(No Model.)

F. B. POWERS.

VELOCIPEDE.

No. 313,234. Patented Mar. 3, 1885.

Fig 1

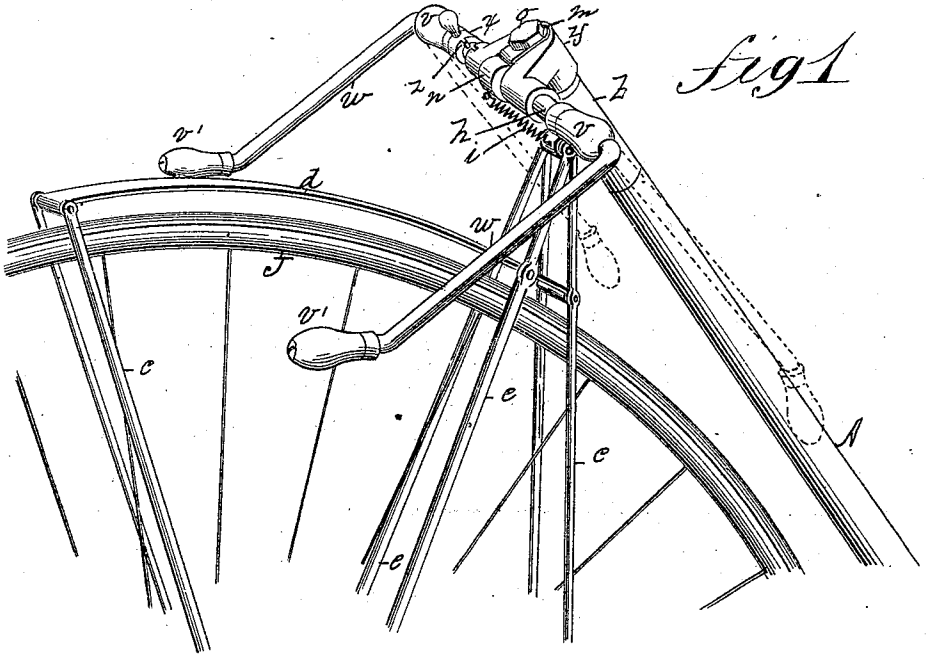


Fig 2

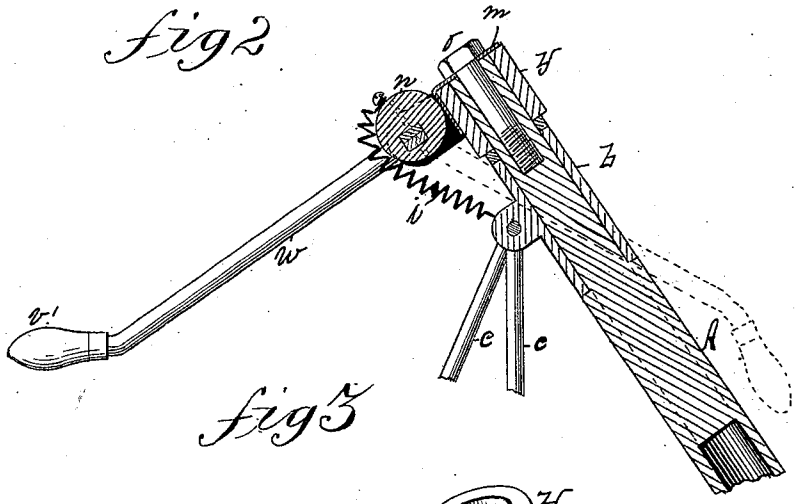
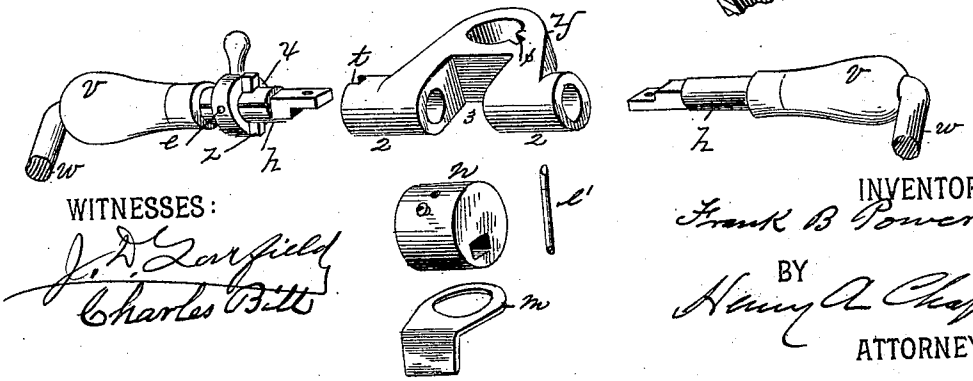


Fig 3



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UNITED STATES PATENT OFFICE.

FRANK B. POWERS, OF SPRINGFIELD, MASSACHUSETTS.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 313,234, dated March 3, 1885.

Application filed September 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. POWERS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Bicycles, of which the following is a specification.

This invention relates to improvements in bicycles, the object being to improve the construction and mode of hanging the handle-bar thereof, whereby the rider is enabled to utilize the strength of his arms to draw himself downward and give his feet increased pressure against the pedals, and when running at a high rate of speed to hold the steering-wheel more rigidly than heretofore, and thereby to attain increased rapidity of motion, and whereby the rider may at his option, when riding fast or slow, be provided with a handle-bar, allowing him to carry his hands at different distances from the center of the steering-bar, as circumstances may require, and whereby the rider is greatly assisted when running his machine uphill.

In the drawings forming part of this specification, Figure 1 is a view of the upper part of what is termed a "Star Bicycle" having applied thereto my improved handle-bar and connections. Fig. 2 is a view, partly in section, of the upper end of the steering-bar, the handle-bar, and its connections. Fig. 3 is a view of the detail parts of the handle-bar and connections.

In the drawings, J is a segment of the large wheel of the bicycle. *c* indicates portions of the ordinary frame of the machine connecting the axle-bearing and the bearing-tube *b*, in which the upper end of the steering-bar A is supported, and in which it is reciprocally rotated by the handle-bar *h*. In the class of bicycles above named the steering-wheel is attached to the lower end of the steering-bar A. The saddle (not shown in the drawings) is secured to the saddle-spring *d* in the usual manner and place, and said spring is supported on the frame parts *c*.

For the purpose of giving effect to my improved handle-bar, I provide the bearing *y* for the latter, which is keyed to the end of the steering-bar which projects above the bearing-tube *b*, the bearing *y* being provided with a key-slot, *s*, to permit of its being so secured to said bar. Any other suitable means of rigidly securing the bearing *y* to the bar may be employed. Two handle-bar bearings, 22, project rearwardly, between which is a slot, 3, to receive the cam *n*. The latter is perforated longitudinally one side of its center to receive the inner squared ends of the handle-bar *h*, which are halved together within the cam and there secured by the pin *e'*, which is driven through the parts. Thus assembled, when the handle-bar is swung to the position shown in Figs. 1 and 2, the high part of the cam *n* impinges against the rear side of the slot 3, and thereby the rider is enabled to hold the bar rigidly. The cam *n* may, as above described, be allowed to bear directly against the rear side of the slot 3, if desired; but it is preferable to interpose a leaf of sheet-steel, *m*, or other suitable metal between the cam *n* and the side of slot 3, which leaf may be of such thickness as will permit the lower ends of the handle-bar to swing to the most convenient position for the rider. The leaf *m* is secured to the top of the bearing *y* by the bolt *o*, which secures the latter to the bar A. A spring, *i*, having one end secured to the periphery of the cam *n* and the other to the tube *b*, serves to swing the handle-bar to the position shown by the dotted lines in Figs. 1 and 2 when released by the rider; but when the latter desires to have the bar secured to resist said action of the spring *i* the collar *x* on the handle-bar is moved on the latter to cause its points *z* to engage in the notches *t* in the bearing *y*. Said collar *x* is provided with a pin, *e*, the inner end of which enters a slot in the handle-bar, whereby the collar is prevented from turning on the bar. The handles *v v* on the bar *h* are adapted to turn on the latter, but the handles *v' v'* are fixed.

The handle-bar herein shown differs from those heretofore employed in that it is provided at each extremity or end of its horizontal portion with an extension, *w*, on each of which is an additional handle, *v'*. Said parts *w* extend from the point of their junction with the bar *h* rearwardly in the direction of the hips of the rider when held by him, and when released they swing forward, as above described, and, as hereinafter set forth, the bar is held and the vehicle is guided by the rider, the latter grasping alternately the handles *v*

and v', as occasion may demand. When the rider carries his hands, one at a time, from handles v' to v, the bar h turns in the latter, while the extensions w swing to the forward position, as indicated by the dotted lines.

The operation of the above-described improvements is as follows: When running in a comparatively-straight line and at a rapid rate, the rider holds the bar h by the extensions w, which in running toward his hips incline outwardly, so that their ends stand considerably beyond the ends of bar h; and, furthermore, they provide additional leverage for operating the bar A and holding the steering-wheel very rigidly, whereby all swaying motion not desired is avoided and greater speed is attained. In running around sharp circles the extensions w are allowed to swing forward and stand clear of the large wheel, and they are also allowed to rest in that position when the machine is running slowly.

The position which the arms of the rider are permitted to take when he grasps the handles v' of the extensions w—that is to say, holding his elbows close to his body, with his hands reaching downward—enables him to hold himself firmly down by drawing up on said extensions, and thus obtain greater pedal-power through his feet. This enables him to climb hills much easier and to conduct his machine much steadier and in a manner much less wearisome than when he carries his hands on the ends of the bar h; and, furthermore, the facility afforded for change of position of the hands and arms is of great advantage to the rider, since he can ride long distances with less fatigue than when he holds his hands continuously in one position.

The above-described improvements are adapted to all classes of bicycles when modified to meet the various conditions of different structures.

It is obvious that the handle-bearings 2 2 may be made with caps, to be secured thereon by screws, like ordinary shaft-boxes, and that the cam n may be forged solid with the bar h, or made in halves, and secured thereon with screws, thus obviating the construction of the said bar in two pieces, as herein shown, this being only one of the several ways that the handle-bar may be made to meet the objects of this invention. Furthermore, it will be seen by referring to Figs. 1 and 2 that those portions of the extensions w on which are secured the handles v' are bent, so as to cause them to stand substantially parallel with the length of the bicycle, whereby said handles are presented in the most advantageous position to be grasped by the hands of the rider.

What I claim as my invention is—

1. In a bicycle, a handle-bar consisting of a main bar attached at right angles to the steering-bar, and provided with a handle-extension at each end projecting toward that part of the vehicle where the seat is located, capable of being swung toward and from the rider of the machine, substantially as described.

2. The combination, with the steering-bar of a bicycle, of a handle-bar attached at right angles to the steering-bar provided with swinging end extensions, and means, substantially as described, for limiting the upward swing of said extensions, substantially as set forth.

3. The combination, with the steering-bar of a bicycle, of a handle-bar attached at right angles to the steering-bar, provided with swinging end extensions, and means, substantially as described, for limiting the upward swing of said extensions, and for swinging the same away from the rider, substantially as set forth.

4. The combination, with the steering-bar of a bicycle, of the bearing y and the reciprocally-rotating bar h, provided with the swinging extensions w, substantially as set forth.

5. The combination, with the steering-bar of a bicycle, of the bearing y, the reciprocally-rotating bar h, provided with the swinging extensions w, and the cam n, substantially as set forth.

6. The combination, with the steering-bar of a bicycle, of the bearing y, the reciprocally-rotating bar h, provided with the swinging extensions w, the cam n, and the spring i, substantially as set forth.

7. The combination, with the bearing y, the handle-bar h, and the cam n, of the leaf m, substantially as set forth.

8. In combination with a main handle-bar of a bicycle having swinging extensions, means, substantially as described, for locking the latter in their upward position, substantially as set forth.

9. In a bicycle, a swinging handle-bar provided with handles on the ends of its extensions parallel with the length of the bicycle, substantially as set forth.

10. In a bicycle, a main handle-bar having handles thereon, and having end extensions provided with handles on the extremities thereof, substantially as set forth.

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Witnesses:
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