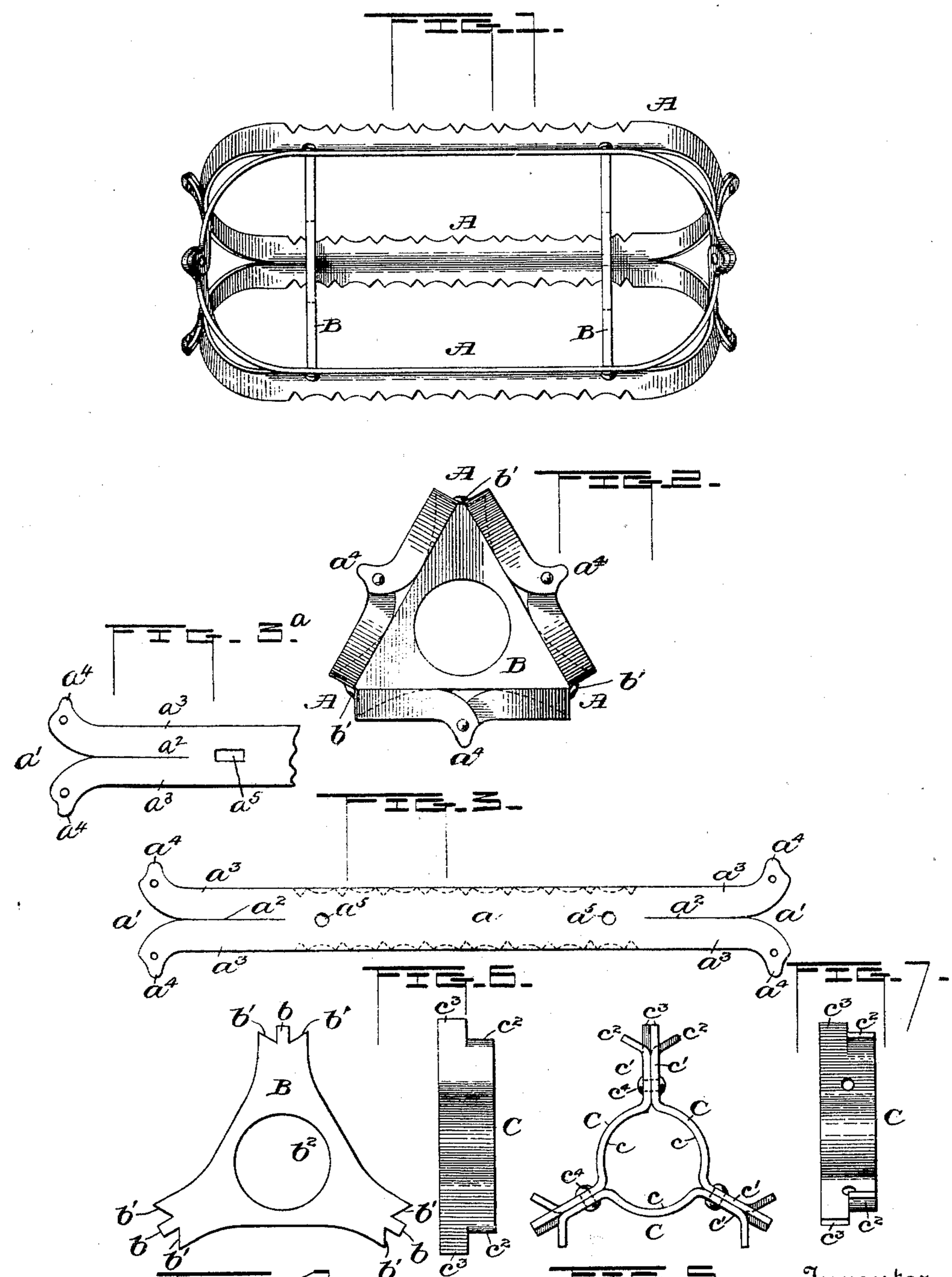
(No Model.) 2 Sheets—Sheet 1.

E. W. LINCOLN.

PEDAL FOR CYCLES.

No. 592,549. Patented Oct. 26, 1897.



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(No Model.) 2 Sheets—Sheet 2.

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FIG. 2.

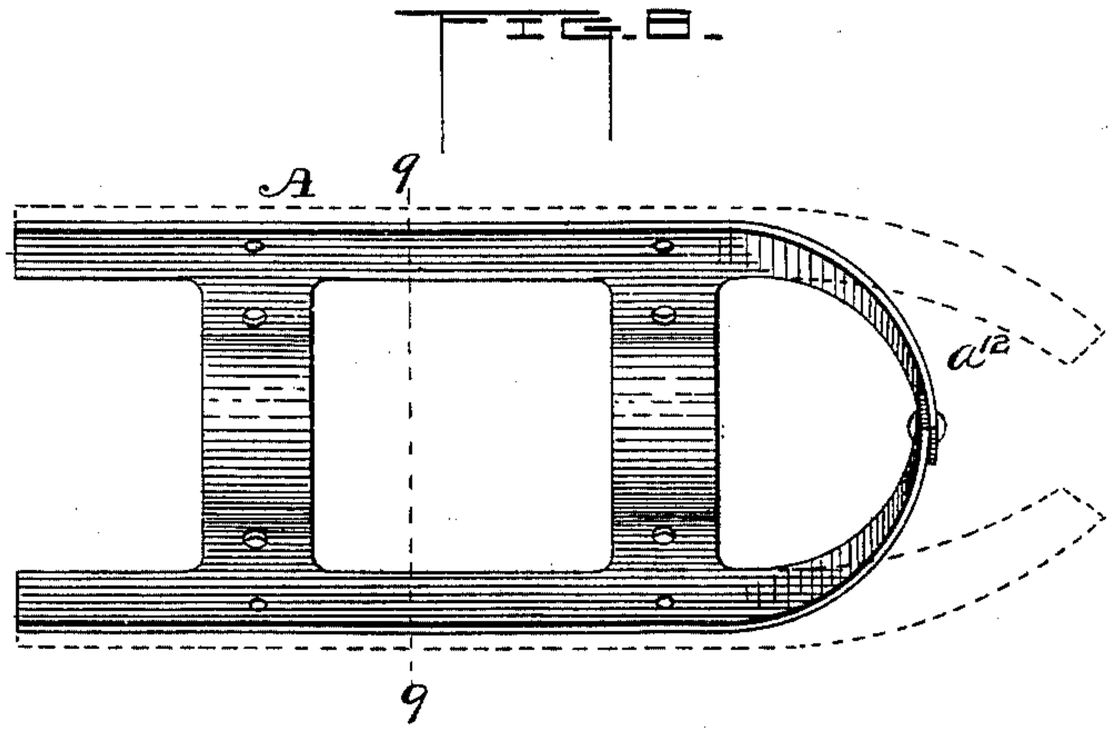
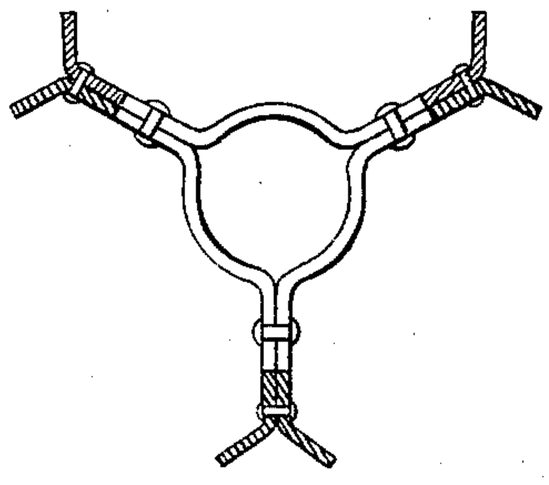


FIG. 3.



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UNITED STATES PATENT OFFICE.

ERTELL W. LINCOLN, OF PASADENA, CALIFORNIA.

PEDAL FOR CYCLES.

SPECIFICATION forming part of Letters Patent No. 592,549, dated October 26, 1897.

Application filed May 28, 1896. Serial No. 593,370. (No model.)

To all whom it may concern:

Be it known that I, ERTELL W. LINCOLN, a citizen of the United States, residing at Pasadena, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pedals for Cycles; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to cycles; and it consists in an improved pedal, as hereinafter set forth, and particularly pointed out in the claims.

The object of my invention is to so construct the pedal that it will possess great strength and yet at the same time be light in weight. I accomplish this by making the pedal triangular in cross-section and constructing it of sheet metal, preferably sheet metal pressed into shape.

The construction can be considerably modified without departing from the spirit of my invention, as pointed out hereinafter.

In the drawings, Figure 1 shows a side elevation of a pedal made in accordance with my invention. Fig. 2 is an end elevation. Fig. 3 shows a blank for one of the sides of the frame. Fig. 3^a shows a modification of said blank. Fig. 4 shows one of the frame-supports. Fig. 5 shows a built-up frame-support. Figs. 6 and 7 are edge views of pieces of said support. Fig. 8 is a side elevation of a modified construction. Fig. 9 is a cross-section on line 9 9, Fig. 8.

My improved pedal consists of two triangular frame-supports rotatably mounted on the crank-pin, said supports carrying at each angle a side bar, the bars on each side of the supports being connected at one or both ends and suitably notched or roughened to afford a foothold.

Of the several modifications illustrated I prefer that shown in Figs. 1, 2, 3, and 4. In this construction the three side bars A are each formed from a blank such as that shown in Fig. 3, which is a straight strip a, having its ends notched at a' and slit lengthwise at a^2 for a short distance to form arms a^3. At each corner of the strip is a laterally-projecting perforated lug a^4. The edges of the middle portion of the strip may be notched, as indicated in dotted lines, to afford a good foothold. Three of the strips are bent along their middle line and the arms a^3 are spread apart and curved. Each strip is then fastened near each end where the arms diverge to one angle of a triangular frame-support, such as the triangular plate B, which has tongues b to pass through holes a^5 in the strips, with shoulders b' on each side of said tongues to give a firm support to said strips. The ends of the tongues b are then headed down to firmly secure the strips or side bars. The lugs a^4 of adjacent arms are then overlapped and a rivet passed through the perforation and headed down. Each pair of arms thus joined lies in the same plane as the adjoining portions of the side bars, so that the side bars, the arms, and the edges of the plates B constitute a substantially flat frame or foot-rest. The lugs a^4 rise above the plane of the edges of the side bars to serve as stops to keep the rider's foot from slipping off.

The plates B have central apertures b^2 for receiving and holding the usual sleeve which surrounds and turns upon the crank-pin, so that this pedal, and, in fact, all of those hereinafter described, can be substituted for the ones now in use without any modification of the crank-pin or its sleeve or ball-bearings.

Instead of the solid plate B, I may use a built-up frame-support, such as that shown in Figs. 5, 6, and 7. This is made of three similar pieces C, each having its middle portion c curved to an arc of one hundred and twenty degrees, or one-third of a circle, and its flat ends c' slit to form the tongues c^2 c^3, one of which is bent outwardly to form a shoulder for the side bar to rest on, while the other serves as a tongue to pass through and be riveted to the side bar, the hole a^5 being in this case rectangular, as shown in Fig. 3^a. The flat ends c' are fastened together by rivets c^4.

A still further modification is shown in Figs. 8 and 9, the side bars and the frame-supports being integral. The pedal is formed

from three similar pieces, like Fig. 8, stamped from a sheet of metal pressed into shape and the arms a^{12} riveted together.

In all these modifications the shape of the pedal in cross-section is that of an equilateral triangle, symmetrical with reference to the crank-pin, so that one side is always within sixty degrees of the horizontal. It is therefore unnecessary for the rider to give any special attention to the pedal, since the mere placing of the foot upon the pedal will insure one of the three sides becoming uppermost, even if it is not so when the foot touches it. This operation of the pedal is of great assistance to the rider, since it relieves him from the necessity of looking at and kicking around his pedals to get them into proper position for mounting.

It will be noticed that in all the modifications the side bars are really double—that is, they give a foothold on each edge. This is the case whether the three pieces forming the foot-rests are each bent to a V shape, as in Sheet 1, or have their adjacent edge portions united at an angle to each other, as in Sheet 2.

The construction shown on Sheet 1 of the drawings is especially well adapted for the application of rubber pieces or foot-pads and also toe-clips. It is light and neat looking and of small cost.

It is evident that other modifications in construction may occur to one skilled in the art, but without departing from the spirit of my invention.

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

1. A triangular pedal for cycles, comprising three pieces forming side bars having at one or both ends curved arms, the ends of adjoining pairs of arms being fastened together, and means for attaching said bars to the spindle of the crank, substantially as described.

2. A pedal for cycles comprising triangular frame-supports, and side bars each consisting of a middle portion secured to an angle of said supports, with curved arms at one or both ends, the adjoining pairs of arms being secured together, and lying in substantially the same plane as the contiguous portions of the side bars, substantially as described.

3. A pedal for cycles comprising triangular frame-supports and side bars secured thereto, each having at one or both ends, curved arms provided with perforated lugs, said lugs being secured together and rising above the plane of the edges of said bars substantially as described.

4. A pedal for cycles, comprising three side bars having holes, and supports each composed of three similar pieces, each piece having a curved middle portion c and flat end portions c', the latter being slit at the end to form two lugs, one of which c^2 is bent at an angle to the portion c' to form a shoulder on which a side bar rests, while the other lug is left projecting to form a tongue c^3, the two tongues on the adjacent ends of each two supporting-pieces being placed side by side, passed through a hole in a side bar, and riveted down thereon, substantially as described.

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

ERTELL W. LINCOLN.

Witnesses:
GEO. W. CLARK,
ALFRED D. HALL.