(No Model.)

E. H. NORRIS.

ATTACHMENT FOR BICYCLES.

No. 603,654. Patented May 10, 1898.

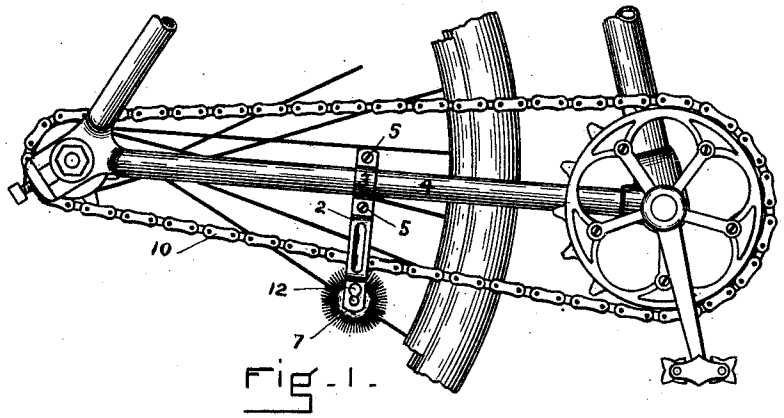


Fig. 1.

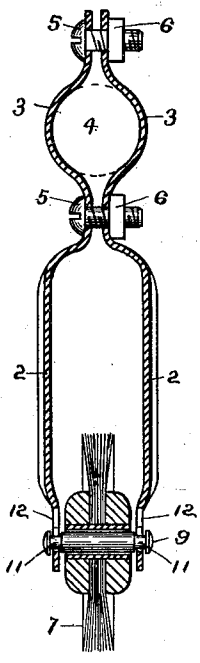


Fig. 2.

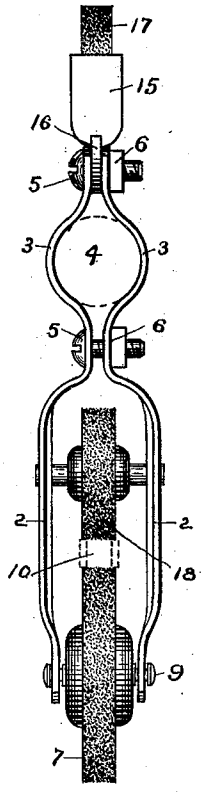


Fig. 3.

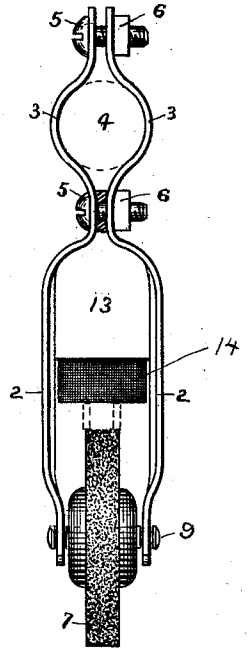


Fig. 4.

WITNESSES

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ATTACHMENT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 603,654, dated May 10, 1898.

Application filed March 15, 1897. Serial No. 627,675. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. NORRIS, a citizen of the United States, residing at Providence, in the county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Attachments for Bicycles, of which the following is a specification.

My invention relates to attachments for bicycles, and more especially to devices for automatically cleaning the sprocket-chain of a bicycle when it is in motion, the object of my invention being to provide a device of this character which shall operate with practically no noise or friction and shall also be simple in construction and efficient for its intended purpose.

My improved attachment may, if desired, include a device for lubricating the sprocket-chain.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a bicycle with a preferred form of my invention applied thereto. Fig. 2 is a central vertical transverse section of the attachment shown in Fig. 1. Fig. 3 is an edge view of a slightly-modified form of my attachment. Fig. 4 is a similar view of another modified form.

My attachment comprises two similar arms 2 2, preferably stamped from sheet metal and bent, as shown at 3 3, to embrace the rod 4, which forms a part of the bicycle-frame. These arms are clamped together by bolts 5 and nuts 6. Between the arms 2 2 is mounted to rotate a brush 7, which, in order that it may rotate with as little noise and friction as possible, is provided with a metal core or journal 8, fitted to turn on the stationary axle 9. In this manner a long bearing is provided for the brush 7, which reduces the wear on these parts and will run for a much longer time without being oiled than would be the case if the axle were fixed to the brush and journaled in the arms 2 2.

When my device is secured in place on the rod 4, the lower portion of the sprocket-chain 10 passes between the arms 2 2 and rests upon the brush 7, and as there is always more or less "slack" in the chain at this point its own weight keeps it always in contact with the brush, whereby the latter is made to rotate and clean the chain as said chain passes over it.

The axle 9 is grooved near its ends, as at 11, and is held in place in the arms 2 2 by having its grooves 11 passed into the narrow portions of keyhole-slots 12 formed in said arms, the circular portions of these slots 12 being of such size as to permit the ends of the axle 9 to pass through them. The narrow portions of said slots point away from the sprocket-chain, as shown, and the pressure of said chain against the brush 7 thus assists in keeping the axle in its proper position.

It will be noticed that the brush 7 bears against the outside of the sprocket-chain. If desired, the inside of the chain may be lubricated by a suitable device, as shown in Figs. 3 and 4. In Fig. 4 I have shown for this purpose a metal casing 13, within which is secured one end of a tongue or pad of yielding absorbent material 14, which is arranged to bear against the inside of the sprocket-chain in opposition to the brush 7. In use the pad 14 is saturated with a lubricant and thus lubricates the chain as the latter passes beneath it. The casing 13 is shaped to conform to the upper part of the space inclosed by the arms 2 2 and is held in place between said arms by having the lower bolt 5 passed through its upper end, as shown, so that it may be tightly clamped in place by means of the nut 6 on said bolt.

In Fig. 3 I have shown a different form of lubricator, consisting of an oblong receptacle 15, clamped by means of a flange 16, projecting from its bottom between the upper ends of the arms 2 2, the upper bolt 5 passing through said flange. In this receptacle 15 is journaled a small brush 17, which in use bears against the inside of the upper portion of the sprocket-chain and is rotated thereby, and thus applies to the chain in an obvious manner the lubricant with which the receptacle 15 is partly filled.

A supplementary brush 18 may, if desired, be used in connection with the brush 7 for cleaning the chain, as shown in Fig. 3. This brush 18 and its axle may be constructed and secured to the arms 2 2 in the same manner as the brush 7 and its axle, and the brushes are located at such a distance apart that the sprocket-chain must come in contact with both of them as it passes between them.

I claim as my invention—

1. An attachment for bicycles comprising two arms 2 2 arranged to be clamped to a bicycle-frame and to receive the sprocket-chain between them, and a brush mounted to rotate between said arms and support said sprocket-chain, for the purpose set forth.

2. An attachment for bicycles comprising two arms 2 2 arranged to be clamped to a bicycle-frame and to receive the sprocket-chain between them, keyhole-slots in said arms having their narrow portions pointing away from the sprocket-chain, an axle having grooved ends held in said keyhole-slots, and a brush mounted to rotate on said axle and support said sprocket-chain, for the purpose set forth.

3. An attachment for bicycles comprising two arms 2 2 arranged to be clamped to a bicycle-frame and to receive the sprocket-chain between them, a brush mounted to rotate between said arms and support said sprocket-chain, and a lubricating device held between said arms and arranged to bear against the inner surface of the sprocket-chain, for the purpose set forth.

In testimony whereof I have hereunto subscribed my name this 8th day of March, A. D. 1897.

EDWARD H. NORRIS.

Witnesses:
GEORGE J. DEVON,
JOSEPH L. MULVEY.