

(No Model.)

A. M. FENNER.
TREADLE MOVEMENT.

No. 363,289.

Patented May 17, 1887.

Fig. 1.

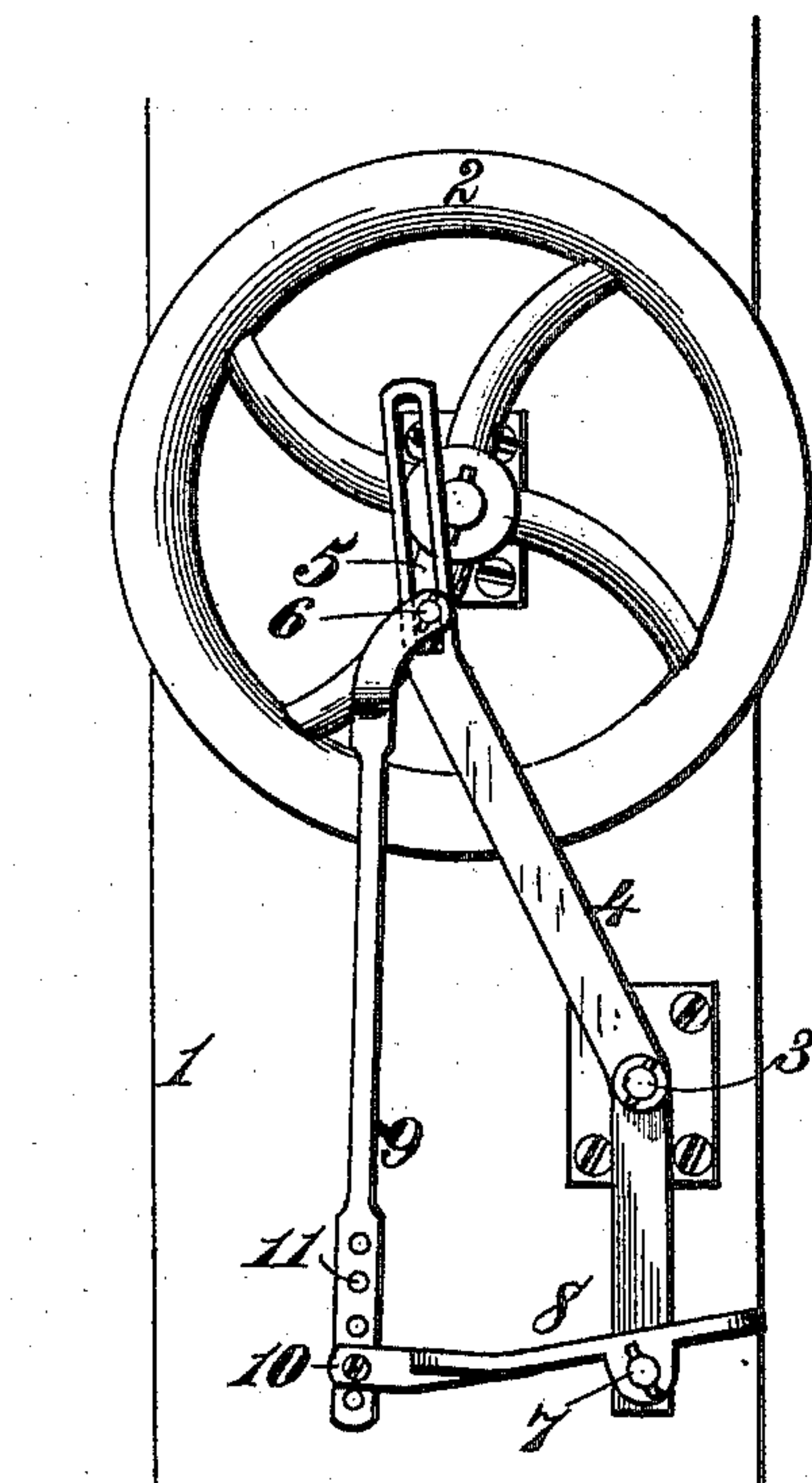
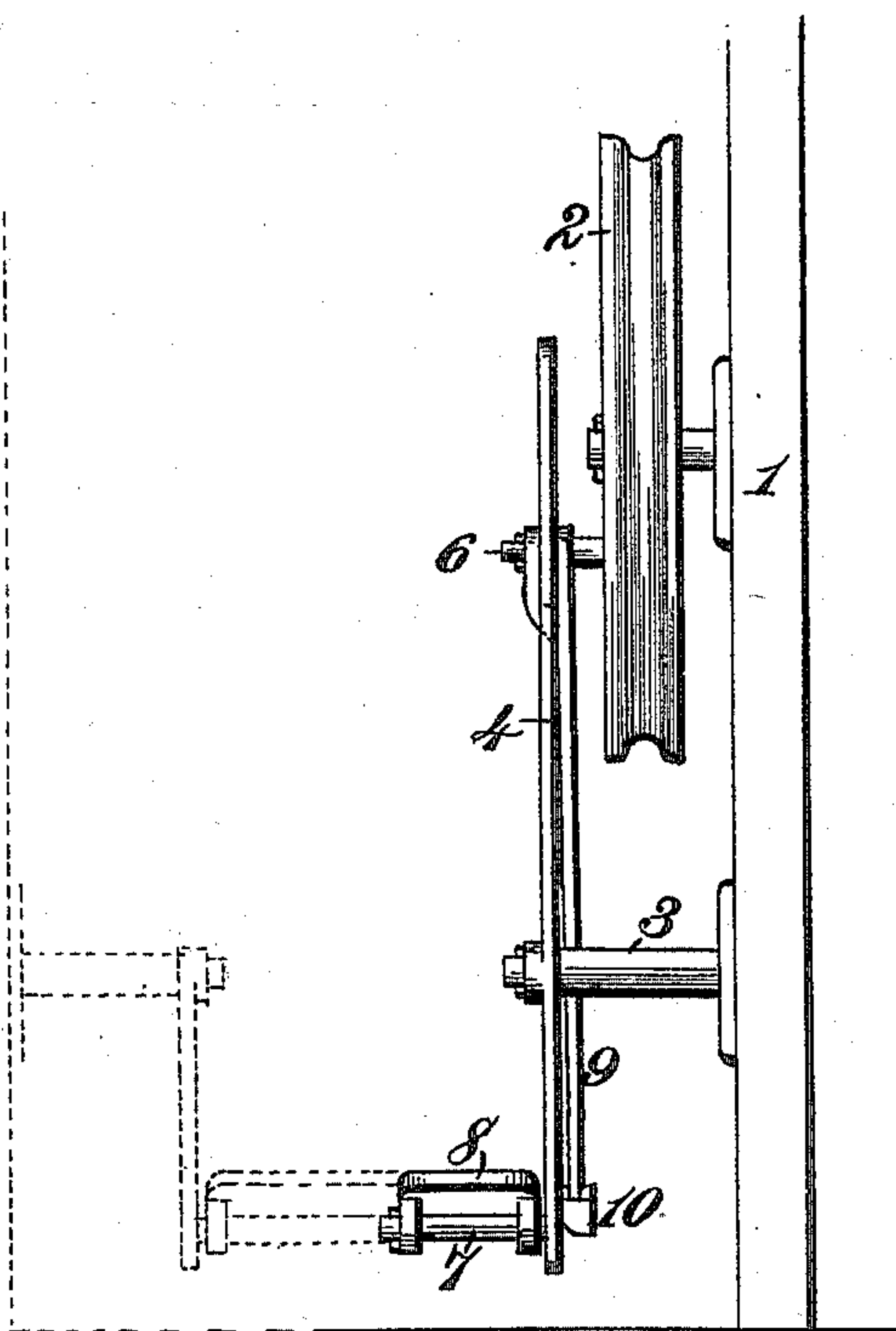


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

AUGUSTUS M. FENNER, OF LINESVILLE, PENNSYLVANIA.

TREADLE-MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 363,289, dated May 17, 1887.

Application filed September 23, 1886. Serial No. 214,351. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS M. FENNER, a citizen of the United States, residing at Linesville, in the county of Crawford and State of Pennsylvania, have invented new and useful Improvements in Treadle-Movements, of which the following is a specification.

My invention relates to a swing heel-and-toe treadle-movement; and it consists in the construction and combination of devices, as hereinafter set forth, whereby power can be uniformly applied to a wheel or pulley at all points, and any tendency to a dead-center thereby overcome with ease.

In the annexed drawings, illustrating the invention, Figure 1 is a side elevation of a machine-frame and crank-wheel with my improved treadle-movement applied. Fig. 2 is a front elevation of the same.

The reference-numeral 1 designates a portion of a machine-frame, and 2 a cranked drive-wheel supported thereby. To a stud, 3, supported by the machine-frame or otherwise, is pivoted a lever, 4, the upper end of which is formed with an elongated slot, 5, to engage a crank-pin, 6, on the drive-wheel. From the lower end of the lever 4 projects a laterally-extended stud, 7, on which is journaled, near its heel end, a treadle, 8, the toe end of which is connected by a pitman, 9, to the crank-pin 6 of the drive-wheel. The upper end of the pitman or connecting-rod is preferably bifurcated to embrace the upper slotted end of the lever 4, and through the arms of this bifurcation are formed eyes to engage the crank-pin 6, which also passes through or engages the slot 5 of the lever 4, as before mentioned. The toe end of the treadle 8 is provided at its inner corner with a bifurcated lug, 10, to receive the lower end of the pitman or connecting-rod 9, which is formed with a series of perforations, 11, through either of which can be passed a pin carried by the lug 10, thereby providing an adjustable connection between the treadle and its pitman. By this means the treadle can be adjusted to permit the operator's foot to occupy a level position when the crank is at either side of the drive-wheel, whether wearing a high or low heel shoe.

It will be seen that by the construction above described, and illustrated in the drawings, my improved heel-and-toe treadle will have a swinging or horizontally and vertically vibratory movement, capable of overcoming any tendency to a dead-center and giving an

even steady power on all sides of the wheel from the natural or ordinary motion of the feet on the treadle. By this construction, also, when either of the forces is inactive the other has the greatest power, thus giving an even steady motion on all sides of the wheel, and a great gain in power, as all power gained by the swinging or horizontal force on the treadle 8 is a gain in power over swing-treadles of ordinary construction. With this treadle, also, the wheel will always start to run the same way by the natural motion of the feet, so that in ordinary use it will not be necessary for the operator to pay any attention to the swing motion, except when starting with the crank at the nearest point to him or the farthest point from him. In the first case he will push with the toe and in the other case with the heel, which will become a matter of habit in a very short time. So, too, when the crank is at its highest point, the operator will push with the toe, and when the crank is at its lowest point with the heel. In all cases the wheel will start with its top moving toward the operator, because the power one puts upon a heel-and-toe treadle is nearly as much in a horizontal as in a perpendicular direction.

The treadle 8 can be made any desired width, for one or both feet, and, if desired, the outer end of its supporting-stud 7 can be attached to a swing bar or hanger pivoted to the machine-frame, as shown by dotted lines in Fig. 2, thus avoiding strain on the drive-wheel connections.

What I claim is—

1. The combination of a drive-wheel having a crank-pin, a pivoted swing-lever having at its upper end an elongated slot engaging said crank-pin and provided at its lower end with a laterally-projecting stud, a treadle journaled on said stud, and a pitman connecting the toe end of the treadle with the crank-pin, substantially as described.

2. The combination of the frame 1, having a stud, 3, the drive-wheel 2, having crank-pin 6, the swing-lever 4, pivoted on the stud 3 and provided with slot 5 and stud 7, the treadle 8, pivoted on the stud 7, and the pitman 9, connecting the crank-pin and treadle, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

Witnesses: AUGUSTUS M. FENNER.
G. T. RANKIN,
A. J. SMITH.