

No. 607,857.

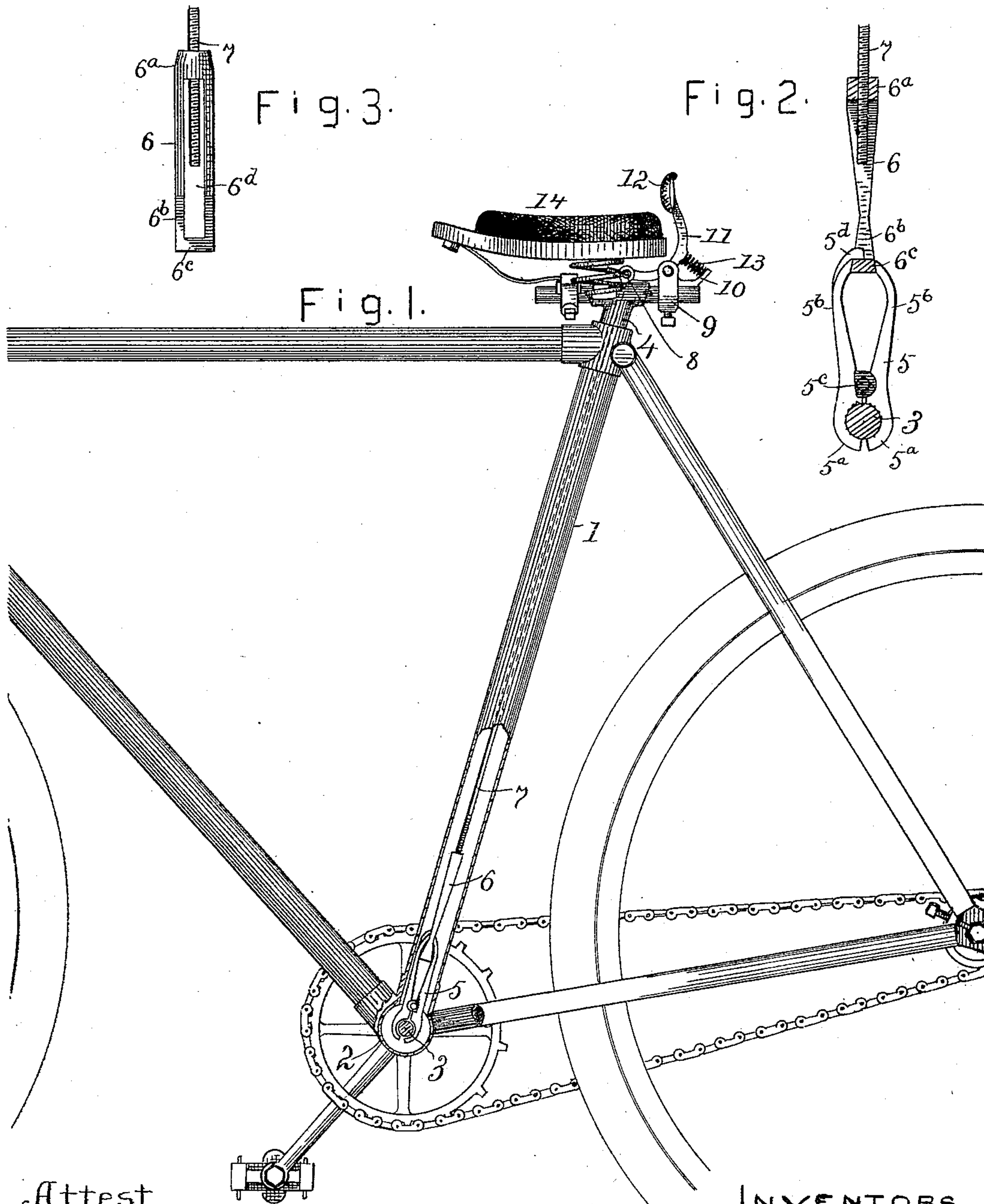
Patented July 26, 1898.

J. & J. F. KAYLOR.

BICYCLE BRAKE.

(Application filed Sept. 24, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOHN KAYLOR, OF DECATUR, AND JACOB F. KAYLOR, OF PEKIN, ILLINOIS.

BICYCLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 607,857, dated July 26, 1898.

Application filed September 24, 1897. Serial No. 652,905. (No model.)

To all whom it may concern:

Be it known that we, JOHN KAYLOR, of the city of Decatur, county of Macon, and JACOB F. KAYLOR, of the city of Pekin, county of Tazewell, State of Illinois, have invented certain new and useful Improvements in Bicycle-Brakes, of which the following is a specification.

This invention is designed to provide an improved brake for bicycles which may be operated to some extent unconsciously in the ordinary effort to stop the wheel by back-pedaling and which will add little, if anything, to the complexity of the external appearance of the bicycle. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of so much of a bicycle as is needed to illustrate our invention, parts of the tubing of the frame being broken away to expose the brake mechanism. Figs. 2 and 3 are details of the brake mechanism.

The seat-post tube is shown at 1, the seat-post at 4, and the seat at 14. The drum that constitutes the bearing for the pedal-shaft is shown at 2, and the shaft is shown at 3. A pair of pincers, as 5, is placed in the seat-post tube with its jaws in position to engage the pedal-shaft 3 and with its lever ends extended upward and turned one toward the other. A wedge-frame 6 has its wedge portion resting between the lever ends in position to force them apart when the wedge-frame is moved upward, and a rod 7 connects with the wedge-frame and extends upward through the seat-post tube and the seat-post and terminates in a head 8. A clasp 9 is attachable to and adjustable on the rear end of the horizontal member of the seat-post, and in the upper portion of the clasp is pivoted a curved arm 11. One end of the arm extends forward from its pivot in an approximately horizontal direction and connects with the head 8 of rod 7, while the other end extends upward slightly higher than the rear end of the seat and is preferably supplied with a forwardly-presented pad, as 12.

When the rider of the wheel is in proper position on the seat, the pad 12 rests against or in close proximity to his buttocks—i. e., the glutæus maximus muscles—and the wedge

hangs low enough to relieve the pedal-shaft from pressure of the jaws of the pincers. When occasion arises for bringing the wheel to a sudden stop, the rider instinctively back-pedals, thereby throwing his body backward on the seat and against the pad of arm 11, and the result is that the forward end of the arm is swung upward, the wedge-frame is raised, and the jaws of the pincers are made to closely embrace the shaft of the pedals and exert a braking action thereon. As soon as pressure is withdrawn from the pad the weight of the wedge-frame and the rod will tend to draw the pad forward to its original position and lower the wedge; but to make the performance of this operation certain a spring may be introduced under conditions that will enable it to force the pad and the wedge to their normal positions. In this particular instance an extension 10 is built backward from the clasp 9 and a compression-spring 13 is interposed between the arm and the extension; but there are obviously many other ways in which spring-pressure may be applied.

The pincers are so constructed that as the levers 5^b are forced apart the jaws 5^a approach each other—a condition resulting from the disposal of the jaws on the same sides of the hinge 5^c as their respective levers—and the wedge causes the jaws to grip the shaft by forcing the levers apart. It is an obvious mechanical proposition, however, that if the pincer members were made to cross each other the jaws would close as the levers were brought together, and in that instance the inclines would embrace the ends of the levers in reverse arrangement. In other words, it is obvious that a reversal of the shown operation of the levers of the pincers could be made to accomplish the desired result, and the term “wedge” is used herein as a general term describing two inclined planes adapted to exert pressure in opposite directions.

The wedge-frame 6 is slotted lengthwise, as shown at 6^d in Fig. 3. It comprises the body portion 6 and the head 6^a, which is threaded to receive the threaded end of rod 7. It is contracted near its lower end and widens thence downward to form the operative inclines 6^b, and its extreme lower end is bridged or solid, as shown at 6^c. The ends of the levers of the pincers rest against the inclined sides of the

wedge portion 6^b, and one of them has an extension 5^d, (see Fig. 2,) which enters the slot in the wedge-frame and forms a guide and a stop. The slot in the wedge-frame enables
 5 the frame to perform the function of a turn-buckle in permitting the lengthening or shortening of the rod to conform to adjustment of the seat-post in tube 1.

The pivot-pin 5^c of the pincers preferably
 10 extends through or into the tube for the seat-post in order to make a more stable support and one that will hold the jaws entirely out of contact with the shaft when the brake is off; but this is not entirely indispensable.

15 In a brake constructed in the manner described scarcely anything is added to make the wheel appear cumbersome or "trappy." The operative parts are either completely or partially protected, and those that are ex-
 20 posed are in an inconspicuous location.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a bicycle-brake, the combination of a pair of pincers the jaws of which embrace
 25 the pedal-shaft inside the crank-hanger therefor, a slide-frame in engagement with the pincer-levers and adapted to open and close the

same by lengthwise motion, an arm pivoted below the seat and having a bearing extended upward in the rear of the seat, and a connection between the side frame and the arm extended through the seat-post and the seat-post tube. 30

2. In a bicycle-brake, the combination of the pincers the jaws of which embrace the
 35 pedal-shaft, the wedge-frame having its wedge portion located between the ends of the levers of the pincers, the rod extended upward through the seat-post tube and the seat-post, and the pivoted arm connected with the rod
 40 and having a bearing extended behind the seat.

Signed by JOHN KAYLOR, at Decatur, Illinois, this 18th day of September, 1897.

JOHN KAYLOR.

Signed by JACOB F. KAYLOR, at Pekin, Illinois, this 20th day of September, 1897.

JACOB F. KAYLOR.

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