

No. 708,809.

Patented Sept. 9, 1902.

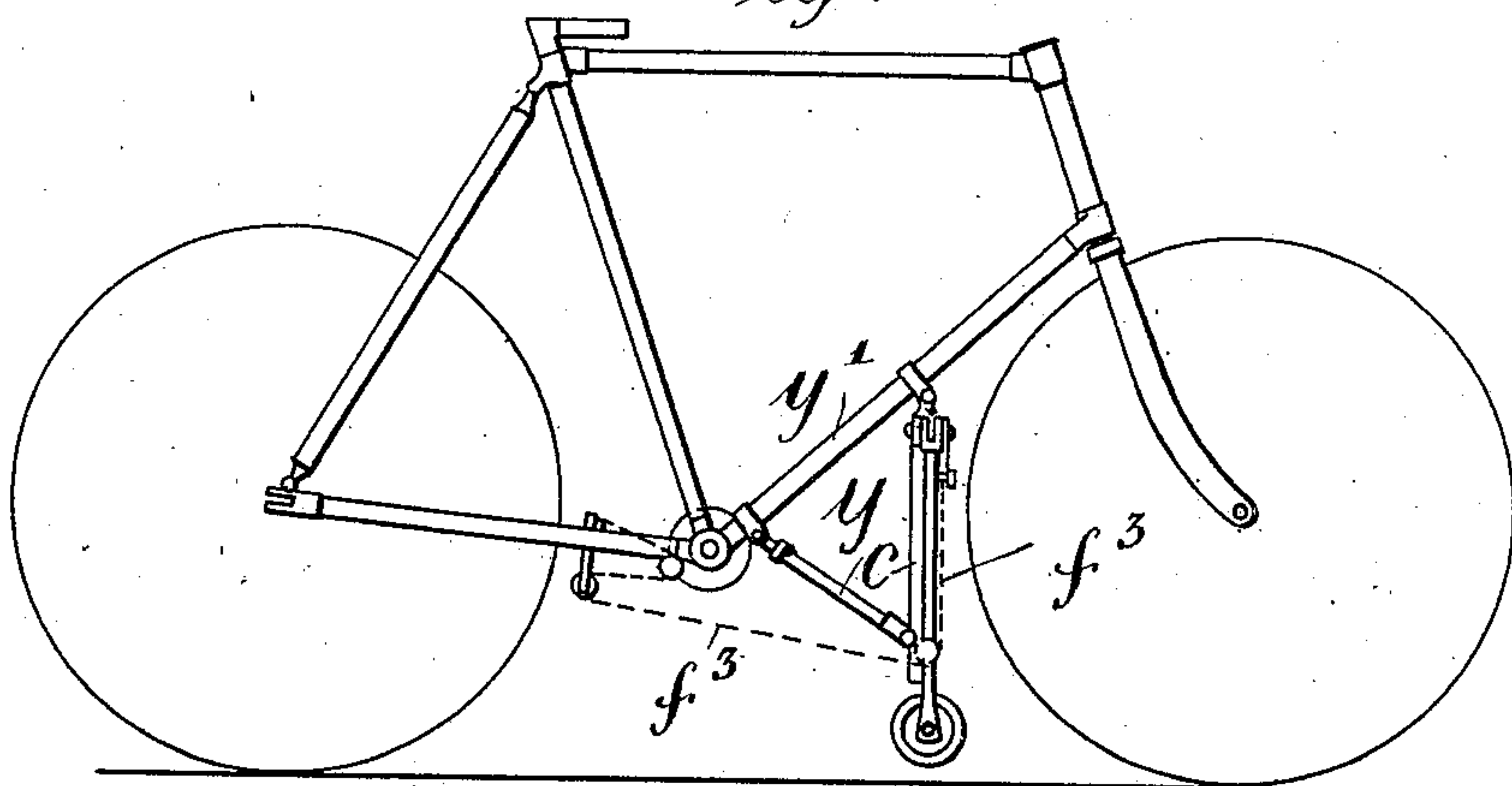
W. H. HAYES.  
VELOCIPED OR THE LIKE.

(Application filed Feb. 18, 1902.)

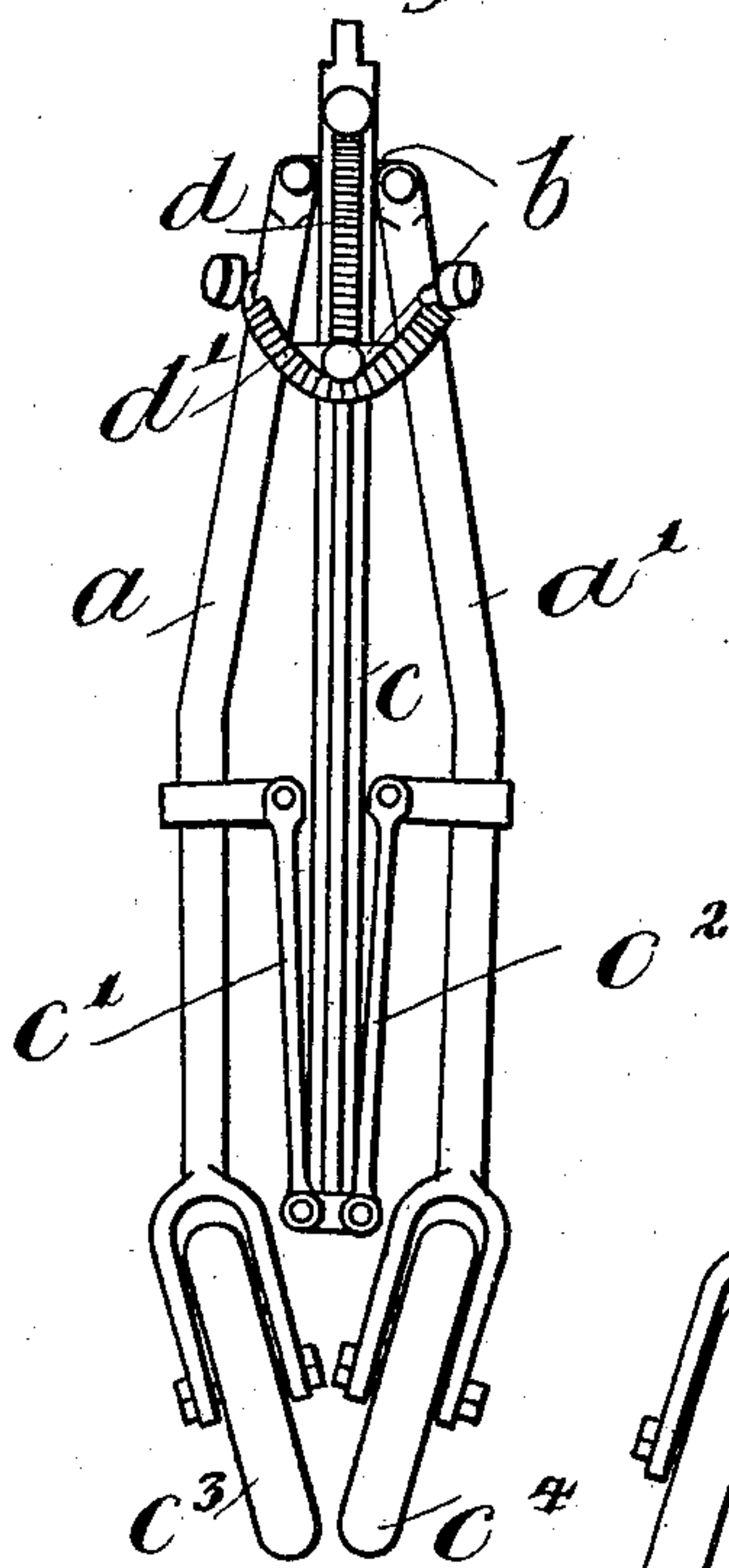
(No Model.)

2 Sheets—Sheet 1.

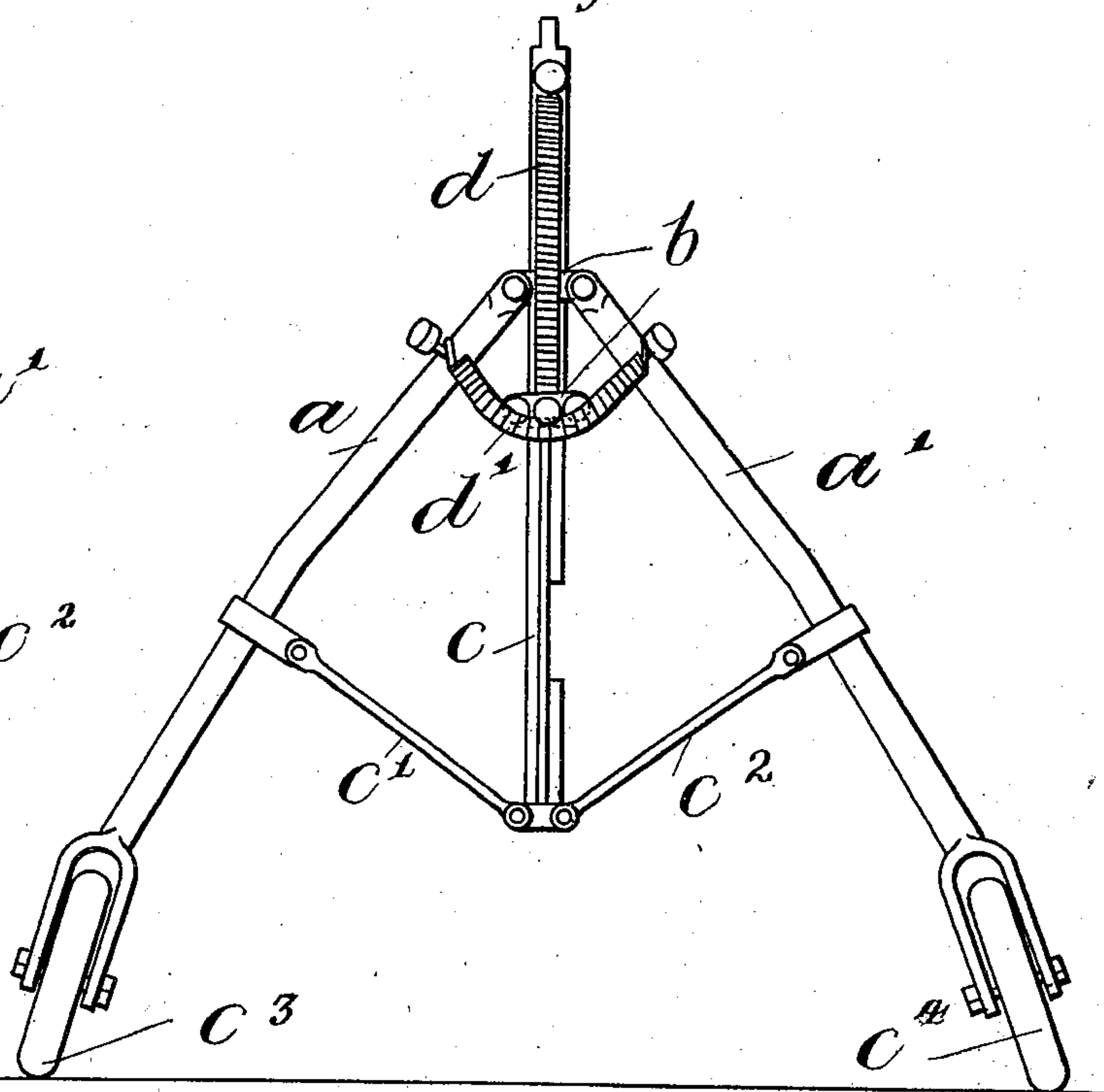
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

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Geo C. Foulton

Inventor.

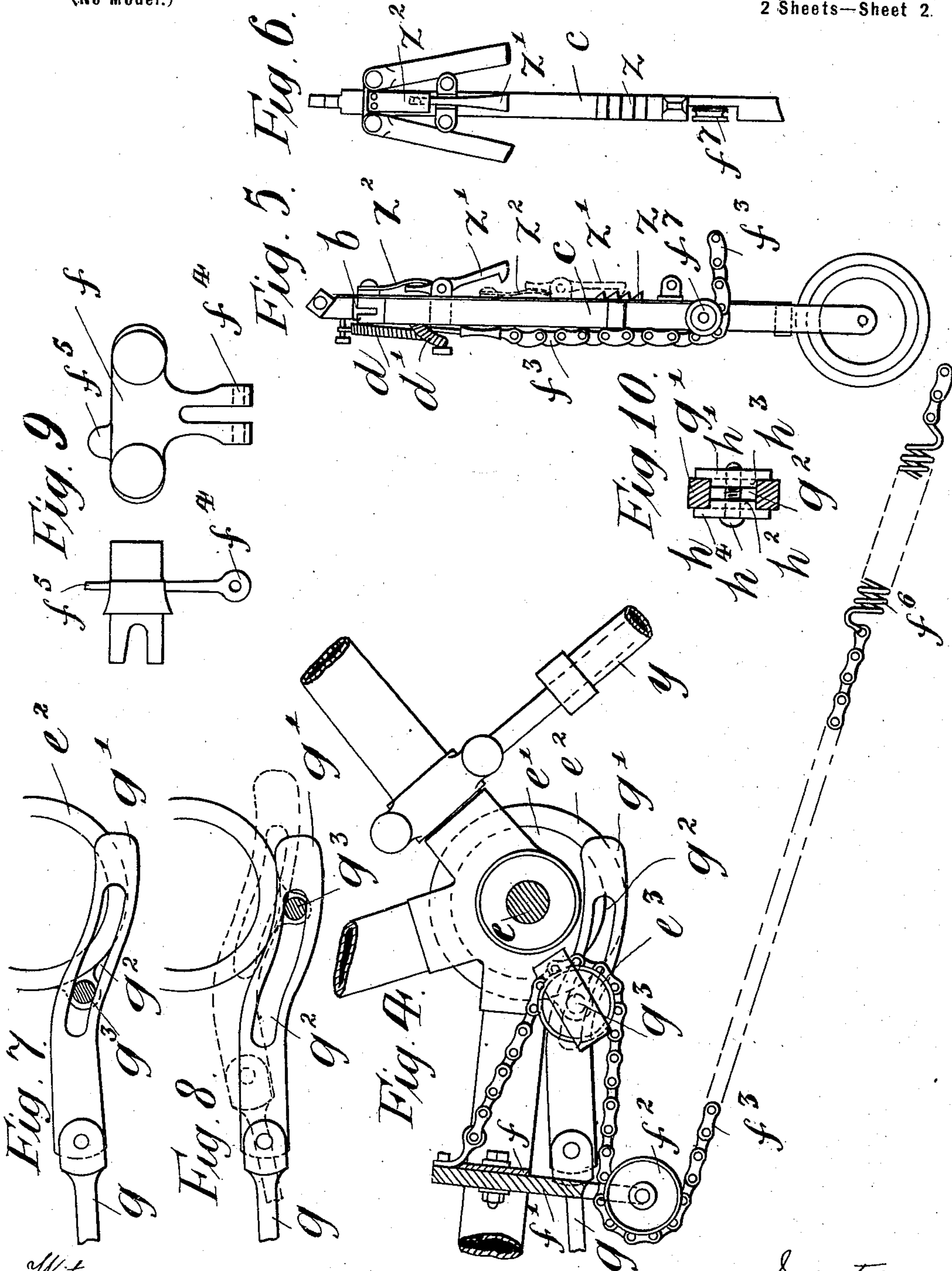
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VELOCIPEDE OR THE LIKE.

(Application filed Feb. 18, 1902.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

WALTER H. HAYES, OF LONDON, ENGLAND.

## VELOCIPEDE OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 708,809, dated September 9, 1902.

Application filed February 18, 1902. Serial No. 94,584. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER HENRY HAYES, a subject of the King of Great Britain and Ireland, residing at 32 James street, Oxford street, London, England, have invented certain new and useful Improvements in Velocipedes or the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to supports for velocipedes; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In order that this invention may be more fully understood, I will now proceed to describe same with reference to the accompanying drawings, in which—

Figure 1 is a diagrammatic view of a bicycle fitted with the supporting device designed to be operated according to this invention. Fig. 2 is a front view of the supporting device, detached, in the closed position; and Fig. 3 a similar view in the open position. Fig. 4 is an enlarged detail view illustrating the method of operating the support by back-pedaling and showing the method of operating a back-pedaling brake in conjunction with the same. Figs. 5 and 6 are detailed views of the supporting device. Figs. 7 and 8 are detail views, hereinafter referred to, illustrating a method of operating a back-pedaling brake in conjunction with the support; and Figs. 9 and 10 are details.

Referring to Sheets 1 and 2, the supporting device comprises two legs  $a a'$ , pivoted to a sliding piece  $b$ , carried by a central bar  $c$ , to the lower extremity of which legs  $a a'$  are pivotally connected through the medium of the arms  $c' c^2$ . The lower extremities of the arms  $a a'$  are provided with small wheels  $c^3 c^4$ , while a vertical spring  $d$  normally raises the legs and the transverse spring  $d'$  closes them. A pivoted strut  $y$  is secured to the lower extremity of the central bar  $c$ , Fig. 1, and the supporting device is clamped to the tube  $y'$ , as shown in Fig. 1.

In order to bring the support into operation, it is necessary to draw down the sliding piece  $b$ , and in order that this may be effected by back-pedaling I mount upon the crank-

axle  $e$  a clutch of the kind used in connection with free-wheel velocipedes and comprising a fixed center part  $e'$ , revolving with the crank-axle of the machine, and a clutch-ring  $e^2$ , which so long as the crank-axle is revolving in the forward direction for driving the machine does not turn, but upon back-pedaling the clutch-ring is turned. This clutch-ring is provided with an outwardly-projecting arm carrying a small roller  $e^3$ , while to the bridge-piece  $f$  of the frame of the machine a plate  $f'$  is bolted, furnished with a forked lower extremity carrying a small roller  $f^2$ , while a suitable flexible connection, which may take the form of a chain  $f^3$ , is secured to the plate  $f'$ , passes over the rollers  $e^3$  and  $f^2$ , its other extremity passing over a roller  $f^7$ , Figs. 5 and 6, carried by the central bar  $c$  of the supporting device, and is secured to the sliding piece  $b$ , so that upon back-pedaling, which has the effect of turning the clutch-ring  $e^2$ , the roller  $e^3$  is drawn forward, putting the necessary tension on the connection  $f^3$  to draw down the sliding piece  $b$  for expanding the legs  $a a'$  and bringing their lower extremities into contact with the ground.

Where a new machine is built to be fitted with this device, instead of bolting a plate  $f'$  to the bridge of the frame the said bridge-piece, as shown in side and front elevation at Fig. 9, may be formed integrally with a downwardly-extending forked piece  $f^4$  to take the roller  $f^2$  and an upwardly-extending lug  $f^5$ , to which the extremity of the flexible connection is designed to be secured, while at a suitable point in the flexible connection  $f^3$  a spiral spring may be inserted, as at  $f^6$ , Fig. 4, so as to prevent any injurious shock when it is put into a state of tension.

In order that the support may be locked in the expanded position to provide a permanent support for home use, a rack  $z$  is formed on the back of the central bar  $c$ , while upon the sliding piece  $b$  a pivoted catch or pawl  $z'$  is arranged, above which a spring  $z^2$  is pivoted in such a manner as to be capable of a slight lateral movement. When the machine is in use, the spring  $z^2$  is turned over the end of the catch or pawl  $z'$ , so that as the sliding piece  $b$  is brought down for bringing the supporting device into use the catch or pawl  $z'$  passes over the rack  $z$  without engaging it;



but when the supporting device is required to be locked in the expanded position, as in the case of a support for home use, the spring  $z^2$  is turned under the end of the pawl or catch  $z'$ , as shown in dotted lines, Fig. 5, so that it engages the rack.

In order that a back-pedaling brake may be operated after the support has been brought into operation or as it is being brought into operation, the brake-operating rod  $g$  is provided with a curved pivoted extension  $g'$ , formed with a slot  $g^2$ , through which the pin  $g^3$  of the clutch-ring passes and which normally lies toward the forward end of the slot  $g^2$ , as shown at Fig. 7. This pin passes along the slot, as shown at Fig. 8, as the support is brought into use, while upon further back-pedaling, which has the effect of further rotating the clutch-ring  $e^2$ , the pin  $g^3$  coming against the extremity of the slot  $g^2$  draws back the brake-operating rod, as indicated in dotted lines, Fig. 4, and applies the brake.

In order that the effective length of the slot  $g^2$  may be altered at will, so as to cause the brake-rod to be operated at any required point, an adjustable stop is provided consisting, as shown at Fig. 10, of two plates  $h$   $h'$ , formed with cheeks  $h^2$   $h^3$ , entering the slot  $g^2$  in the pivoted extension  $g'$  and which may be caused to slide along the slot  $g^2$  and be secured in the required position by a screw, such as  $h^4$ , so that upon the pin  $g^3$  coming into contact with the stop the brake-rod is operated.

35 What I claim is—

1. In a velocipede-support, the combination, with a guide-bar secured to the machine-frame, of a slidable piece mounted on the said guide-bar, two legs provided with rollers at their lower ends and having their upper ends pivoted to the said slidable piece, arms pivotally connecting the middle parts of the said legs with the lower part of the said bar, a spring for holding the said slidable piece in its raised position, and a spring which moves the said legs toward each other automatically

when the said slidable piece is raised, substantially as set forth.

2. In a velocipede-support, the combination, with a guide-bar secured to the machine-frame and provided with a toothed rack, of a slidable piece mounted on the said guide-bar, a pawl pivoted to the said slidable piece, a laterally-movable spring carried by the said bar and holding the said pawl in or out of engagement with the said toothed rack as required, two legs provided with rollers at their lower ends and having their upper ends pivoted to the said slidable piece, arms pivotally connecting the middle parts of the said legs with the lower part of the said bar, a spring for holding the said slidable piece in its raised position, and a spring which moves the said legs toward each other automatically when the said slidable piece is raised, substantially as set forth.

3. In a velocipede-support, the combination, with a guide-bar secured to the machine-frame, a brake-ring which is moved in one direction when the crank-shaft is back-pedaled, and a roller carried by the said brake-ring; of a slidable piece mounted on the said guide-bar, two legs provided with rollers at their lower ends and having their upper ends pivoted to the said slidable piece, arms pivotally connecting the middle parts of the said legs with the lower part of the said bar, springs normally holding the said legs raised and near together, guide-rollers carried by the said bar and the machine-frame, and a flexible connection passing over all the said rollers and having its ends attached to the machine-frame and to the slidable piece respectively, whereby the said legs are moved downward and apart when the crank-shaft is back-pedaled, substantially as set forth.

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

W. H. HAYES.

Witnesses:

GODFREY SHEPHERD,  
C. LEASON.