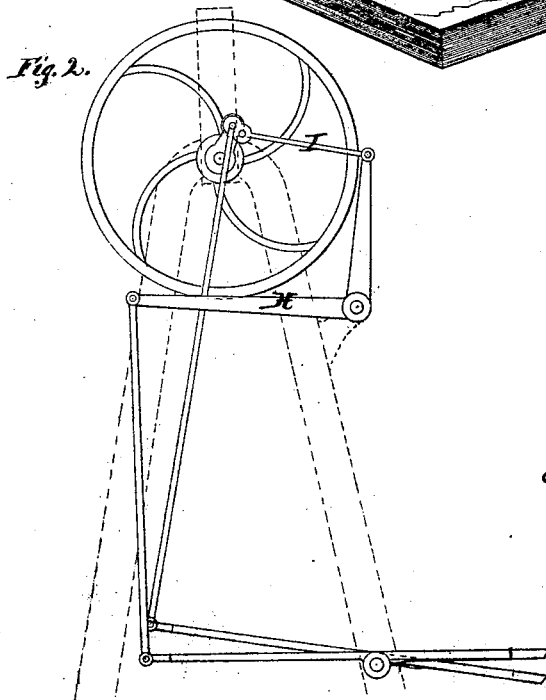
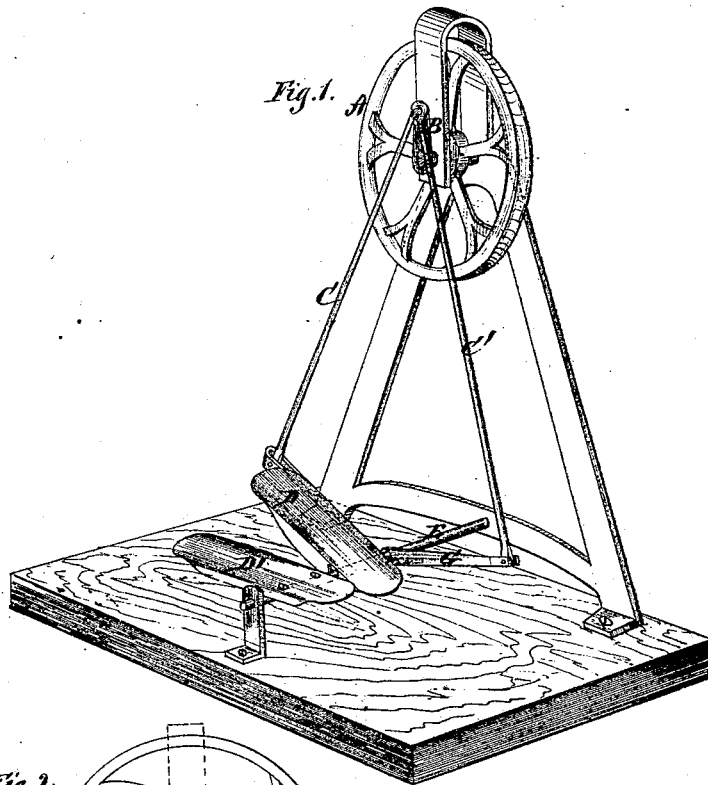


G. B. Safford,

Treadle.

No. 106873.

Patented Aug. 30. 1870.



Inventor.

George B. Safford

Witnesses:

J. R. Hickok
W. L. Burroughs

United States Patent Office.

GEORGE B. SAFFORD, OF BURLINGTON, VERMONT.

Letters Patent No. 106,873, dated August 30, 1870.

IMPROVEMENT IN TREADLE-MOTION.

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, GEORGE B. SAFFORD, of Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in "Treadle-Motion;" and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in the application of the respective forces of two treadles to the same shaft or wheel from different directions, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a perspective view of my machine, and Figure 2 is a side view of a modification of the principle involved.

A represents the wheel to which it is desired to give rotary motion by means of two treadles.

This wheel has suitable bearings, or rather the shaft upon which it is placed, said shaft being provided with a crank, B, to which are attached two pitmen, C C'.

The pitman C is connected with the front end or toe of the treadle D, which moves loosely on the treadle-shaft E.

The pitman C' is, on the other hand, connected with an arm, G, extending from the treadle-shaft in

the direction of the heel of the treadle, said shaft and arm being operated by means of a second treadle, D'.

It will be seen that the two treadles operate on the wheel from opposite sides of the treadle-bar, whereby a more natural motion of the feet is secured, and also the dead-center is overcome.

This may also be accomplished by interposing a lever, H, with one or more connecting-rods I, as shown in fig. 2, between the wheel and one of the treadles, so that, although both pitmen are on one side of the treadle-shaft, the direction from which the power of one of them is applied to the wheel is changed, making the treadles, as in the former case, actually apply their respective forces to the wheel from different directions.

A shaft may be put in motion in the same manner.

Having thus fully described my invention,

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

The two treadles, D D', working in opposite directions, and mounted upon the shaft E, in combination with the arm G, connecting-rods C C', and the crank B of the fly-wheel, substantially as described and for the purpose herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this . . . day of . . . , 1870.

GEORGE B. SAFFORD.

Witnesses:

W. L. BURNAP,
J. R. HICKOK.