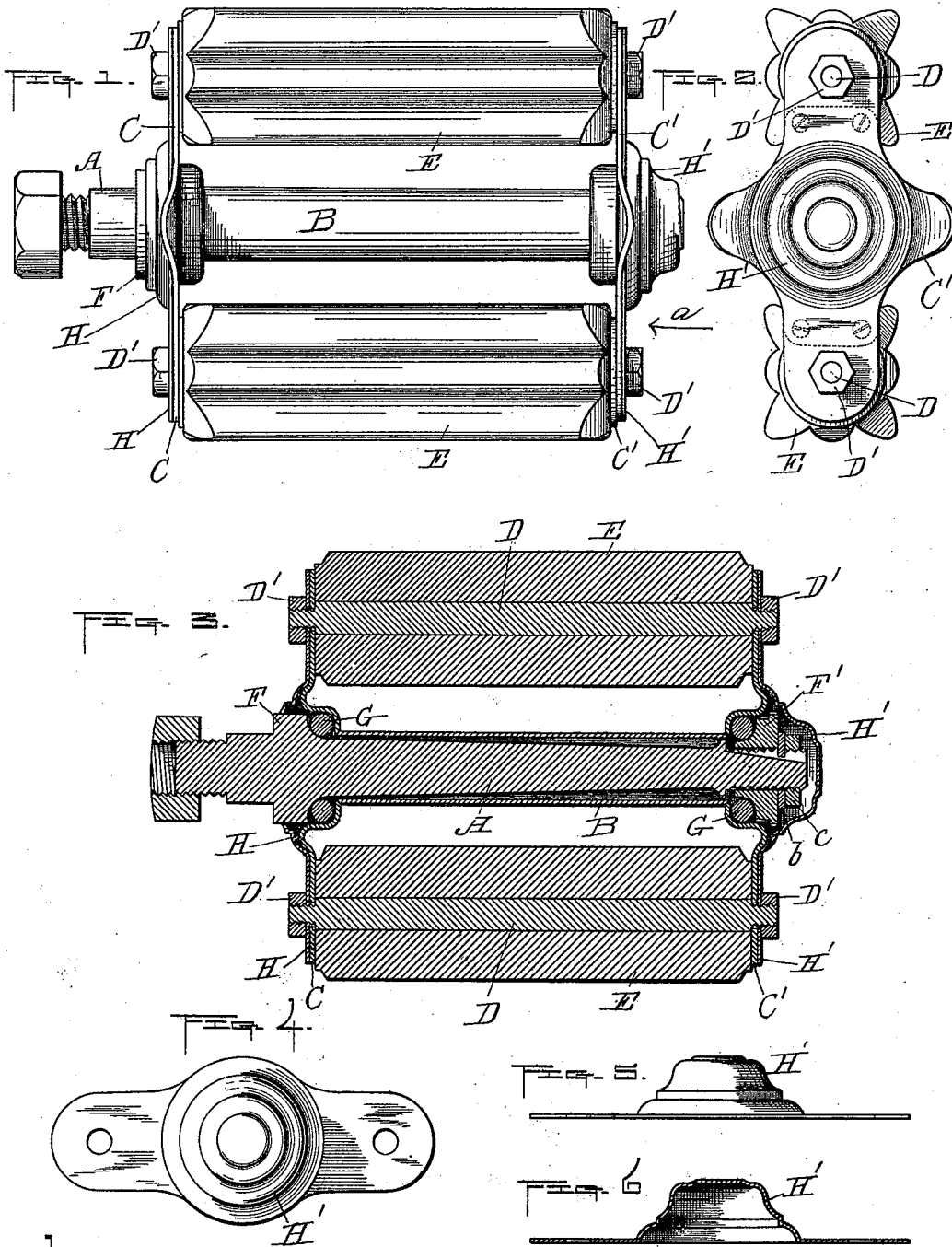


(No Model.)

A. B. CURTIS.  
VELOCIPED TREADLE.

No. 512,869.

Patented Jan. 16, 1894.



Witnesses,

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By A. A. Parker, Atty.

# UNITED STATES PATENT OFFICE.

ALBERT B. CURTIS, OF WORCESTER, MASSACHUSETTS.

## VELOCIPED-TREADLE.

SPECIFICATION forming part of Letters Patent No. 512,869, dated January 16, 1894.

Application filed February 19, 1892. Serial No. 422,137. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT B. CURTIS, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Velocipede-Treadles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a plan view of a velocipede treadle embodying my improvements. Fig. 2 is an end view thereof, looking in the direction of arrow *a*. Fig. 3 is a central, longitudinal section through the parts shown in Fig. 1, and Figs. 4, 5 and 6 are a plan, side view, and central longitudinal section respectively, of my improved dust-guard, hereinafter described.

My invention relates more especially to the treadle bearings and the means employed for excluding dust therefrom when in use, and consists in combining with each of the usual end bearings a specially constructed cap made from sheet metal cut and stamped, or compressed into the desired shape, and fastened to the end bearing-plates, in such a manner as to absolutely preclude the possibility of dust entering around said bearings, as will be hereinafter more fully set forth.

To enable others skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

In the drawings, the part marked A represents the main spindle or axis of the treadle, B a sleeve arranged thereon between the two end bearing-plates C C' which are preferably made of sheet metal cut and stamped into the desired shape, and serve to support the ends of the spindles D D arranged equidistant from and parallel to the main spindle A, and upon which are mounted and fastened the rubber foot-rests E E in the usual way. The sleeve B bears at the ends thereof, against the inner edges of the hubs of bearing-plates C C', and said plates, the sleeve B, spindles D D and foot-rests E E are held together by the nuts D' on said spindles D as will be seen by reference to Fig. 3 of the drawings.

Just outside of the hubs of the bearing-

plates C C' are arranged the usual cone-bearings F F', said bearings and plates being each curved to form an annular chamber between them in which are fitted the friction-balls G as usual. The detachable cone-bearing or nut F' is held in position by the washer and nut *b c*.

The parts of the treadle thus far described are substantially the same as in other treadles now in use, and I make no claim thereto, except in combination with my improved dust-guards H H' previously alluded to. Said dust-guards are made of sheet metal cut and stamped or compressed by means of suitable dies into the proper shape to fit over the outside of the treadle-bearings against the outer faces of the bearing-plates C C'. They are held by passing the ends of the foot-rest spindles D D through transverse openings therein, and then turning the nuts D' up against the outer sides thereof, as is indicated by full lines in the drawings.

It will be understood that the two caps on the treadle are substantially alike, except that the one, H, at the inner end of said treadle is cut out at the center to form an opening to receive the main spindle,—the edges of the cap around said opening, in this instance, fitting the surface of the cone-bearing F, formed on said spindle. The caps being thus made of stamped sheet metal, it is obvious that they may be manufactured very cheaply, and of any desired design, and when applied to use, effectually exclude all dust or other foreign substances from entering and clogging up the bearings, thus enabling the treadle to run more smoothly and for a greater length of time without oiling or repairs, than if such caps were not employed. The friction balls being arranged between the curved hubs of the end plates C C' and the cone-bearings F, F', as previously specified, are held thereby from falling out, and the dust-guards H H' may therefore be removed if desired without disarrangement of said balls. This constitutes one of the essential features of my invention, and is of substantial advantage in the construction of this class of treadles. Another essential feature consists in so constructing the end plates C C' as to each form in one integral part, bearings for the ends of

sleeve B, bearings for one side of the friction-balls and supports for the foot-rests, as previously specified and shown in Fig. 3 of the drawings.

5 I am aware that a dust-guard on velocipede treadles is not broadly new, and therefore limit my invention to the special construction herein set forth.

10 What I claim as new, and desire to secure by Letters Patent, is—

15 In a velocipede treadle, the combination of the usual central spindle, its cone-bearings, friction balls and the sleeve fitted over said spindle, with the sheet metal end-plates CC' bent at the center to form hubs to receive the ends of said sleeve and bearings for one side

of the friction balls, also having arms or extensions provided with suitable openings for the support of the foot-rests E E,—said end plates being each made in one part; said foot rests, their spindles D and holding-nuts D' 20 and the dust-guards H H' each likewise made in one part stamped out of sheet metal of the proper shape to form caps over the central, end bearings, and to fit the outer face of the 25 end plates to which they are fastened by the aforesaid nuts D', substantially as shown and specified.

ALBERT B. CURTIS.

Witnesses:

A. A. BARKER,  
W. B. NOURSE.