(No Model.) 2 Sheets—Sheet 1.

R. F. HALL.

CYCLE STEERING LOCK.

No. 528,874. Patented Nov. 6, 1894.

Fig. 1.

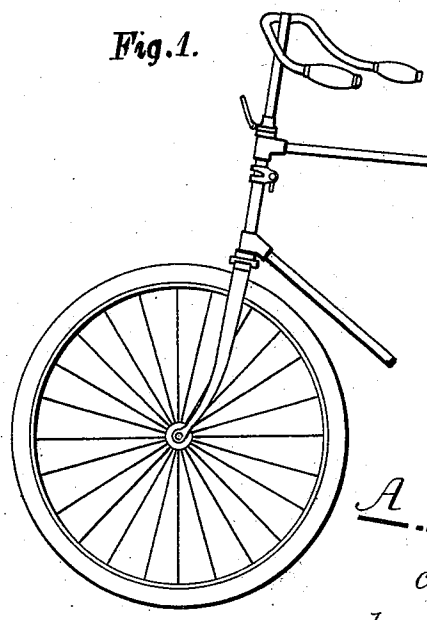


Fig. 2.

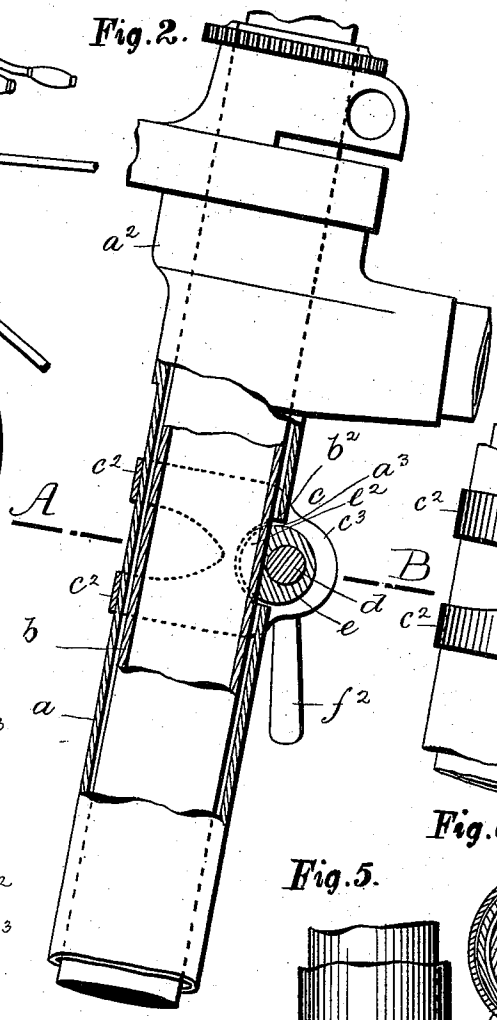


Fig. 3.

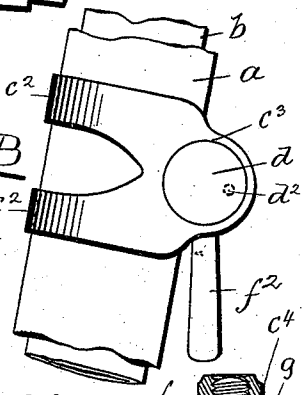


Fig. 8.

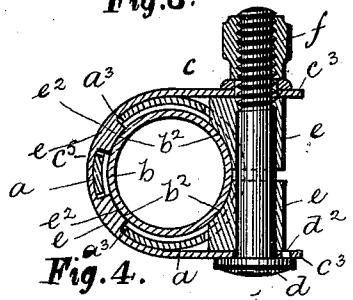


Fig. 4.

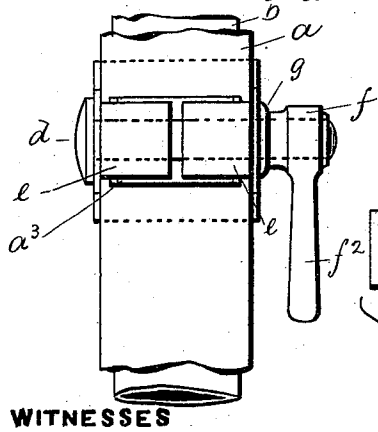


Fig. 7.

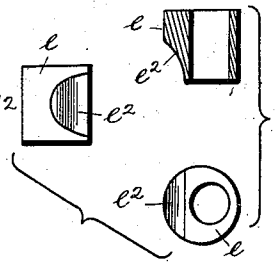


Fig. 5.

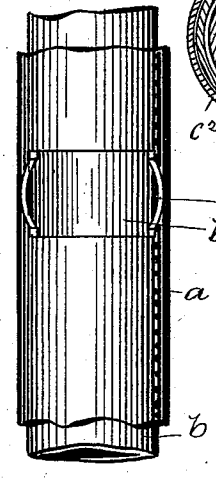
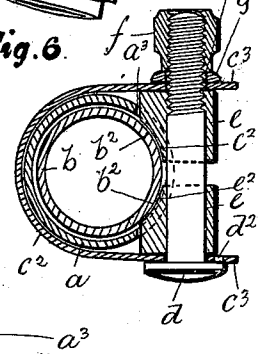


Fig. 6.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

R. F. HALL.

CYCLE STEERING LOCK.

No. 528,874. Patented Nov. 6, 1894.

Fig. 9.

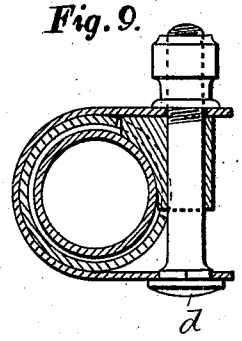


Fig. 10.

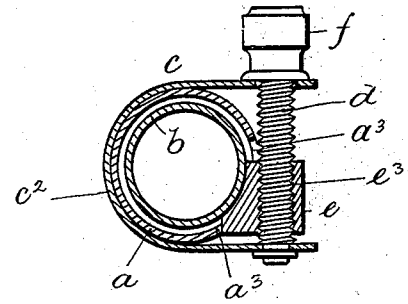


Fig. 11.

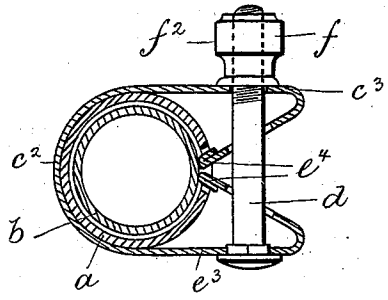


Fig. 12.

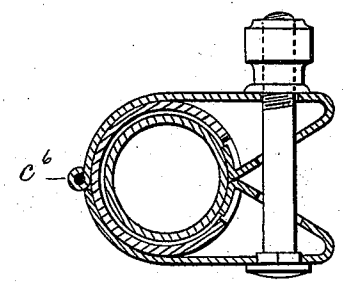


Fig. 15.

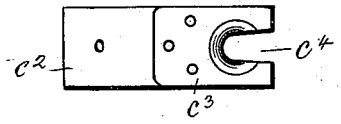


Fig. 14.

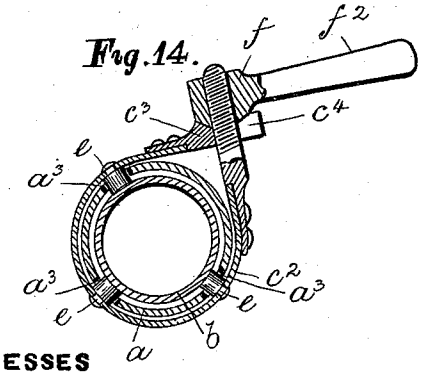
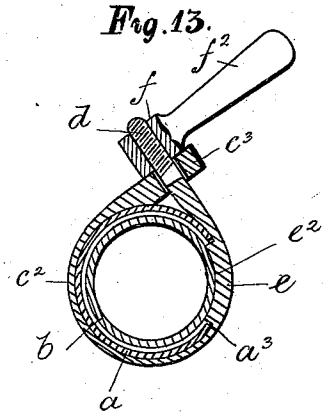


Fig. 13.



WITNESSES

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UNITED STATES PATENT OFFICE.

ROBERT FREDERICK HALL, OF BIRMINGHAM, ENGLAND, ASSIGNOR TO THE R. F. HALL MANUFACTURING COMPANY, LIMITED, OF SAME PLACE.

CYCLE-STEERING LOCK.

SPECIFICATION forming part of Letters Patent No. 528,874, dated November 6, 1894.

Application filed April 13, 1893. Serial No. 470,183. (No model.) Patented in England March 22, 1893, No. 6,099.

To all whom it may concern:

Be it known that I, ROBERT FREDERICK HALL, manufacturer, a subject of the Queen of Great Britain, residing at Sampson Road North, Sparkbrook, in the city of Birmingham, England, have invented certain new and useful Improvements in Cycle-Steering Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, and for which invention Letters Patent of Great Britain have been granted, dated March 22, 1893, No. 6,099.

This invention pertains or relates to means for locking or securing the steering post and parts carried by it, of safety and like cycles, in a fixed or determined position, according to the will or desire of the rider, and has for its object, a simple and efficient means which can be applied to any machine, and be fitted thereto as an attachment, which is capable of being easily fitted or removed.

Figure 1 of the accompanying drawings represents in side elevation, the steering or fore part of a safety cycle, provided with a friction lock constructed, arranged and fitted according to one form of my invention. Fig. 2 represents upon an enlarged scale, the head, pillar and steering post of a machine fitted with my improvements, and with that part of the pillar so fitted shown in section. Fig. 3 represents a side elevation of a portion of Fig. 2. Fig. 4 is a back elevation of Fig. 3, while Fig. 5 is a like back elevation as Fig. 4, but with the pressure bearing-blocks removed, and showing the naked gap wherein the said blocks are fitted. Fig. 6 represents a cross section of the said friction steering lock upon the dotted lines A B Fig. 2. Fig. 7 represents a section, an end view and an inner side elevation of one of the friction bearing-blocks. Fig. 8 represents a modification, showing additional friction blocks carried by inner parts of the flexible steel band. Figs. 9, 10, 11, 12, 13, 14 and 15 are sectional views of modifications.

The same letters of reference indicate corresponding parts in all the figures.

a is the hollow pillar or socket, a^2 the head, and *b* the steering post working axially and freely through the said pillar and head.

c is a friction lock attachment, consisting of a flexible metal band c^2, circumferentially embracing the pillar or socket *a*, and with the free or loose ends c^3, fitted with an axial screw pin *d*, having strung upon it, pressure bearing blocks *e*, whose inner and concave faces e^2, pass through a hole or gap a^3, cut within the rear part of the pillar *a*, and take their bearings upon the outside and plain surface b^2, of the steering post *b*, passing up the said hollow pillar or socket.

The screw pin *d*, has upon its wormed end, a screw headed lever *f*, f^2, while the shank of the pin passes through plain holes c^4, made through the said free ends c^3, of the band clip *c*.

g is a washer, interposed between the screwed head, or the screw box head of the lever, and the right hand side free end of the band clip.

By rotating the lever *f*, the screw box head travels along the wormed end, and makes the terminal ends c^3, of the band clip approach each other and be drawn inward by the impingement of the washer or screw box head upon the one side, and the impingement of the head of the pin on the other side, so that as the lateral impingement takes place, so the ends of the band are drawn inward toward the center of the system, and by such drawing inward, the faces e^2, of the pressure bearing blocks *e*, are made to forcibly impinge upon the naked outer surface of the steering post, hence the frictional locking of the said post to the socket, or within the pillar and head and the cognate parts of them. By turning the lever more or less, a stiffness in working only may be imparted to the steering post, instead of a lock or rigid fixing, so that the said attachment may be utilized for preventing the too-free movement of the steering post within its socket or pillar.

In the arrangement in Fig. 8, provided with supplementary friction bearing blocks, c^5 is the band of the attachment *c*. *e* are inside pressure blocks, which pass through gaps or openings a^3, made through the walls of the

hollow pillar or socket a, and with their bearing faces e^2 impinging upon the outside periphery or plain surface b^2, of the steering post b, so that as the band clip is drawn forward by the screwing up of the lever, the said pressure blocks e, of the band, are forcibly pressed home, and the steering post made to work stiffly or be retained in any friction locked position, so that a cyclist can leave the machine against a wall or an erection without any liability of the same moving from its resting position. The pin d, is prevented from rotating by a small stud d^2, upon the inner face of the heading taking into a hole near one of the free ends of the band clip.

Fig. 9 represents a modification. In this arrangement, the head end of the pin d has a square shoulder for preventing the pin's rotation, while frictional contact is obtained by or through a single frictional bearing block. Fig. 10 represents a further form of my invention. In this arrangement, the impingement of the pressure block is performed through the instrumentality of the worm upon the stem of the screw taking through a screwed hole in the pressure bearing block. a is the hollow pillar, with the gap a^3, through its rear part. b is the steering post, c^2 is a band clip, and d is a screw pin embracing or bridging the free ends of the clip c, and taking through the screw hole e^3, of the pressure block e. The turning of the lever f, traverses the pressure block, and thereby gives the necessary impingement or frictional contact for stiffening or preventing the rotation of the post within its socket or pillar.

Fig. 11 represents a further modification of my invention. In this arrangement, the necessary pressure upon the steering post is effected by inward extensions of the free ends of the band clip. a is the hollow pillar, b the steering post and c^2 the band clip, with inwardly directed terminal ends e^4, and on the screw lever f, f^2, being screwed upon the end of the pin d, the sides c^3 are drawn inward, and the impingement of the terminal ends e, effected.

Fig. 12 represents a modification of Fig. 11 In this arrangement, the band clip is jointed at back at c^6.

Fig. 13 represents a further modified form of my invention. a is the socket or pillar, b is the steering post, c^2 is a band clip, with a solid lug c^3, at one end having a hole through it, and with a screw pin d, at the other end, passing through the said hole, and with a screw lever f, f^2, taking upon the wormed end of the said pin d, so that by turning the lever f^2, the band is drawn in, and the pressure block e, e^2, which passes through a gap a^3, in the pillar, made to forcibly impress upon the inner tube or pillar. Fig. 14 represents a detail modification of Fig. 13, and Fig. 15 is an edge view of the end of the band. a is the socket or pillar, b the steering post, c^2 the band clip, with a solid end c^3, having a seated slot c^4, which semi-embraces or takes upon the screw end of the pin d, upon which, the head f, of the screw lever f^2, takes, and with its inside face taking within a seating, so that the attachment is made readily attachable and detachable. The band c^2, as in Fig. 8, carries studs e, which take through coincident holes a^3, made through the sides of the pillar or socket a, and take their bearings upon the periphery or outside walls of the post b, so that by turning the handle f^2, the band is drawn tight to any extent upon the outer casing, and the studs e, made to forcibly impress themselves against the post, hence a friction lock.

I claim—

1. In friction locks for cycle steering mechanism, the combination with the pillar a and steering post b the former having openings a^3 made through its walls, of the flexible metallic band having upon its inner face a friction block and provided with a tightening device, substantially as described.

2. In friction locks for cycle steering mechanism, the combination with the pillar a, and steering post b, the former having gaps or openings a^3, made through its walls, of a flexible metallic band, having upon its inner face a friction block e, and with the terminal ends of the band provided with a screw pin or drawing-to expedient, substantially as described and set forth.

3. In friction locks for cycle steering mechanism, the combination with the pillar a, and steering post b, the former having gaps or openings a^3, made through its walls, of a flexible metallic band, having upon its inner face, a friction block e, and provided with a screw pin, having the screw end fitted with a nut for drawing the band taut, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of March, 1893.

ROBERT FREDERICK HALL.

Witnesses:

HENRY SKERRETT,

ARTHUR T. SADLER,

Both of Birmingham.