No. 674,279. Patented May 14, 1901.

M. L. NICHOLS.

BICYCLE BRAKE.

(Application filed May 28, 1900.)

(No Model.)

Fig. 1

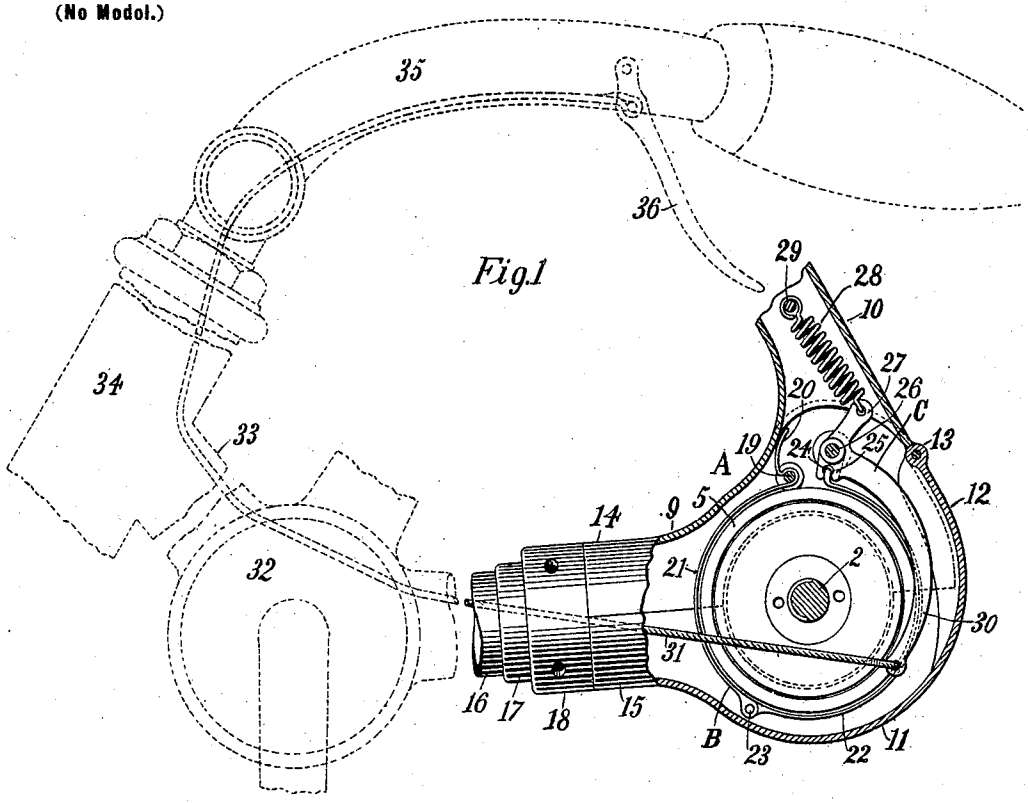


Fig. 3

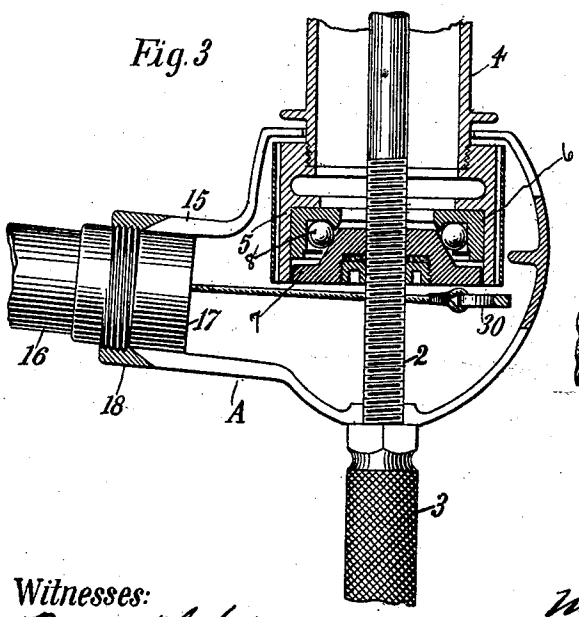
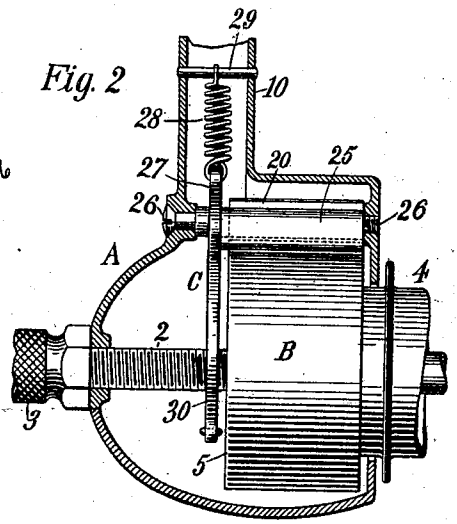


Fig. 2



Witnesses:
Raphael Netter
Augustus Lee Jr.

Manon L. Nichols Inventor

by T. S. Mowrin Atty

UNITED STATES PATENT OFFICE.

MARION L. NICHOLS, OF WESTFIELD, NEW JERSEY.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 674,279, dated May 14, 1901.

Application filed May 28, 1900. Serial No. 18,225. (No model.)

To all whom it may concern:

Be it known that I, MARION L. NICHOLS, of Westfield, county of Union, State of New Jersey, have invented a new and useful Bicycle-Brake, of which the following is a specification.

My invention relates to improvements in bicycle-brakes; and it consists in the features of construction hereinafter more particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a sectional side elevation of the brake, the crank-hanger, handle-bar post, and handle-bar being shown in dotted lines to illustrate the means by which the brake is operated. Fig. 2 is an elevation of the brake with the casing removed to show the inclosed parts; and Fig. 3 is a central horizontal sectional detail of the same, showing the brake, the axle, and its bearings.

In the drawings, 2 represents the axle; 3, the step mounted on the outer end of the same; 4, the wheel-hub; 5, a brake-drum screw-threaded upon the hub and itself containing the cup 6, the cone 7, and the balls 8 of the axle-bearing.

A is a two-part housing or casing surrounding and inclosing the above-described parts and the brake hereinafter described. The upper part 9 of A has a stem 10, which is connected to and forms part of one of the rear stays of the frame. The lower part 11 of the casing has a rear upwardly-extending member 12, which is hinged at 13 to the part 9. The forwardly-extending parts 14 and 15, respectively, of the two parts of the casing connect with the rear arm 16 of the frame, the member 14 being brazed or otherwise permanently secured upon the sleeve or collar 17, which is brazed to the rear arm 16, while the lower member 15 is clamped upon the collar 17 by means of the collar-nut 18, screw-threaded upon the collar 17.

The strap-brake B is mounted upon a pin 19, the ends of which are supported in the walls of the housing A. The short end 20 of the brake is bent backward upon itself and bears resiliently upon the inner wall of the casing, thus serving to assist in the "throw-off" action of the brake when it is released.

The brake itself is made up of the two members 21 and 22, hinged together at 23, the part 21 being slightly shorter than the other, so that when the part 22 is turned upon its hinge away from the drum it permits the convenient removal of the drum from the brake. The end of the part 22 engages with a longitudinal slot 24 in the jaw 25, which is mounted upon the pin 26, supported in the opposite walls of the housing, as shown best in Fig. 2. The lever C is rigidly connected to the jaw 25, the short arm 27 of the lever being restrained by means of the spring 28, connecting one end to the lever and the other to a pin 29 in the tubular part 10 of the casing. To the long arm 30 of the lever is connected the cable 31, which runs from the casing through the arm 16, the crank-hanger 32, lower front brace 33, the wheel-head 34, handle-bar 35 to a trigger or lever 36, pivoted within the handle-bar and serving by its operation to pull upon the cable so as to operate the lever C and apply the brake. The described axle-bearings are arranged in the outer end of the drum 5, as shown in Fig. 3, so that the center end of the drum and inclosing brake is intermediate of the two axle-bearings, thereby avoiding the lateral strain, which would be caused in the operation of the brake if it were positioned outside of the bearing.

I claim—

1. A band-brake having the tip of its pivoted end extended and in resilient engagement with a fixed part, whereby said tip acts to throw the band out of engagement with its drum.

2. In combination with a brake-drum, a two-part interhinged band fitted thereto, the member having pivotal support being of less arc than a semicircle, and the other member having detachable engagement with the brake-operating mechanism, and independent springs acting to throw both members off the drum.

3. In a brake of the class described, the combination with the drum and its case of the two-part band fitted to said drum, the rear end of said band being extended and bent upon itself and bearing against the case with resilient pressure so as to tend to throw the band off the drum, the spring-controlled bell-crank lever detachably connected to the

free end of the band, and the cable for operating said lever.

4. The combination with a brake-drum and a housing therefor, of a two-part interhinged band fitted thereto, one member having relative fixed pivotal support upon said housing, and the operating mechanism with which the other member of said brake has detachable connection, whereby said brake can be readily unshipped from said mechanism and the one member folded back upon the other to permit the drum to be withdrawn therefrom.

5. In combination with a drum, a two-part interhinged band-brake fitted thereto, the pivoted member being less than a semicircle, the operating-lever detachably engaging the tip of the other member, and the rear extension upon the pivoted member resiliently engaging a fixed part and tending to throw the brake off the drum.

6. The combination with the axle, the drum carried thereby with its medial line intermediate the axle-bearings, the housing for the drum constituting part of the machine-frame, and the frame member communicating therewith, of the two-part band-brake fitted to said drum, its pivot-support in said housing, the pivoted member of the brake being of less arc than a half-circle, the operating-cable running from said housing through said communicating frame member, and its detachable connections with said brake.

7. The combination with the axle, the drum carried thereby, and the housing for said drum communicating with a frame member, of the two-part interhinged band-brake fitted to said drum and having pivotal support upon said housing, a resilient extension or projection upon the pivoted member of said brake engaging the wall of the housing and tending to throw the brake off the drum, said pivoted brake member being of less arc than a half-circle, the operating-lever and the cable attached to said lever and running through said communicating frame member.

8. The combination with a brake-drum, of a two-part interhinged band fitted thereto, a spring acting to throw away from the drum the member having pivotal support, and an operating-lever detachably engaging the other member of said brake, as and for the purposes specified.

Signed at New York city, New York, this 15th day of May, 1900.

MARION L. NICHOLS.

Witnesses:

EVERETT J. ESSELSTYN,

T. D. MERWIN.