(No Model.)

R. C. FAY.

BICYCLE BRAKE.

No. 553,339. Patented Jan. 21, 1896.

Fig. 1

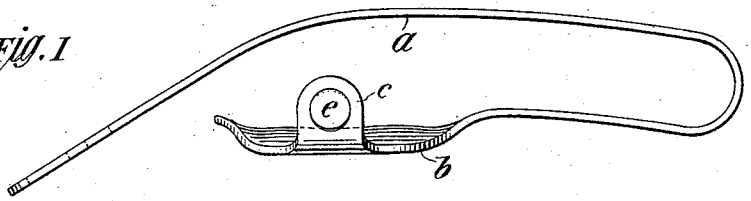


Fig. 2

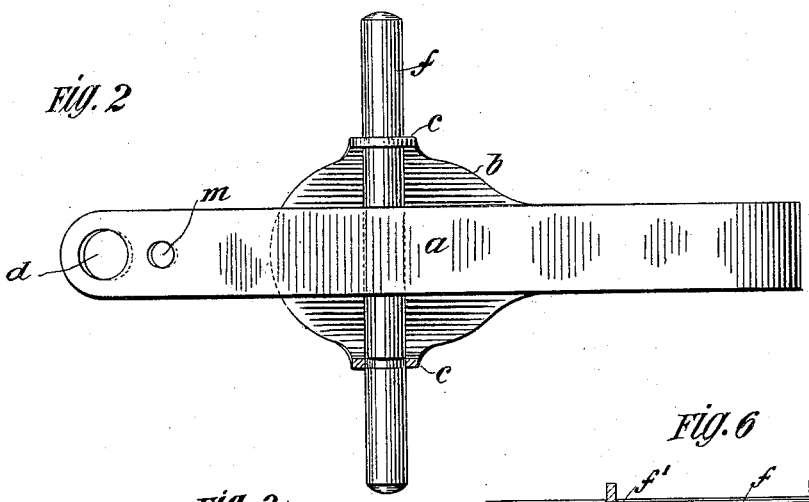


Fig. 6

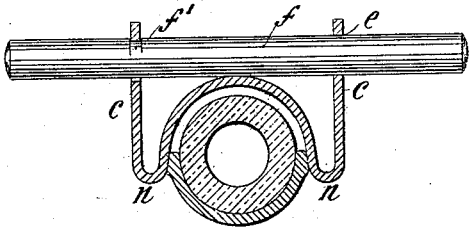


Fig. 3

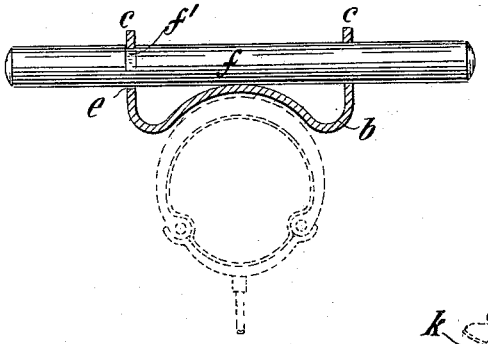


Fig. 5

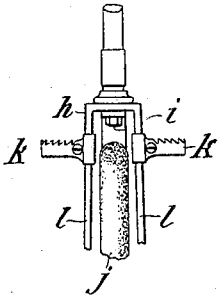
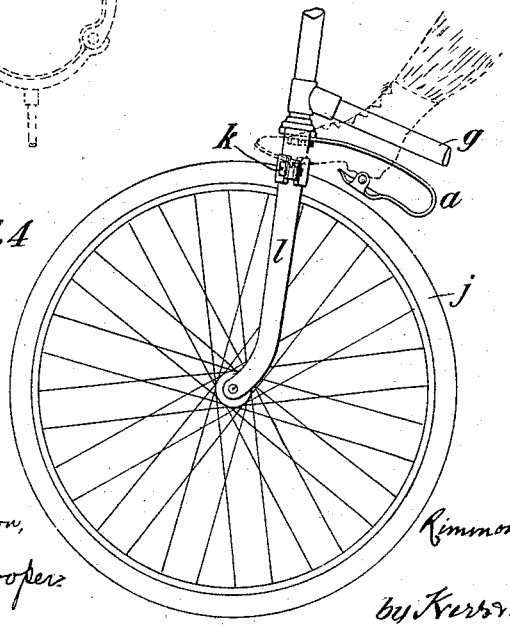


Fig. 4



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Drury W. Cooper.

Rimmon C. Fay, Inventor
by Kerr & Curtis, Attorneys

UNITED STATES PATENT OFFICE.

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. 553,339, dated January 21, 1896.

Application filed February 10, 1894. Serial No. 499,702. (No model.)

To all whom it may concern:

Be it known that I, RIMMON C. FAY, a citizen of the United States, residing at Ilion, in the county of Herkimer and State of New York, have invented a new and useful Improvement in Bicycle-Brakes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of spring-brakes for bicycles which are so mounted and arranged as to be normally out of engagement with the wheel, but capable of being pressed into engagement by the foot of the rider.

My improved brake is preferably so placed with reference to the coasting foot-rests that when the ball of the rider's foot is resting thereon the brake is directly below his heel and can be applied by pressing the heel down upon it. The advantage of this arrangement is obvious when it is remembered that it is in coasting that the brake is mostly required or used.

To enable others skilled in the art to make and use my improvement, I will now describe it by reference to the accompanying drawings, in which—

Figure 1 is a side view of my improved brake. Fig. 2 is a plan view. Fig. 3 is a detail, partly in section. Fig. 4 is a side elevation of the front wheel and fork of a bicycle, showing my improved brake attached thereto. Fig. 5 is a front view of a part of the front fork, showing the coasting foot-rests. Fig. 6 is a modification of the brake, showing it as engaging the rim instead of the tire of the wheel.

Like letters of reference indicate like parts.

The foot-brake *a* is preferably formed of a strip of steel stamped or cut out flat in the shape shown, with a wide disk-like portion *b* having ears or lugs *c* at the opposite sides. A bolt-hole *d* is punched at the forward end and holes *e* are punched in the ears *c*. The ears are bent up at right angles, and the disk *b* is preferably concaved in cross-section to conform to the shape of the tire. The strip is bent to approximate in form to the curve of the wheel and the rear end turned under so that the disk portion shall occupy a position below the arched or curved portion. A piece of rod or thick wire *f* is driven into the holes *e*, so that its middle portion shall impinge or press upon the convex back of the disk *b* and it shall be held in place by the friction of the back and the holes *e*, the resilience of the back causing the rod to be cramped or bound in the holes *e*. The projecting ends of this rod constitute the foot-rests of the brake, such ends being long enough to project from beneath and beyond the sides of the backbone *g* of the bicycle. To guard against the rod *f* being jarred out or displaced, I preferably cut or form a groove or seat *f'*, Fig. 3, in one side near the end, and when it has been driven into place in the holes *e*, I rotate it until the inner face of one of the lugs *c* drops into the seat *f'*, where it will be retained by the pressure of the convex back of the disk *b* and the rod held tightly against lateral displacement.

The brake thus made is fastened to the under side of the crown *h*, Fig. 5, of the front fork by a bolt *i*, which passes up through the hole *d* in the front end of the brake. It is preferably so placed as to extend backward, so that it may be operated by the heel of the rider, and when in this position it extends over the top of the tire *j* of the front wheel and under the backbone *g*, with the ends of the rod *f* projecting outward directly back of the coasting foot-rests *k* which are fastened to the side bars *l* of the front fork.

The operation is indicated in Fig. 4, where a foot is shown with the ball resting on the coaster *k* and the heel on the brake. The brake is normally not in contact with the wheel, but can be applied by merely depressing the heel. As soon as the pressure is removed the resilience of the brake causes it to resume its normal position.

In Fig. 3 the brake is shown as just out of contact with the tire, which is indicated by broken lines.

If desired, a second hole *m* may be made in the end of the spring-strip alongside of the hole *d*, for the purpose of receiving a screw or key to prevent the brake from turning on the bolt *i*.

In Fig. 6 I show a modification of the brake to indicate that it may be used to impinge on the metal rim *n* of the wheel instead of on the

tire. I do not limit myself to any particular form of impinging face for my improved brake. For instance, it may be flat instead of concave. Nor do I limit myself to making it of steel, but include wood or any other suitable resilient material. Of course, if it is made of wood it must obviously be of a different shape from the steel brake shown. It is obvious that it might be turned in the other direction and extend forward beyond the fork, in which case when used the heel would rest on the coaster *k* and the toe on the brake. I do not limit myself to forming the foot-rests of the brake by means of the rod *f*, but include any projection from or lateral extension of the brake-body which would constitute or act as a foot-rest therefor, as will be understood.

The particular construction of brake shown and described herein has great merit. It is efficient, reliable and durable, can be made rapidly and cheaply by machinery, and is neat and tasteful in appearance.

What I claim as my invention is—

1. A brake for bicycles consisting of a strip or bar of resilient material having one end provided with means for attaching it in place and the other end bent back under the body portion to act as an impinging plate, and provided with laterally extending foot rests, substantially as described.

2. A brake for bicycles consisting of a bar or strip of spring steel bent upon itself and provided at one end with means for attaching it to the vehicle, and at the bent end with perforated lugs and a wire or rod secured in the perforations of the lugs and extending laterally to form foot rests, substantially as and for the purposes described.

3. A brake for bicycles consisting of a bar or strip of spring steel bent upon itself and having at one end provision for attaching it to the vehicle and at the other end a concave disk provided with perforated lugs bent up vertically at the sides of the disk and a rod or bar extending laterally and secured in the perforated lugs, substantially as and for the purposes described.

4. The combination of the spring brake having perforated lugs *c* and transverse rod secured therein by means of a groove or seat *f'*, substantially as described.

In testimony whereof I have hereunto set my hand this 7th day of February, 1894.

RIMMON C. FAY.

Witnesses:

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LEWIS C. MOTT.