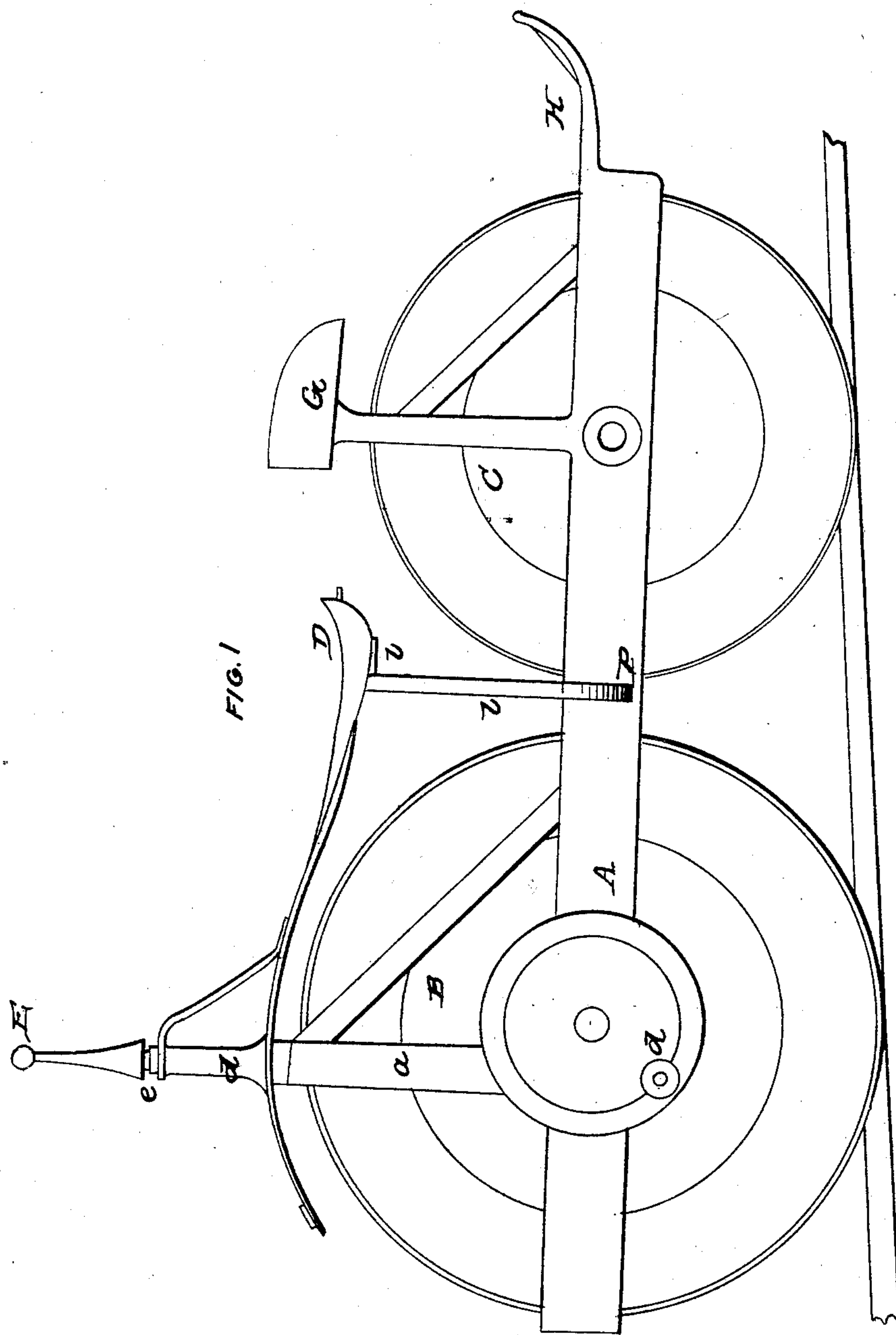


J. H. IRWIN.

Velocipede.

No. 86,406.

Patented Feb. 2, 1869.



WITNESSES  
H. Beale  
R. S. Turner

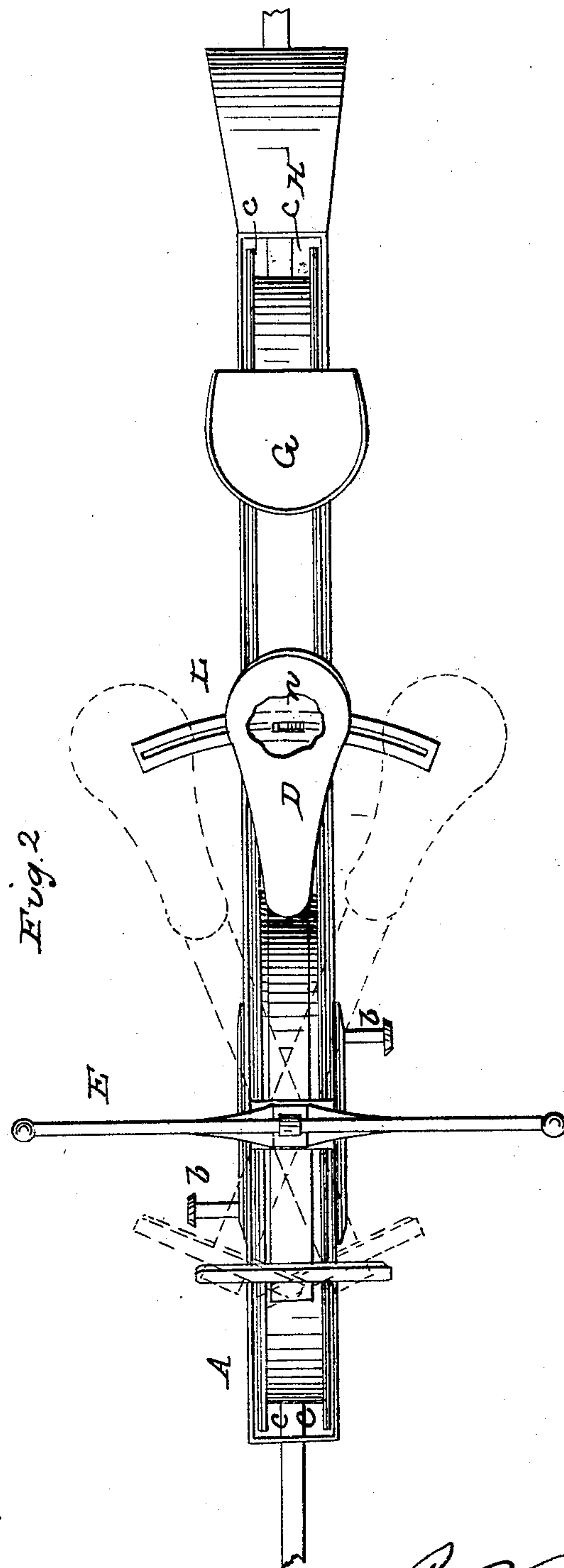
INVENTOR  
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WITNESSES  
*H. Beale*  
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INVENTOR  
*J. H. Irwin*



# United States Patent Office.

JOHN H. IRWIN, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 86,406, dated February 2, 1869.

## IMPROVEMENT IN VELOCIPEDES.

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, JOHN H. IRWIN, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Velocipedes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings—

Figure 1 representing a side elevation.

Figure 2, a plan or top view.

Like letters denote corresponding parts in both figures.

Heretofore no velocipedes have been so constructed and arranged as to admit of running on a single rail, or track, for the reason that no provision has been made for balancing the velocipede, while thus confined to a single straight-forward motion, since it is evident to any one acquainted with the movements of the two-wheel velocipede, that its balance is sustained by a more or less serpentine motion. The main feature of my invention obviates this difficulty, and enables the velocipede to move or run on a single track, or rail, although I wish it to be understood, at the outset, that I do not confine this improvement to velocipedes for running on rails, but intend it for any velocipede, its advantages being useful to all.

The nature of this improvement consists in a swivel-seat, that is, a seat which may swing laterally in either direction from its central position, by which the rider may adjust the centre of gravity independent of the velocipede, and, in connection with this swivel-seat, the use of a fixed or stationary hand-support, by which the rider may more readily control the movement of the seat.

In the drawings—

A represents the frame,

B, the front wheel, and

C, the hind wheel of a two-wheel velocipede.

I have represented the wheels in fig. 2, as provided with double flanges *c c*, to embrace a rail, *x*, but these flanges are not necessary for a grooved track, and it is to be understood that my improvements are also applicable when no track, or rail, is to be run on.

Centrally upon the top of the proper standards *a a*, of the frame, I secure a vertical pivot-bolt, *c*, around which fits a socket, *d*, of the seat D, so that the said seat may freely swivel or swing laterally, as indicated by red and blue lines in fig. 2; then, upon the pivot-bolt *c*, is fixed the hand-support E, situated transversely, and properly braced to its support, substantially as represented.

The reason of the action of the swivel-seat D, and of the use of the fixed hand-support in connection therewith, is as follows:

When, at any moment, the rider perceives the velocipede to be leaning out of balance to either side, as he holds with his hands the two ends of the hand-support, he will naturally, or instinctively, draw upon that end of the hand-support which is opposite to the direction in which the leaning tends, the effect of which is to draw the seat to the opposite side of the velocipede, and thus to shift the centre of gravity in that direction until it becomes again supported or balanced. Thus, if the velocipede leans to the left side, the rider pulls the more with his right hand on the right end of the hand-support, which action throws the seat D toward the position indicated by blue lines in fig. 2; and if he is losing his balance toward the right, he draws on the left end of the hand-support, and thus draws the seat D toward the position shown by red lines in the same figure, until the velocipede is balanced. Thus, to whichever side the leaning turns, the rider instantly recovers his balance, and this entirely irrespective of the direction in which the velocipede is moving, so that by means of this swivel-seat and fixed hand-support, it becomes as practicable and easy to run the velocipede on a rail, or track, as anywhere else.

Over the hind wheel C, I also propose to mount a second stationary seat, G, for an additional rider, who may look backward, and have a foot-board, or support, *h*, at the rear end of the frame.

I have shown, in the drawings, means of giving additional support to the swinging or swivel-seat D, consisting of an arc-shaped way, L, supported on a standard, *l*, projecting upward from the frame A, and situated concentrically with the circular motion of the seat, for the seat to ride upon it in its swinging movement. It may have a friction-roller, or rollers, *n*, to roll on the said way, to diminish friction.

When the rider wishes to remove his feet from the cranks *b b*, he may place them on the foot-supports *p p*, situated on the side of the frame A. When his feet are in this position, he may remove his hands from the hand-support E, if he so desires.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A swivelled seat, D, applied to a velocipede, for the purpose herein specified.

2. Also, the combination of the swivelled seat D, and fixed hand-support E, arranged upon a velocipede, substantially as and for the purpose herein set forth.

J. H. IRWIN.

Witnesses:

J. S. BROWN,

R. S. TURNER.