G. H. TRUXELL.

TREADLE.

No. 192,311. Patented June 19, 1877.

Fig. 1

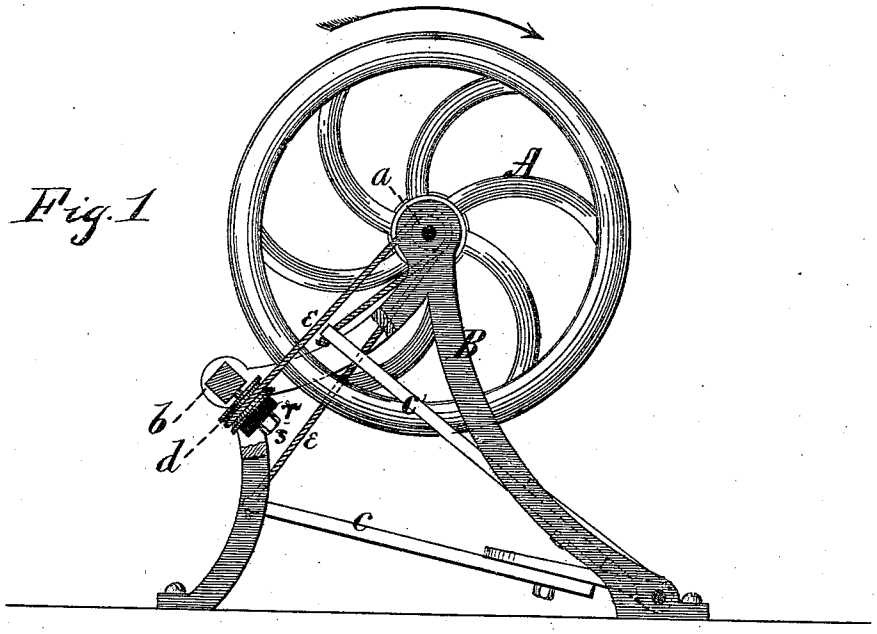
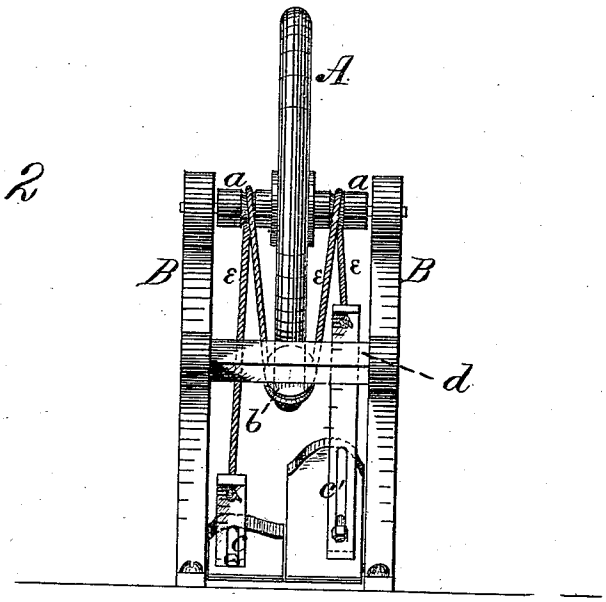


Fig. 2



Witnesses
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GEORGE H. TRUXELL, OF GREENSBURG, PENNSYLVANIA.

IMPROVEMENT IN TREADLES.

Specification forming part of Letters Patent No. **192,311**, dated June 19, 1877; application filed May 9, 1877.

To all whom it may concern:

Be it known that I, GEORGE H. TRUXELL, of Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented a certain new and useful Improvement in Treadles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation, partly broken away. Fig. 2 is an end view.

This invention relates to mechanical movements in which reciprocating motion is converted into rotary, especially adapted to those in which a treadle is used. It consists of a fly-wheel, a double treadle, to each part of which is attached the end of a driving-cord, which then passes around the shaft of fly-wheel, from which it passes around a V-grooved wheel having adjustable tension, and fixed to the frame so as to be at or nearly at right angles to the fly-wheel shaft; and in adjustable treadles, as hereinafter more fully described.

A designates the fly-wheel, and *a* its shaft, hung in a frame, which has a cross-bar, B, or other bearing, for a small V-grooved wheel, *d*, arranged at about right angles to the shaft *a* and in the same plane.

Against the side of the wheel *d* a rubber washer, *r*, presses, adjusted by the set-screw or nut *s*, thus causing wheel *d* to turn more or less freely, according to the pressure.

Attached by one end to a treadle, *c*, a cord, *e*, passes up and over shaft *a*, thence to wheel *d*, around it, thence back to shaft *a* on the opposite side of fly-wheel, over it, and thence down to another treadle, *c'*.

The operation is as follows: Placing one foot on each treadle, if treadle *c* be depressed it causes the cord to bind on shaft *a*, and the wheel A to revolve in the direction of arrow. In doing this the treadle *c'* must rise to accommodate the cord, and the cord slips on other end of shaft *a*, its friction being overcome by the momentum of wheel A.

A reversal of the above motion still causes wheel A to revolve in the same direction, and so on, one part of the cord acting on the shaft, and the other slipping backward to accomodate the movement of the treadles.

If the wheel *d* be a simple loose pulley, in the slackening of the cord it would be thrown off frequently, and cause great annoyance; but by making wheel *d* more or less difficult to revolve, this annoyance is obviated, as the cord will not turn it quickly enough to be thrown off.

The V-groove causes the cord to settle itself firmly on the wheel, and the tension, being adjustable, can be regulated to suit.

The treadles are each made in two parts, joined by a set-screw, playing in a slot. By this means the length of leverage and resistance can be regulated to suit persons of different strength.

The whole device is simple and effective, and can be fully understood by any one.

Frequently a person's muscles on one side are more fully developed than on the other, and he is enabled to do much more work on that side.

By the above adjustment of a double treadle the work may be so laid out that the full effect of unequal development may be accomplished by lengthening or shortening one treadle in reference to its fellow.

I am aware that a single treadle has been made adjustable as to its length; but as it is used with a pitman, it is necessary to have guides and accurate adjustment. I do not, therefore, lay any claim to such, as mine is a double treadle, used with a single cord.

I claim—

The combination of the double treadle *c c'*, cord *e*, fly-wheel A shaft *a*, and V-grooved wheel *d*, provided with an adjusting friction-washer and set-screw, substantially as shown, whereby the wheel *d* may be adjusted so as to turn with difficulty, and prevent the jumping of the cord *e*.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of April, 1877.

GEORGE H. TRUXELL.

Witnesses:

THOS. J. MCTIGHE,

THOS. BINGHAM.