

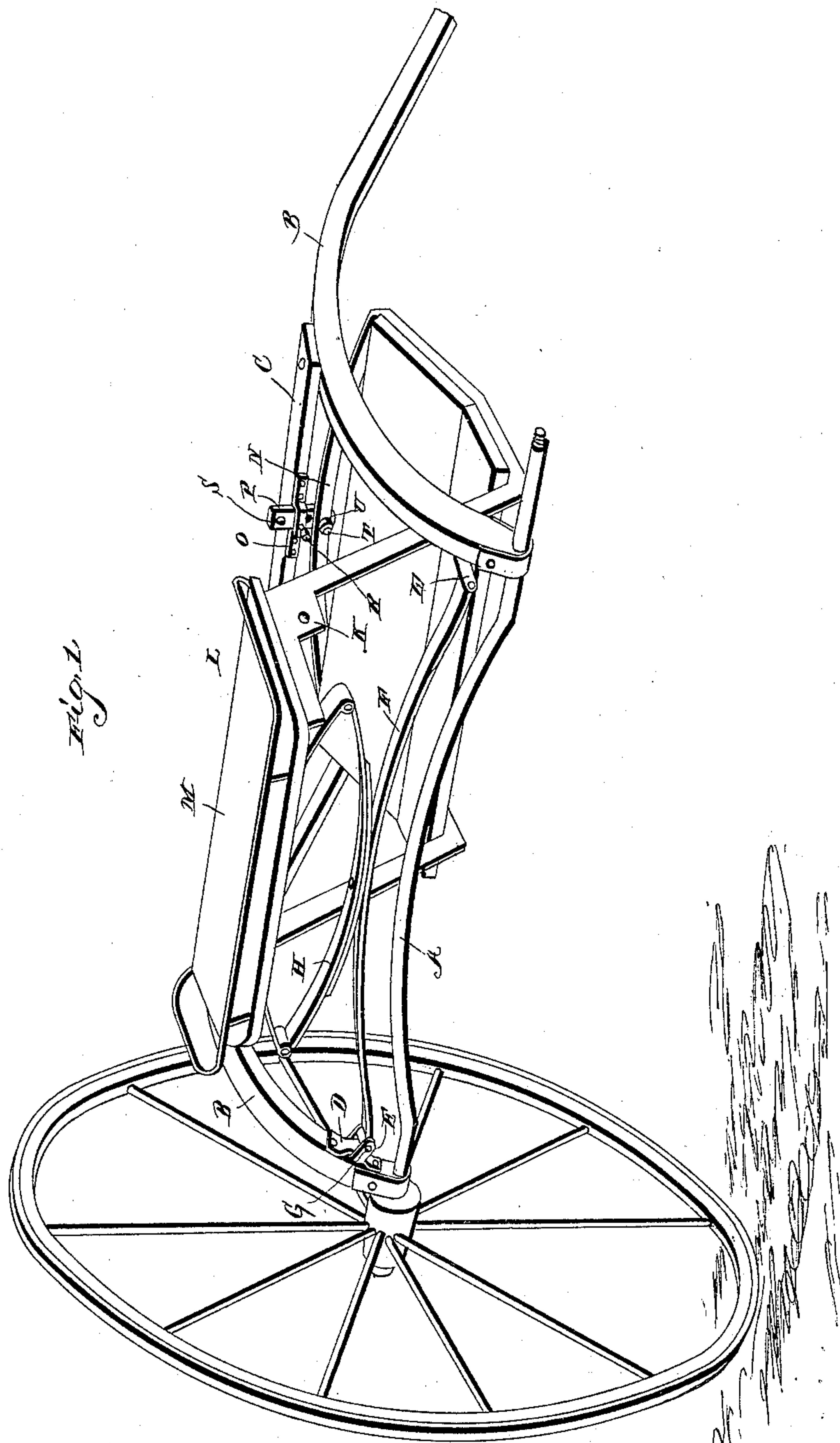
(No Model.)

2 Sheets—Sheet 1.

W. N. BRYAN.  
TWO WHEELED VEHICLE.

No. 378,493.

Patented Feb. 28, 1888.



Witnesses

C. S. Taylor  
J. W. Garner.

Inventor,

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Wm. H. Bryan

By his Attorneys,

C. A. Snow & Co.

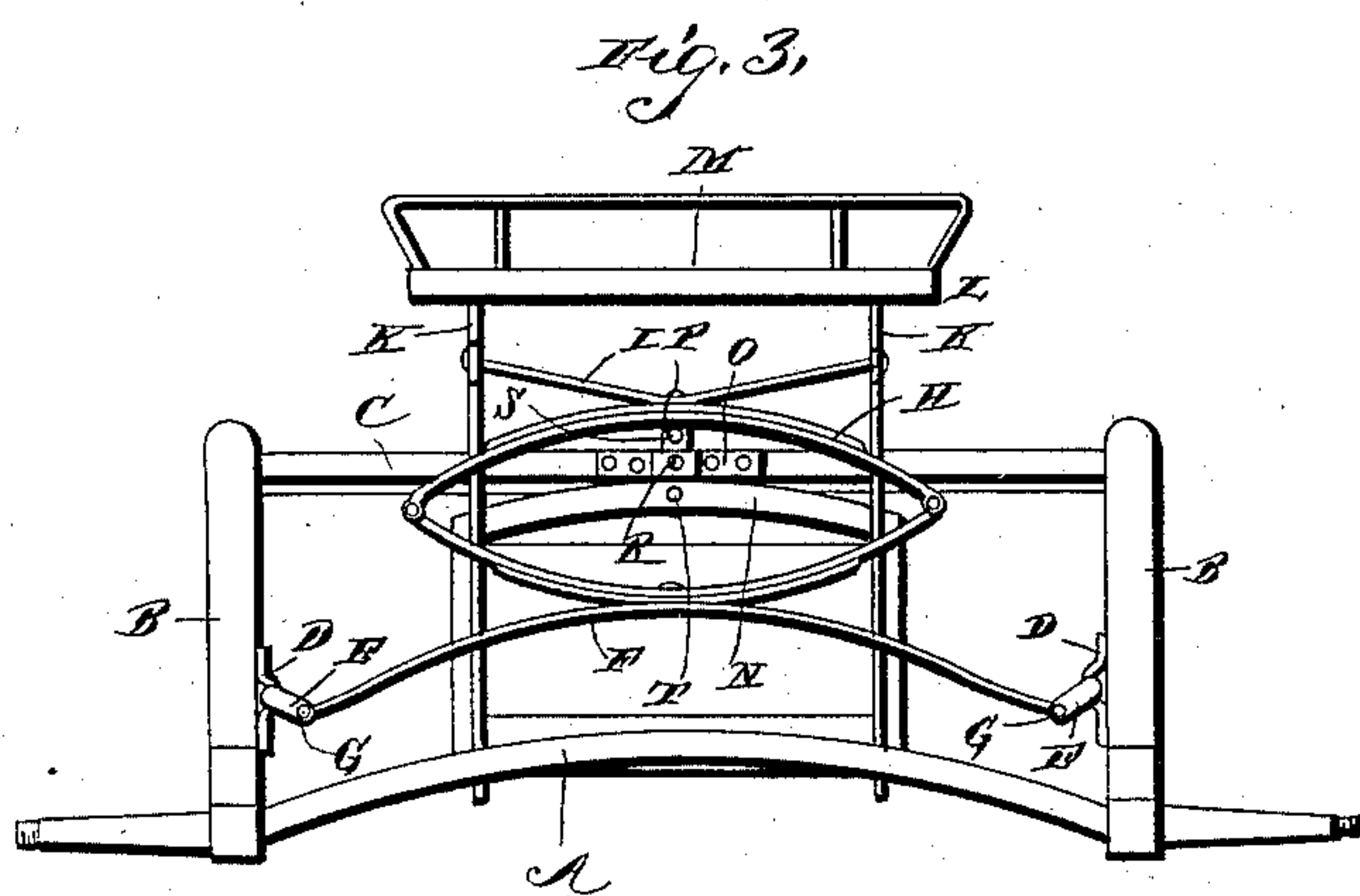
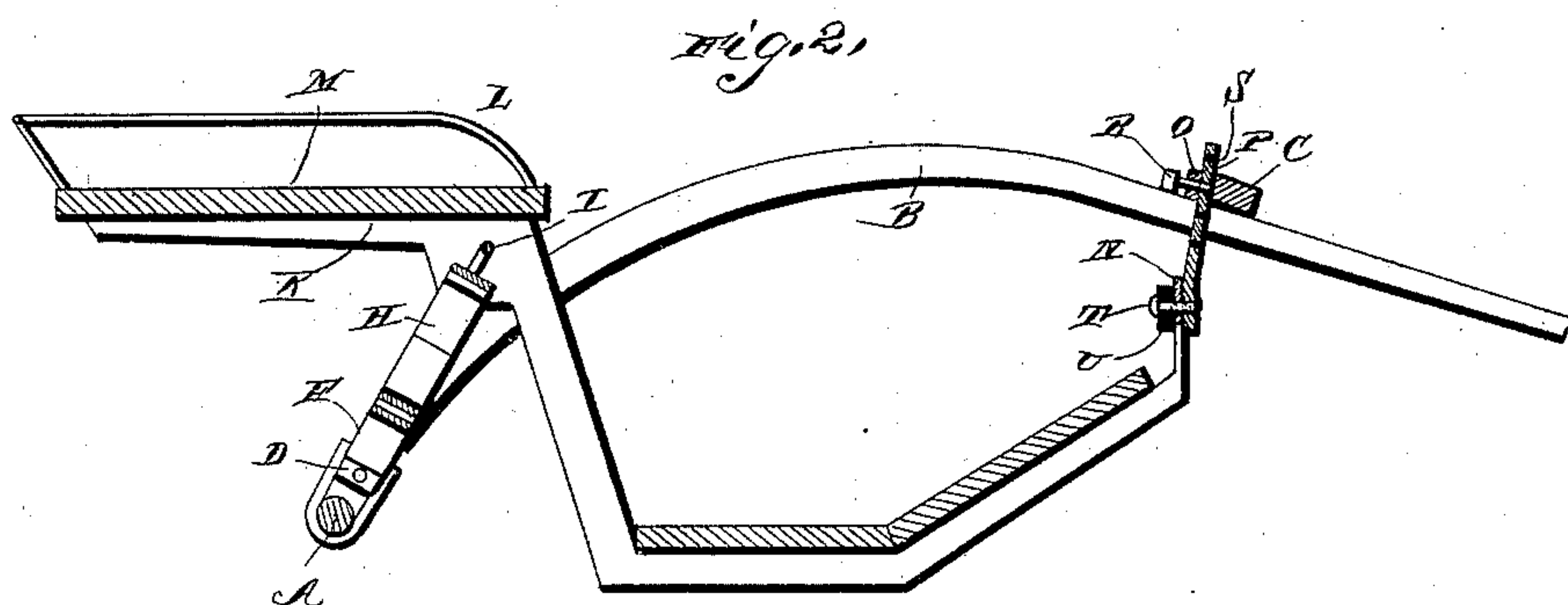
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*E. L. Taylor*  
*J. V. Garner*

Inventor,  
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By *his* Attorneys,  
*C. A. Knowlton*



# UNITED STATES PATENT OFFICE.

WILLIAM N. BRYAN, OF ADA, OHIO, ASSIGNOR OF ONE-HALF TO H. E. NEFF, OF SAME PLACE.

## TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 378,493, dated February 28, 1888.

Application filed July 6, 1887. Serial No. 243,569. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM N. BRYAN, a citizen of the United States, residing at Ada, in the county of Hardin and State of Ohio, have invented a new and useful Improvement in Two-Wheeled Vehicles, of which the following is a specification.

My invention relates to an improvement in two-wheeled vehicles; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a two-wheeled vehicle embodying my improvements. Fig. 2 is a vertical longitudinal central sectional view of the same. Fig. 3 is a rear elevation of the same.

A represents the axle. B represents the thills, which are attached thereto, and C represents the cross-bar which connects the thills. On the inner side of the thills, near the rear ends thereof, are secured clamp-plates D, to which are centrally pivoted U-shaped yoke-links E.

F represents a semi-elliptic leaf-spring which is arranged over the axle, and has its extremities connected to the yoke-links by means of transverse bolts G, as shown. To the upper side of the spring F, at the center thereof, is secured an elliptic spring, H, which is considerably shorter than the spring F.

I represents a metallic rod or bar which has its central portion secured to the upper side of the spring H, and the ends of the said bar are inclined upward and are secured to the rear portions of the side plates, K, of the body L.

The seat M of the vehicle projects rearward over the springs, and the front ends of the plates K are connected by an upwardly-curved cross-bar, N.

O represents a keeper which is secured to the rear side of the cross-bar C, at the center thereof. A link-arm, P, has its upper portion secured in the said keeper by means of a bolt, R, which extends transversely through the keeper, through either of the series of open-

ings S, with which the link is provided, and enters the rear side of the cross-bar C.

In the lower end of the link-bar P is a transverse opening, through which extends a pivotal bolt, T, the said bolt also passing through a central opening in the cross-bar N. A washer, U, of india-rubber or other suitable elastic material, is placed on the bolt T, and bears between the rear side of cross-bar N and the bolt-head, the said washer preventing the bolt from rattling when the vehicle is in motion.

From the foregoing description it will be readily understood that the front end of the body of the vehicle is centrally pivoted, and thereby the body is adapted to swing laterally when the vehicle is in motion, and this laterally-swinging movement in connection with the vertical motion permitted by the supporting-springs causes the body to ride very easily. The link-bar P is vertically adjustable and enables the front end of the body to be raised or lowered to any desired extent.

Having thus described my invention, I claim—

1. In a two-wheeled vehicle, the combination of the body having the side plates, K, the thills, the pivotal links connecting the front end of the body to the cross-bar of the thills, the semi-elliptic spring F, having its ends flexibly connected to the thills and arranged over the axle, the elliptic spring H, secured to the center of the spring F on the upper side thereof, and the bar I, having its central portion attached to the upper side of spring H and its ends attached to the plates K near the rear of the body, substantially as described.

2. The combination, in a two-wheeled vehicle, of the thill having the cross-bar C, the springs supporting the rear end of the body, the latter being provided with the side plates, K, bent to form the integral cross-bar N at the front end of the body, and the link P, depending from the cross-bar C and pivotally connected to the center of cross-bar N, for the purpose set forth, substantially as described.

3. The combination, in a two-wheeled ve-

hicle, of the thills having the cross-bar C, the  
springs arranged between the rear end of the  
thills, the body having its rear portion sup-  
ported on the said springs, and the link-bar P,  
5 depending from the cross-bar C, vertically ad-  
justable therein, and having its lower end  
pivotally connected to the front end of the  
body at the center thereof, substantially as de-  
scribed.

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

WILLIAM N. BRYAN.

Witnesses:

C. E. STUMM,  
R. F. BLACK.