

No. 640,738.

Patented Jan. 9, 1900.

J. BOOTH.  
BICYCLE SUPPORT.

(Application filed July 11, 1899.)

(No Model.)

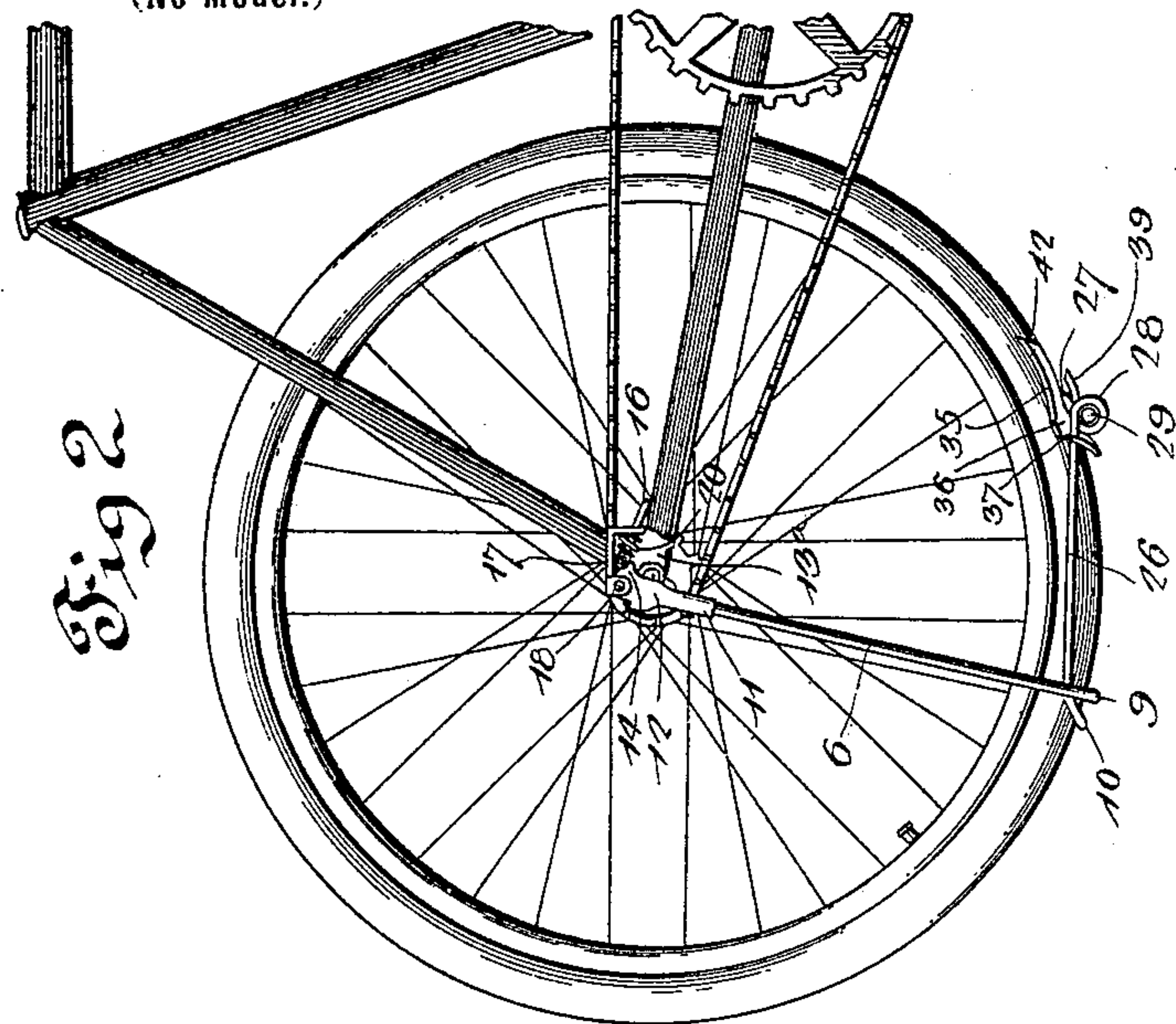


Fig. 2

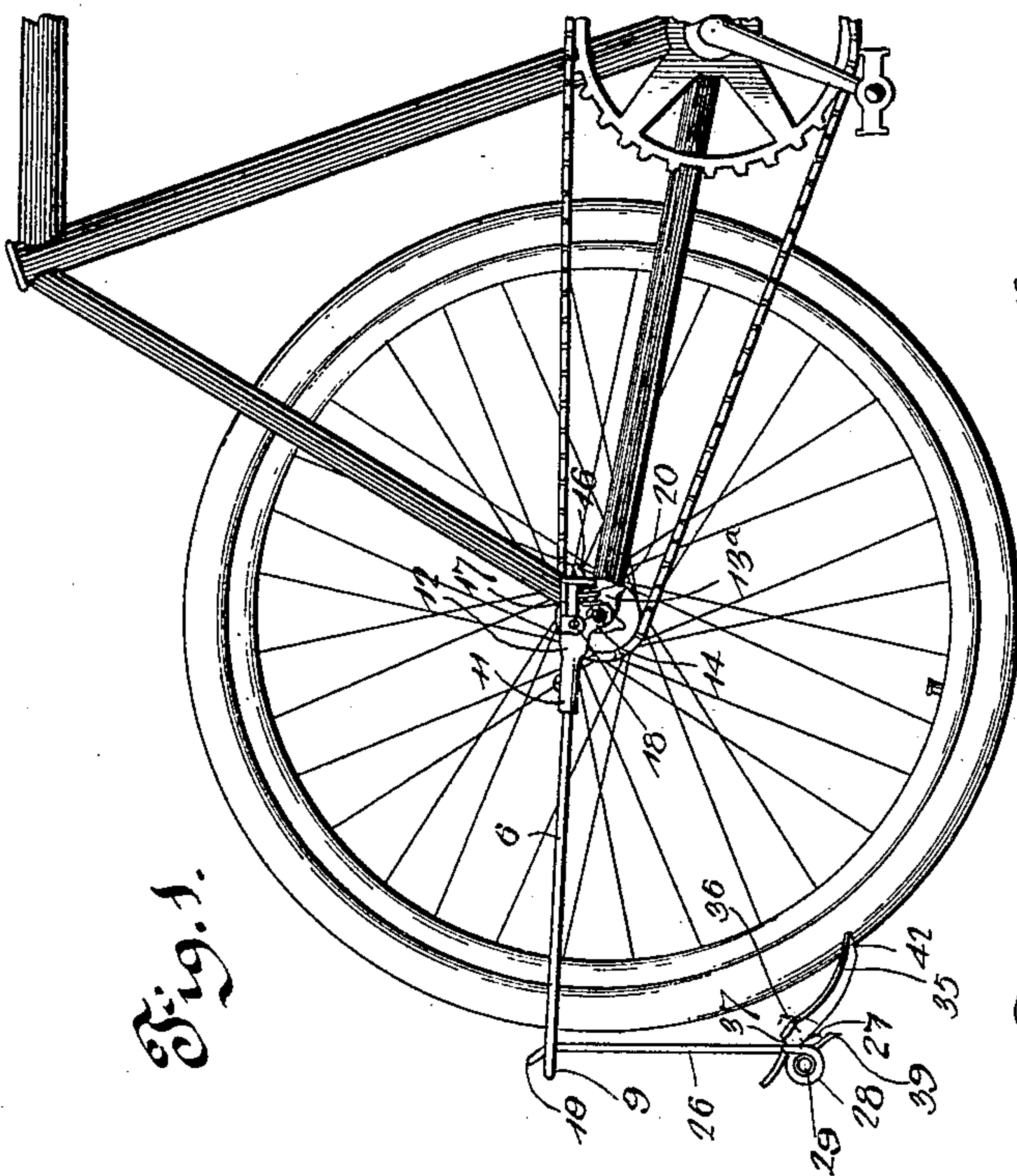


Fig. 1

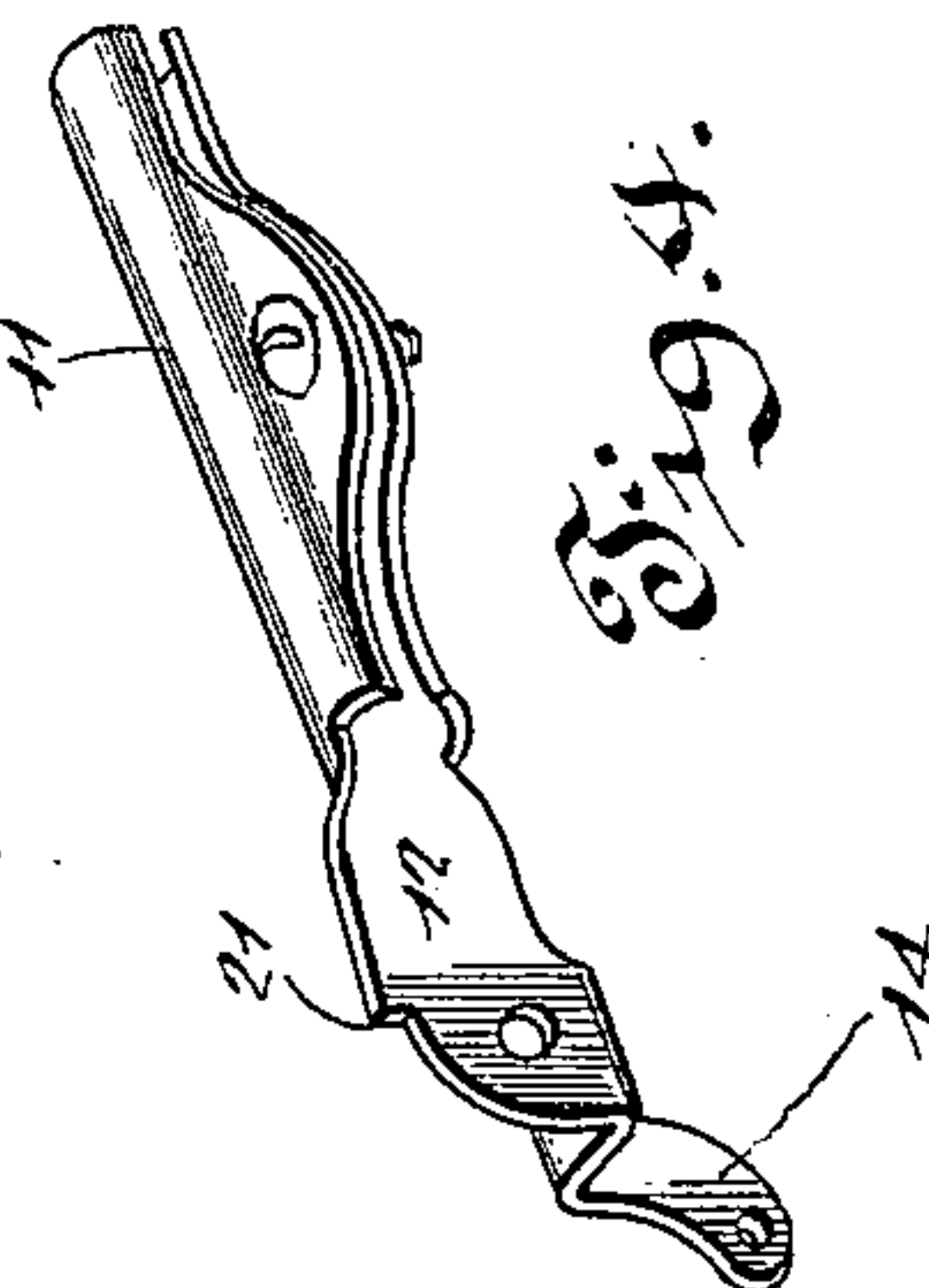


Fig. 4

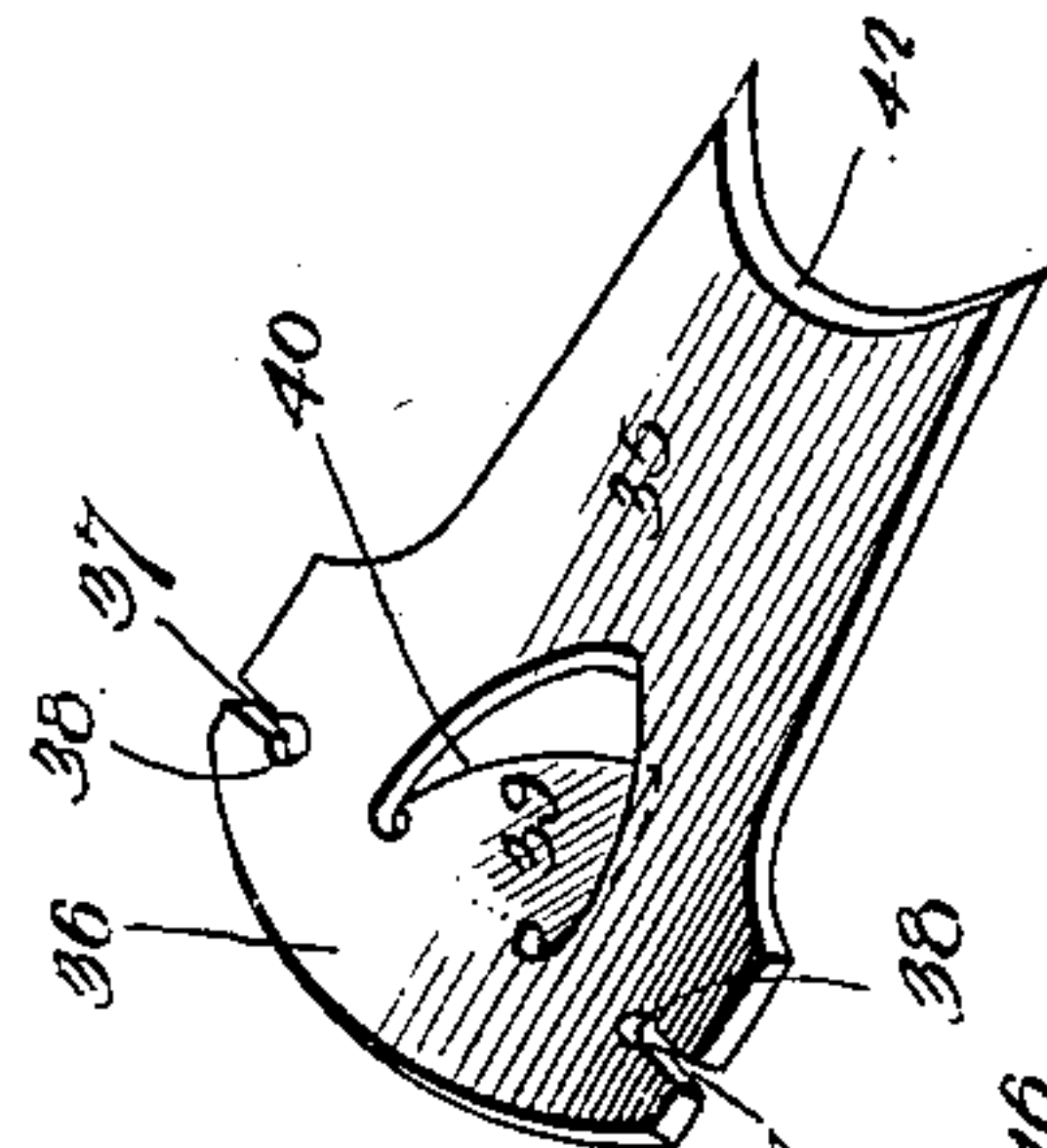


Fig. 5

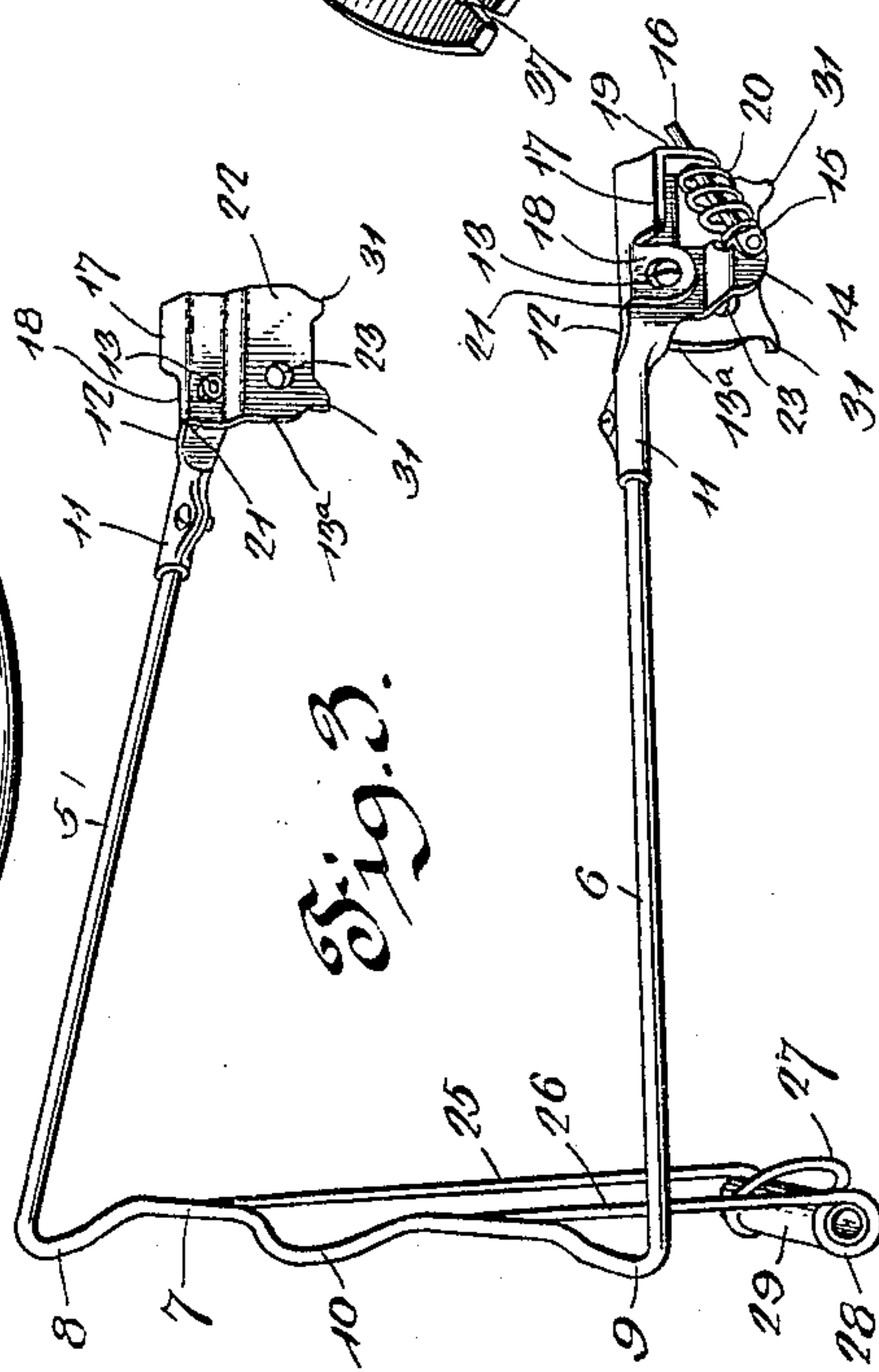


Fig. 3

Witnesses

J. Frank Culverwell.  
Geo. H. Chavale

By his Attorneys.

John Booth, Inventor.

C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

JOHN BOOTH, OF TERRE HAUTE, INDIANA.

## BICYCLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 640,738, dated January 9, 1900.

Application filed July 11, 1899. Serial No. 723,468. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BOOTH, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Bicycle-Support, of which the following is a specification.

This invention relates to bicycle-supports; and it has for its object to provide a support which may be fixed to the frame of a bicycle to be carried thereby and in such a manner that it may be easily depressed into operative position and that when the bicycle moves forwardly the support will be automatically released and will at the same time rise out of its operative position.

A further object of the invention is to combine with the support a scraper which will operate to cleanse the wheel adjacent thereto when the support is in its operative position.

In the drawings forming a portion of this specification and in which similar numerals of reference designate corresponding parts in the several views, Figure 1 is a side elevation of the rear portion of a bicycle-frame, showing the support elevated to its inoperative position. Fig. 2 is a similar view to Fig. 1, showing the support in its operative position. Fig. 3 is a perspective view of the support detached. Fig. 4 is a perspective view of a hinge element of the structure. Fig. 5 is a perspective view of the wheel-scraper detached.

Referring now to the drawings, this support consists of a rod or wire, comprising two converging arms 5 and 6, lying in a common plane and having a common base 7, that portion of the base adjacent each of the arms being bent inwardly to form feet 8 and 9, the base intermediate the feet being curved outwardly at an angle of substantially forty-five degrees to the plane of the arms, as shown at 10, and adapted to receive the tire of a bicycle-wheel.

Connected with the outer end of each of the arms 5 and 6 is a hinge element comprising a split tube 11, having ears through which is passed a clamping-bolt in the usual manner, and through the medium of which bolt the tube is clamped upon the end of the arm. Extending outwardly from the outer ends of the tubes 11 are plates 12, which lie mutually parallel and are perforated to receive hinge-pins in the form of bolts 13.

The arms 5 and 6 are adapted to lie horizontally when the support is in its inoperative position, and the plates 12 have outwardly and downwardly projecting lugs 14, to the downwardly-projecting portion of each of which is pivotally connected the split head 15 of a pin 16, for a purpose which will be presently explained.

Coöperating with each plate 12 is a second plate 13<sup>a</sup>, having an upwardly-extending flange 17 at one edge thereof, a portion of said flange, as shown at 18, being bent over to lie parallel with the face of the adjacent portion of said plate and to receive between it and the plate that portion of the plate 12 through which the hinge-pin 13 is passed, the plate 13<sup>a</sup> and the bent-over portion having alining perforations to receive said hinge-pin.

At one end of the plate 13<sup>a</sup> is formed a flange 19, which lies at right angles to the flange 17 and is connected therewith, said flanges 19 having a perforation through which is passed a pin 16, a helical spring 20 upon the pin bearing at one end against the flange 19 and at the outer end against the head of the pin. This spring acts to hold the plate 13<sup>a</sup> at either limit of its pivotal movement upon the pin 13, a stop 21 upon the plate 12 receiving the edge of the bent-over portion 18 to hold the plate 13<sup>a</sup> at one limit, while the flange 17 engages the adjacent edge of the portion 14 of plate 12 when the plate 13<sup>a</sup> is at its other limit.

The plate 13<sup>a</sup> has an offset portion 22, provided with a perforation 23, through which an end of the rear axle is passed and after which the axle-nut is turned down upon the offset portion to clamp the support to the frame of the machine and to hold the rear wheel in place.

From the above description it will be seen that as the arms are moved with the plates 12 from one position to another the head 15 of the pin 16 will pass between the pin 13 and the perforation in the flange 19 and that after passing the line connecting said pin and perforation the spring 20 will act to throw the plate to the corresponding limit of its motion. Hence, as shown in Figs. 1 and 2 of the drawings, if the plate 13<sup>a</sup> be fixed to the rear axle the arms 5 and 6 when raised from their lowered position will suddenly fly to the limit



of their upward movement under the influence of said spring and will be yieldably held in such position; also, that if the arms be then depressed they will suddenly fly to the limit  
5 of their lowered position and will be held yieldable therein by the spring.

In order to automatically throw the arms from the position shown in Fig. 2, there is secured to the base 7 and at each end of the  
10 curved portion 10 thereof the ends of the substantially parallel portions 25 and 26 of a U-shaped wire, the connecting-web 27 of which extends at an angle of substantially forty-five degrees to the plane of the portions 25 and 26,  
15 the wire at the ends of the web being bent to form parallel eyes 28 for the reception of a tube 29.

The location and arrangement of the extension comprising the arms 25 and 26 is such  
20 that when the arms 5 and 6 are in their lowered position a portion of the tire of a bicycle-wheel will lie intermediate the tube 29 and the curve 10 and which tube and curved portion will be engaged by the bicycle-tire, the  
25 portion 27 of the arms 25 and 26 extending upwardly and in the direction of forward motion of the bicycle. Thus if the support be in the position shown in Fig. 2 and the bicycle be moved forwardly the tire will press  
30 upon the tube 29 and will hold it firmly against the ground, while the bicycle will draw the upper ends of the arms 5 and 6 forwardly to rock the portion 10 of the plate 12 to the opposite side of the pivot 13. This  
35 will occur before the tire of the bicycle has left the tube 28, so that when the tire releases the tube the spring 20 will act to throw the support into the position shown in Fig. 1.

Conversely, if the support be raised it is  
40 only necessary to press with the foot upon either of the arms 5 and 6 or upon the base 7, when the portion 14 of the plate 12 may be readily moved to the opposite side of the pivot-pin 13, when the spring 20 will act to  
45 finish the movement and to yieldably hold the support in its operative position. In this operation it will be necessary to raise the bicycle slightly to permit the adjustment of portions of the support beneath the rear wheel,  
50 and in order to prevent accidental movement of the plate 22 laterally-extending ears 31, formed thereon, are adapted to lie against the edges of their respective ears at the rear end of the bicycle-frame. Also it will be noted  
55 that the flange 17 lies in a constant horizontal position, and thus forms a step for the bicycle.

In connection with the web 27 and its arms a scraper may be employed, consisting of a  
60 rubber or other flexible sheet 35, having a broadened extremity 36, provided with transverse slots 37, leading into perforations 38, and through which slots the arms 25 and 26 are adapted to be passed to lie in the perforations. Struck up from the sheet 35 is a  
65 tongue 39, which is adapted to enter between the curved portion of the web 27 and tube 29,

said tongue having forwardly-directed slots 40, adapted to receive portions of the web 27 to assist in the prevention of dislodgment of  
70 the sheet. In practice this scraper is adjusted to project against the periphery of the hind wheel of a bicycle and which engaging end is curved inwardly at 42 to fit the tire of the wheel, the sheet tending to oppose rotation of  
75 the hind wheel, and thereby scrape accumulations therefrom. The construction of the sheet is such that it may be readily applied or removed, while its form is so simple that it will be found to be very cheap of manufac-  
80 ture and will at the same time possess great utility.

It will be readily understood that the specific construction and arrangement shown may be varied and also that I may employ  
85 any desired material for the different parts thereof without departing from the spirit of the invention, also that the connection of the elements 11 with the arms 5 and 6 is such as to enable adjustment of the support to differ-  
90 ent sizes of wheels.

Having thus described the invention, what I claim is—

1. A bicycle-support comprising plates adapted for attachment to a wheel-axle, a  
95 frame having pivotal connection at its ends with said plates and extending radially and laterally of said axle to inclose a wheel supported thereby, a perforated ear for each plate, pins pivotally connected with the frame and  
100 operable in the perforations, and a spring upon each pin engaging its respective ear and the respective portion of the frame and adapted to hold the frame at the limits of its pivotal movement. 105

2. In a bicycle-support, the combination with a frame, of plates adjustably connected with the ends thereof, additional plates pivotally connected with the first-named plates and adapted for attachment to the axle of a  
110 wheel, stops for limiting the movement of the first and second plate with respect to each other, perforated ears upon the second plates, pins carried by the first plates and operable in said perforations, and springs  
115 upon the pins adapted to throw and hold the plates in their opposite positions when initially moved.

3. In a bicycle-support, the combination with a frame, of plates adjustably connected  
120 with the ends thereof, additional plates pivotally connected with the first-named plates, and having perforated ears and adapted for attachment to the axle of a wheel, stops for limiting the movement of the first and second  
125 plates with respect to each other, pins carried by the first plates and operable in the perforations of the ears, springs upon the pins adapted to throw and hold the plates in their opposite positions when initially moved, and  
130 a supplemental frame connected with the first-named frame and extending at an angle thereto.

4. In a bicycle-support, comprising plates



adapted for connection with an axle, additional plates pivotally connected with the first-named plates and adapted for attachment to the axle of the wheel perforated ears upon the first-named plates, means for limiting the movement of the plates with respect to each other, pins carried by the second plates and operable in the perforations of the ears, springs upon the pins adapted to throw and hold the plates yieldably in their opposite positions when initially moved, and a scraper removably connected with the supplemental frame.

5. In a bicycle-support, the combination with a frame, of plates adjustably connected thereto, additional plates pivotally connected with the first-named plates and adapted for attachment to the axle of a wheel perforated ears upon the second plates, stops for limiting the movement of the first and second plates with respect to each other, pins carried by the first plates and operable in the perforations of the ears and springs upon the pins disposed between portions of the first and second plates and adapted to yieldably hold them in their opposite correlative positions.

6. In a bicycle-support, the combination with a main frame adapted for connection with portions of a bicycle and to inclose a wheel thereof, of a supplemental frame connected with and extending at an angle to the

main frame and adapted to directly receive a portion of a bicycle-wheel, said supplemental frame comprising a web bent to form eyes, a tube held in the eyes, a removable scraper having slots engaged with the web of the supplemental frame and resting against the tube and adapted for movement therewith into and out of operative relation to the wheel, and means for moving the supplemental frame into and out of engagement with the wheel.

7. In a bicycle-support, the combination with a frame, of plates adjustably connected therewith and having laterally-projecting portions, a second plate pivotally connected with each of the first-named plates, and having a perforation therein, a pin pivoted to the projection of the first-named plate and passed through said perforation, a spring upon the pin adapted to yieldably hold plates at the limits of their mutual movement, and a supplemental frame adapted for engagement by a bicycle-wheel to hold the supplemental frame against forward movement and raise the main frame upon its pivot.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN BOOTH.

Witnesses:

MARGARET E. O'CONNELL,  
W. F. STIERHEIM.