

(No Model.)

A. PERKINS.
CYCLE BRAKE CONSTRUCTION.

No. 505,776.

Patented Sept. 26, 1893.

Fig. 2.

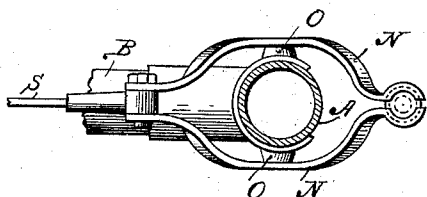


Fig. 1

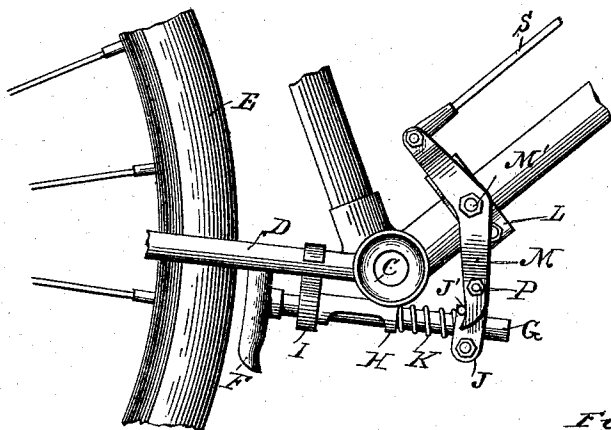
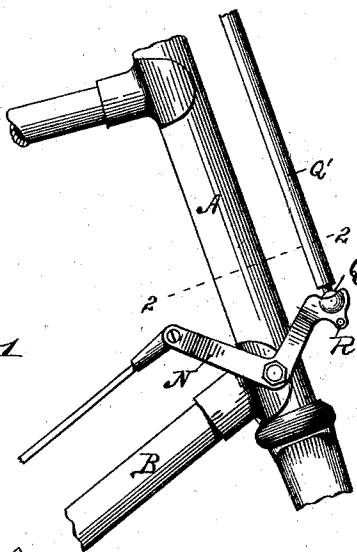


Fig. 3.

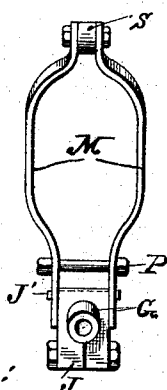
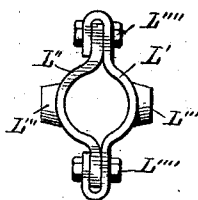


Fig. 4.



witnesses:
Harry B. Potter,
Henry J. Downing.

Inventor:
Albert Perkins
By Hiles & Brune,
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UNITED STATES PATENT OFFICE.

ALBERT PERKINS, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO THE A. G. SPALDING & BROTHERS, OF NEW YORK, N. Y., AND THE LAMB KNITTING MACHINE MANUFACTURING COMPANY, OF CHICOPEE FALLS, MASSACHUSETTS.

CYCLE-BRAKE CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 505,776, dated September 26, 1893.

Application filed December 5, 1892. Serial No. 454,188. (No model.)

To all whom it may concern:

Be it known that I, ALBERT PERKINS, a citizen of the United States, residing at Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Cycle - Brake Construction; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In safety cycles, rear wheel brakes have commonly been actuated by connections passing from the plunger rod along one side of the frame; and as the brake shoe is necessarily in the central plane of the frame, the line of strain could not be direct, or in other words in the plane of the shoe's motion. For obvious reasons this is not entirely satisfactory. The difficulty has in some cases been avoided by the use of two sets of connections, one on each side of the machine; but while this construction gives practically a direct pull in the central plane throughout, it is in itself objectionable in various ways.

The objects of this invention are to obtain this central strain without introducing undesirable features, to combine lightness and strength, to lessen cost and to provide a brake that may be easily and quickly adjusted or even removed from the machine. The means for securing these results may be readily understood by the aid of the accompanying drawings, in which—

Figure 1 is a side elevation showing the novel devices in operative position, parts of the machine not necessary to the comprehension of the device being omitted. Fig. 2 is a section on the line 2—2, Fig. 1, the plunger rod being removed. Figs. 3 and 4 are details.

In these views, A is the steering head of a common safety machine, B the lower member of the frame, C the crank-shaft bearing, D the rear fork and E the rear wheel. The brake shoe F is carried by a shaft G which slides directly in line with the wheel's center in a bearing H secured to the frame below the crank shaft and to a yoke I spanning the rear fork.

The shaft G has near its front end an ad-

justably fixed clip J provided with a horizontal steel pin J' which projects upon each side of the clip, and the shoe is normally held out of contact with the wheel by a spring K coiled about the shaft between the clip J and the bearing H. Upon the frame member B, above the clip J, is secured a clip L, (Figs. 1 and 4) made in halves L', L'', each provided, preferably, with a lateral boss L'''. The part L' has its ends bent back over the ends of the part L'', and through the three thicknesses thus brought together bolts L'''' are passed to hold them together and to bind them upon the member B. Evidently the clip L may be of one piece bent around the member B and having its lower ends secured as set forth above. A centrally open, or double, lever M encircles this clip in such manner that its projecting arms lie in the central plane of the machine, and its two parts are pivoted upon the same axis by means of gudgeons M' passing through the parts, respectively, into the bosses upon the clip. The lower lever arm is a fork whose arms are drawn against the opposite sides of the clip J, by means of a bolt P, in such position that their rearwardly curved edges engage the projecting ends of the pin J'. The head A is encircled by a bell-crank lever N of analogous construction whose two branches are pivoted to bosses O upon opposite sides of the head or upon a coupling that embraces the head. The forward ends of this lever are brought together to form a cup for the reception of a ball Q upon the lower end of the plunger rod Q' and are secured together by a bolt or screw R at one side of the cup. The rear lever arm is connected to the corresponding arm of the lever first described by a rod or wire S, approximately parallel to the frame member B and in the same plane with the frame and rear wheel. From the construction it is evident that depressing the plunger rod in the usual manner will force the brake shoe against the rear wheel, and that the line of force will lie wholly in the central plane of the machine. It is further plain that the parts may be readily adjusted and that most of them may be removed or replaced at will, leaving only the partially hidden shaft bearing H in place; or if desired, the parts

supported by that bearing and like it lying below the frame may be allowed to remain. Each half of each of the double levers is struck up complete from sheet steel, and as the strain
5 upon the parts is in the direction of the width of the metal, the steel may be very thin. It is of course possible to make both of these levers in one piece as has been suggested in the case of the clip L, but there is in this case
10 little advantage in so doing.

What I claim is--

1. The combination with the steering head and the plunger having the terminal ball, of the divided bell-crank lever having its
15 branches pivoted upon opposite sides of the head and brought together in front and rear of the head to form two lever arms in the plane of the frame, each of said branches at its forward end being stamped into the form
20 of a half cup to receive the ball upon the plunger.

2. The combination with a frame, a rear wheel brake shoe supported therefrom and a plunger rod near the steering head, of a bell-
25 crank lever having one arm in engagement

with said plunger rod, an adjustable clip clamped to the lower member of said frame near the crank shaft, a lever centrally pivoted upon said clip and having one arm in engagement with shoe carrying devices, and
30 a rod connecting the remaining arm of said lever with the remaining arm of said bell-crank lever.

3. The combination with the frame, of the two frame-embracing levers centrally pivoted,
35 respectively, upon the steering head and the lower frame-member and having their ends all in the central plane of the machine, the plunger rod having a terminal ball embraced by the parts of the front lever, a rod connect-
40 ing the rear arm of the front lever to the forward arm of the other lever, and a rear wheel brake shoe arranged to be operated by the remaining arm of the lever last named.

In testimony whereof I affix my signature in
45 presence of two witnesses.

ALBERT PERKINS.

Witnesses:

SIDNEY SANDERS,
THOMAS C. PAGE.