(No Model.)

W. S. JOHNSON.

SADDLE SUPPORT FOR BICYCLES.

No. 477,123. Patented June 14, 1892.

Fig. 1.

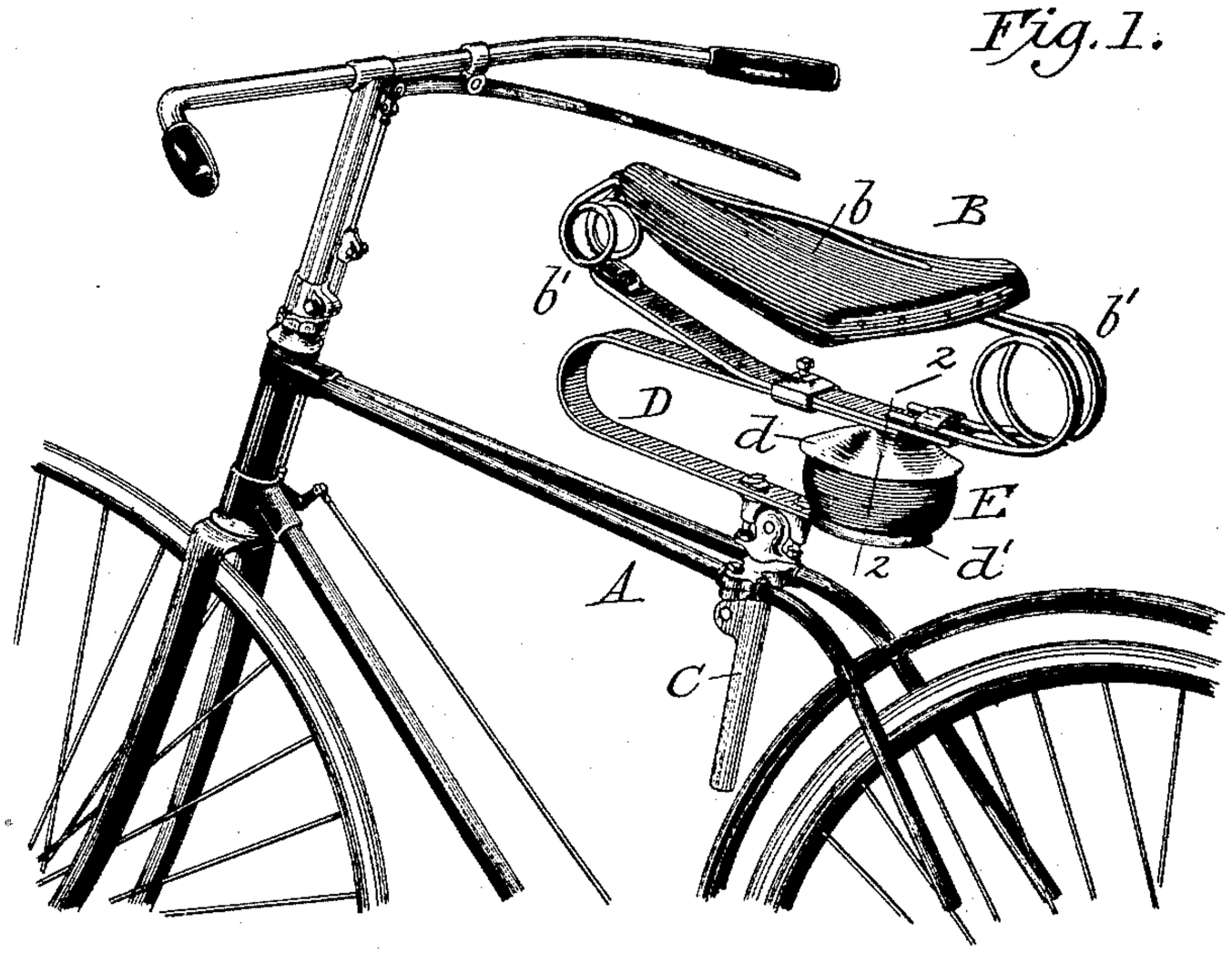
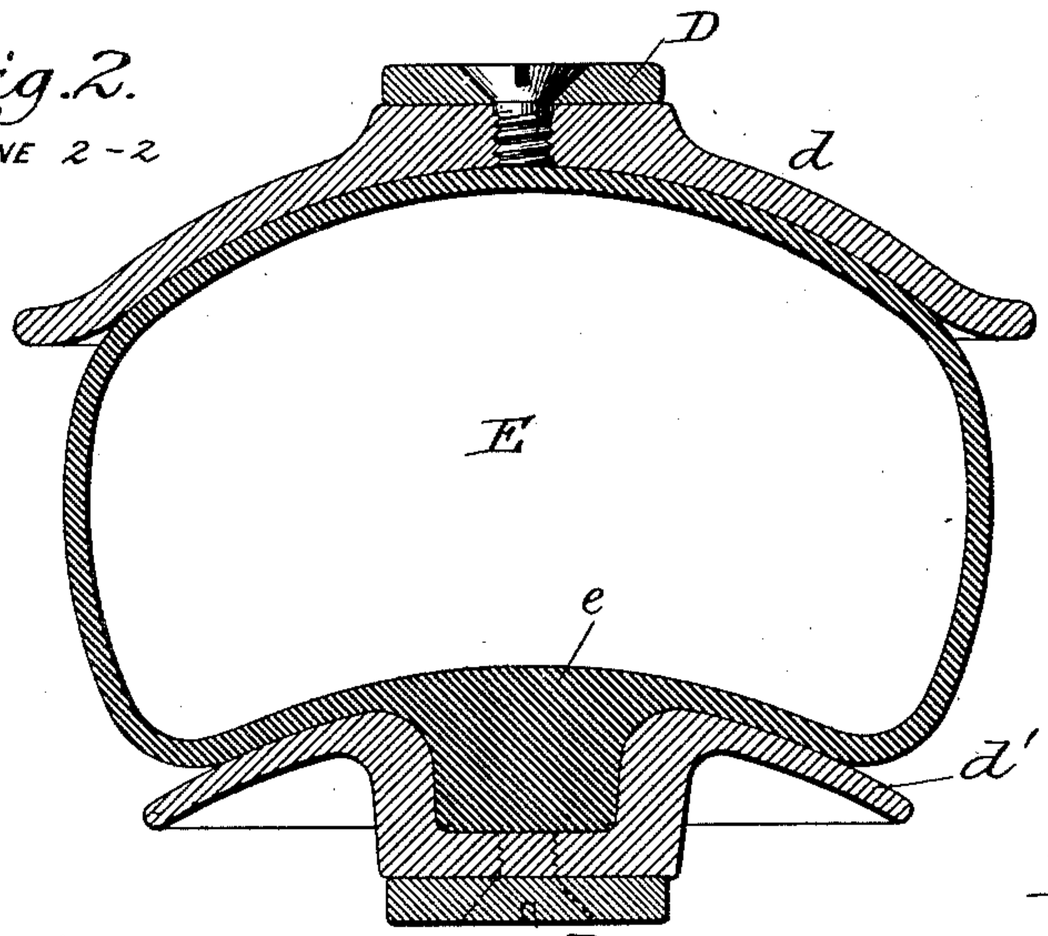


Fig. 2.

ON LINE 2-2



Witnesses

Sidney P. Hollingsworth

T. R. Kennedy.

Inventor

W. S. Johnson

By his Atty

Phil T. Dodge

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WARREN S. JOHNSON, OF MILWAUKEE, WISCONSIN.

SADDLE-SUPPORT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 477,123, dated June 14, 1892.

Application filed November 23, 1891. Serial No. 412,801. (No model.)

To all whom it may concern:

Be it known that I, WARREN S. JOHNSON, of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Saddle-Supports for Bicycles, &c., of which the following is a specification.

The present invention relates to a pneumatic support for the saddles of bicycles and analogous machines intended to relieve the rider from the disagreeable vibration experienced even when riding on the ordinary spring-saddles attached rigidly to the machine.

The present invention may be considered an improvement upon that described in my application filed on the 18th of July, 1891, Serial No. 399,955; and it consists in a compressible pneumatic sack or chamber, combined with guiding and supporting devices, as hereinafter explained, in such manner as to admit of the saddle being sustained wholly or mainly by the sack, while at the same time it is so guided and held as to prevent objectionable longitudinal or lateral motion.

In the accompanying drawings, Figure 1 is a perspective view showing my improved devices in operative position on a bicycle. Fig. 2 is a transverse vertical section on the line 2 2.

Referring to the drawings, A represents the frame of a bicycle; B, a spring-saddle, such as is now in general use, consisting of a flexible sheet or top *b* and an underlying spring-frame *b'*, connected to the extremities of the seat and adapted to support the same and maintain it under tension.

In place of the particular saddle herein shown I may use any of the analogous forms of spring-saddle, of which there are many known in the art at the present day.

C is a vertically-adjustable post or standard attached to the frame and commonly known in the art as the "saddle-post," to which it has heretofore been the custom to directly and rigidly secure the bottom plate of the saddle.

In applying my improvement I introduce between the saddle-post and the saddle a spring-arm D of U form, attaching its lower end to the post and its upper end to the base-plate of the saddle. This spring-arm D is ordinarily made of flat steel of considerable width, in order that it may resist torsional and lateral strains, and thus prevent the saddle from shifting either sidewise or in a fore-and-aft direction, while at the same time it is left free to rise and fall.

Between the rear ends of the spring-arm D, which are momentarily sprung apart, I introduce a sack or chamber E, of rubber or equivalent material, filled with compressed air or other fluid, and intended to sustain the saddle and receive substantially the entire weight of the rider. The rear ends of the arm D are commonly provided with disks or plates *d* and *d'*, having extended surfaces, against which the upper and lower sides of the compressible sack are seated. The sack is preferably made, as shown, with a neck *e*, extending down into a cavity in the sustaining-plate *d'*, in order that the sack may be held the more securely in position. The sack may be inflated in any suitable manner, and, if desired, provided with a hollow neck or tube for this purpose. I prefer, however, to construct the sack in one piece without any opening whatever and to effect its inflation by the decomposition of chloride of ammonia therein. If the sack thus formed should at any time require to be reinflated, it is best effected by the use of a hypodermic syringe, the needle of which will readily puncture the neck of the sack. The opening formed by the needle is so small that when it is withdrawn the contraction of the rubber and the external pressure will insure the tight and permanent closure of the opening.

It is to be understood that the arm D is not a saddle-supporting spring in the ordinary sense of the word. It is made of such length and thickness as to yield readily in a vertical direction, and is not relied upon to carry any portion of the weight of the saddle, its object being simply to prevent the saddle, which is sustained by the pneumatic sack, from shifting out of position. It is obvious that the arm D may be constructed in any form adapted to operate as hereinafter described.

Having thus described my invention, what I claim is—

1. A saddle-support for a bicycle, consisting of a double or bent spring having a compressible pneumatic sack between its arms.

2. In combination with a bicycle-frame and

a saddle complete in itself, an intermediate support consisting of a spring fixed at one end to the frame and at the opposite end to the saddle to resist lateral and longitudinal motion of the latter, and a compressible inflated sack acting to sustain the weight of the saddle.

3. The combination of the seat-post C, the spring D, fixed at one end thereto, the saddle fixed to the opposite end of said spring, and a compressible inflated sack secured between the ends of the spring, substantially as described and shown.

In testimony whereof I hereunto set my hand this 25th day of September, 1891, in the presence of two attesting witnesses.

WARREN S. JOHNSON.

Witnesses:
CHAS. E. CRUVER,
C. W. TANK.