(No Model.)

C. H. METZ & T. CURLEY.

CRANK PEDAL.

No. 604,919. Patented May 31, 1898.

FIG. 1.

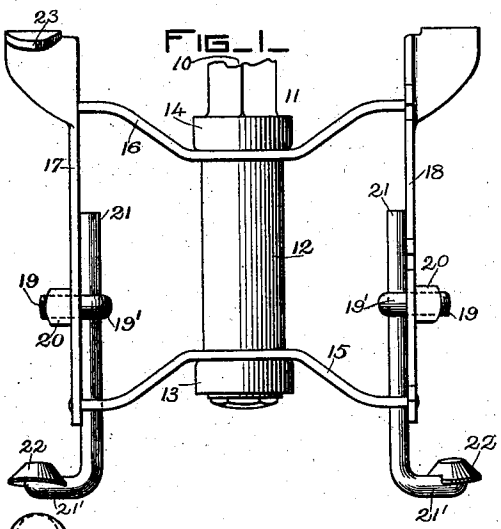


FIG. 2.

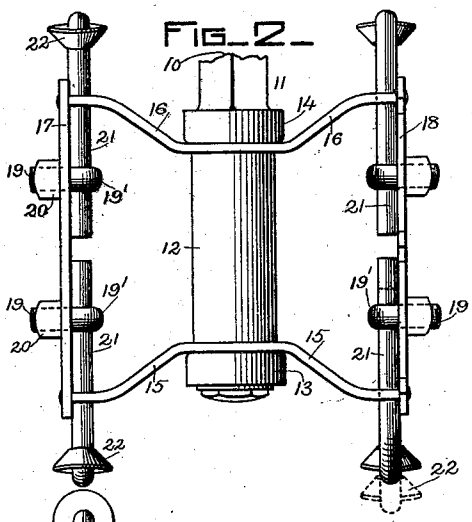


FIG. 3.

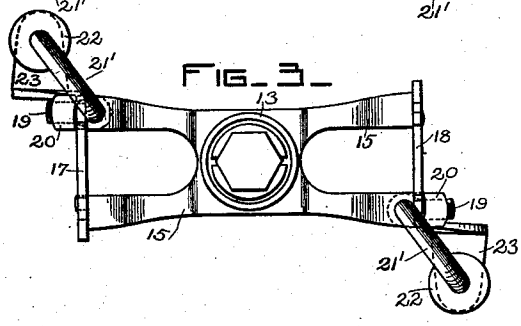
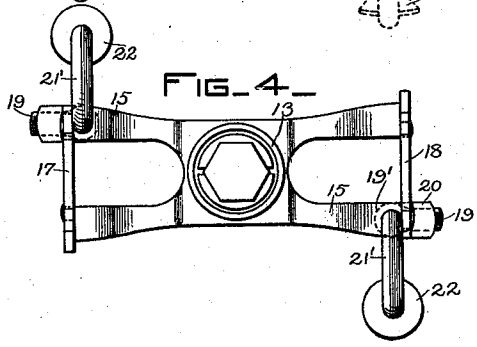


FIG. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES H. METZ AND THOMAS CURLEY, OF WALTHAM, MASSACHUSETTS.

CRANK-PEDAL.

SPECIFICATION forming part of Letters Patent No. 604,919, dated May 31, 1898.

Application filed May 3, 1895. Serial No. 547,961. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. METZ and THOMAS CURLEY, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Crank-Pedals; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in crank-pedals, and particularly in those which are adapted for use on bicycle-cranks.

The object of the invention is to more positively engage the foot with the pedal and to prevent the lateral movement of the foot when the pedal is being operated.

Another object is to provide a novel combined pedal and adjustable clip for the forward portion of the shoe.

The invention consists in the novel construction of the combined pedal and adjustable stop.

The invention likewise consists in such other novel features of construction and combination of parts as may hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents a plan view of the improved pedal. Fig. 2 represents a similar view showing a modification thereof. Fig. 3 represents an end elevation of Fig. 1. Fig. 4 represents an end view of Fig. 2.

Similar numerals of reference designate corresponding parts throughout.

In carrying our invention into practice it is our intention to provide a crank-pedal with means for closely engaging the foot of the user to prevent lateral movement of the foot and from the location of the stops and the manner of their engagement with the shoe of the user to also prevent forward movement thereof.

In the drawings, 10 indicates the pedal-shaft, which is furnished with the faceted portion 11, provided with cones or their equivalents, on which the pedal is rotatively mounted.

The pedal proper consists of a central hub 12, journaled on the pedal-shaft by means of the raceways 13 and 14, containing balls bearing on the cones in any usual manner. Extending from the hub are the side arms 15 and 16, to the outer ends of which are secured the foot-plates 17 and 18.

Secured to the foot-plates are clamping devices which consist of the looped shanks 19 19, extending through perforations in the foot-plates and provided with tightening-nuts 20 20, engaging the screw-threaded shanks and bearing on the foot-plates. The stops on foot-plates are preferably formed of bent arms or shafts 21 21, which extend through perforations in the side arms 15 and 16 and are engaged in the looped portions 19′ of the clamping devices, so that the tightening of the nuts 20 20 will draw the arms 21 21 against the inner surfaces of the foot-plates and securely hold them. On the short bent portion 21′ of the arms are the convex clamping-buttons 22 22, which are designed to engage the shoe immediately above the sole without injuring the shoe or grasping the foot of the user uncomfortably. These clamping devices are laterally adjustable to the width of the user's foot by releasing the nuts 20 20, moving the arms 21 21 inward or outward, and then tightening the nuts, while the adjustment of the same for the thickness of the shoe-sole is effected by turning the arms on their shaft-axes to raise or lower the buttons 22 with relation to the upper surface of the pedal.

It is evident that but one adjustable stop need be used at each side of the pedal, the corresponding stop at the opposite side of the pedal being a fixture, as that marked 23 in Fig. 1.

We do not limit ourselves to the use of the particular stops or devices herein described, for it is obvious that the arms 21 may be formed of spring metal.

The peculiar construction of the stop 23 greatly increases the strength of the same and locates this stop in a position best suited to the withstanding of the shocks to which a stop on the foot-plate is often subjected. It is obvious that the angle at which this stop is set with relation to the plane of the foot-plate may be varied at will to present more or less of an edge or surface contact to the shoe of the user. The connecting material between the stop and the main portion of the

foot-plate may be an extension from the end of the foot-plate suitably bent instead of from the upper edge of the foot-plate.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a crank-pedal a foot-clamping device or stop consisting of a rotatable shaft laterally movable in its bearings and having an upwardly-extending arm furnished with a button and a device for rigidly securing the shaft when adjusted.

2. The combination with the foot-plate 17 and the looped shanks 19 19 extending through perforations in the plates and furnished with the nuts 20 20, of the bent arms or shafts 21 21 extending through the looped shanks and having the bent ends furnished with the convex buttons 22 22 as described.

3. In a pedal the combination with the hub and lateral supporting-arms extending therefrom, of a vertical plate, rigidly secured to the outer ends of the arms, and having an upwardly-extending stop extending at an angle with the surface plane of said plate, a stop having a supporting portion mounted to slide laterally in close proximity to said fixed plate, and a clamping device for clamping this supporting portion to the fixed plate.

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