C. N. & S. N. TRUMP & C. FREDERICK.

TREADLE.

No. 183,727. Patented Oct. 24, 1876.

Fig. 1.

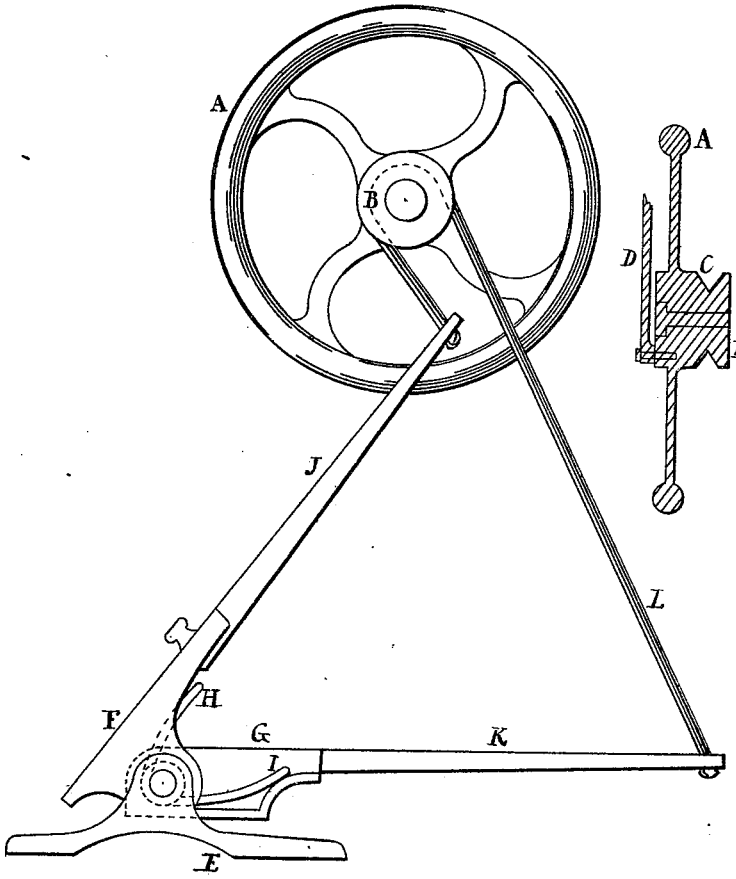
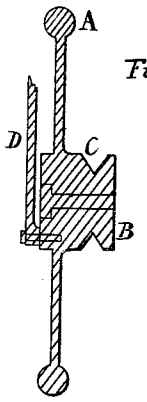


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN TREADLES.

Specification forming part of Letters Patent No. **183,727**, dated October 24, 1876; application filed October 3, 1876.

To all whom it may concern:

Be it known that we, CHAS. N. TRUMP, SAML. N. TRUMP, and CHRISTIAN FREDERICK, of Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Treadles; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is the conversion of a reciprocating treadle-motion into a continuous rotary one, by the use of a more efficient and yet cheaper device than any heretofore known. It is adapted to all light machinery, such as scroll-saws, grinding and polishing machines, lathes, &c., and is especially useful in cases where a high speed is desired.

In the drawing, Figure 1 shows a side view of our invention, and Fig. 2 a vertical sectional view of the hubbed fly-wheel.

A is a fly-wheel, having the hub B, in which is turned the circumferential V-shaped groove C. This wheel is connected with the machine to be operated by the pitman D, or any other suitable means. E is the bed or support for the treadle proper, and is preferably made of cast metal, with screw-holes for attaching it firmly to the floor. Through the upper part a pivot passes holding the foot-plate F, upon which a block of wood may be placed for the foot to rest on, and the separate rod-plate G. Around the pivot-pin is a coiled spring, one end of which, at H, presses against the foot-plate F, and the other end, at I, presses against the rod-plate G, so that when at rest the ends of the wooden rods J and K are held wide apart, and in the position shown in the drawing. The rods J and K are attached one to the foot-plate, and one to the rod-plate, and their ends are connected by a strap or cord, L, of suitable material passing from one end of one rod, over the grooved hub C, to the end of the other rod.

This cord should be of such a length that when the machine is at rest, the tension of the spring or springs is at a minimum.

The action of the treadle is as follows: The operator places his foot upon the foot-plate and presses it down. The cord L, binding in the groove C, transmits its motion to the fly-wheel, which commences to revolve. The pressure of the foot is quickly relieved, and the spring forces the rods back to their first position—the cord slipping loosely over the surface of the revolving wheel without perceptibly impeding its motion, and the operation is repeated.

In practice, we do not consider it as essential that the hubbed wheel should be grooved, since a flat strap, arraigned as we have described, will transmit motion, though not so well, as the cord in the groove.

From the length of the cord it will be seen that with every thrust of the foot the fly-wheel makes many revolutions, effecting in practice a speed of from six to ten times greater than with a corresponding expenditure of force upon a common crank-connection.

When, from any cause, it is desired to stop the motion of the fly-wheel, it is only necessary to press the foot-plate down to its lowest point, which binds the cord tightly in the groove, and quickly arrests the revolutions of the wheel. This device is thus a practical and efficient brake.

It is evident that various modifications in the arrangement of the springs, bed, and rods J and K may be made. It is required only that the arms connected by the cord or strap should be free to move in opposite directions, and we do not confine ourselves to the form here shown.

Having here described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a treadle mechanism, the arms or rods J and K, held apart when at rest, and when in operation moving in opposite directions

and transmitting continuous rotary motion in one direction to a wheel or pulley by a single cord or strap, connecting the ends of the arms and passing over the wheel or pulley.

2. The method of imparting continuous rotary motion in one direction to light machinery by a cord or strap passing over a grooved or plain hub or wheel from a treadle, constructed substantially as described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

CHAS. N. TRUMP.
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CHRISTIAN FREDERICK.

Witnesses:
E. B. FRAZER,
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