

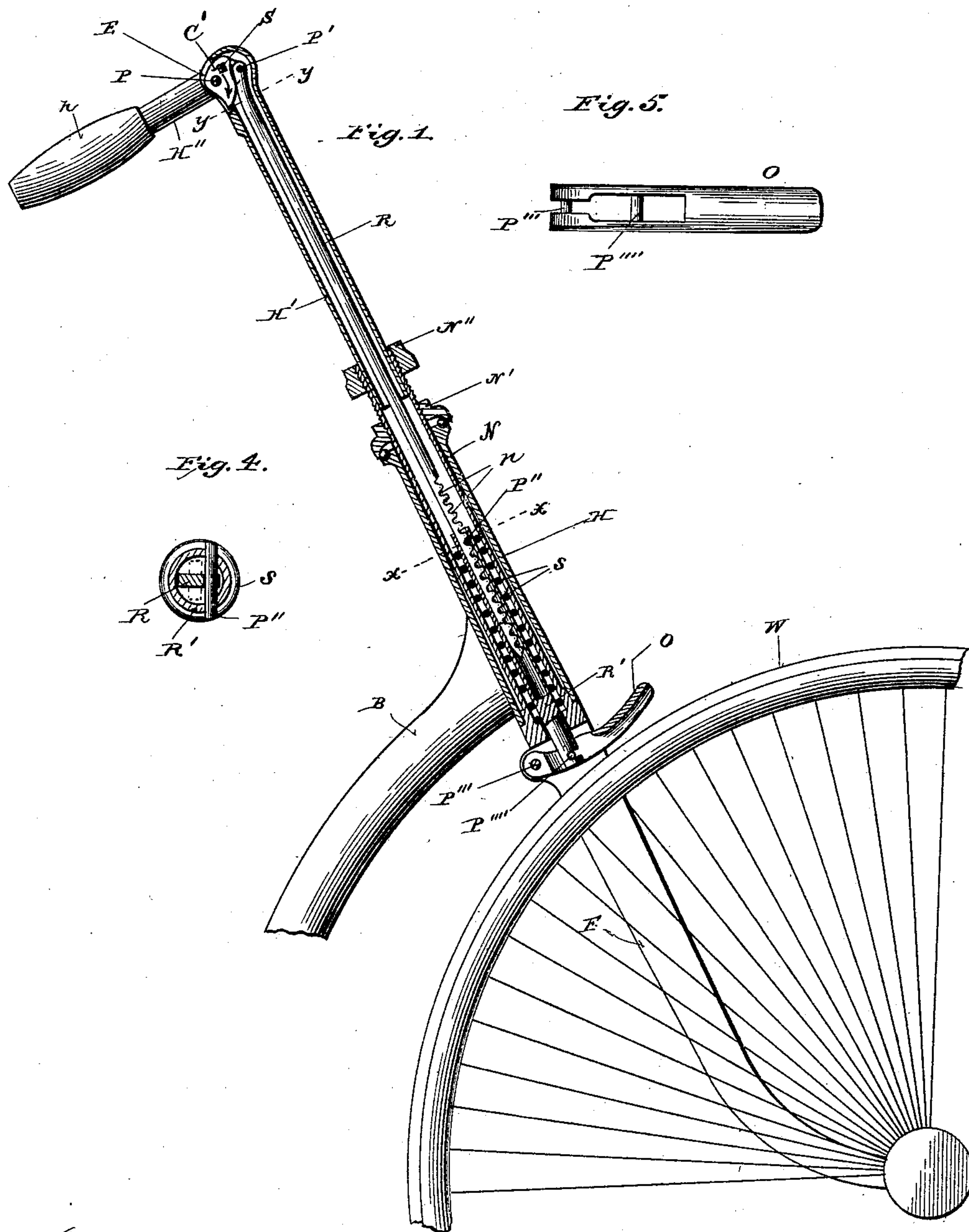
(No Model.)

2 Sheets—Sheet 1.

M. REDLINGER.  
VELOCIPEDE.

No. 452,082.

Patented May 12, 1891.



Witnesses:  
Harry S. Rohrer  
Jm L. Darnall

Inventor  
Michael Redlinger  
By *Wills & Grace,*  
Attorneys.

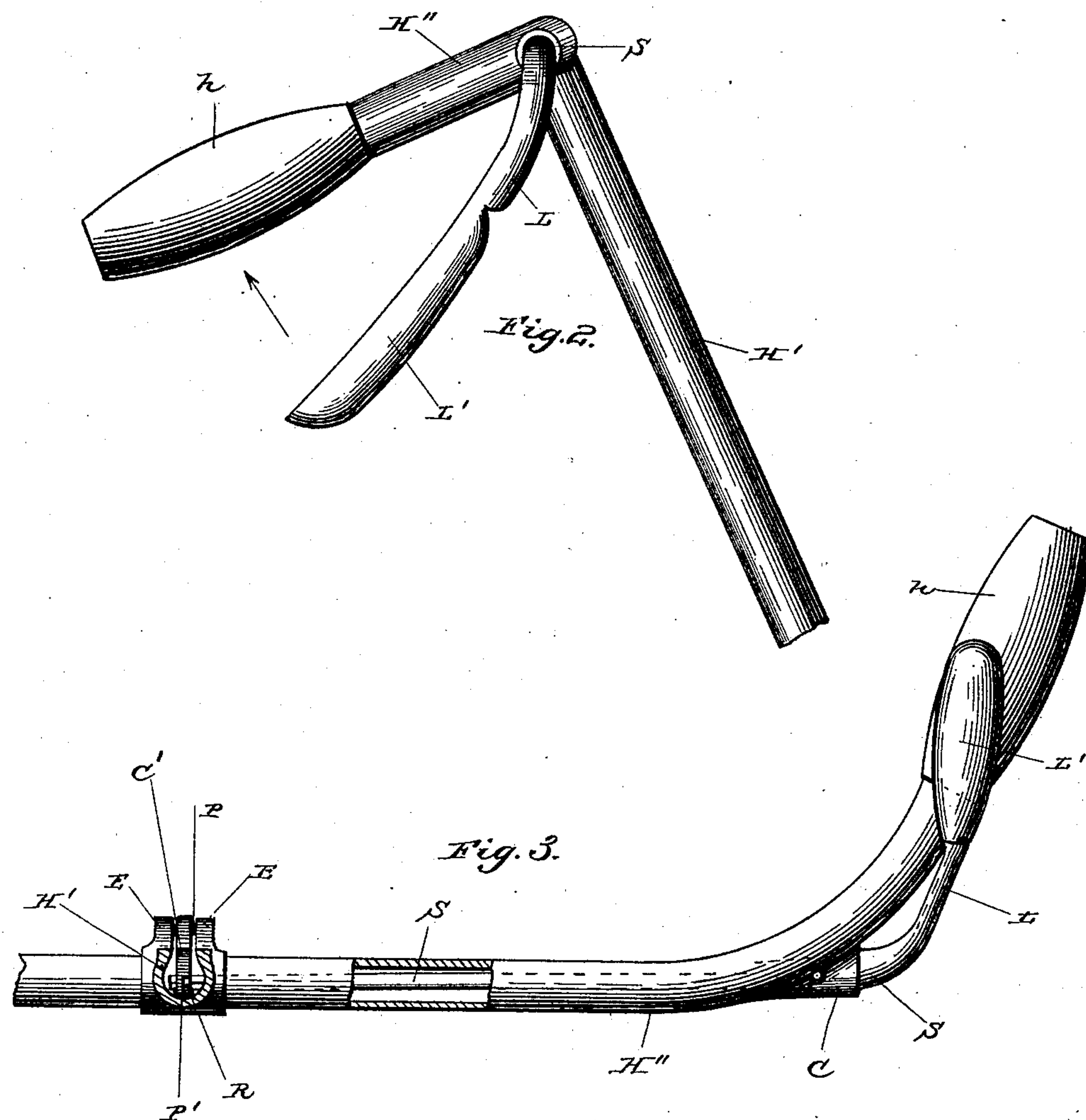
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Harry S. Rohrer.  
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# UNITED STATES PATENT OFFICE.

MICHAEL REDLINGER, OF FREEPORT, ILLINOIS, ASSIGNOR TO LEVI M. DEVORE AND M. H. WILCOXON, BOTH OF SAME PLACE.

## VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 452,082, dated May 12, 1891.

Application filed June 27, 1890. Serial No. 356,973. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL REDLINGER, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Brake Mechanisms for Bicycles; 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 pertains to make and use the same.

My invention relates to improvements in brake mechanisms for bicycles, and is fully described and explained in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a central vertical section of the head of a bicycle, showing the parts of the brakemechanism and their connection. Fig. 2 is a side elevation of the upper part of the handle-bar head, the handle-bar, and the brake-lever. Fig. 3 is a bottom plan of the handle-bar and brake-lever, the handle-bar head being shown as cut by a plane passing through the line *yy*, Fig. 1. Fig. 4 is a transverse section of the brake-rod through the line *xx*, Fig. 1; and Fig. 5 is a top plan of the brake-shoe.

In the views, W is the front wheel, of a "Safety" bicycle.

B is the backbone of the machine.

H is the head rigidly fastened to the front end of the backbone.

N is the tubular neck of the machine journaled in the head and extending above it, and F is one of the members of the two-part fork formed on the lower end of the neck and extending downward on opposite sides of the wheel to the axle thereof. The upper end of the neck N is preferably screw-threaded and split; and the nut N', engaging the screw-threaded portion of the neck forms a cap for an ordinary ball-bearing, which lies between it and the upper end of the head. The lower end of a handle-bar head H' lies within the neck N, and is secured therein by means of a nut N'', which compresses the slightly-tapered split end of the neck and binds it upon the handle-bar head. On the upper end of the handle-bar head is formed a straight handle-bar H'', extending laterally in both directions from the head, and having its ends

curved backward and downward and provided with handle *h*, of ordinary construction. At one end of the straight portion of the handle-bar H'' is formed a hollow cylindrical boss or bearing C, whose axis is approximately coincident with the axis of the handle-bar, and in this bearing is journaled a horizontal shaft S, extending inward beyond the axis of the head H' and having its inner end square or otherwise non-cylindrical. The outer end of the shaft S is provided with a brake-lever L, extending obliquely downward and provided with a handle L', which lies immediately beneath one of the handles *h* of the handle-bar and within reach of the hand of the rider. The inner square end of the shaft S passes through a corresponding opening in a link C', Figs. 1 and 3, which is secured to the handle-bar head by means of a pivot P, passing through the rear margin of the link or through ears E E, formed on the rear edge of the handle-bar head and handle-bar at their point of junction. A brake-rod R is pivoted to the link C' by means of a rivet P', passing through the upper end of the rod and through the front edge of the link, the lower end of the rod being inserted in and connected with a tubular supplemental rod R', which is merely a longitudinally-adjustable continuation or extension of the brake-rod. The lower end of the supplemental rod R' is formed with a notch *n'*, which engages a transverse pin P'''' in the brake-shoe O, whose rear end is connected with the body of the fork by means of a transverse pivot P''', and it is evident that the raising or lowering of the brake-rod R R' must swing the brake-shoe about its pivot P''' and thus press it against or withdraw it from the rim of the wheel W. The lower end of the main brake-rod R is flat, as shown in cross-section in Fig. 4, and is formed with a series of notches *n*, each adapted to engage a transverse pin P'', set in the upper end of the tubular rod R' and preferably projecting at either end beyond the surface thereof. The brake-rod R is of such cross-section that when turned to the position indicated in dotted lines in Fig. 4 it may be moved upward or downward within the tubular rod R' without engaging the pin P'', but when rotated ninety degrees to



the position indicated in full lines in Fig. 4 one of the notches in the rod must engage the pin. This construction affords a very simple and efficacious means for longitudinal adjustment of the parts R R' of the brake-rod, and it is evident that in order to raise or lower the handle-bar head it is only necessary to loosen the nut N'' and turn the handle-bar ninety degrees from its normal position, when the rod R may be raised or lowered to any desired position and the rotation of the handle-bar to its normal position will bring the proper notch of the rod R into engagement with the pin P'' and complete the adjustment of the parts.

A spring s rests at its lower end upon an internal shoulder at the bottom of the tubular neck N, while its upper end presses against a pin P'', already referred to, the spring being compressed in order to bring it into position. This spring tends, therefore, constantly to raise the entire brake-rod to the position shown in Fig. 1, thereby holding the brake-shoe out of contact with the wheel-rim. If, however, when the parts are in their normal position, as shown in Fig. 1, the handle L' of the brake-lever L be raised, the shaft S and link C' are rotated in the direction indicated by the arrow on the link in Fig. 1, and the brake-rod and brake-shoe are thereby pressed downward and the shoe brought into engagement with the wheel-rim. This engagement is broken, however, by the force of the spring s, and the brake-handle L' is returned to its normal position thereby as soon as it is released.

It is evident that the details of construction of the brake-operating mechanism shown in the drawings and hereinbefore described may be varied in many ways without affecting the principal of the operation thereof or dispensing with the essential elements of the invention therein. I desire, therefore, not to

limit the invention to the use of the precise construction shown, but to give it the scope and character expressed in the following claims, to wit:

1. The combination, with the handle-bar head and handle-bar, of the brake-rod lying within said head, the link pivoted to the head and to the upper end of the brake-rod, and the shaft lying within the handle-bar, with its inner end connected to said link to rotate it and its outer end journaled in the handle-bar or an extension thereof and provided with a lever by which it may be rotated.

2. In a brake mechanism for bicycles, the combination, with a suitable brake-shoe, of the two-part brake-rod connected at its lower end with the brake-shoe and provided at its upper end with means for its operation, one of the parts of said brake-rod being a tube provided with a suitably-located transverse pin and the other of said parts being flattened and provided with marginal notches adapted to engage the said pin, whereby the two parts of the brake-rod may be adjusted with reference to each other, substantially as and for the purpose set forth.

3. The combination, in a brake-rod for bicycles, of the rod R, flattened and provided with marginal notches n, a tubular extension R', provided with the transverse pin P'', adapted to engage the notches in the rod R, whereby the two parts may be adjusted with reference to each other, substantially as and for the purpose set forth.

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

MICHAEL REDLINGER.

Witnesses:

J. A. CRAIN,  
S. A. BUCKMAN.