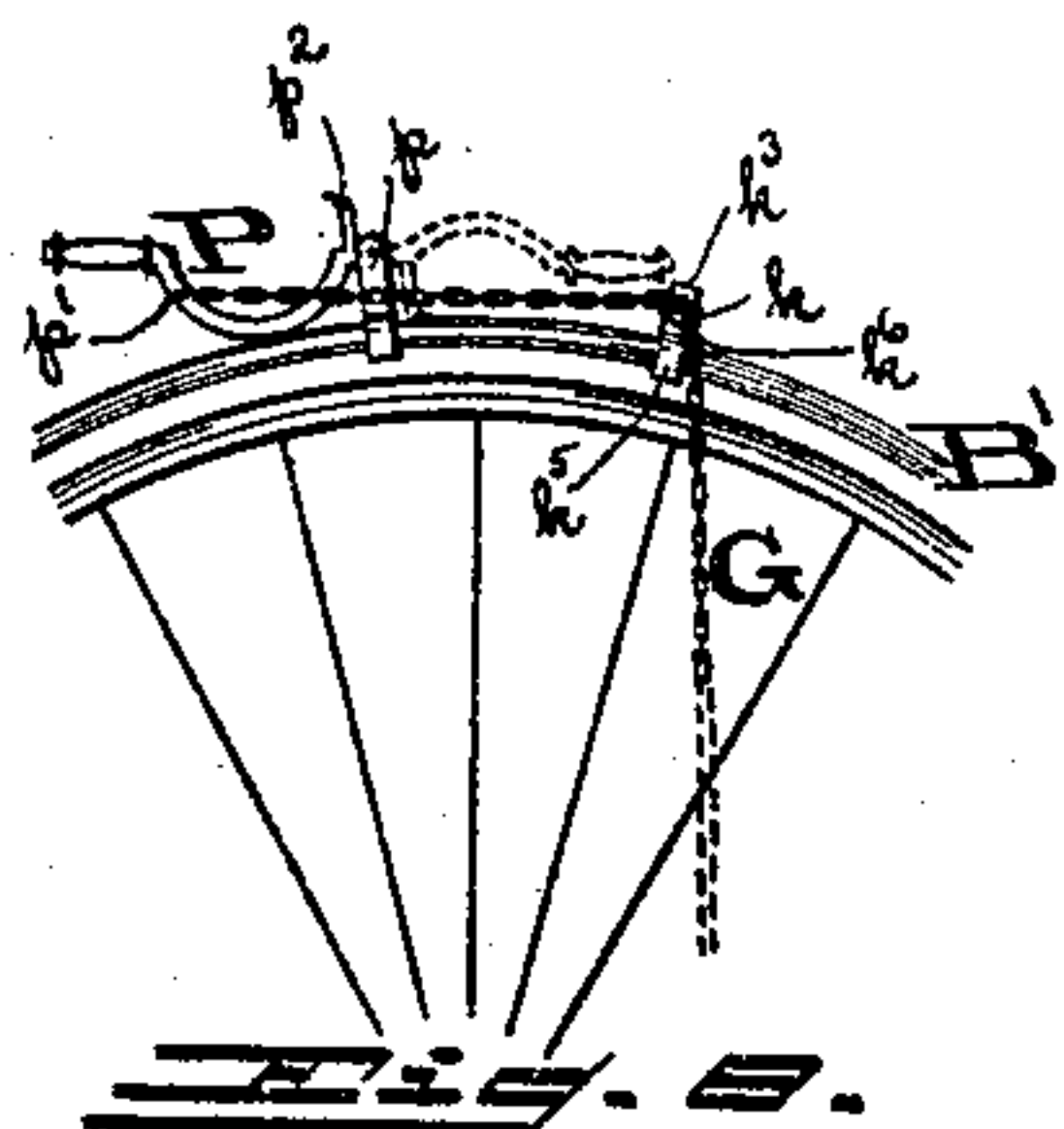
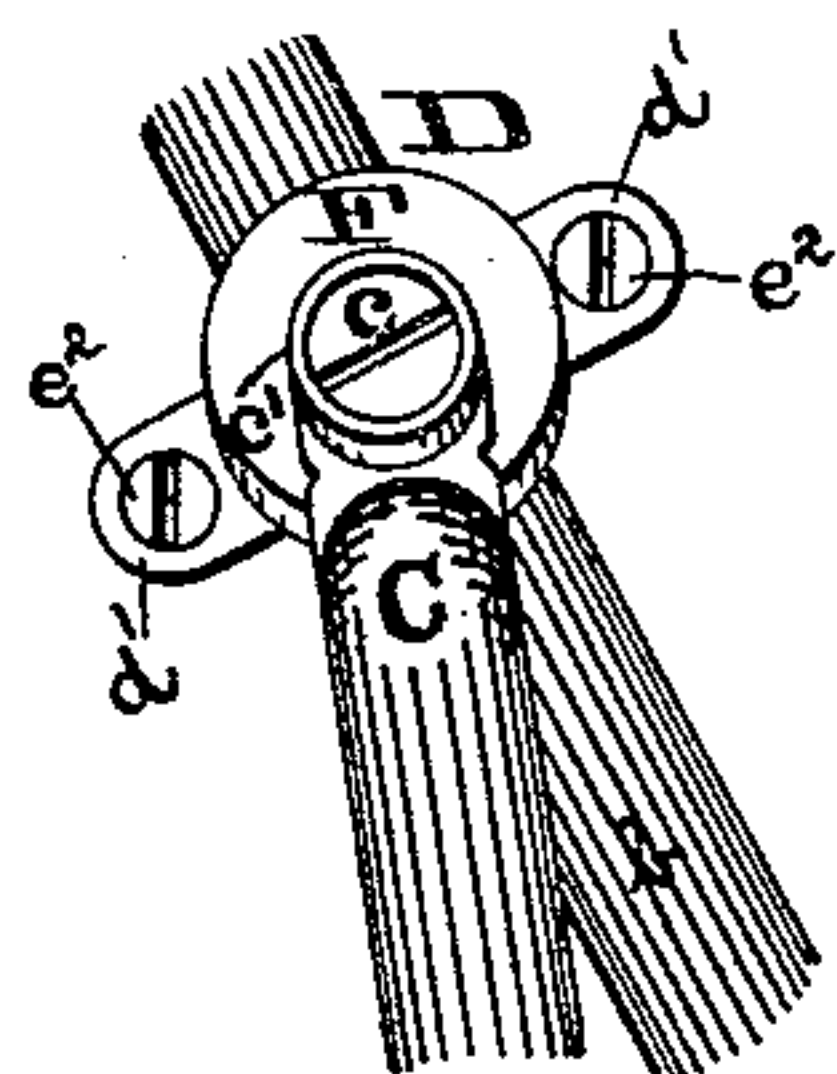
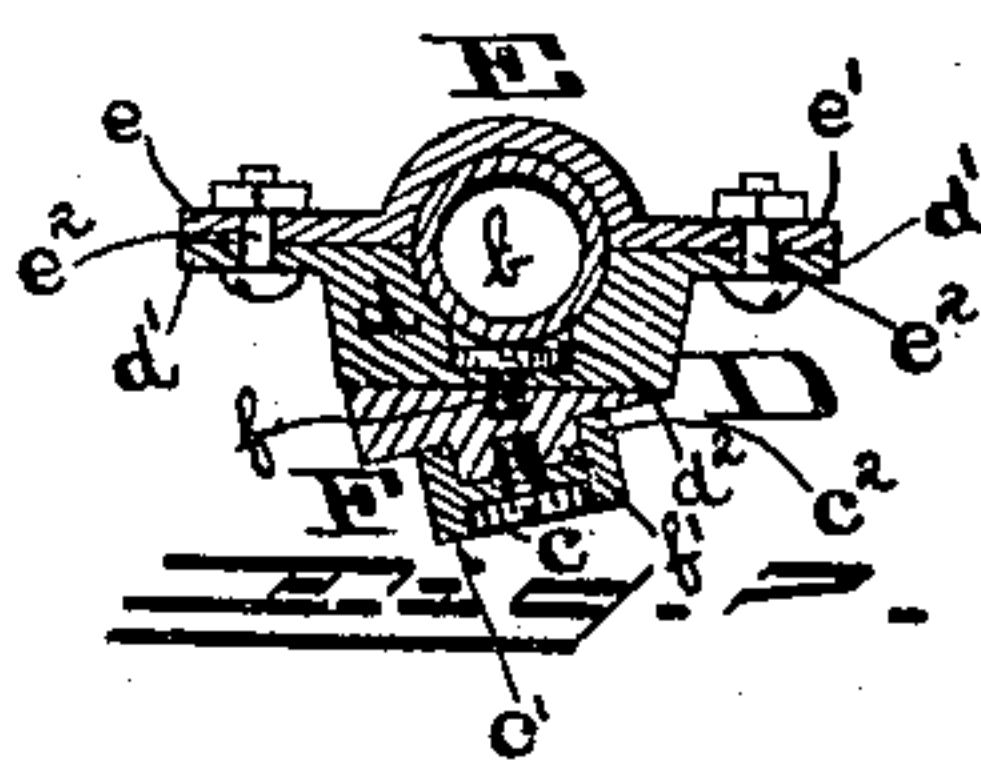
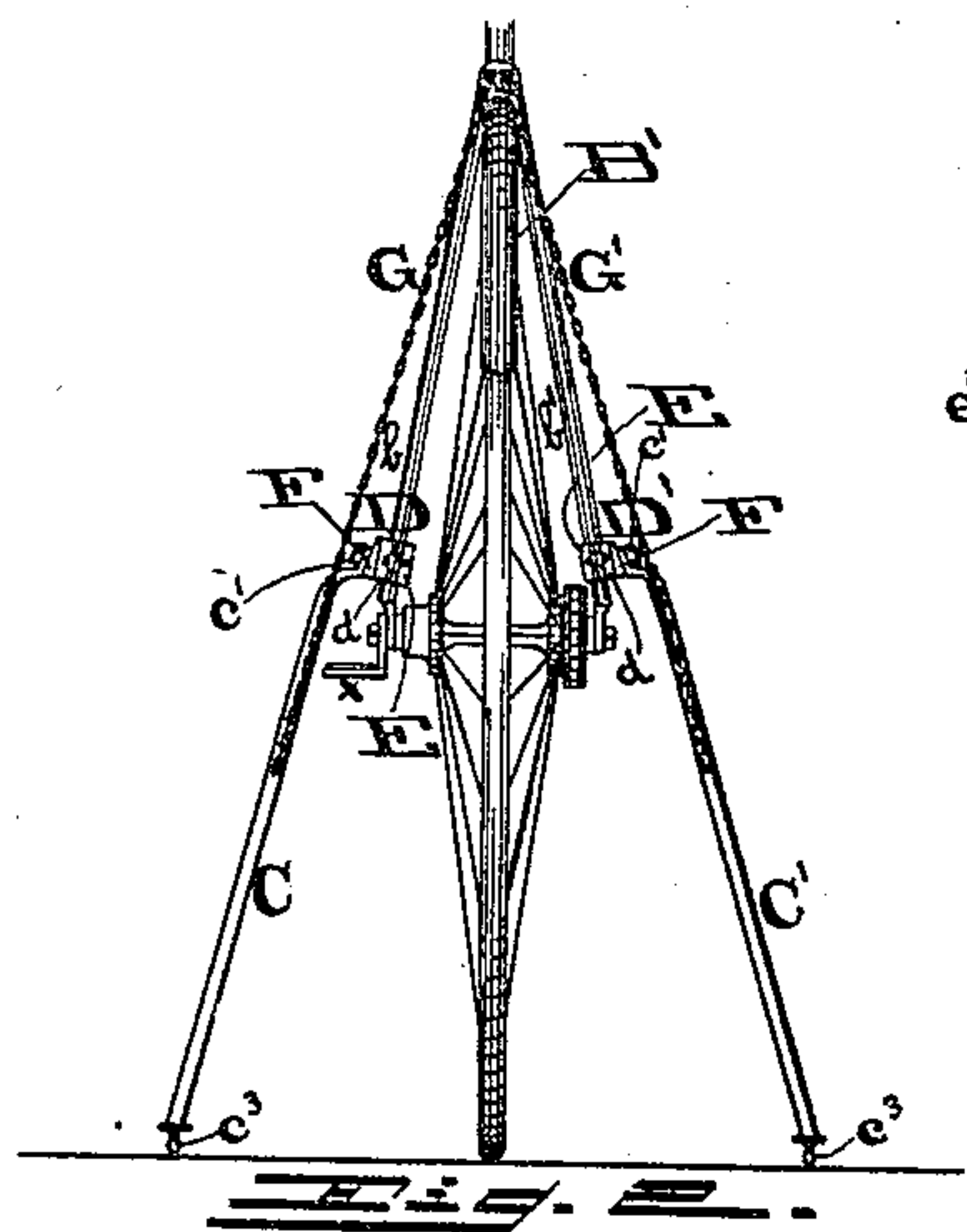
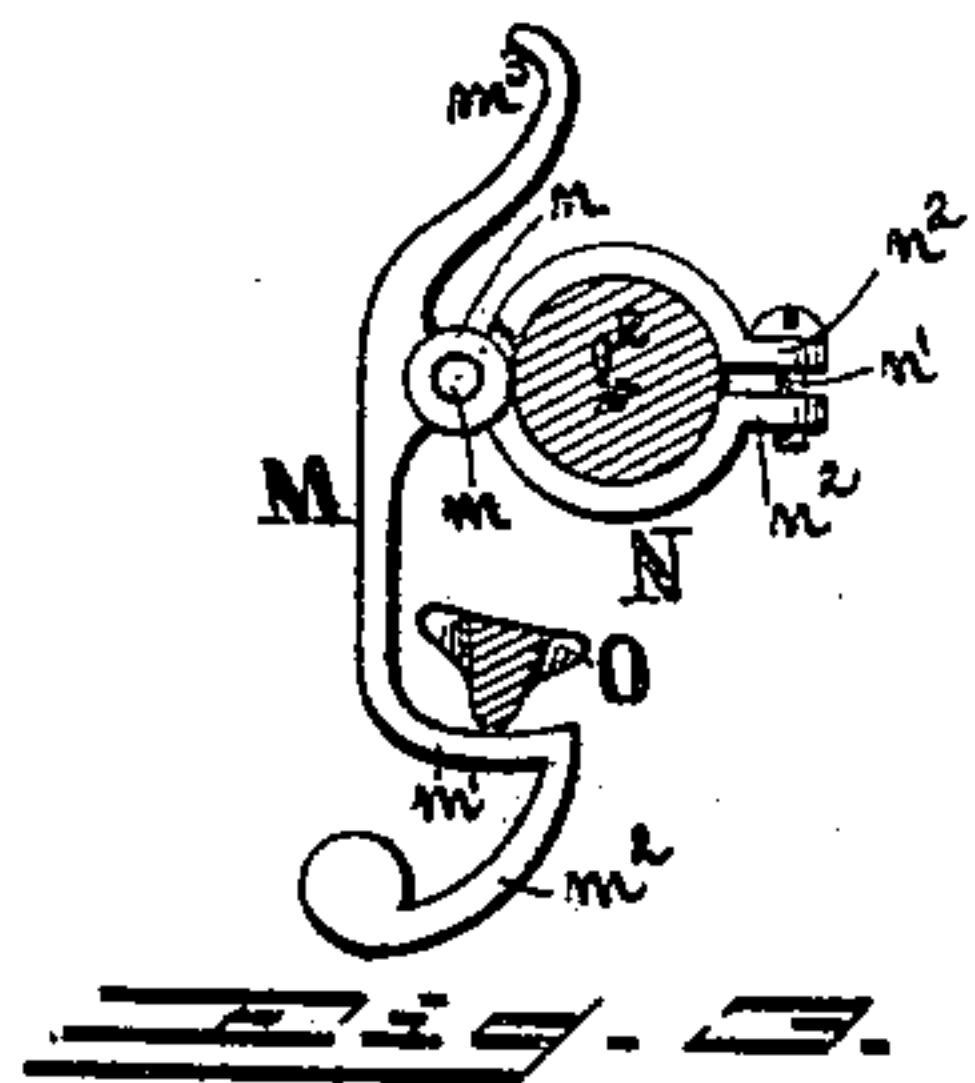
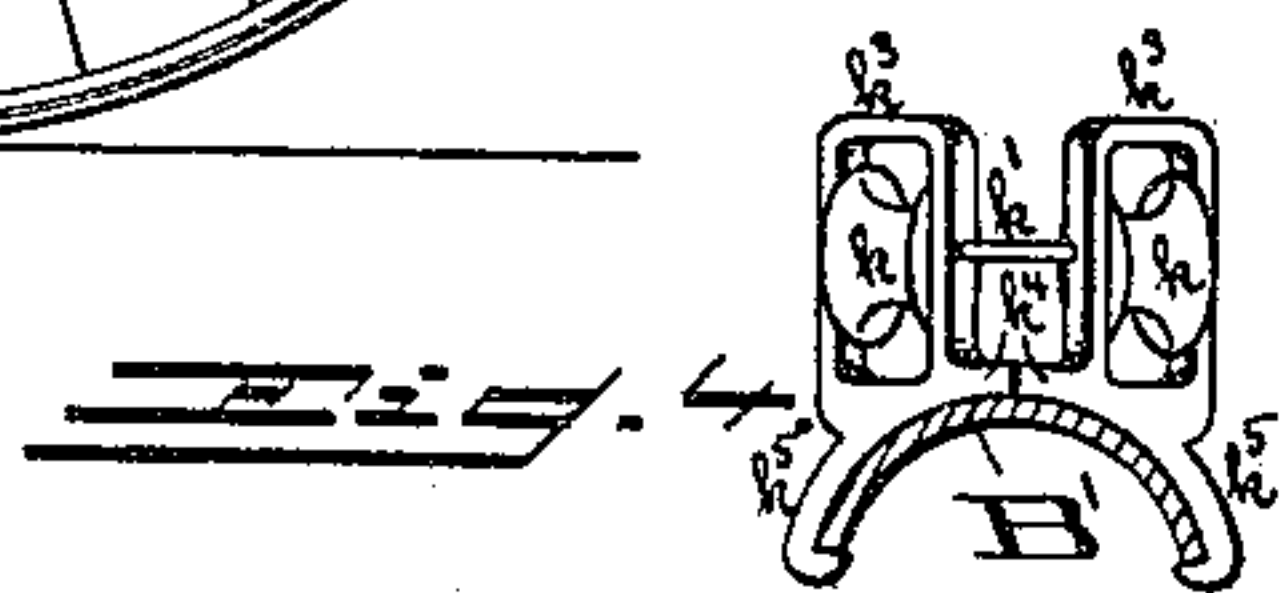
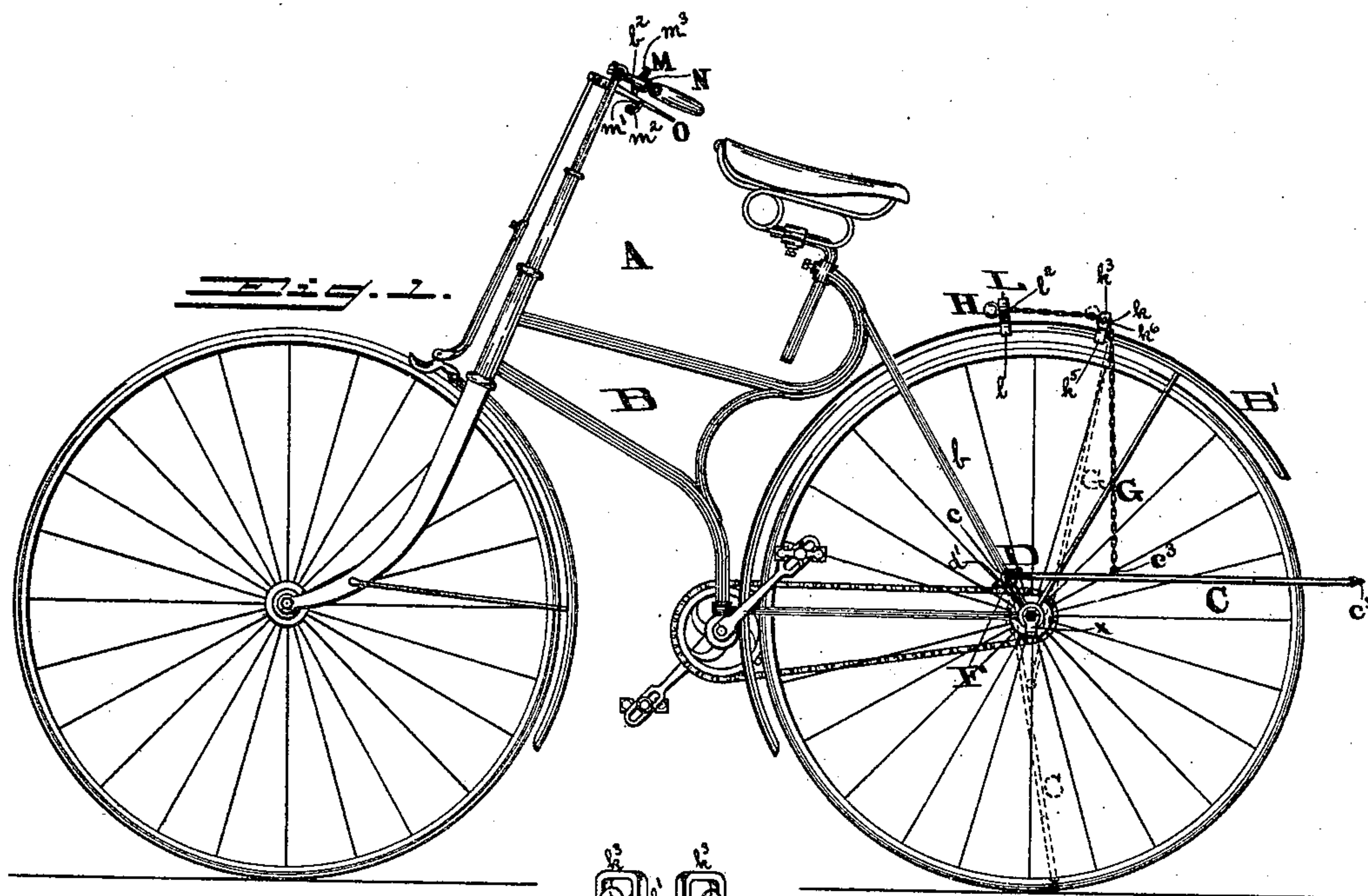


(No Model.)

S. WILSON.  
BICYCLE.

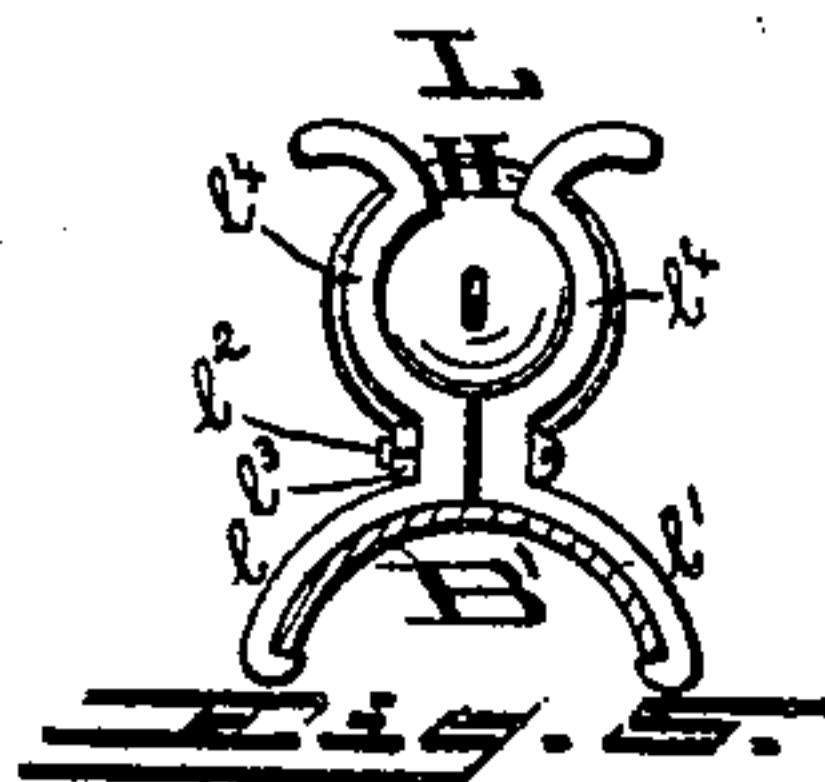
No. 459,569.

Patented Sept. 15, 1891.



WITNESSES

*John Killinger.*  
*George Swaps*



INVENTOR  
*Stephen Wilson,*  
*By his Attorney,*  
*Wm. De Powell.*



# UNITED STATES PATENT OFFICE.

STEPHEN WILSON, OF PHILADELPHIA, PENNSYLVANIA.

## BICYCLE.

SPECIFICATION forming part of Letters Patent No. 459,569, dated September 15, 1891.

Application filed December 2, 1890. Serial No. 373,307. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN WILSON, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bicycles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to bicycles, and has for its object the provision of a novel, simple, and efficient stand or support therefor when the same are at rest, which forms practically part of the machine, is carried thereby when not in operation, and is in the nature of an attachment which is readily adaptable to bicycles—particularly Safety bicycles—of any character.

My invention consists of the details of construction and in the combinations of parts, as hereinafter more particularly described and claimed, and as illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of a bicycle with my improvements applied thereto, and Fig. 2 is a rear view of the same. Figs. 3, 4, 5, and 6 are views of details, enlarged, and Fig. 7 is a transverse sectional view of the latter figure. Fig. 8 is a side elevation of part of the bicycle shown in Fig. 1 with a modification of my invention applied thereto.

Referring to the accompanying drawings, A represents a bicycle whose frame B has therein the upwardly-inclined braces  $bb'$  and sustains also the handle-bar  $b^2$ .

$C C'$  are legs pivotally secured at their inner ends to the braces through the medium of the adjustable joints  $D D'$ , which latter comprise each a round boss  $d$  with projecting ears  $d'$  and having a semicircular groove in its rear side for reception of one side of the brace, to which it is secured in the desired position by the strap E, bent around the other side of said brace and having the ends  $e e'$ , through which and said ears pass the screw-bolts  $e^2$ . Said groove has therein a socket  $d^2$  for reception of the head of the set-screw  $f$ , which latter passes through the bottom of said socket and into the rear of the cam F, which cam has its inner face flat and in close relation with the flat face of the boss  $d$ , whereon it is adjustable, according to the

inclination of the braces of different machines, through the medium of the screw last mentioned, and having its outer face beveled and provided with a central boss  $f'$ , provided with a threaded opening for reception of the set-screw  $c$ , which latter passes through the inner ends of the legs  $C C'$  and prevents the dislodgment of the latter from their bearings, such ends being formed with hollow bosses or rings  $c' c^2$  on opposite sides thereof, the latter encircling the boss  $f'$  and therewith forming the bearing for said legs and the former receiving the head of said screw, such bosses or rings by their contact with the sides of the last-mentioned boss and screw preventing lateral movement of the legs on their bearings.

$G G'$  are chains secured at their lower ends to rings  $c^3$  on the legs  $C C'$  and at their other ends secured to the ball H, and intermediate their ends passing over the grooved pulleys  $k$ , said pulleys being journaled at an angle corresponding with the direction of extent of the chains, so as to obviate tendency of the latter toward slipping off the former on the rod  $k'$ , which latter passes through the sides of the boxes  $k^3$  and has nuts  $k^6$  on each of its ends, which serve to keep the opposing flanges of the boxes in close relation and the curved legs  $k^5$  in like relation with the mud-guard  $B'$  of the bicycle, such legs having their ends bent inwardly for engagement with the edges of said guard, as shown, thereby maintaining the supports for the pulleys in their proper position on said guard.

L is the retainer for the ball H, consisting of a pair of oppositely-disposed sections having depending legs  $l l'$  of a curvature corresponding with that of the guard  $B'$  and having their ends turned inwardly for engagement with the edges of said guard, having also flat opposing faces which are maintained in close relation, and the retainer L in position on the mud-guard by the screw-bolt  $l^2$  passing through said sections and having thereon the nut  $l^3$ . The upper portions of said sections are formed with curves  $l^4$  therein, which form an opening of less diameter than that of the ball H, preventing the passage of the latter therethrough when in engagement with the rear of the retainer, for maintaining the legs  $C C'$  in their lifted po-



sitions, while the extremities thereof flare outwardly, facilitating the entrance of the chains to the opening when the ball is being placed in this position. The retainer L and the supports for the pulleys are, as shown, within easy reach of the rider, and the ball, whose path lies between them, is also within such easy reach without necessitating dismounting from the saddle. When the ball H is disengaged from retainer L and allowed to pass to the pulley-supports, where it is limited against further movement, the legs C C', which are curved outwardly near their upper or inner ends, so as to afford clearance for the steps  $\alpha$ , and the other parts will assume the positions shown by the dotted lines in Fig. 1 and full lines in Fig. 2, where, as will be observed, the lower or free ends of said legs are divergent only to such extent as to prevent the overbalancing or tipping of the machine to either side when the rider is thereon. The points  $c^3$ , secured in the ends last mentioned, preventing slipping, are arranged by the bending of their shanks, which are preferably screwed into such ends so that they will stand vertically, such divergence being caused by the riding of the inner ends of the legs from the thinnest to the thicker parts of the cams, and can be regulated, according to the inclination of the braces or for any other purpose, by turning the cam in either direction when the screw  $f$  is loosened. On the other hand, when the legs are drawn up into the position shown in full lines in Fig. 1 by drawing the ball from contact with the boxes  $k^3$  to engagement with the retainer L, thereby drawing the chains over the pulleys, the inner ends aforesaid ride from the thicker to the thin portion of the cams, allowing the legs to swing inwardly in their upward movement and rest in close relation with the rear wheel of the machine and in alignment with the frame of the latter, where it is clear of obstructions. Obviously when the legs C C' are in the position shown in full line in Fig. 2 unless means are employed for preventing the going forward of the machine such legs will be ineffective to attain the result desired unless the machine is brought to a dead-stop and properly balanced before placing the legs in such position. Therefore a brake-lock must be employed, which lock is preferably of the character shown in Figs. 1 and 3, although any other form of brake-lock may be employed for obviating the necessity of keeping the hand always on the brake-lever, where M is a swinging lever hinged or pivoted on the pin  $m$  in the lugs  $n$  of the strap N, such strap being secured rigidly to the handle-bar  $b^2$  by the screw  $n'$  passing through the lugs  $n^2$  and operating to clamp the same thereon, the upper half of this strap being hinged on the pin  $m$ , so as to allow of the strap being placed on the handle-bar from the side thereof. The lower end of lever M is formed into a hook  $m'$ , with an inclined or beveled end  $m^2$  de-

pending therefrom, the end of said hook extending inwardly beyond the vertical plane of the pin  $m$  and the plane of the brake-lever O, the result being that when the said brake-lever is drawn toward the handle-bar it will strike the beveled end  $m^2$  and force the hook  $m'$  outwardly until it clears the latter, when such hook will swing inwardly again under the lever O, which completes the locking operation, which therefore is accomplished automatically. When it is desired to unlock the brake-lever, the latter is drawn upwardly slightly, so as to clear the hook, and the latter is then drawn from the path of the lever O by pressing inwardly the upper end  $m^3$  of the lever M.

In lieu of the ball H and retainer L the lever P, which is shown in Fig. 8, may be employed, the same being pivoted on a bracket or fork  $d$  on the mud-guard of the machine, having the chains attached thereto at a point below its pivot, so as to prevent accidental dropping of the legs C C', as shown at  $p'$ , and being provided with a stop  $p^2$  for preventing the handle of the lever from coming into close relation with said mud-guard and rendering it more difficult to grasp, when in the position shown by the dotted lines in the figure last mentioned. Furthermore, instead of securing the joints D D' to the braces  $b b'$ , it may be found desirable to secure them in alignment with the axis of the rear wheel of the machine, the same being possible without necessitating a departure from the spirit of my invention.

What I claim as my invention is as follows:

1. In a bicycle, the combination of the frame, the joints D D', secured on the latter, and a leg on each side of the frame and pivotally secured at their inner ends on the cams F of said joints, substantially as specified. 105
2. In a bicycle, the combination of the frame, a leg on each side of and pivotally secured to said frame, the brake-lever, and the locking-lever M, pivoted on the handle-bar, substantially as specified. 110
3. In a bicycle, the combination of the frame, a leg on each side of and pivotally secured to said frame, chains secured at one end to said legs and at their other ends to the ball H, and the retainer L, substantially as specified. 115
4. In a bicycle, the combination of the frame, a leg on each side of and pivotally secured to said frame, chains secured at one end to said legs and at their other ends to the ball H, the retainer L, the brake-lever, and the locking-lever M, pivoted on the handle-bar, substantially as specified. 120
5. In a bicycle, the combination of the frame, the joints D D', secured on the latter, a leg on each side of the frame and pivotally secured at their inner ends on the cams F of said joints, chains secured at one end to said legs and at their other ends to the ball H, and the retainer L, substantially as specified. 125
6. In a bicycle, the combination of the frame, the joints D D', secured on the latter, a leg on



each side of the frame and pivotally secured at their inner ends on the cams F of said joints, chains secured at one end to said legs and at their other ends to the ball H, the re-  
5 tainer L, the brake-lever, and the locking-lever M, pivoted on the handle-bar, substantially as specified.

7. In a bicycle, the combination of the frame, the joints D D', secured on the latter, the legs  
10 C C', pivotally secured at their inner ends on the cams F of said joints, chains secured at one end to the legs and at their other ends to the ball H, the pulleys k, journaled in the boxes k<sup>3</sup> intermediate the ends of said chains,  
15 and the retainer L, substantially as specified.

8. In a bicycle, the combination of the frame,

the joints D D', secured on the latter, the legs C C', pivotally secured at their inner ends on the cams F of said joints, chains secured at one end to the legs and at their other ends  
20 to the ball H, the pulleys k, journaled in the boxes k<sup>3</sup> intermediate the ends of said chains, the retainer L, the brake-lever, and the locking-lever pivoted on the handle-bar, substantially as specified.

25 In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN WILSON.

Witnesses:

WM. H. POWELL,  
R. DALE SPARHAWK.