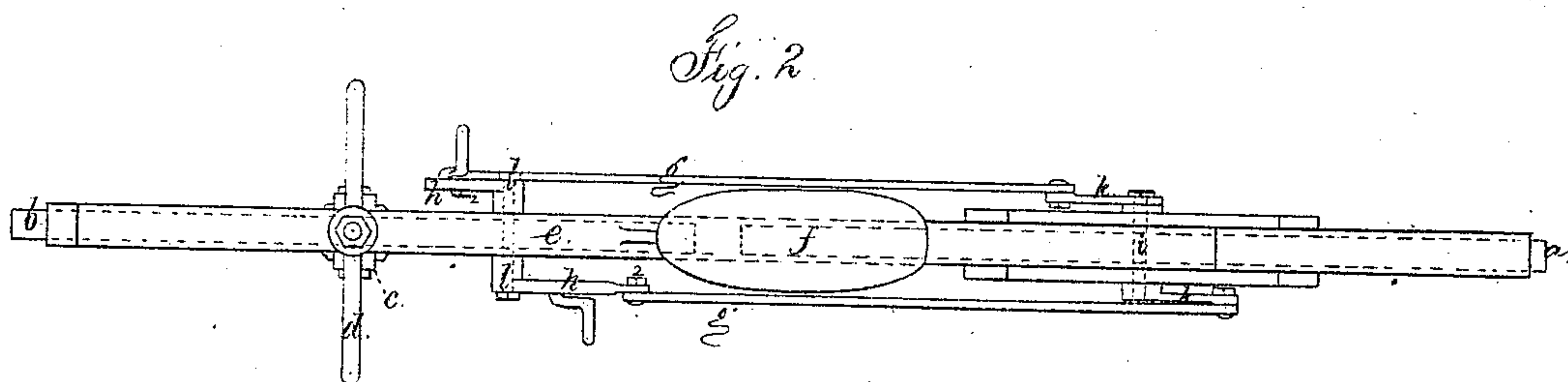
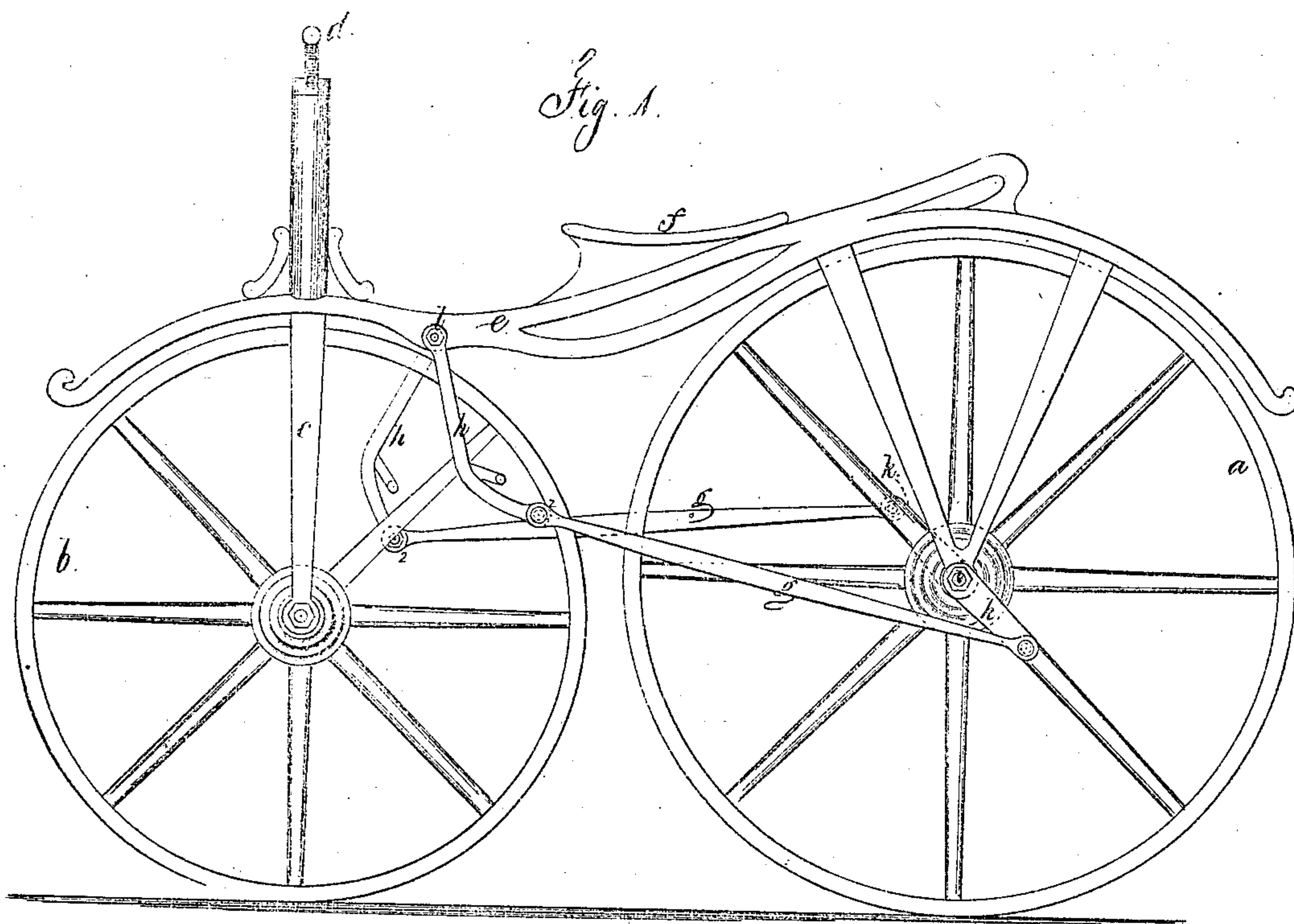


C. WITTY.  
VELOCIPÈDE.

No. 87,999.

Patented Mar. 16, 1869.



Witnesses,

Geo. D. Wheeler  
Chas. K. Smith

Calvin Witty

# United States Patent Office.

CALVIN WITTY, OF BROOKLYN, NEW YORK.

Letters Patent No. 87,999, dated March 16, 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, CALVIN WITTY, of Brooklyn, in the county of Kings, and State of New York, have invented an 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 annexed drawing, making part of this specification, wherein—

Figure 1 is a side view of said velocipede as fitted with my improvement.

Figure 2 is a plan of the same.

Similar marks of reference denote the same parts.

Velocipedes have heretofore been made with two wheels, connected by a perch, at such height that the rider could touch his toes upon the ground, and thereby propel himself; others have been made in which the power of the feet has been applied to the front wheel through the agency of cranks. In this case the front wheel, being employed for steering, renders it difficult to work the cranks when turning curves. Other velocipeds have been made with two wheels in the rear and one in front, the rear wheels being propelled by cranks and levers.

My present invention consists in a two-wheeled velocipede, in which the rear wheel is driven by cranks and treadles operated by the feet, thus leaving the front wheel free to be turned in steering, and causing the operation of the feet to be uniform whether going straight or turning a curve, and at the same time allowing for the use of a large propelling-wheel.

In the drawing—

*a* is the hind wheel;  
*b*, the front wheel;  
*c*, the jaw, or bifurcated standard, carrying said wheel *b*, and allowing it to be turned by the cross-bar *d*, or handle, in steering;  
*e* is the frame, or perch, connecting the front and back wheels; and  
*f* is the seat.

These parts are to be of any usual or desired construction, as my invention is not limited in any respect to the manner in which these parts may be made.

The axle, or shaft *i*, of the hind wheel *a*, is formed with cranks, *k k*, at its ends, outside the bearing, for the frame, or perch *e*, and to these cranks I connect rods, links, levers, or treadles, so made and fitted that the feet can be easily employed for rotating said hind wheel.

I have represented the rods *g g* as extending from the cranks *k* to the hanging foot-rests, or treadles *h*, suspended from the fulcrum-pin *l*, and the points of connection, by the joint 2, may be raised or lowered, as desired or convenient to suit the person.

It will be evident that the fulcrum-pin *l* might be fitted further forward on the perch *e*, or on the jaw *c*, or other convenient point of attachment, and also that the rods *g g* might be made as levers of the first or second order, with the treadles or foot-pieces near the ends, and the fulcrum formed by swinging links from the perch, or frame, or swinging links may connect from the treadles to the cranks.

These arrangements allow for the use of a large wheel at the rear, so as to greatly increase the speed of the velocipede without materially increasing the efforts of the rider.

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

A two-wheeled velocipede, formed by combining with the rear wheel-crank *k*, connecting-rods *g* and links *h*, pivoted to the perch *e*, to be operated by the feet, for propelling the same, substantially as set forth.

In witness whereof, I have hereunto set my signature, this 13th day of January, 1869.

CALVIN WITTY.

Witnesses:

GEO. D. WALKER,  
GEO. T. PINCKNEY.