No. 645,482. Patented Mar. 13, 1900.

J. A. MILLS.

FAN ATTACHMENT FOR BICYCLES.

(Application filed Aug. 30, 1899.)

(No Model.)

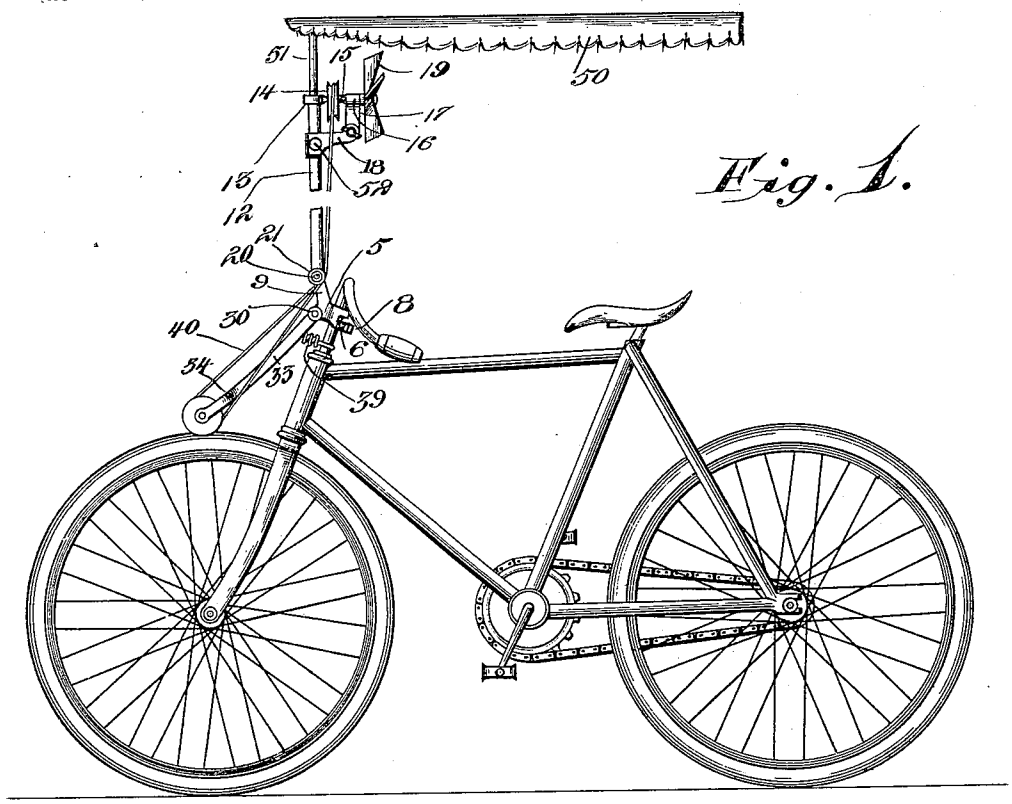


Fig. 1.

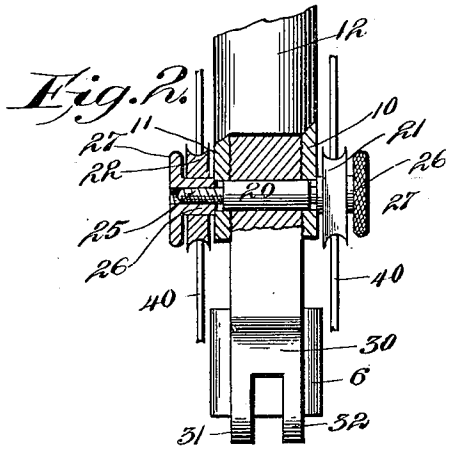


Fig. 2.

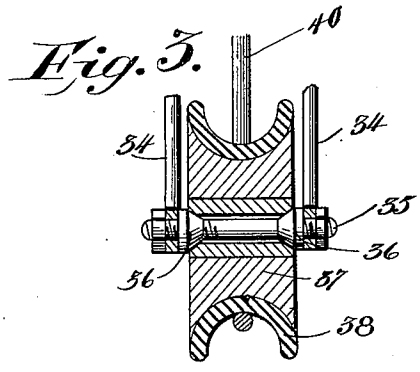


Fig. 3.

Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN ANDREW MILLS, OF GAINESVILLE, TEXAS, ASSIGNOR OF TWO-THIRDS TO JOHN D. NANCE AND SAMUEL J. KENNERLY, OF SAME PLACE.

FAN ATTACHMENT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 645,482, dated March 13, 1900.

Application filed August 30, 1899. Serial No. 728,982. (No model.)

To all whom it may concern:

Be it known that I, JOHN ANDREW MILLS, a citizen of the United States, residing at the city of Gainesville, in the county of Cooke and State of Texas, have invented a new and useful Fan Attachment for Bicycles, of which the following is a specification.

This invention relates to attachments for bicycles, and more particularly to fan attachments, although incidentally it includes a sunshade; and one object of the invention is to provide a simple and efficient construction which may derive power from the front wheel of a bicycle and will operate to set up a current of air, and thus fan the rider of the machine.

A further object of the invention is to enable the employment of a sunshade to be supported by the same means that supports the fan.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate corresponding parts in the several views, Figure 1 is a side elevation of a bicycle equipped with the fan-operating mechanism and a fan and having the sunshade applied. Fig. 2 is a front elevation of a portion of the bracket and fan-supporting tube, a portion of the bracket being shown in section. Fig. 3 is a vertical central section of the driving-wheel of the mechanism, the supporting-axle and its attaching means being shown in elevation.

Referring now to the drawings, 5 represents a bracket comprising a collar 6, adapted to fit over the stem 7 of the handle-bar of a bicycle and having bolts 8 and a clamp-plate which clamps the collar against movement with respect to said stem.

The bracket 5 comprises an upper arm 9, which is adapted to lie between the ears 10 and 11 at the lower end of a supporting-tube 12, at the upper end of which is fixed a collar 13, having a support for a pulley 14, and which support consists of a shaft 15, one end of which is pivotally connected with the collar 13 and the opposite end of which is adapted to rotate in a journal 16, carried by a support 17, pivotally connected with the bracket 18, which is adjustable longitudinally of the tube 12. The shaft 15 projects beyond the journal 16 and upon its outer end is provided with a rotary fan 19, as shown. The pivotal connection of the support 17 with the bracket 18 enables vertical adjustment of the bracket 18 to hold the shaft 15, and therewith the fan 19, at a proper angle. Thus if the pulley 14 is rotated such motion will be contributed to the shaft 15 and thence to the fan 19.

In order to rotate the pulley 15 to operate the fan, the pivot-bolt 20, passed through the ears 10 and 11 and through the end 9 of the bracket 5, has guide-pulleys 21 and 22 mounted thereon for rotary movement. The bolt 20 has a central major diameter causing it to fit snugly in said perforations of the ears and bracket, the extremities of said bolt being reduced, as shown at 25, and threaded thumb-nuts being screwed onto said threads and being adapted to engage the ears 10 and 11 and clamp them tightly against the arm 9 to hold the tube 12 against pivotal movement. These thumb-nuts comprise each a central cylindrical portion 26 and an end flange portion 27, which portion 27 of each nut is knurled to facilitate its adjustment. The pulleys 21 and 22 are mounted directly upon the cylindrical portions 26 of the nuts.

The bracket 5 is provided with a second and lower projection or arm 30, with which is pivotally connected an arm 33, having a fork 34 at its lower end. The extremities of the sides of the fork 34 have alining perforations in which is mounted a shaft 35, having suitable bearings 36 for a wheel or roller 37, the periphery of which is grooved to receive a correspondingly-shaped tire 38, of rubber or other suitable material.

The arm 33 is movable upon its pivot, and in order to hold the roller 37 normally in engagement with the front wheel of the bicycle a spring 39 has one end fixed thereto and its opposite end fixed to the stem of the handle-bar. Thus will the spring 29 act to yieldably hold the roller 37 in engagement with the wheel of the bicycle and will permit the roller rising for the passage thereunder of any collection of matter upon the wheel with which it is engaged. It will thus be seen that by passing an endless belt or cord 40 over the pulley 37, then upwardly under pulley 21, over pulley 14, down and under the

pulley 22, and finally to the pulley 37 motion of the pulley 37 under the influence of the bicycle-wheel will be contributed to the shaft 15 and will act to rotate the fan 19; also, that as the front wheel is turned from side to side in the steering of the bicycle the apparatus above described will be in operation at all times.

As shown in Fig. 1 of the drawings and as hereinbefore mentioned, a sunshade 50 is adapted for use in connection with the other mechanism of the device, and this sunshade consists of an umbrella portion, from one end of which there depends a rod or tube 51, which is adapted to enter the tube 12 and to be held at different elevations therein through the manipulation of a suitable set-screw 52.

With the structure shown it will be seen that as the front wheel is turned to steer the bicycle the fan mechanism will turn with it, so that it will be at all times in operative position; also, it will be readily appreciated that the height of the sunshade may be adjusted as desired and that if preferred at any time it may be entirely removed.

It will of course be understood that in practice any style of bearing may be employed for the different portions of the device and also that the specific construction and the material employed may be varied without departing from the spirit of the invention; also, that the parts of the apparatus may be adjusted to lie at different angles to deliver the air in different directions. Furthermore, while the present invention is shown as applied to a bicycle it will be understood that it may be employed in any connection to which it is adapted.

Having thus described the invention, what is claimed is—

1. An attachment for bicycles, comprising a bracket, arms carried by the bracket, a yoke pivotally connected with one of the arms and having a roller journaled therein, a support carried by a second arm, connections between the support and bracket a fan carried by the support, means for transferring motion from the roller to the fan, and means for holding said roller yieldably in a predetermined position.

2. A bicycle attachment, comprising a bracket, a yoke pivotally connected with the bracket, a roller rotatably mounted in the yoke, a support pivotally connected with the brackets, guide-pulleys mounted upon the pivot of said support, a fan rotatably mounted upon the support, a shaft for the fan, a pulley mounted upon said shaft and a belt connecting the pulley in the yoke with the fan-pulley and adapted to transfer motion from one to the other.

3. A device of the class described, comprising a bracket, an arm carried by the bracket, a support having ears inclosing the arm, alining perforations in the ears and arm, a bolt passed through said perforations and adapted to clamp the arm and support in fixed relation, guide-rollers carried by the bolt, a fan having a shaft supported by the support, a pulley carried by the shaft, a yoke pivotally connected with the bracket, a pulley rotatably mounted in the yoke, and a belt disposed upon said pulleys and adapted to transmit motion from the yoke-pulley to the fan-pulley.

4. A device of the class described, comprising a bracket having a collar adapted to receive and hold the stem of the handle-bar, an arm upon the bracket, a tubular support having ears inclosing said arm, alining perforations in the ears and arm, a bolt passed through said perforations, set-nuts in threaded engagement with the ends of said bolt and adapted to engage the ears and clamp them against the bracket-arm, guide-pulleys rotatably mounted upon portions of said nuts, a fan-shaft carried by the support and adapted for adjustment to lie at different angles thereto, a fan carried by said shaft, a pulley carried by the shaft, a yoke pivotally connected with the bracket, a roller journaled in said yoke, means for holding said yoke yieldably at one limit of its motion, and a belt engaging said roller and pulleys and adapted to transmit motion from one to the other.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN ANDREW MILLS.

Witnesses:
W. L. BLONTON,
J. M. WRIGHT.