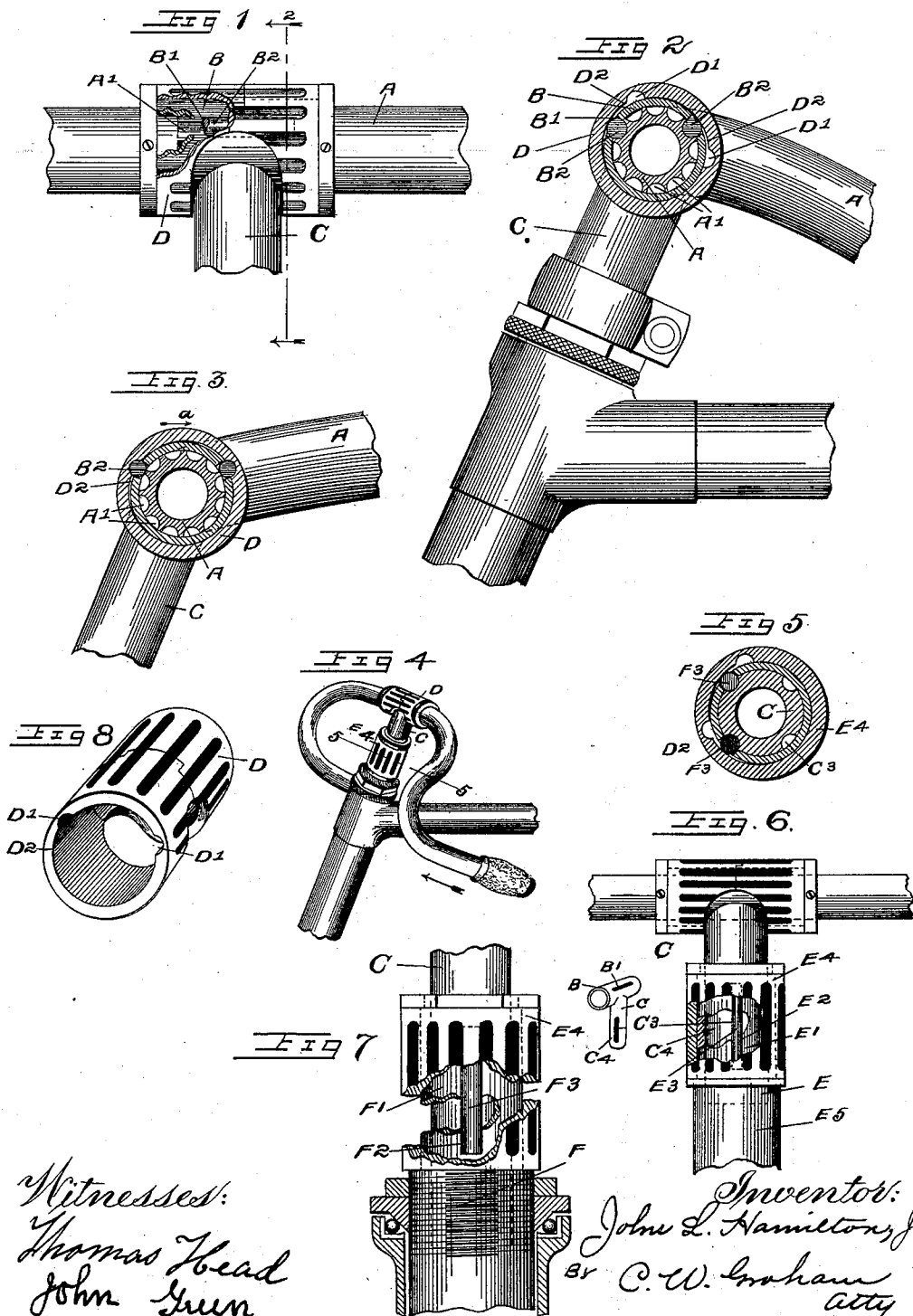


(No Model.)

J. L. HAMILTON, Jr.
ADJUSTABLE HANDLE BAR.

No. 604,389.

Patented May 24, 1898.



UNITED STATES PATENT OFFICE.

JOHN LAWRENCE HAMILTON, JR., OF HOOPESTON, ILLINOIS.

ADJUSTABLE HANDLE-BAR.

SPECIFICATION forming part of Letters Patent No. 604,389, dated May 24, 1898.

Application filed November 19, 1896. Serial No. 612,760+. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAWRENCE HAMILTON, Jr., a citizen of the United States, residing at Hoopeston, in the county of Vermilion and State of Illinois, have invented a new and useful Improvement in Handle-Bars for Bicycles or Velocipedes, of which the following is a specification.

My invention relates to improvements in adjustable handle-bars for bicycles or velocipedes, and has for its object the provision of means of such a new and novel construction and combination of parts and elements that will permit of the most accurate, effective, and instantaneous adjustment of the handle-bar into any position or angle while the bicycle or velocipede is in full motion and without the necessity of the rider having to dismount.

My invention has further for its object the provision of means whereby the type of handle-bar generally known as the "ram's-horn" pattern can be instantly transformed into the type or style known as the "upturned" bar.

My invention also has certain other objects in view, which will be fully described and pointed out in the specification and claims hereunto annexed, reference being now had to the accompanying drawings, in which—

Figure 1 is a front elevation of my device, showing its appearance and general construction as applied to an ordinary handle-bar, with parts broken away to partly show the inner construction. Fig. 2 is a cross-sectional elevation on line 2 2, Fig. 1, showing the engaging devices held in their normal position by means of the separable sleeve or thimble. Fig. 3 is the same sectional elevation as shown in Fig. 2, but with the sleeve or thimble in position admitting of adjustment of the handle-bar. It also shows the operation of adjustment of the handle-bar and the position assumed by the engaging devices during said adjustment of the handle-bar. Fig. 4 is a perspective of my entire device arranged on the steering-head of a bicycle with the type of handle-bar known as the "ram's-horn" pattern. Fig. 5 is a cross-sectional view on line 5 5 of Fig. 4, showing the manner of construction of my adjustable device as adapted to the steering-post. Fig. 6 is a front elevation, partly in section, of my device shown in Fig.

4, showing further in detail the manner of construction of the parts adapted to the steering-head and also showing the manner of construction of the steering-post and handle-bar, which construction enables me to apply my device to any make or form of bicycle having a hollow steering-head. Fig. 7 is a front elevation, partly in section, showing my device as applied to a bicycle of special construction in which the stem of the front fork is extended above the steering-head of the frame and is utilized as a part of my clutch mechanism, whereby the steering-post of the handle-bar is securely locked and keyed in its proper position and cannot by any means be removed from that position except through the ordinary process of adjustment. Fig. 8 is a perspective of the movable sleeve or thimble, more clearly showing its construction and manner of application to the handle-bar.

By reference to Figs. 1 and 2 of the accompanying drawings the operation of my device will be more readily understood. A represents a handle-bar of any pattern or shape provided with a series of corrugations or flutes A' for a part of its length. The handle-bar is supported and held in position by means of the hollow cylindrical top portion B of the steering-post C, this cylindrical top portion B of the steering-post C being provided with one or more slots or openings B', which slots or openings B' carry and hold in position the engaging and securing devices B², which engaging devices B² also rest in one or more of the series of flutes or grooves A' in the handle-bar A. An adjustable sleeve or thimble D is provided which extends circumferentially around the cylindrical portion B of the steering-post C. This sleeve or thimble D is provided with one or more grooves or recesses D', corresponding in number to the engaging devices B², said grooves or recesses D' being arranged around the inner circumference of the sleeve or thimble D to exactly coincide with the positions of the engaging devices B² and of such a depth as to allow the proper displacement of the engaging devices B² during the process of adjusting the handle-bar A. The sleeve or thimble D is cut away for a portion of its inner periphery at D² on a circle of the same diameter as the inside diameter of the sleeve or thimble D,

but eccentric to it, which in the operation of securing the handle-bar in position produces a binding or wedging effect upon the engaging devices B², thereby making a powerful clutch and providing means for automatically taking up any lost motion resulting from constant use.

In Figs. 6 and 7 I show two forms of constructing the steering-post adjustment. When constructed as shown in Fig. 6, a supplemental post E is provided having a socket E', said socket E' being provided with slots or openings E², engaging devices E³, arranged in slots or openings E², and a movable sleeve or thimble E⁴. The steering-post C is provided with corrugations or grooves C³ on its lower end C⁴, which end C⁴ is inserted in and carried by the socket E' by means of the aforesaid engaging devices E³ and thimble E⁴ in exactly the same manner as the adjustment previously described. The supplemental post E is provided with a lower portion E⁵, adapted to be engaged and held in position in the steering-head of the bicycle in the common ordinary manner. Thus my device under this construction can be applied to any make or form of bicycle having a hollow steering-head without any previous fitting or adjustment.

When my device is constructed as shown in Fig. 7, I include the stem of the front fork of the bicycle in my combination. The steering-post C is constructed the same as before, having the flutes or grooves C³ arranged on its lower end C⁴. The stem F of the front fork of the bicycle is extended above the top of the steering-head in the frame and forms a socket F', into which the steering-post C is placed. The socket F' is provided with slots or apertures F², engaging devices F³, arranged in said slots F², and a movable thimble or sleeve E⁴, extending circumferentially around the socket F', all operating in conjunction and for the same purpose as the devices previously described, except that by this manner of construction I gain an advantage over the ordinary methods of clamping the steering-post in the steering-head, which is continually slipping and getting out of adjustment, while in my combination the stem of the front fork of the bicycle forms a part of the clutch mechanism, and when the steering-post is locked in a position it cannot possibly change that position relative to the front fork except through the ordinary process of adjustment.

The operation of adjusting the handle-bar is described as follows: A rider upon desiring to change the position or angle of the handle-bar of his bicycle has simply to turn the sleeve or thimble D until the grooves or recesses D' are located coincident with the engaging devices B², which permits of the handle-bar A being raised or lowered to the desired position of adjustment, during which operation the engaging devices B² are repeatedly forced into the grooves or recesses D' of the sleeve or thimble D, but are retained from chang-

ing their position relative to the cylindrical portion B of the steering-post C by means of the slots B', and as the handle-bar is moved up or down any one of the grooves or flutes A' can be engaged by the engaging devices B², and the handle-bar can thus be locked in any desired position.

The operation of locking the handle-bar consists in simply turning the sleeve or thimble D in the direction indicated by the arrow a, Fig. 3, thereby forcing the engaging devices B² into the grooves or recesses A' of the handle-bar A, the wedging effect produced by the eccentric portion D² of the sleeve D providing a safe, secure, and substantial means of firmly locking the handle-bar in any position.

The operation of adjusting a handle-bar of the ram's-horn pattern consists in throwing the handle-bar forward by means of the adjustment just described and locking in that position, then turning the sleeve E⁴ on the steering-post in position for adjustment, and turning the handle-bar and steering-post one-half way around in the steering-head, when the handle-bar will assume the position of an upturned bar. It is then securely locked in the desired position in the manner previously described.

In the construction of the device located on the steering-post I employ a solid sleeve E⁴, while on the handle-bar proper a separable sleeve D is employed; but as the operation and result obtained are the same in both no special description is necessary.

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

1. In an adjustable handle-bar for bicycles or velocipedes, a handle-bar having a plurality of depressions or indentations for a portion of its length, a steering-post having a hollow cylindrical top portion, said cylindrical top portion being provided with one or more slots or openings, engaging devices adapted to ride in said slots or openings, an eccentric sleeve carried by and surrounding the cylindrical top portion of the steering-post and adapted, in the operation of adjustment of the said handle-bar, to force and bind the said engaging devices into the depressions or indentations in the said handle-bar, thereby locking and securely fastening the said handle-bar in the desired position of adjustment.

2. In an adjustable handle-bar for bicycles or velocipedes, a handle-bar having a plurality of depressions or indentations for a portion of its length, a steering-post having a hollow cylindrical top portion, one or more slots or openings, located in said cylindrical top portion, keys or pins riding in said slots or openings, a cylindrical sleeve carried by and surrounding the said cylindrical top portion of the steering-post, said cylindrical sleeve having one or more depressions, indentations, grooves or flutes located within its in-

ner periphery, said depressions, indentations, grooves or flutes being capable of adjustment coincident with the position of the said keys or pins located within the said slots or openings in the cylindrical top portion of the steering-post, thereby supplying means for the proper displacement of the said keys or pins

during the process of adjusting the handlebar in the desired position.

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Witnesses:

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D. D. GILMAN.