

UNITED STATES PATENT OFFICE.

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BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 603,774, dated May 10, 1898.

Application filed August 17, 1897. Serial No. 648,512. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MUHLENFELS, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Bicycle-Brakes, of which the following is a specification.

This invention relates to an improvement in bicycle-brakes of that class in which the brakespoon or shoe is mounted upon the steering-post and is operated from the handle by means of a suitable connection which passes through the handle-bar and steering-post.

The object of my invention is to provide a simple and effective device of the above character which is capable of being adjusted accurately to bring the brake-shoe to the proper point to bear upon the tire of the wheel when operated, and, furthermore, to provide a device in which the brake-shoe can be applied to the tire with varying pressures, as may be desired, up to a point that will bring the wheel to an absolute stop.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a vertical central section through the steering-head and a portion of the frame of a bicycle of the "safety" type, showing my brake attached thereto. Fig. 2 is a face view of the brake-shoe and its adjacent parts detached from the steering-post, and Fig. 3 is a view of a modified form of the adjusting device for increasing or diminishing the length of the flexible connection between the brake-shoe and its operating device.

The steering-head of the bicycle is denoted by A, and within it is mounted the steering-post B, as is usual. The steering-post B is provided with side forks *b*, one only being shown in the accompanying drawings, between which the bicycle-wheel, the rim C and tire *c* only being represented, is free to rotate.

The post *d* of the handle-bar D is secured within the steering-post B to turn therewith, as is usual. A suitable roller *d'*, over which the flexible connection to be hereinafter described passes, is mounted at the junction of the handle-bar with its post.

The brake-shoe is denoted by E, and it is secured between the opposite downwardly-extended arms *f* of a rocking lever F. The arms *f* are provided with elongated slots *f'*,

through which passes a bolt *e*, which bolt passes also through the shoe E. This bolt is provided with a suitable clamping-nut *e'*, whereby the shoe E may be adjustably secured at different points toward and away from the free ends of the arms *f*. The rocking lever F is hinged to a clip G, as shown at *f*², the clip G being secured in any suitable manner to the lower end of the steering-post B. The lever F is provided with a forwardly-extended portion *f*³, which in the present instance consists of a pair of arms forming extensions of the arms *f*, the said arms *f*³ being connected at their forward ends by a suitable cross-bar *f*⁴, located just below the mouth of the steering-post B. A spring H is engaged with the lever F and the clip G, tending to rock the lever F rearwardly, and thereby hold the shoe E away from engagement with the tire *c*.

The lever F of the brake-shoe is connected with the brake-operating device located at the handle-bar grip in the following manner: A flexible connection I, in the present instance shown as a chain, extends from the handle-bar J to an adjusting-tube *i*, which adjusting-tube is engaged by a screw *i'*, the head of which engages the cross-bar *f*⁴ on the forwardly-extended portion of the lever F. By the turning of the said screw *i'* the connection between the brake-operating device and the brake-shoe may be lengthened or shortened, as may be desired. Instead of this adjusting device *i i'* just described I am enabled to provide the flexible connection I intermediate its ends with a bar *i*², secured permanently to one portion of the connection I and having a series of holes *i*³, which may be engaged by a suitable pin *i*⁴, carried by the end of the other portion of the connection I.

Proceeding to describe my brake-operating device, the handle-bar grip J is composed of two sections *j j'*, the section *j* being mounted permanently upon the handle-bar D and the section *j'* hinged thereto. The section *j'* is provided with a sector *j*², which is adapted to be swung into and out of the interior of the handle-bar D as the section *j'* is rocked. The upper end of the flexible connection I is secured permanently to the outer end of the sector *j*², and as the section *j'* of the grip is swung downwardly the flexible connection I

is drawn upwardly and outwardly, thereby causing the brake-shoe E to engage the tire. When the section *j'* is released, the spring H will cause the lever F to return to its normal rearward position, thereby drawing the connection I inwardly and downwardly and closing the section *j'* of the grip. By the use of this device I am enabled to cause the shoe E to grip the tire *c* to the required degree, and when so desired a very powerful grip can be obtained upon the tire *c*, as the whole weight of the rider can be applied to the swinging section *j'* very readily and quickly.

The shoe E as it wears out may be readily adjusted downwardly between the arms *f* of the lever F.

It is evident that slight changes might be made in the construction and arrangement

of the several parts. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim as my invention is—

A bicycle-brake comprising a brake-shoe and means for operating it consisting of a grip composed of two sections, one being mounted permanently upon the handle and the other being hinged to the permanent section and normally in line therewith, the said hinged section being connected with the brake-shoe, whereby, as the section is rocked, the shoe will be operated, substantially as set forth.

CHARLES MUHLENFELS.

Witnesses:

ADAM NICKEL,
RUDOLPH GROSS.