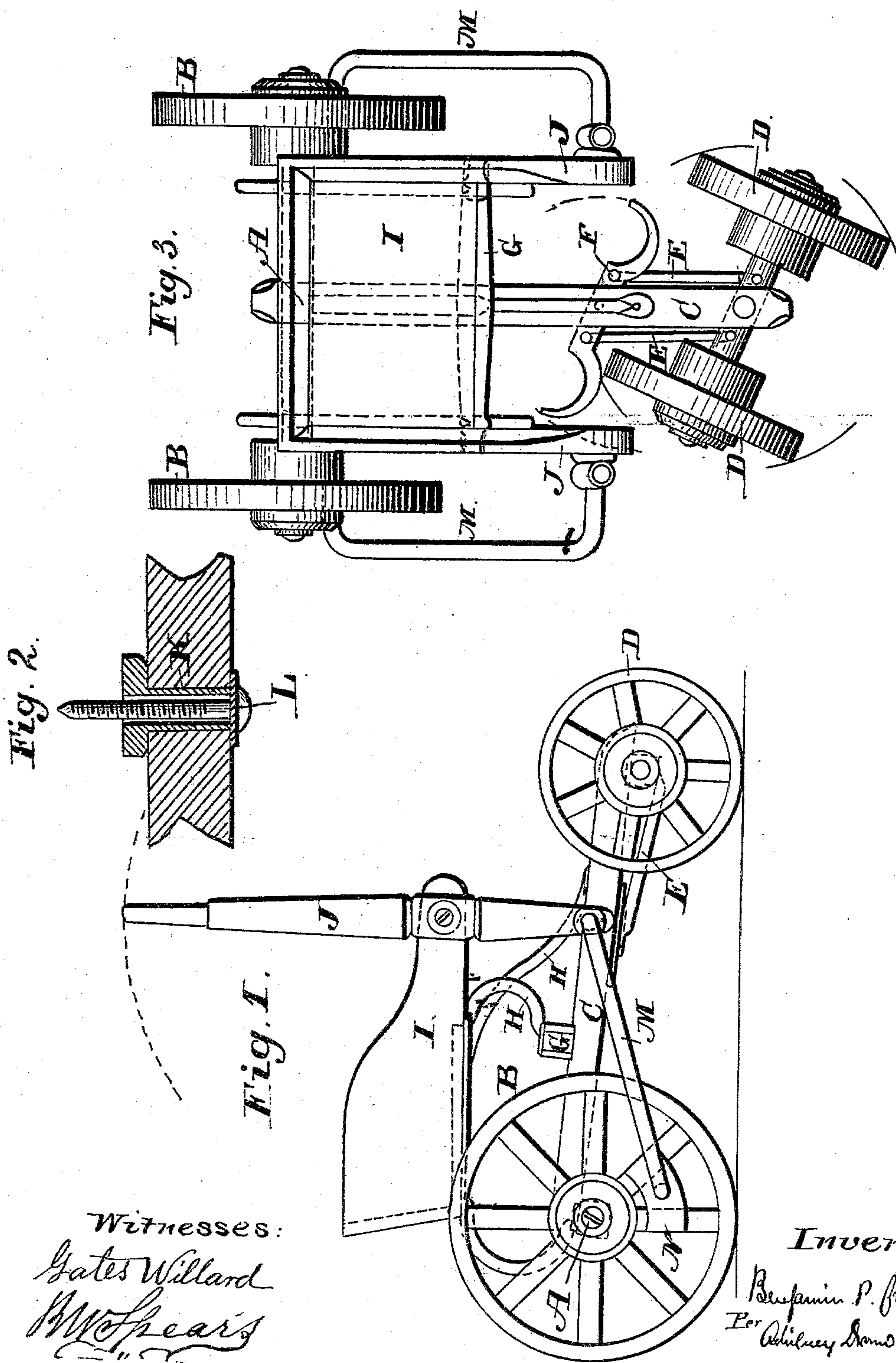


B. P. CRANDALL.

Velocipede.

No. 79,553.

Patented July 7, 1868.



Witnesses:
Gates Willard
Wheeler

Inventor:
Benjamin P. Crandall
Per Arthur D. Adams Atty

United States Patent Office.

BENJAMIN P. CRANDALL, OF NEW YORK, N. Y.

Letters Patent No. 79,553, dated July 7, 1868.

IMPROVED VELOCIPEDE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, BENJAMIN P. CRANDALL, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in Velocipedes; and I do declare that the following is a full, clear, and correct description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation of my improved velocipede.

Figure 2 is a view showing the tubular support for attaching the handle.

Figure 3 is a plan view of my improved velocipede.

In the drawings, like parts of this invention are pointed out by the same letters of reference.

The nature of my invention consists in certain improvements, as more fully hereinafter set forth, in the construction of velocipedes.

To enable those skilled in the arts to make and use my invention, I will proceed to describe its construction and operation.

A shows an axle, to which are attached the hind wheels B, so secured as to turn freely upon the same.

C is the pole or tongue, secured to the axle about midway its length, to the forward end of which are pinned the short axles supporting the steering-wheels D.

E shows connections connecting the short axle to the yoke F, which yoke is pinned upon the under side of the tongue or pole C, and may be operated upon by the feet of the exerciser, and thus govern the position of the steering-wheels D through the connections E.

G shows a transverse bar, secured upon the pole or tongue, and serving, in connection with the axle A, to support the springs, H, employed to hold in position the seat I of the vehicle. The side-pieces of this seat I are allowed to project the proper distance beyond the seat proper to receive the handles J, operating the connections M, as hereinafter described. J are the handles, for operating, through the connections M, the hind wheels B. These handles are provided with openings, and are passed over the tubular supports K (see fig. 2) secured upon the side-pieces of the seat I.

The tubular supports K consists of a hollow cylinder, of length equal to the transverse thickness of the lever J, and has a flange, R, formed at one end, by which flange the support is secured to the seat I. An opening is made in the lever, so that the latter may be hung on the support, and have its bearing thereby. A screw, L, is now introduced transversely into the support, and screwed into the seat J, a washer being beforehand interposed between the outer edge of the support and the head of the screw.

By these means the lever is entirely free from the wearing or rubbing processes which would otherwise result were the holding-screw L in contact with any part of it.

After the handles J have been passed over these tubular supports, a screw, L, is employed to hold the handles J in position. This screw L passes through the tubular support, and has its bearing in the projecting side portion of the seat I.

Through openings in the lower ends of the handles J are inserted the forward ends of the connections M, which, after being inserted, are secured in any convenient way.

M shows the connections connecting the handles to the wheels B. These connections have both their forward and rear ends bent at right angles to their main portions, to admit of their ready attachment to the handles and to the wheels, and not to interfere with the free operation of the latter.

The rear ends of these connections are secured in the plate N, generally made large enough to cover the space between the two spokes of the wheel, as shown, the plate being secured to the spokes of the wheel. Thus it will be seen that motion is readily imparted to the wheels B by simply moving the handles to and fro, the handles turning freely upon the tubular supports and imparting motion to the wheels through the connections M.

The forward wheels already referred to, by which the vehicle is steered, are operated by the feet of the rider acting upon the yoke F. This yoke, as previously stated, governs the position of the forward wheels to the rear wheels through the connections E attached to the yoke, and the short axle.

The attachment of a plate, N, to the wheels, is far preferable to the usual plan of attaching one end of a flat connection to the spoke of the wheel, as the apparatus is rendered more durable by the use of a plate so attached.

The bending of the forward and rear ends of the connections connecting the wheels and handles renders the operation of the machine more ready and direct.

The tubular supports to receive the handles add greatly to the strength of the apparatus, while the means for directing the course of the vehicle are more easily and directly operated by means of the yoke and connections operating as shown, than by any of the means now in use.

The construction of the machine, as just recited, renders it much more durable and easy of operation than the ordinary velocipedes now in use.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is, as an improvement in the patent granted to Crandall and Conover, dated April 2, 1861—

1. In velocipedes, the combination, with the operating-lever J, of the tubular support K, constructed of a hollow tube, K, having flanges R and the independent screw L, as applied to the seat I, in the manner and for the purpose specified.

2. As an improvement in the mode of operating the steering-apparatus of velocipedes, the parallel rods E, having one end pivoted to the axle of the forward wheels D, and the other end to the yoke F, whereby the said yoke and axle always move parallel to each other, substantially as described.

BENJAMIN P. CRANDALL.

Witnesses:

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