No. 606,775. Patented July 5, 1898.

C. A. F. BERG.

BICYCLE SADDLE POST.

(Application filed Nov. 25, 1896.)

(No Model.)

Fig: 1.

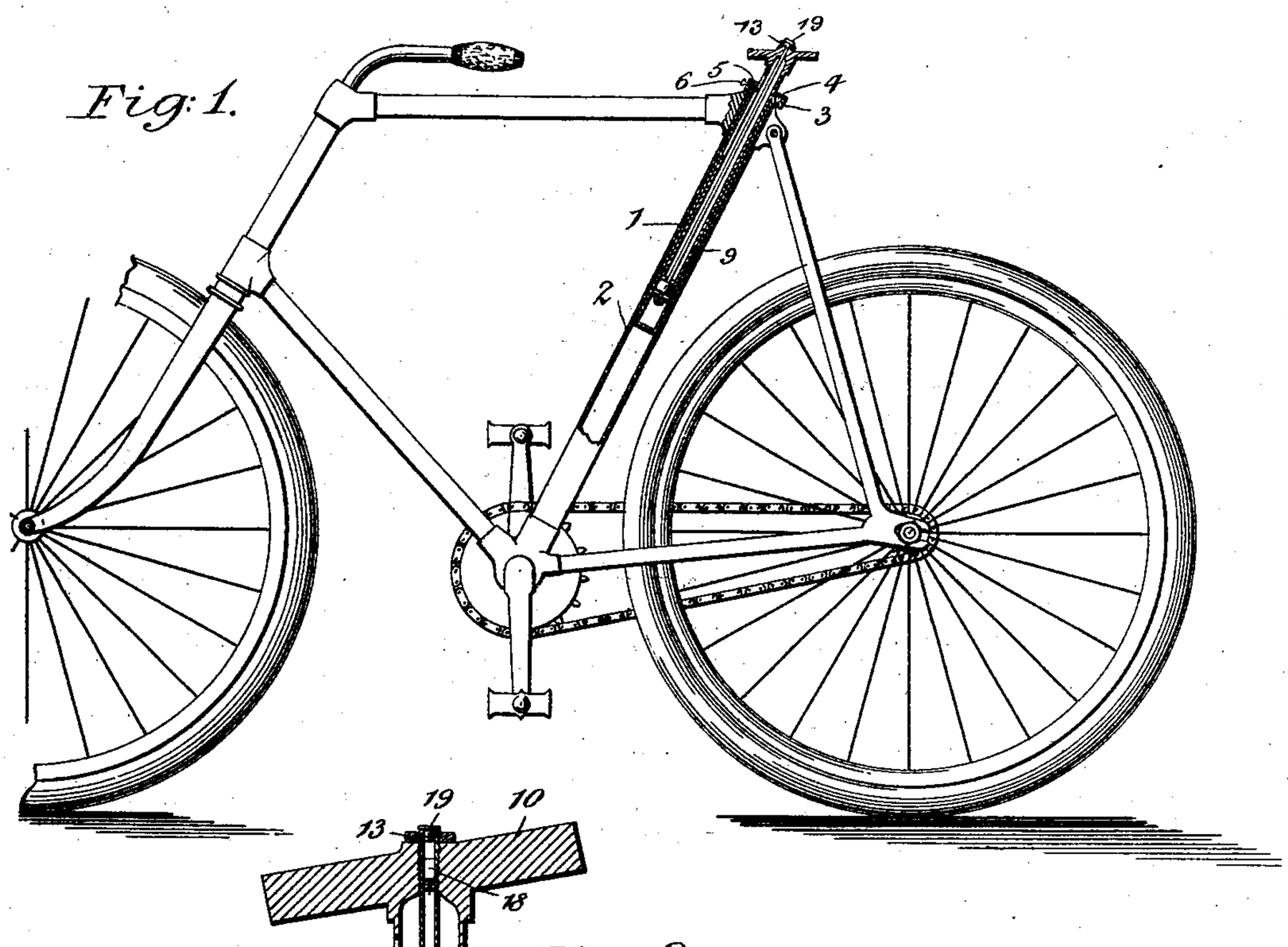


Fig: 2.

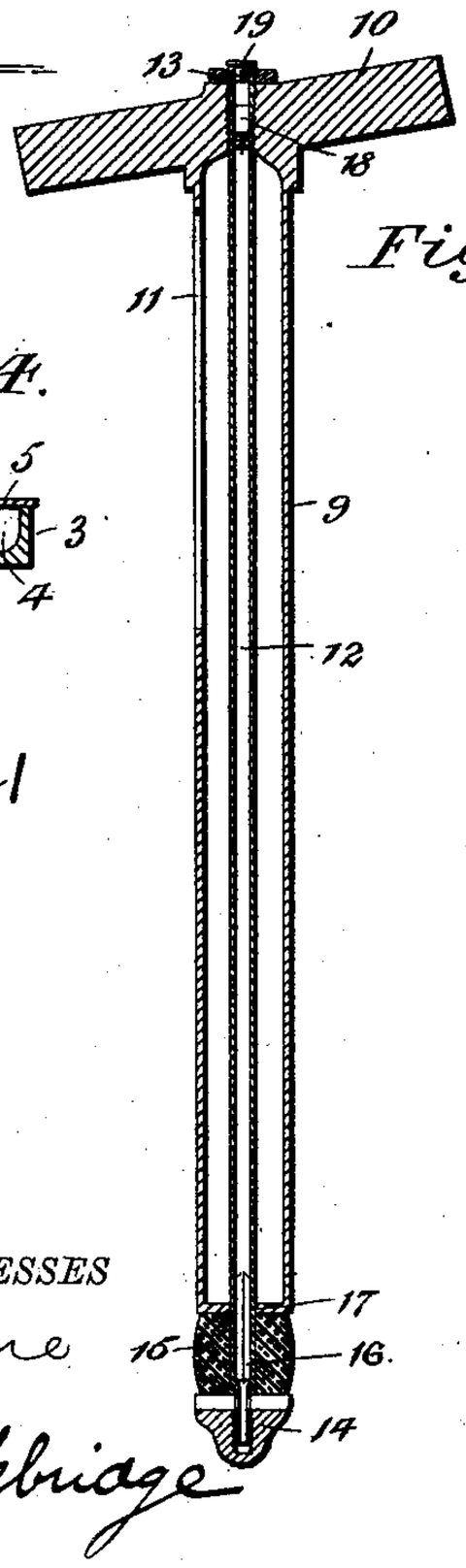


Fig: 4.

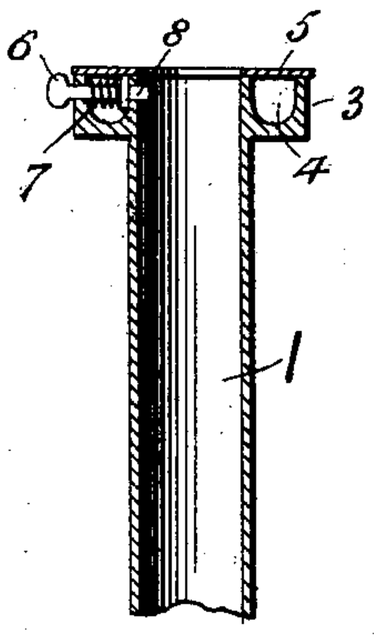
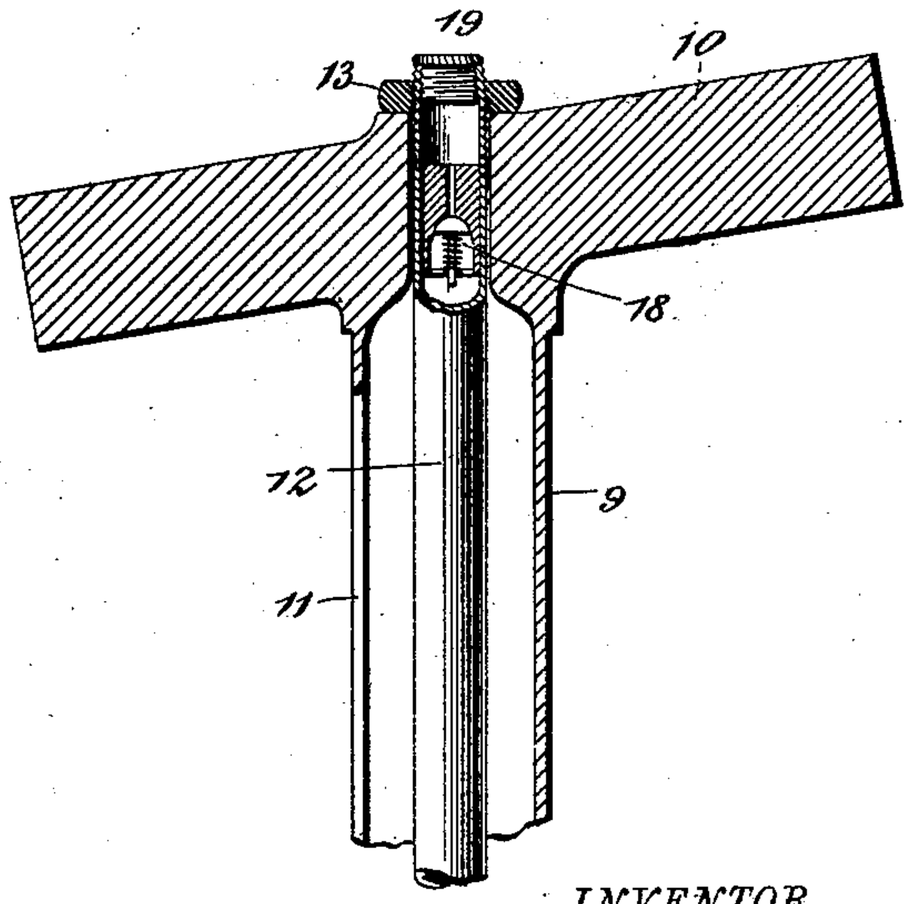


Fig: 3.



WITNESSES

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BICYCLE SADDLE-POST.

SPECIFICATION forming part of Letters Patent No. 606,775, dated July 5, 1898.

Application filed November 25, 1896. Serial No. 613,391. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE A. F. BERG, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Bicycle Saddle-Posts; 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 appertains to make and use the same.

This invention relates to saddle-posts for bicycles, and has for its object to provide a novel form of saddle-post having a pneumatic action, whereby the saddle is supported upon an air-cushion and adapted to yield up and down in such manner as to thoroughly absorb all vibration of the machine-frame and prevent the communication of said vibration to the rider. The saddle-post has provision whereby the same is kept lubricated at all times and also has provision whereby it may be regulated to the weight of the particular rider using the machine.

Other objects and uses of the invention will appear in the course of the subjoined description.

The invention consists in a pneumatic saddle-post embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, and illustrated in the drawings and incorporated in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a sufficient portion of a bicycle to show the application of the improved saddle-post thereto. Fig. 2 is a longitudinal section through the improved saddle-post detached from the machine, and Fig. 3 is an enlarged detail vertical section through the upper portion of the saddle-post proper, showing the valve by means of which air may be introduced into the tubular socket in which the saddle-post is received. Fig. 4 is a detail view of the upper end of the socket that receives the seat-post.

Similar numerals designate corresponding parts in the several figures of the drawings.

The improved saddle-post is adapted to be applied to any of the ordinary makes of safety-bicycles of modern construction and consists of a tubular socket 1 of any desired length and of a diameter adapting it to fit snugly but loosely within the seat-post 2 of a bicycle. This tubular socket 1 is closed at its lower end and open at its upper end and is provided at said upper end with an annular enlargement 3, formed with an annular groove 4 in its upper surface, the said groove constituting an oil-receptacle and communicating with the inside of the socket 1, so as to lubricate the inner surface thereof. The groove or oil-receptacle 4 is closed by means of a cap or covering-plate 5, arranged thereover, and at one side the walls of the groove are provided with transversely-alining openings through which reciprocates a pin 6, actuated inward by means of the coiled spring 7, surrounding said pin within the groove 4.

9 designates the saddle-post proper, which is also tubular and of approximately the same length as the socket 1, the upper end of said post extending above the socket 1 and being provided with a head 10, adapted to receive the saddle. The post 9 is provided at one end with a longitudinal slot 11, in which is received the inner end of the pin 6, preventing the saddle-post from turning.

12 designates a hollow rod which passes centrally and longitudinally through the saddle-post 9. This rod 12 is provided at its upper end, above the head 10, with a milled or thumb nut 13, whereby the rod may be adjusted within the saddle-post and said rod threaded at its lower extremity outside of and below the post 9 to receive a second milled or thumb nut 14. Between the nut 14 and the lower closed end of the saddle-post 9 is interposed a packing-ring or expansible washer 15, preferably in the form of a cylinder. The rod 12 passes through said ring or cylinder, which is preferably formed of rubber or other resilient or flexible material, and said rod is provided with a squared portion 16 where it passes through the lower end of the saddle-post, a correspondingly-formed opening 17 being provided in the lower end of the saddle-post, so as to prevent said rod from turning. The rod 12 has an opening extending entirely through it from end to end, and the nut 14 is also provided with an opening, so that air may be forced through said rod and nut and into the lower portion of the socket 1. At its upper end the rod 12 has a valve 18 inserted therein,

and said valve is provided with a cap 19, which may be removed in order to admit of the application of an air-pump, by means of which air may be forced through the rod 1 and compressed in the lower portion thereof beneath the lower end of the seat-post for regulating the resistance to the weight of the rider and also for raising or lowering the seat-post.

By means of the construction above described the vibration imparted to the frame of the machine is all absorbed before it reaches the rider, and on account of the pneumatic cushion the recoil of the saddle-post is comparatively slow and agreeable. Any saddle may be applied to the post without reference to the elasticity of its spring and may be adjusted up and down by the means above referred to. By moving the pin 6 outward the saddle-post may be readily removed from the machine and the packing-cylinder 15 renewed.

In placing the saddle-post within the tubular socket the packing-cylinder 15 is first introduced into the upper end of the socket and then expanded by means of the nut 13 or 14, after which the saddle-post is pushed downward. The extent to which the saddle-post is inserted in the socket before expanding the packing-cylinder 15 will regulate the amount of air underlying the saddle-post, and the amount of such air may also be increased or diminished by means of the valve 18 and the ordinary pump.

It will be understood that the device is susceptible of various changes in the form, proportion, and the minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new is—

1. In a vehicle a saddle-post comprising a tubular socket or saddle-post tube closed at one end and open at the other, a saddle-post proper mounted to reciprocate therein, a tubular rod passing through said saddle-post and movable longitudinally, an expansible packing-ring arranged under said post and surrounding said rod, a nut mounted on the upper end of said rod and adapted to adjust said rod longitudinally for expanding said packing-ring, and a valve in the upper end of said rod substantially as described.

2. The combination with a tubular socket or saddle-post tube closed at one end and open at the other, of a tubular saddle-post mounted to reciprocate therein, a hollow rod passing through said post, a packing-ring arranged at the lower end of said post, means at the top of the post for expanding said ring, and a valve arranged in the upper end of said hollow rod and adapted to receive an air-pump, whereby air may be compressed in the lower end of said socket and beneath the saddle-post, substantially as and for the purpose described.

3. The combination with a tubular socket or saddle-post tube having one end closed and the other end open, and provided at its upper end with an annular enlargement recessed to form an oil-receptacle which communicates with the inside of said socket or saddle-post tube, a pin movable through the upper portion of said socket, a pin-actuating spring contained within the annular enlargement, and a tubular saddle-post mounted slidingly in said socket or saddle-post tube, the said tubular saddle-post being provided with a longitudinal slot or groove in which the inner end of said spring-pin works, substantially as described.

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

CLARENCE A. F. BERG.

Witnesses:
WILLIAM L. SWEET,
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