

No. 627,227.

Patented June 20, 1899.

J. T. FENTON.
BICYCLE HANDLE BAR.

(Application filed Nov. 8, 1897. Renewed Mar. 10, 1899.)

(No Model.)

Fig. 1.

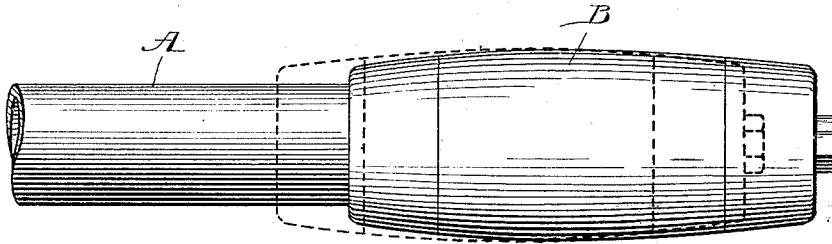


Fig. 2.

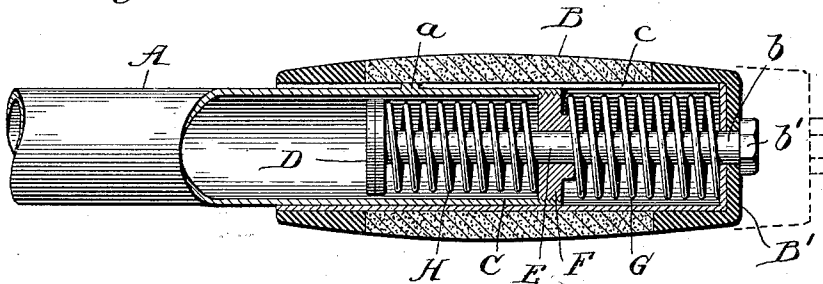
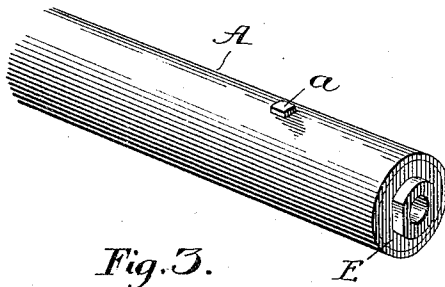


Fig. 3.

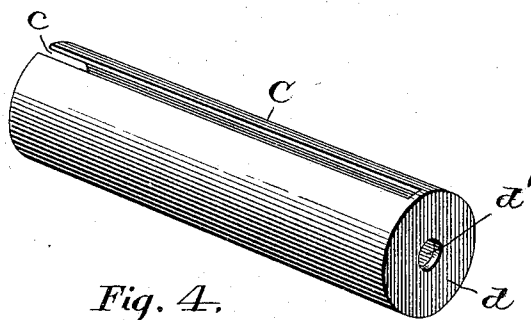


Fig. 4.

WITNESSES:

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BICYCLE HANDLE-BAR.

SPECIFICATION forming part of Letters Patent No. 627,227, dated June 20, 1899.

Application filed November 8, 1897. Renewed March 10, 1899. Serial No. 708,595. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. FENTON, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Bicycle Handle-Bars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to bicycle handle-bars, and has for its object to take up or neutralize the jar and vibration conveyed to the rider through the usually rigid handle-bar from the frame of the machine when riding over rough surfaces. The principle or method by which my invention operates to overcome this vibration is by the provision of means which allow of a permissive sliding motion of the grasping-handles relatively to the ends of the handle-bar proper on which they are mounted and against resilient devices within the hollow handle-bar device which operate to take up the vibration.

To this end my invention consists, broadly, in the combination, with the hollow end of a handle-bar, of a grasping-handle mounted sleeve-like thereon and adapted, by means of suitable devices, to have a permissible sliding motion on the handle-bar, devices between said parts operating to limit such reciprocation, and resilient devices operating to normally check or prevent such reciprocation in one or both directions.

In the accompanying drawings, illustrating my invention, Figure 1 is a side elevation of a handle-bar and grasping-handle mounted thereon according to my invention, the parts being in normal position, the dotted lines illustrating the forward movement of the grasping-handle. Fig. 2 is a section thereof, the parts being in normal position relatively, the dotted lines illustrating the rearward sliding movement of the grasping-handle. Fig. 3 is a perspective view of the hollow end of the handle-bar, and Fig. 4 is a like view of the barrel or casing interposed between the handle-bar and the grasping-handle.

As is well known, the pair of integral handle-bars on modern bicycles are mounted centrally upon a post forming a part of the frame of the machine. The letter A indicates the

hollow end of each of a pair of such handle-bars, excepting the pin or feather *a*. As ordinarily constructed such bars are provided with a hollow grasping-handle, such as indicated at B, and the latter is mounted fixedly and rigidly on the former. In mounting these devices for the purpose of my invention I prefer to interpose a barrel or sleeve, such as indicated at C, Fig. 4, and this sleeve is slotted, as at *c*, and provided with a rear closing-cap, as at *d*, for the purposes hereinafter mentioned.

In constructing my device I need not necessarily employ any sleeve or barrel C, such as formerly employed or such as the slotted sleeve shown in Fig. 4. I prefer, however, to use it for the following purposes only—viz., it strengthens the parts, and by constructing it with a longitudinal slot *c* and providing the handle-bar end with a pin or feather *a*, (see Fig 2,) which fits loosely within said slot, the barrel and the grasping-handle (which is cemented thereto) cannot rotate on the handle-bar end, but are free to slide longitudinally on each other, as they are intended to do for the purposes of my invention. It is obvious, however, that where it is preferred to have the grasping-handle rotatable on the handle-bar mounting the sleeve C may either be omitted, as stated, or it may be made as usual without any slot *c*, and in such case of course omitting the feather or pin *a* in the handle-bar end.

The grasping-handle B is constructed as usual and is hollow. Its head or end B' is recessed centrally at *b* (see Fig. 2) to admit the passage through it of the end of the plunger-rod E, which is held in position therein by the screw-nut *b'*. This plunger-rod has a head D fitting snugly in the hollow handle-bar A, but so as to be free to move therein. An outwardly-pressing coiled spring H encircles the rod between the head D and a recessed nut F, through which the rod passes. These parts being in position, the nut F, which is screw-threaded on its periphery, is screwed into the end of the handle-bar A, which is also screw-threaded for a short distance on its inner surface. Another outwardly-pressing coiled spring G is then placed on the rod E and bears against the opposite side of the nut F at one end and at the other

end against the head *d* of the barrel or sleeve C or the head B' of the grasping-handle if the sleeve is omitted.

The barrel C is a hollow cylinder longitudinally slotted, as before described, and with a headed end *d* centrally recessed at *d'*. The barrel is inserted in the hollow grasping-handle B and cemented or otherwise fastened therein. These parts are then slipped over the end of the handle-bar A, the pin *a* of which enters the slot *c* of the barrel C. The spring G and the end of the rod in which it is mounted and which extends outside of the handle-bar will be then inclosed in the grasping-handle near the head end *d* thereof, and the rod E will project slightly through the hole *d'* in said head, whereupon it is secured by attaching the screw-nut *b'*. The parts are now assembled, and their normal position is as shown in Fig. 2. If a jar or vibration of the bicycle throws the rider forward, his grasp of the handle will cause it to be pushed forward to the position shown in dotted line in Fig. 1, and this movement takes place against the outward or opposite tension exerted by the spring H, which latter will bring the parts into normal position again when the pressure from the rider's grasp is removed. If a jar or vibration of the bicycle throws the wheel forward and pulls on the rider's grasp, the grasping-handle will then slide backward to the position indicated by the dotted lines in Fig. 2, and this movement takes place against the opposite tension exerted by the back spring G, which latter will bring the parts again into normal position when the rider's grasp or pull on the handle is released.

While I have described what I believe to be the best method of carrying out my invention and involving the principle thereof, which is, speaking generally, that of a grasping-handle having a permissible sliding movement on the end of the handle-bar proper against a spring-pressure in either or both directions, it is obvious that the various details of construction may be changed or varied without departing from the general principle or mode of operation described.

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

1. The combination with a handle-bar having a grasping-handle mounted sleeve-like thereon, said parts being adapted to have a sliding reciprocatory movement relatively to each other, a rod E secured to one of said members and operating to limit such reciprocation and maintain said parts at all times in sleeve-like relation to each other; and resilient devices adapted to be compressed on such relative reciprocation of the bar and handle; substantially as described.

2. The combination with a handle-bar having a hollow end and with a grasping-handle mounted sleeve-like thereon said parts being adapted to have a sliding reciprocatory movement relatively and with devices operating

to limit such reciprocation, of a coiled pressure-spring arranged entirely within the hollow end of the handle-bar, and devices for supporting and compressing the same, said devices being so actuated on the outward reciprocatory movement of the grasping-handle; substantially as described.

3. The combination with a bicycle handle-bar and a hollow grasping-handle mounted sleeve-like thereon, said parts being adapted to have a sliding reciprocatory movement relatively and with devices operating to limit such reciprocation, of a coiled pressure-spring arranged within the grasping-handle and between it and the end of the handle-bar, the same being adapted to be compressed and thereby exert a resilient resistance to an inward reciprocatory movement of the grasping-handle; substantially as described.

4. In combination, the hollow grasping-handle B, its longitudinally-slotted barrel C rigidly fixed therein, a coiled pressure-spring G within the same, a handle-bar adapted to slide reciprocally within the said barrel and having a pin or feather *a* adapted to slide in the recess thereof and means to limit the outward reciprocatory movement of the grasping-handle relatively to the handle-bar; substantially as described.

5. In combination, the hollow grasping-handle B, its longitudinally-slotted barrel C rigidly fixed therein, a hollow handle-bar A having a feather *a* on its periphery adapted to slide in the slot of the barrel, a screw-nut F in the end of the handle-bar and centrally recessed, a headed plunger-rod E passing through said recess in the nut and having its projecting end secured to the head of the grasping-handle, and a coiled pressure-spring H encircling the rod E and exerting an outward pressure between the head D of the rod and the nut F; substantially as described.

6. In combination, the hollow grasping-handle B, its longitudinally-slotted barrel C rigidly fixed therein, a hollow handle-bar A having a feather *a* on its periphery adapted to slide in the slot of the barrel, a screw-nut F in the end of the handle-bar and centrally recessed, a headed plunger-rod E passing through said recess in the nut and having its projecting end secured to the head of the grasping-handle, a coiled pressure-spring H encircling the rod E and exerting an outward pressure between the head D of the rod and the nut F, and a second coiled pressure-spring G encircling the projecting end of the rod E and exerting a pressure between the nut F and the head of the grasping-handle; substantially as described.

In testimony whereof I have hereunto affixed my signature this 6th day of November, A. D. 1897.

JOSEPH T. FENTON.

Witnesses:

WALTER C. PUSEY,
H. T. FENTON.