(No Model.)

R. C. FAY.

BICYCLE BRAKE.

No. 484,953. Patented Oct. 25, 1892.

Fig. 1

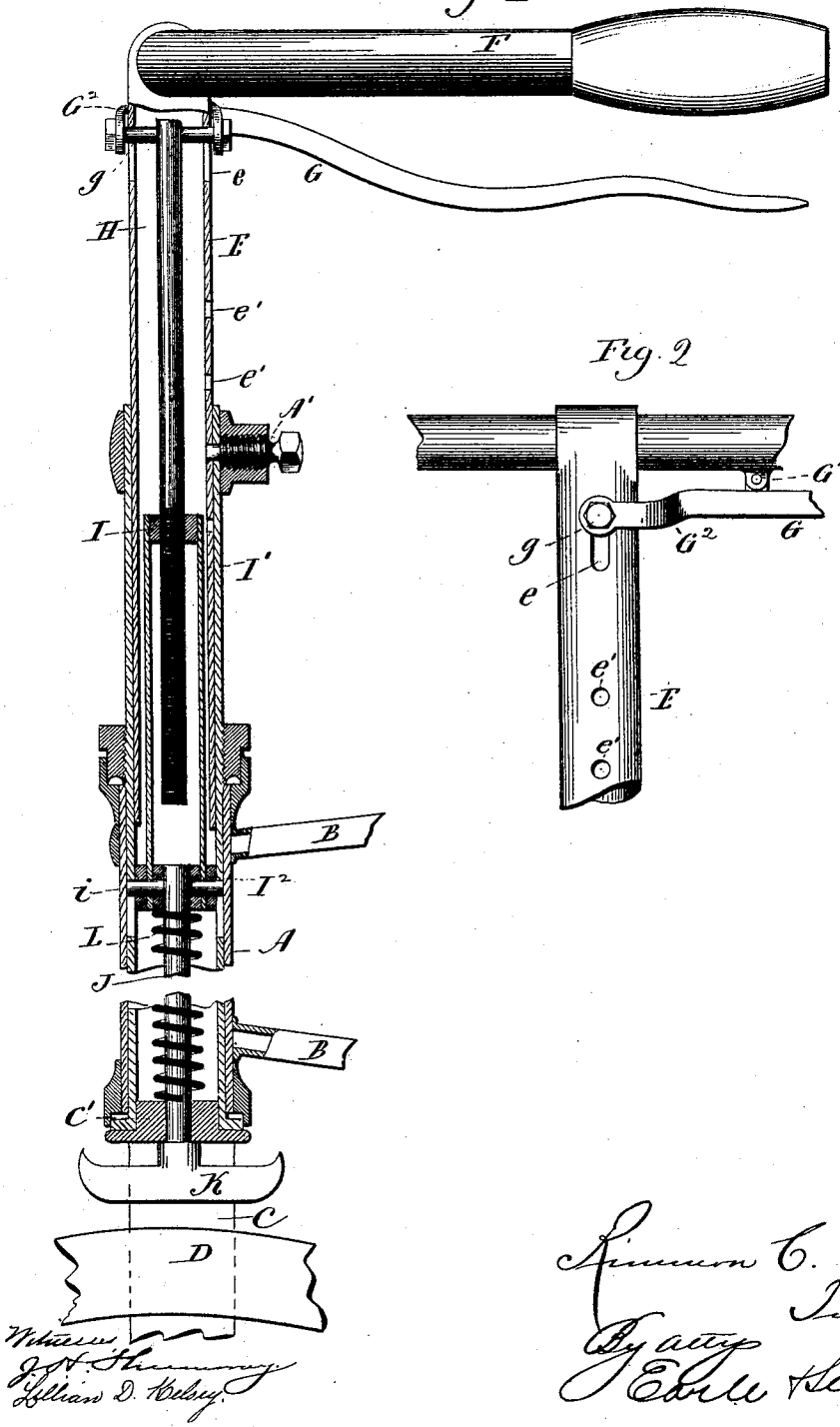

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Fig. 2

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RIMMON C. FAY, OF ILION, NEW YORK, ASSIGNOR TO THE REMINGTON ARMS COMPANY, OF SAME PLACE.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 484,953, dated October 25, 1892.

Application filed March 28, 1892. Serial No. 426,776. (No model.)

To all whom it may concern:

Be it known that I, RIMMON C. FAY, of Ilion, in the county of Herkimer and State of New York, have invented a new Improvement in Bicycle-Brakes; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in vertical section through the handle-bar and steering-head of a bicycle provided with a brake constructed in accordance with my invention; and Fig. 2, a detached broken view in inside elevation of the handle-bar and its perforated sleeve, showing, also, the operating-lever of the brake.

My invention relates to an improvement in brakes for bicycles, the object being to produce a simple, durable, and effective brake which shall be for the most part concealed and inclosed, whereby the appearance of the machine is improved and the brake protected against accidental injury.

With these ends in view my invention consists in a device having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the steering-head A of the bicycle is supported by tubes B B, connected with it near its upper and lower ends and forming parts of the frame of the machine. The lower end of this head receives the steering-fork C, which embraces the steering-wheel D, while its upper end receives the vertically-adjustable sleeve E of the handle-bar F, which is secured to the upper end of the said sleeve.

The operating-lever G of my improved brake is constructed to extend out under one of the handles of the handle-bar, so that it may be readily manipulated by the fingers of the rider's hand without the removal of the same from the handle. This lever is pivotally suspended from the bar near its inner end, as at G′, and provided at its extreme inner end with a yoke G^2, which is connected by means of a pin *g* with the upper end of a threaded adjustable rod H, located within the said sleeve, which is provided at its upper end with a vertical slot *e*, affording clearance for the pin *g*, before mentioned, as the rod is lifted up and down. The said sleeve E is constructed with a vertical series of holes *e*′, formed in its inner face to receive the inner end of a screw A′, mounted in the extreme upper end of the steering-head and entering the said perforations for the purpose of sustaining the sleeve, and hence the handle-bar, in any desired position of adjustment. The lower end of the rod H is threaded and screwed into a nut I, secured within the upper end of a coupling-tube I′, which is located within the lower end of the said sleeve, and provided at its extreme lower end with a circular guide-block I^2, fitting within the steering-head and vertically movable therein and receiving a horizontal pin *i*, which flexibly connects the upper end of the brake-rod J with the said block, and hence with the coupling tube and rod H. The lower end of the said rod J has bearing in the plug C′, forming the upper end of the steering-fork C, and shaped to enter the lower end of the steering-head, the said end of the brake-rod having the brake-shoe K attached to it, whereby the said shoe is located within the upper end of the fork directly under the steering-head and in close proximity to the steering-wheel D. A spiral spring L, encircling the rod J, is interposed between the block I^2 and the plug C′ and arranged to exert a constant effort to lift the brake-shoe into its retired position, in which it is shown by the drawings, and in which it clears the wheel. It will be seen that the adjustable rod H, the coupling-tube I′, and the brake-rod J form a longitudinally-adjustable connection between the brake-lever G and the brake-shoe K, there being a necessity for a longitudinal adjustment in this connection to accommodate the vertical adjustment of the sleeve E, carrying the handle-bar F. To make the said adjustment, the adjustable rod H is screwed in or out of the nut I, located in the upper end of the coupling-tube, according as the sleeve E is adjusted to raise or lower it. If desired, the place of the nut I might be taken by threads formed directly in the upper end of the coupling-tube.

It will be noticed that most of the members

of my improved brake are located within the steering-head and the sleeve of the handle-bar, whereby they are obscured from sight with manifest improvement in the appearance of the machine, and whereby they are protected against accidental injury in case the machine receives a fall or other rough treatment. The described arrangement of parts also secures a direct acting and efficient brake.

I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations therein as fairly fall within the spirit and scope of my invention.

I am aware that it is old to employ in a brake of the character herein shown and described a rod having an operating-lever connected with its upper end and having its lower end threaded, in combination with a tube provided in its upper end with a nut to receive the threaded lower end of the rod and having the brake-shoe connected with its lower end. I am also aware that it is old to locate a spiral spring within the steering-head to operate a brake-rod extending through the same and connected at its upper end with an operating-lever and at its lower end with a brake-shoe. I am further aware that it is old to construct the fork with a plug to enter the lower end of the steering-head. I do not therefore claim any of these constructions, broadly, but only my particular construction.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bicycle, the combination, with a steering-head, of a fork provided at its upper end with a plug which is inserted into the lower end of the said head and thereby secured thereto, a vertically-adjustable sleeve located in the upper end of the said head, a handle-bar mounted on the upper end of the said sleeve, an operating-lever pivoted to the said handle-bar, an adjustable rod located within the said sleeve and head, pivotally connected at its upper end with the inner end of the said lever and having its lower end threaded, a coupling-tube located within the said head and longitudinally movable therein, a nut located in the upper end of the said tube to receive the threaded lower end of the adjustable rod, a guide-block attached to the lower end of the tube and fitting within the head, a brake-rod located within the lower end of the said head and having its inner end flexibly connected with the said guide-block and its outer end passed through the plug of the steering-fork, a brake-shoe attached to the projecting outer end of the said brake-rod, and a spring encircling the said rod and interposed between the said guide-block and the plug of the fork for holding the shoe in a normally-retired position, substantially as set forth.

2. In a bicycle, the combination, with a steering-head, of a fork provided at its upper end with a plug which is inserted into the lower end of the said head and thereby secured thereto, a vertically-adjustable sleeve located in the upper end of the said head, a handle-bar mounted on the upper end of the said sleeve, an operating-lever pivoted to the lower face of the handle-bar and constructed at its inner end with a yoke, an adjustable rod located within the said sleeve and head, a transverse pin connecting the arms of the said yoke with the upper end of the said rod and passing through elongated slots formed in the upper end of the sleeve to receive its ends, a coupling-tube located within the said head and longitudinally movable therein, a nut located in the upper end of the tube to receive the lower end of the adjustable rod, which is threaded, a guide-block attached to the lower end of the tube and fitting in the head, a brake-rod located within the lower end of the said head and connected with the said guide-block by a transverse pin entering the same and having bearing at its outer end in the plug of the fork, a brake-shoe attached to the projecting outer end of the said rod, and a spiral spring encircling the said rod and interposed between the said guide-block and the plug of the fork for holding the brake-shoe in a normally-retired position, substantially as described.

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

RIMMON C. FAY.

Witnesses:
FREDERICK ARMSTRONG,
GEORGE HUMPHREYS.