

(No Model.)

W. A. ELMORE.
SEAT SUPPORT FOR BICYCLES.

No. 478,581.

Patented July 12, 1892.

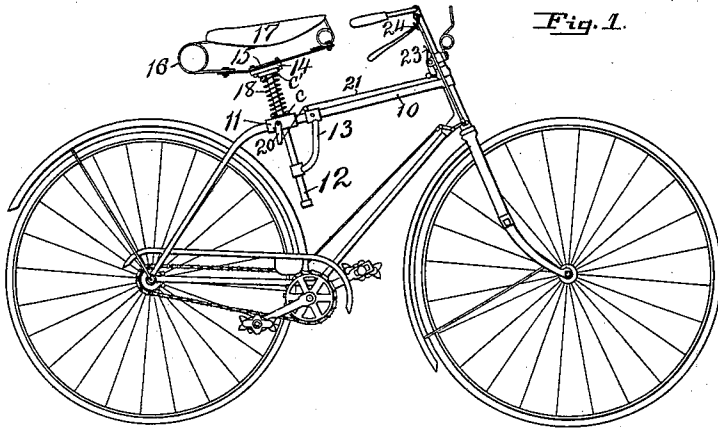


Fig. 1.

Fig. 2.

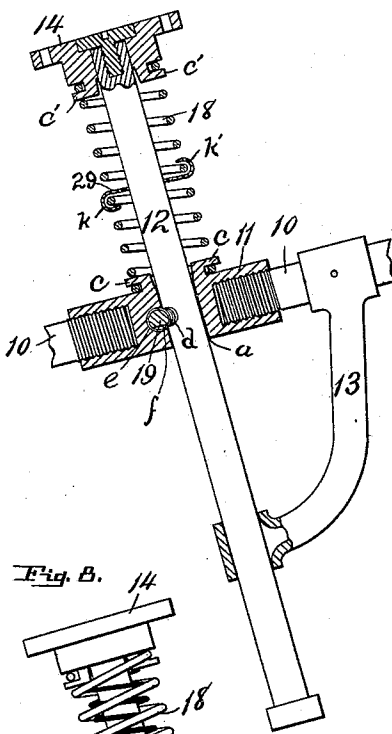


Fig. 2.

Fig. 4.

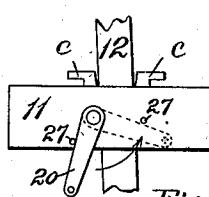


Fig. 4.

Fig. 3.

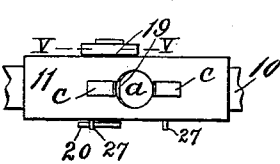


Fig. 5.

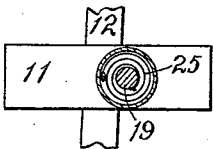


Fig. 6.

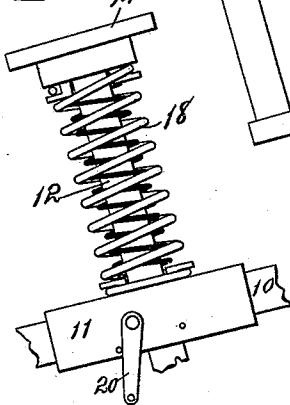
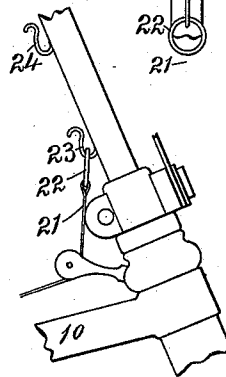


Fig. 6.



WITNESSES:

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SEAT-SUPPORT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 478,581, dated July 12, 1892.

Application filed February 1, 1892, Serial No. 419,900. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. ELMORE, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Seat-Support, of which the following is a specification.

My invention relates to seat-supports of the class employed in connection with bicycles, tricycles, &c., the object being to provide for an increase of the vertical movement of the seat, and at the same time to provide for the locking to place of the seat-supporting standard.

To the ends above set forth the invention consists, essentially, of an auxiliary spring that is arranged in connection with the seat-supporting standard and of a standard-locking attachment, all as will be hereinafter more fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar reference letters and figures indicate corresponding parts in all the views.

Figure 1 is a side view of a bicycle, representing the same as it appears when provided with my seat-support, the parts being represented as they appear when the seat-supporting standard is locked in place. Fig. 2 is an enlarged central sectional view of the seat-support, the parts being shown in the locked position. Fig. 3 is a detail plan view of the locking device, the standard and spring being removed. Fig. 4 is a side view of the locking device. Fig. 5 is a sectional detail view on line V V of Fig. 3. Fig. 6 is a side view of a portion of the bicycle-head and its connections. Fig. 7 is a rear view of a portion of the bicycle-head, and Fig. 8 is a side view of a modified form of auxiliary spring.

In the drawings above referred to represents a bicycle-reach, which is divided just forward of the fork to receive a block 11, said block being formed with an aperture *a*, adapted to receive and guide the seat-standard 12, which standard is steadied by a bracket 13, that is carried by the reach 10.

To the upper end of the standard 12 there is held a plate 14, that is arranged for connection with the main-spring plate 15, such connection being by preference established by bolts *b*, which pass through apertures formed in the plates 14 and 15. The main

spring 16 carries the saddle 17 and is arranged in any of the well-known ways.

Between the block 11 and the plate 14 I place a spring 18, the coils of such spring being engaged by lugs *c c c' c'*, formed on or connected to the block and plate, respectively.

In order that the standard 12 may be locked against any reciprocating movement, I form said standard with a notch *d*, that is normally entered by a pin 19, said pin being housed within a transverse circular aperture *e*, formed in the block 11, the aperture *e* being located to slightly "cut" the standard-aperture *a*. From the above description it will be understood that when the peripheral face of the pin 19 enters the standard-notch *d* the standard will be held from all vertical reciprocating motion; but if the pin be moved from engagement with the standard the spring 18 will be free to act and an exceedingly-easy "seat" will be secured.

To bring about the unlocking of the standard, as above indicated, I cut away a portion of the peripheral face of the pin 19, as shown at *f*, and provide such pin with a lever-arm 20, to which arm there is connected a cord or wire 21, which carries a ring or loop 22, adapted for engagement with hooks 23 24, that are carried by the machine-head, (see Figs. 6 and 7,) said ring or loop normally engaging the loop 23, and the arrangement being such that if the ring or loop be moved from engagement with the hook 23 to engagement with the hook 24 the cord or wire 21 will be drawn upon and will act to move the arm 20 in the direction of the arrow shown in connection therewith in Fig. 4, which movement of the lever-arm will turn the pin 19 and bring its cut-away portion opposite the standard-notch *d*, thus freeing the standard and bringing the spring 18 into play. While the spring 18 is free to operate the rider experiences a dreamy wave-like motion which is exceedingly enjoyable and materially increases the pleasure of coasting and riding over easy ground; but when difficult grades or rough ground is encountered it is desirable that the standard 12 be locked to place and the spring 18 thrown out of action; and to this end I provide the pin 19 with a spring 25, that is preferably arranged as shown in Figs. 3 and 5, said spring acting to throw the pin 19 to the locking po-

sition, as shown in Fig. 2, the range of motion being defined by stop or limit pins 27.

When it is desired to lock the standard, the ring or loop 22 is lifted from engagement with the hook 24 and placed upon the hook 23, this permitting the spring 25 to act upon the pin 19 and move it to its locking position, as will be readily understood.

Although not positively essential to the proper action of my seat-support, I prefer to provide the spring 18 with a plate 29, that is apertured to receive the standard 12 and formed with tongues k k' , that are bent over, as shown in Fig. 2, to engage the spring-coils, whereby all buckling of the spring will be prevented, and although under ordinary circumstances the spring 18 would be made from a single length of wire I might form said spring with a reinforcing-coil, as shown in Fig. 8.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the seat-standard, of a spring and a rotative pin, which is adapted to bind the standard in one position and free it in another position, as described.

2. The combination, with a seat-standard formed with a notch, of a rotative locking-pin formed with a surface adapted to enter said notch and bind said standard and also with another surface adapted to withdraw from said notch and free said standard, as described.

3. The combination, with a seat-standard formed with a notch, of a rotative locking-pin formed with a surface adapted to enter said

notch and bind said standard and with another surface adapted to withdraw from said notch and free said standard, a lever on said locking-pin, and means for reciprocating said lever, substantially as described.

4. The combination, with a seat-supporting standard formed with a notch, of a spring coiled around said standard and adapted to actuate the same, a guide-block on the frame of the machine for said standard, a rotative pin housed in said guide-block and having a surface adapted to enter the notch in said standard and also having another surface adapted to withdraw from said notch, and devices for rotating said pin, as described.

5. The combination, with a seat and its supporting-standard formed with a notch, of a guide-block for said standard, a rotative pin housed in said guide-block and having a surface adapted to enter said notch and also another surface adapted to withdraw from said notch, a lever on said pin, a cord adapted to operate said lever, and retaining-hooks for said cord, substantially as described.

6. The combination, with the seat-supporting standard, of a main spring, an auxiliary spring that is coiled about the standard, a plate formed with tongues that engage the coils of the auxiliary spring, the standard passing through the plate, and a standard-locking attachment, substantially as described.

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