

W. FRANKEL.

Velocipede.

No. 90,656.

Patented June 1, 1869.

Fig: 1.

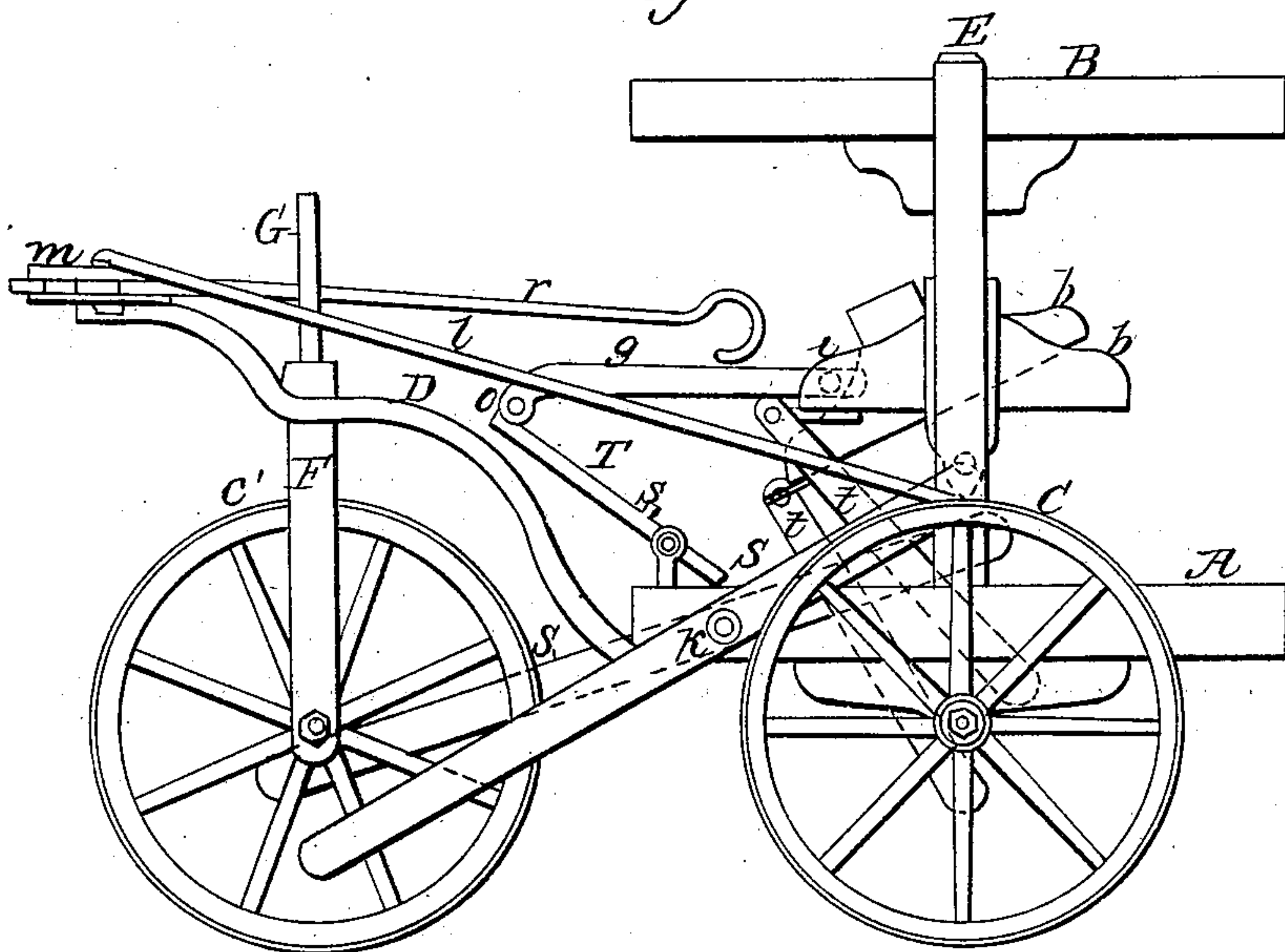


Fig: 2.

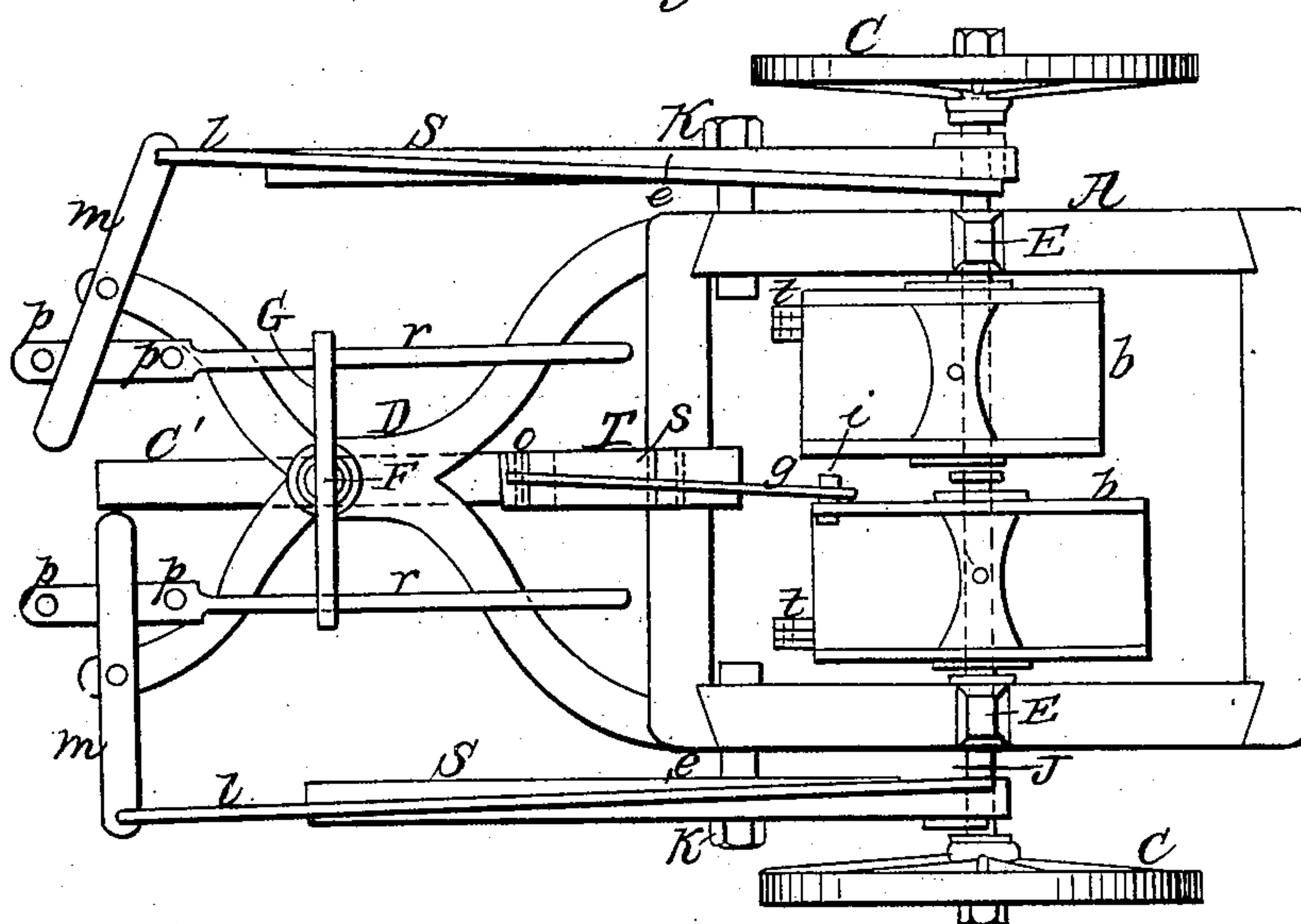
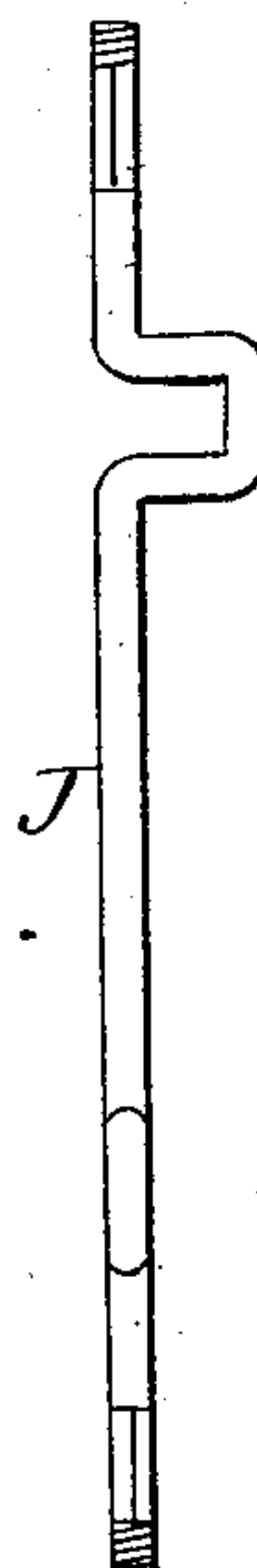


Fig: 3.



Witnesses

Geo Mower.

Inventor.

William Frankel

United States Patent Office.

WILLIAM FRANKEL, OF SPRINGFIELD, OHIO.

Letters Patent No. 90,656, dated June 1, 1869.

IMPROVED VELOCIPED.

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, WILLIAM FRANKEL, of the city of Springfield, county of Clark, and State of Ohio, have invented certain new and useful Improvements in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, and to the letters of reference marked thereon.

The nature of my invention consists in a three-wheeled velocipede of peculiar construction, provided with accommodations for four or more persons and their baggage, having an easy and novel mode of propulsion, in which the hands, feet, and weight of the body can be used, one or more persons operating the machine. When more than one, the operators sit back to back upon oscillating seats, which are hinged at their lower and central points to a rod or cross-bar, which is supported by upright posts above the driving-axle, and parallel with the same, and connected with two inside cranks upon it (these cranks being set at right angles with each other) by rods, clamps, or tongs; also a treadle, mounted upon the bed-frame, and connected by a rod to one of the seats, and made adjustable thereto, so that the velocipede can be propelled by one person; also, guide-rods, with hook-shaped handles, which can be used in combination with the weight of the operator, by pulling upon them while throwing the seat forward from its backward inclination.

Where more than one person operates the machine, it will be seen that their weights upon opposite sides serve to balance each other, as well as to divide the labor of propulsion, the propelling movement being given by the rocking or oscillating motion of the seats, which are so balanced on the cross-bar as to be easily thrown backward and forward; also, an arrangement of stilt-levers or walking-bars, attached to the sides of the bed-frame, near its front, and so connected with the guide-levers or rods, by a mechanism on the front ends of the frog-shaped coupling-bar, as to be worked by them in making ascents, by a hitching or stepping movement, or dispensed with, at pleasure.

By reference to the drawings, it will be seen that the weight of the operator or operators moves through the arc of a circle over the centre, described by the rod upon which the seats are hinged, and that those upon each side push with their feet against the bed-frame, their labor alternating with the rising and falling movement. Those sitting in front have still more power by using the handles of the guide-rods to pull on in bringing them forward.

The treadle is intended to be used when only one person operates the machine.

If he sits upon the right seat, he uses his left foot upon the treadle, the connecting-rod of which is fast-

ened to the empty seat on his left side; and if he sits upon the left seat, he uses his right foot upon the treadle, its connecting-rod being changed to the seat on his right.

In this way of attaching the treadle, it will be seen that the power exerted upon or by the foot greatly aids in propelling the machine.

The axle of the driving-wheels is rigidly fixed in the hubs, and the frame sits upon boxes, in which the axle turns, the whole constituting a family velocipede or passenger-carriage, propelled as shown.

To enable those skilled in the art to make and use my invention, I will describe its construction and operation, like letters indicating like parts.

Figure 1 is an elevation of my improved velocipede.

Figure 2 is a plan of the same.

Figure 3 is a representation of the position of the cranks on the axle of the driving-wheels.

In fig. 1, A is the bed-piece or base of the frame, sitting upon the axle of the driving-wheels C C.

Rising from the part A are seen the posts E, supporting the top B, which is used not only to protect the passengers on the lower seats *b b*, but also to carry luggage or goods, or, if necessary, additional passengers.

The seats *b b* are mounted upon a rod or bar above the axle J, at the proper height for easy and comfortable motion of the legs and body of the operator.

They are connected by rods or tongs, *t t*, with the cranks on the driving axle J.

The treadle T, having a raised part, *s*, upon it, is also connected with one of the seats by the rod *g*, the seat-end *l* of which is made adjustable, so as to be applied to either seat.

D is the coupling-bar, of frog-like shape, connecting the carriage-part of the machine with the front wheel C'.

Upon the front arms of this coupling-bar are cross-levers *m m*, which move horizontally upon a central bolt or pin.

These cross-levers are slotted from their centres to the inner ends, to allow the guide-rods *r r* to play through them freely in order to guide the machine, and also to work the stilt-levers or walking-bars S S, (which are attached to the outside of the bed-frame by the bolts K, having sleeves *e* upon them,) by the connecting-rods *l l*.

These walking-bars move freely upon the bolts K, which pass through them, near their centres. Their lower ends are rounded, so as to prevent any sudden shock or jar when they come in contact with the ground.

In using them, the guide-rods *r r* are drawn back, their front ends being thrown inward to the ends of

the cross-levers *m m*, so as to get the proper leverage, and the lower ends of the walking-bars *S S* touch the ground at intervals with a hitch or step, so as to give the machine an accelerating or aiding movement in running up inclines.

G is the T-head, on the top of the guide-fork *F*, of the front wheel *C*, through which the guide-rods pass before reaching the cross-levers *m m*. A head-light may be carried on this, if desired.

Direction is given to the guide-wheel *C* by working the guide-rods *l l* out or in horizontally, their forward ends moving in the slots of the cross-bars *m m*.

The pins *p p*, in the guide-rods *r r*, act as stops in pushing or pulling them.

The connecting-rod *g* is hinged to the treadle *T* at *o* by one end. The other end is attached to the seat at *l*, where it is fastened by a bolt, which can be taken out and the rod changed to the other seat, so that when the machine is operated by one person, he can sit upon either seat, and attach the treadle to the vacant one.

Straps may be used across the the seats to secure the operators in position, if desired.

The top *B* is made so as to be taken off, and the machine can be run with or without it.

Having thus described my invention,

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

1. The arrangement of the guide-rods *r r* with the T-head *G* on the guide-fork *F*, the slotted cross-levers *m m* with the coupling-bar *D*, connecting-rods *c c*, and levers *S S*, as shown and described.

2. Operating a three-wheeled velocipede by the oscillating seat-motion and switching-seat attachment, as shown and described.

3. The combination of the oscillating-seat motion with the treadle-movement and switching-attachment, as shown and described.

Witness my hand to my application for a patent for an improvement in velocipedes, this, the 14th day of April, A. D. 1869.

WILLIAM FRANKEL.

Witnesses:

J. K. MOWER,
GEO. MOWER.