

(No Model.)

F. J. H. HAZARD.
BICYCLE.

No. 448,960.

Patented Mar. 24, 1891.

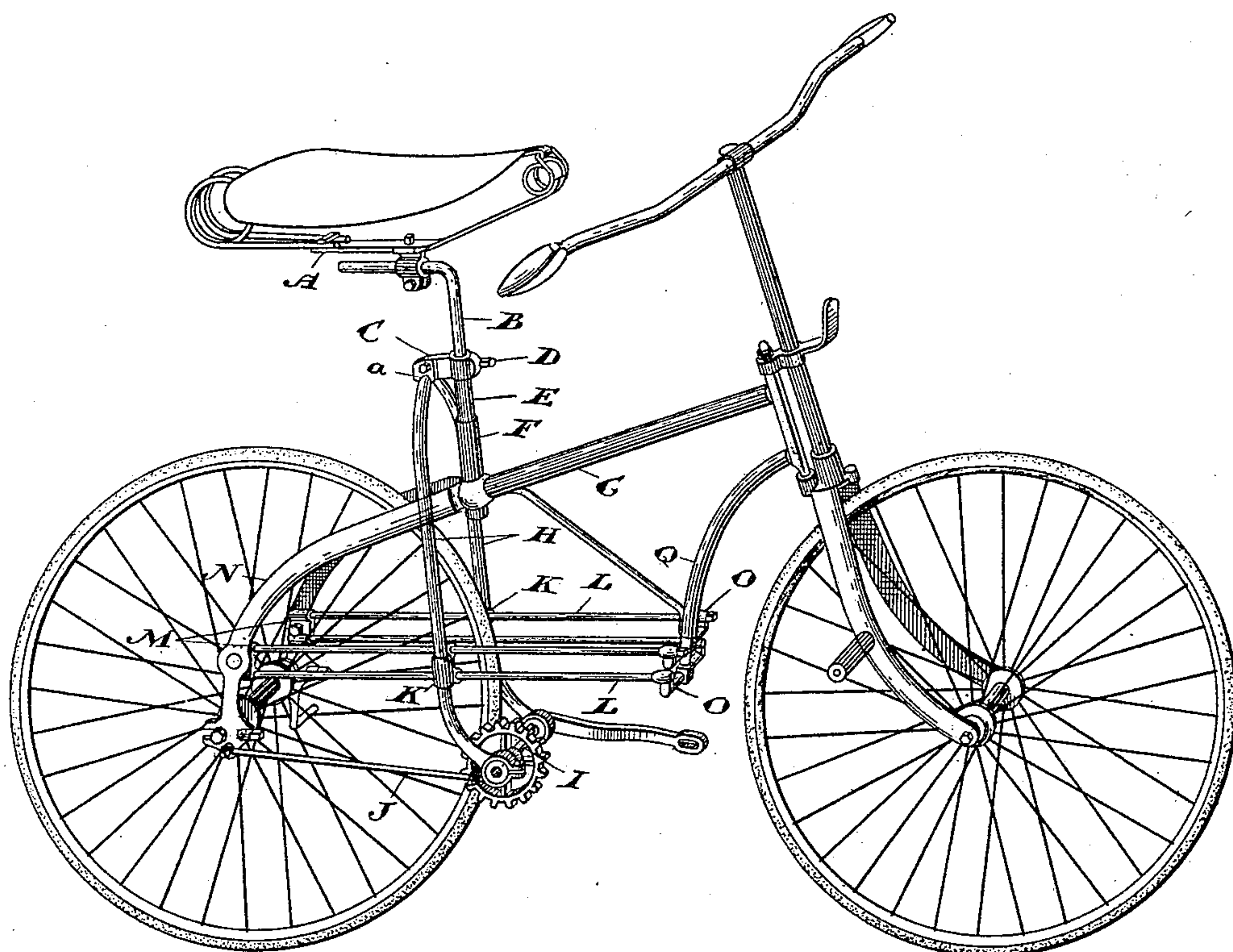


Fig. 1

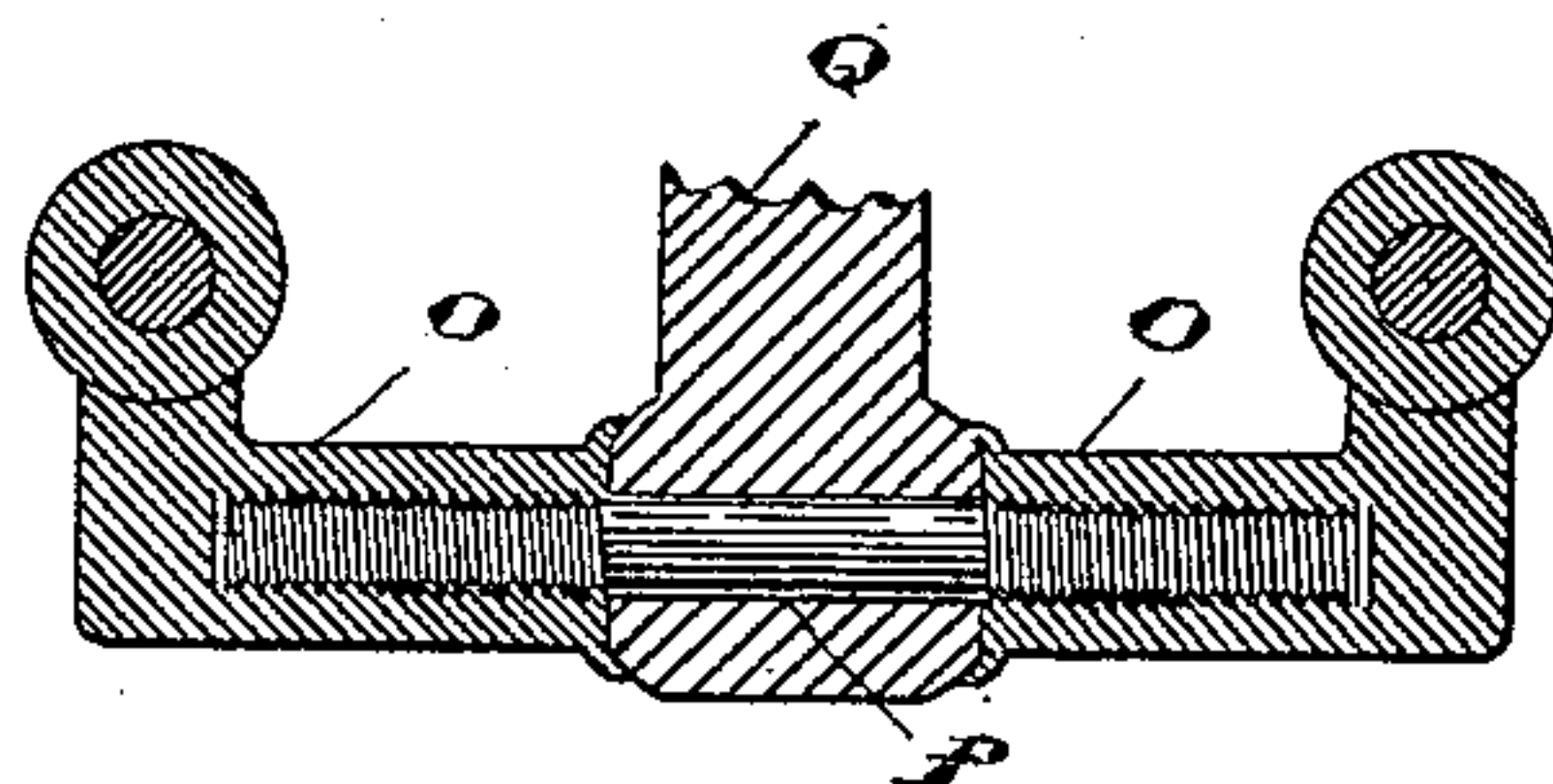


Fig. 2

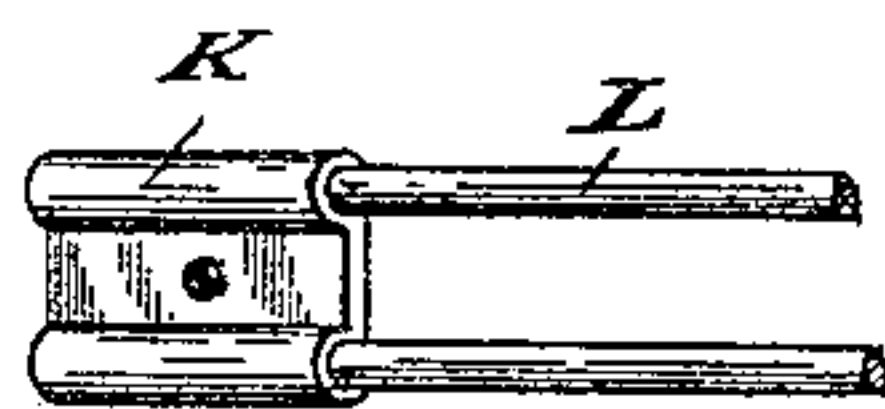


Fig. 3

Witnesses

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FREDERICK JAMES HAWORTH HAZARD, OF TORONTO, CANADA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 448,960, dated March 24, 1891.

Application filed September 6, 1890. Serial No. 384,126. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK JAMES HAWORTH HAZARD, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and useful Improvement in Bicycles, of which the following is a specification.

The object of the invention is to provide a simple and substantial spring-support for the seat of a bicycle; and it consists, essentially, of two or more horizontal spring-rods suitably connected to the rigid frame of the bicycle and designed to form a spring-support for the seat, substantially as hereinafter more particularly explained.

Figure 1 is a perspective view of my improved bicycle. Fig. 2 is a detail of the connection between the spring-rods and the front portion of the rigid frame of the machine. Fig. 3 is a detail of the connection between the spring-rods and the rear portion of the rigid frame of the machine.

In the drawings, A is the seat of the machine, connected in the ordinary way to the pillar B. This pillar passes through a bracket C, provided with a set-screw D. The pillar B is vertically adjustable in the bracket C and is held at any desired point by the said set-screw D.

E is a tube connected to the bracket C and through which the pillar B passes. This tube E is fitted into a sleeve F, rigidly fastened to the backbone G.

H is a bifurcated standard, connected at a to the bracket C and extending down to form a double support for the crank-axle I. Each leg of the standard H is braced by a rod J, arranged as indicated. On each leg of the standard H, I fix a bracket K, which has two eyelet-holes, through which the spring-rods L pass. I prefer to arrange these rods in pairs, as indicated; but of course it will be understood that one rod on each side would be sufficient. The rear end of each rod L is connected to a block M, pivoted, as indicated, on the rear fork N. As shown, I provide one block M for each pair of rods. The front end of each rod J is connected to a crank-arm O. Fig. 2 shows the means of connecting these crank-arms to the frame of the machine. On refer-

ence to this figure it will be seen that a spindle P is loosely journaled in the portion of the frame marked Q and that each end of the said spindle is screwed to receive a crank-arm O, as indicated in Fig. 2. The end of each crank-arm O is cupped to butt against the hub formed around the spindle P, and in this way the dust is prevented entering the bearing of the spindle P. From this description it will be seen that the weight of the seat A is supported by the spring-rods L. The manner described of connecting these rods to the frame of the machine permits the said rods to bend sufficiently to give the necessary spring motion.

What I claim as my invention is—

1. A bicycle having a rigid frame, two spring-rods connected by their opposite ends to said rigid frame, and a seat supported on said rods, substantially as described.

2. Two or more horizontal spring-rods connected to the rigid frame of a bicycle by means of pivot-blocks or crank-arms, in combination with a bifurcated standard connected to the spring-rods and to the seat-standard, substantially as and for the purpose specified.

3. Two or more horizontal spring-rods L, each supported at its rear end by a block M, pivoted on the rear fork of the machine and at its front end to a crank-arm O, pivoted to the front portion Q of the frame, in combination with a bracket K, bifurcated standard H, bracket C, and seat-pillar B, substantially as and for the purpose specified.

4. The seat-pillar B, passing through the bracket C, to which it is adjustably connected by means of the set-screw D, a tube E, connected to the bracket C and movably fitted into the sleeve F, which is fixed to the backbone G, in combination with a bifurcated standard H, connected to the seat-pillar B by the bracket C and to the spring-rods L by means of the brackets K, substantially as and for the purpose specified.

Toronto, August 12, 1890.

FREDERICK JAMES HAWORTH HAZARD.

In presence of—

CHARLES C. BALDWIN,
F. A. WOODWARD.