(No Model.)

W. EDGAR.

BICYCLE.

No. 550,490. Patented Nov. 26, 1895.

Fig. 1.

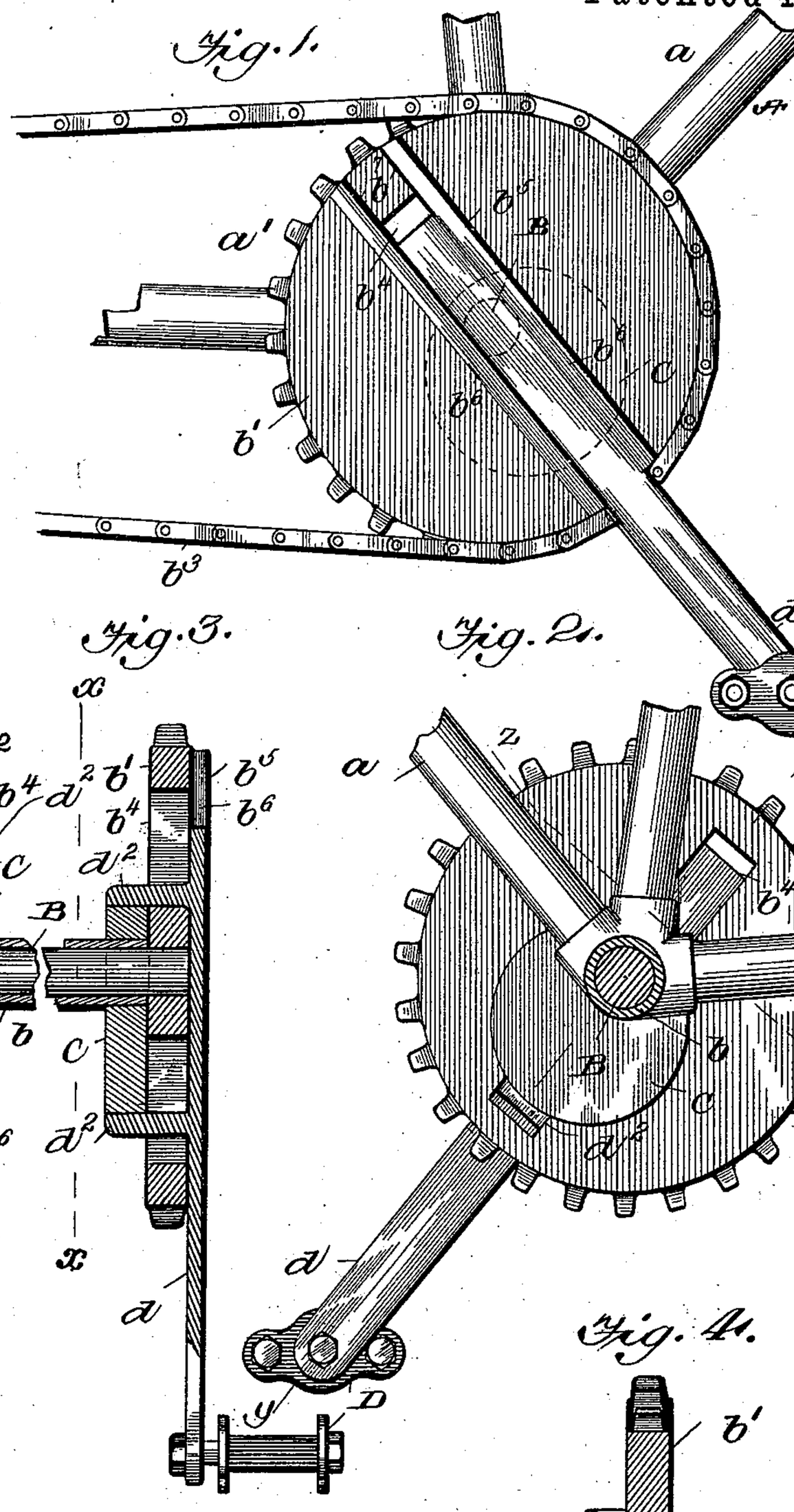
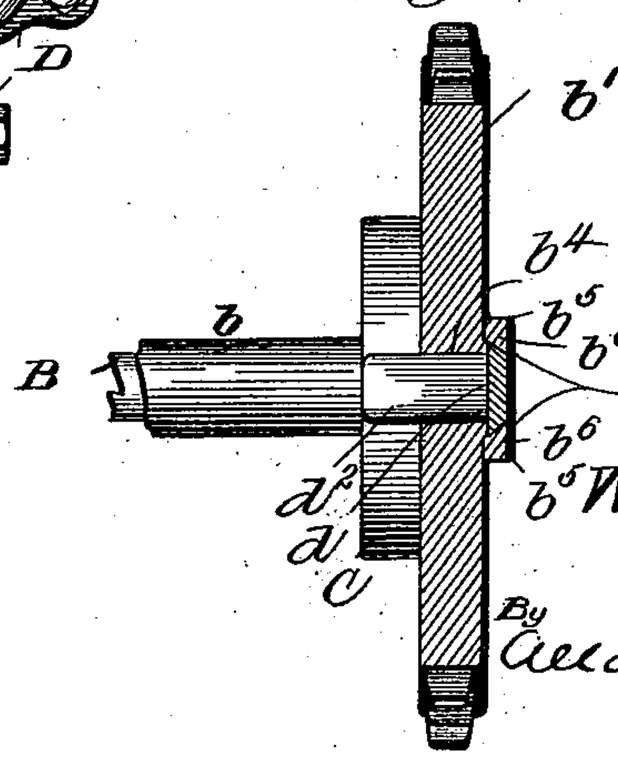


Fig. 3.

Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM EDGAR, OF MOBILE, ALABAMA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 550,490, dated November 26, 1895.

Application filed June 8, 1895. Serial No. 552,143. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDGAR, of Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Bicycles; 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.

This invention contemplates certain new and useful improvements in bicycles.

The object of the invention is to provide improved means for obtaining an increased leverage at the points of greatest pressure on the treadles, whereby greatly accelerated speed is secured. This I accomplish by providing cams or eccentrics, which are engaged by and control the movement of the treadle-levers. The latter are fitted in guideways on wheels of the drive-shaft and have flanges or shoulders which engage the periphery of the cam, said flanges or shoulders extending through slots in said wheels.

The invention comprises the novel features of construction and also the detail combination and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation with parts broken away. Fig. 2 is a vertical sectional view on the line x x, Fig. 3. Fig. 3 is a sectional view on the line y y, Fig. 2. Fig. 4 is a horizontal sectional view on the line z z, Fig. 2.

Referring to the drawings, A designates a portion of a bicycle-frame, the bar a leading to front of the machine, and a' being the rear stay or brace bar.

B is a rotary shaft, which fits snug in a cylinder b, supported by frame A at the point of union of bars a and a'. Upon the ends of this shaft are keyed wheels b' and b^2, the former being a sprocket-wheel, with which the drive-chain b^3 is designed to engage. In each of these wheels is a slot b^4, which extends beyond opposite sides of the shaft. On the outer face of each wheel is a guideway b^5, which consists of two parallel strips b^6, attached to the wheel-face along the line of the slot and provided with beveled or overhanging edges b^7.

C C designate two cams or eccentrics mounted on the ends of cylinder b adjacent to the inner sides of wheels b' b^2. These cams may be round or oval, or any preferred shape.

D D are the foot-treadles pivotally mounted on the outer ends of sliding levers d, which fit in the guideways b^5, so as to be capable of longitudinal movement therein. From the inner face of each of these sliding levers project two flanges or shoulders d^2, which extend through the slot b^4 and engage opposite points on the periphery of the adjacent cams. Antifrictional rollers may be attached to these flanges or shoulders.

In practice the cams or eccentrics are constructed and set according to the length of stroke it is desired to obtain, and they are always so arranged that the maximum leverage will be had at the point of greatest weight or pressure—namely, in the forward downward stroke. The cams permit the levers to move or slide downward as the weight or pressure on the treadles is increased, and in the return or upward movements of the treadle the leverage is decreased—that is, the sliding levers are drawn inward, so to speak, by the cams or eccentrics acting on the flanges or shoulders thereof.

The advantages of my invention are apparent to those skilled in the art to which it appertains, and it will be specially observed that by means thereof ease of operation is obtained, as well as an acceleration of speed.

I claim as my invention—

1. A bicycle having an operating shaft, wheels mounted thereon having slots therein, fixed cams or eccentrics adjacent to said wheels, and sliding treadle-levers movable on said wheels having flanges or shoulders movable in said slots and engaging said cams or eccentrics, substantially as set forth.

2. A bicycle having an operating shaft, wheels mounted thereon having slots therein, guide-ways on said wheels, fixed cams or eccentrics adjacent to said wheels, and treadle levers fitted in said guide-ways and having flanges or shoulders movable in said slots and engaging said cams or eccentrics, substantially as set forth.

3. The combination with the frame, of the cylinder, the shaft supported by said cylinder, cams or eccentrics on said cylinder,

wheels on said shaft having slots and guide-ways, and treadle-levers movable in said guide-ways and having flanges or shoulders extending through said slots and engaging said cams or eccentrics, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM EDGAR.

Witnesses:
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