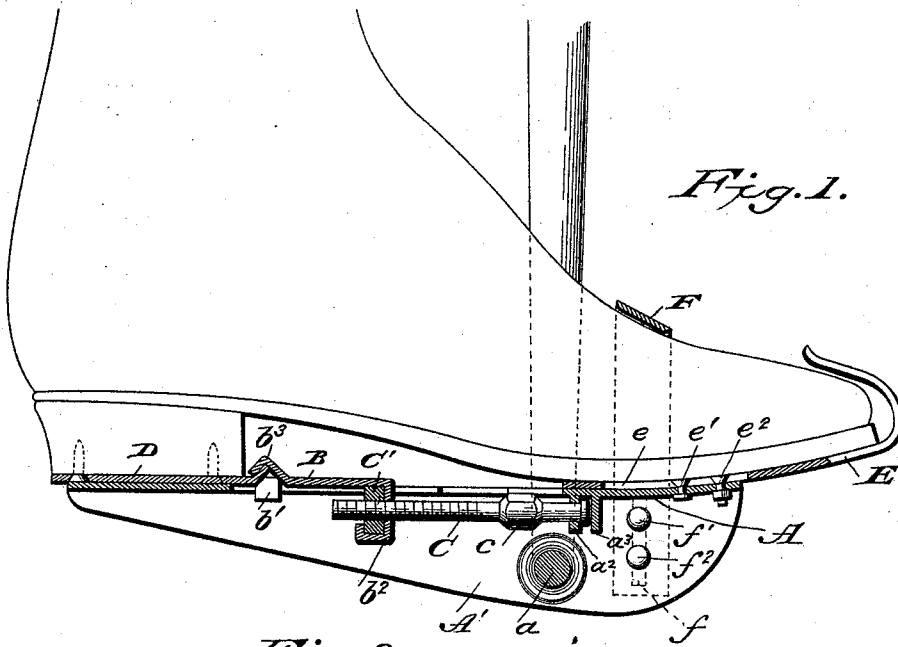


(No Model.)

F. J. SPENCER.
PEDAL FOR VELOCIPEDES.

No. 581,181.

Patented Apr. 20, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

FREDRICK J. SPENCER, OF STAPLES, MINNESOTA.

PEDAL FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 581,181, dated April 20, 1897.

Application filed October 8, 1896. Serial No. 608,273. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK J. SPENCER, a citizen of the United States of America, residing at Staples, in the county of Todd and State of Minnesota, have invented certain new and useful Improvements in Pedals for Velocipedes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a pedal in which the shoe of the rider will be firmly connected thereto, the particular construction of the parts permitting the connection to be readily made by a shifting movement of the foot after the toe has been inserted into straps attached to the forward part of the pedal, as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal sectional view of a pedal constructed in accordance with my invention. Fig. 2 is a plan view. Fig. 3 is a detail perspective view of the parts which connect the heel of the shoe to the rear part of the pedal. Fig. 4 is a detail view of one end of the toe-strap carried by the pedal.

A designates the foot-plate of the pedal, which is provided with depending side pieces A', through which the pedal-pin *a* passes, and said side pieces may be provided with any approved style of bearing for the said pin. The foot-plate is provided with a longitudinal opening, as shown, presenting parallel edges, one edge being cut away at the forward part of the opening to present an extension *a'* thereof, for the purpose hereinafter set forth, and slightly in advance of this opening the foot-plate is also provided with depending lugs *a*² and *a*³, the lug *a*² having an aperture through which a bolt C is passed, so that the head thereof will lie between said lugs and prevent longitudinal movement.

B designates a plate which is located in the longitudinal opening of the foot-plate and in sliding engagement with the side edges there-

of, the plate being formed at each side to present a projection *b*, which bears against the upper side of the foot-plate, and projections *b'* bent to bear against the under side of said foot-plate, thereby holding said plate B in sliding engagement with the pedal or foot-plate thereof. The sliding plate can be readily removed by sliding the same to the forward part of the longitudinal opening in the foot-plate and passing the projection *b* through the extension *a'*. The sliding plate B is provided at its forward end with a depending portion *b*², bent, as shown, to firmly hold a nut C', with which the threaded end of the bolt C engages, the depending portion *b*² having an aperture to permit such engagement, and by turning this bolt the plate B can be slid back and forth with respect to the foot-plate A. The bolt is provided with an enlarged portion *c*, properly shaped to facilitate the manipulation of the same.

The rear end of the sliding plate B is formed to present a hook or catch *b*³, with which engages the upturned end of a plate D, attached to the heel of the shoe of the rider, the engagement being effected by a lateral movement of the heel or plate D, and a stop *d* is formed on said plate to limit such movement.

Mounted upon the forward end of the plate A of the pedal is a toe-clip E, consisting of a strip of metal curved upward in the usual manner and provided with a longitudinal slot *e*, with which engages a rivet *e'* and screw *e*², the latter engaging a threaded aperture in the plate A or a nut at the underside of the same. This arrangement permits of an adjustment of the toe-clip to provide for the proper engagement thereof with the toe of the shoe. The forward part of the pedal is also provided with a strap F, which engages the toe of the shoe in the rear of the toe-clip, the ends of this strap having a slot *f*, with which a rivet *f'* and screw *f*² engage to permit of an adjustment of said strap. The rivet and screw are let into the depending side pieces A' of the plate A.

From the foregoing description, in connection with the accompanying drawings, it will be noted that I provide a pedal in which the foot or shoe of the rider will be firmly connected thereto, so as to permit power to be

applied upon the upstroke of the crank-arm in addition to that applied upon the down-stroke.

In placing the foot or shoe in engagement with the pedal it is only necessary to slip the toe into the strap F with the foot at an angle with the pedal and then shift the heel, so that the plate D carried thereby will engage the hook or catch b^3 of the sliding plate B, the toe engaging the clip E during this operation. Conversely, in disengaging the foot or shoe the heel is first shifted to move the plate D out of engagement with the hook b^3 and the toe withdrawn from the strap F and toe-clip E.

The parts of my improved pedal for bicycles or velocipedes could be varied in certain details of construction without departing from the spirit and scope of my invention, as hereinafter claimed.

I claim—

1. In a pedal, the combination with the foot-plate and toe-clip, of a hook or catch in sliding engagement with the foot-plate, a screw for adjusting the sliding plate or catch, and a plate secured to the heel of a shoe, said plate having a projecting portion which engages the hook or catch by a lateral movement, substantially as shown and for the purpose set forth.

2. In a pedal for bicycles or velocipedes, the combination with the foot-plate and toe-clip, of a hook or catch in sliding engagement with the foot-plate, a screw for adjusting said hook or catch, a plate secured to the heel of a shoe and provided with a projecting portion which engages the hook or catch by a lateral movement, and a stop for limiting such movement, substantially as shown and for the purpose set forth.

3. In a pedal for bicycles or velocipedes, the combination with the foot-plate and toe-clip, the foot-plate having a longitudinal opening presenting parallel side edges, of a sliding plate mounted in said opening and provided with projections which engage the upper and

lower sides of the foot-plate, a hook or catch formed on the sliding plate, a screw for adjusting said sliding plate, and a plate secured to the heel of a shoe to engage the hook or catch by a lateral movement, substantially as shown and for the purpose set forth.

4. In a pedal for bicycles or velocipedes, the combination with the foot-plate and toe-clip, the foot-plate having a longitudinal opening presenting parallel side edges, of a sliding plate mounted in said opening and provided with projections which engage the upper and lower sides of the foot-plate, a hook or catch formed on the sliding plate, a depending member b^2 also carried by the sliding plate and bent to inclose a nut; together with the nut, a bolt or screw C supported by the pedal so that the threaded end thereof will engage said nut, and a plate secured to the heel of the shoe of the rider to engage the hook or catch, substantially as shown and for the purpose set forth.

5. In a pedal for bicycles or velocipedes, the combination with the foot-plate and toe-clip, the foot-plate having a longitudinal opening presenting parallel side edges, of a sliding plate mounted in said opening and provided with projections which engage the upper and lower edges of the foot-plate, a hook or catch formed on the sliding plate, a nut carried by said sliding plate, and two lugs depending from the foot-plate; together with a screw or bolt passed through one of the lugs so that the head thereof will lie between said lugs and the threaded end engage the nut carried by the sliding plate, and a plate secured to the heel of the shoe of the rider to engage the hook or catch, substantially as shown and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FREDRICK J. SPENCER.

Witnesses:

JNO. D. MARLIN, Jr.,
C. E. M. BROWN.