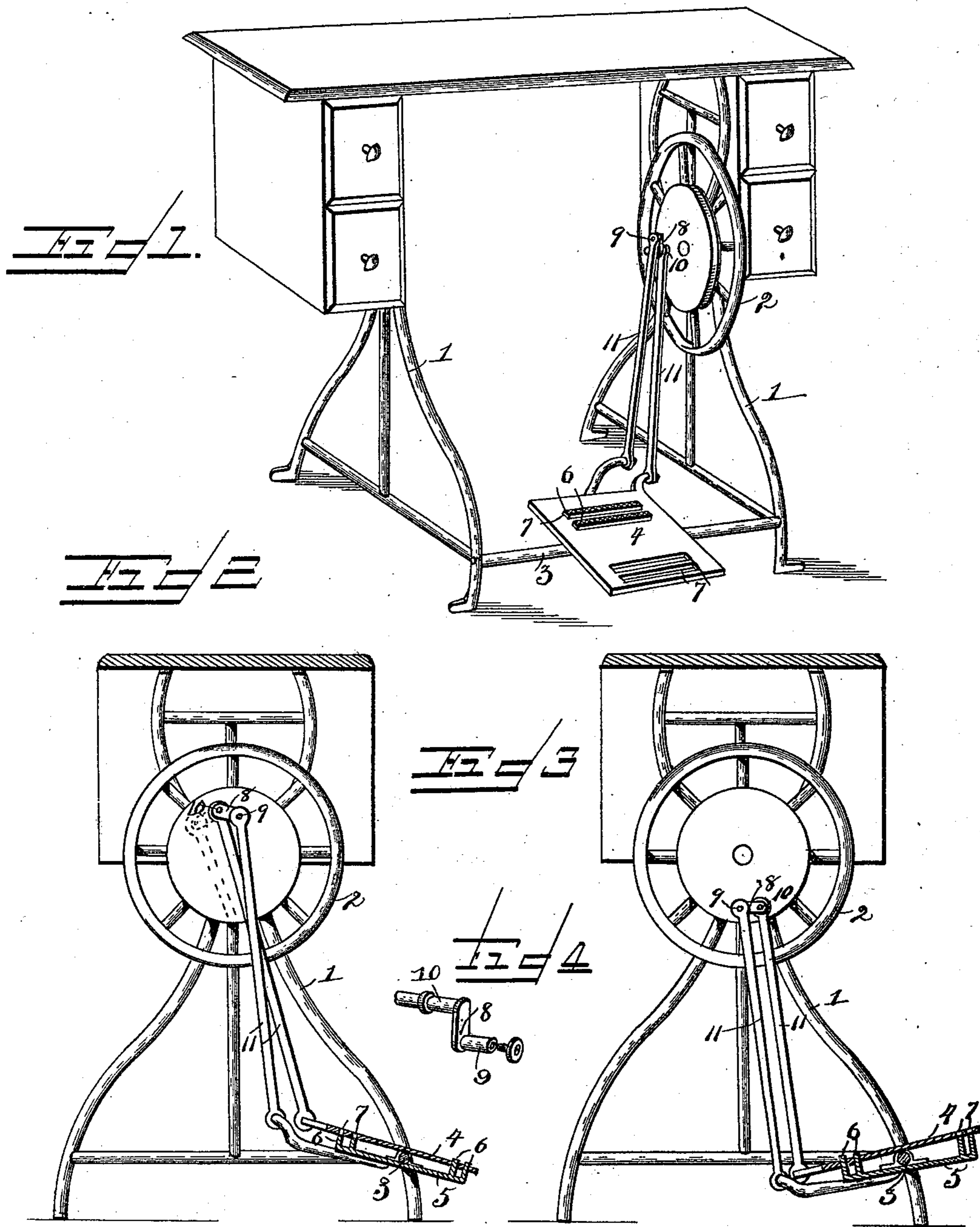


(No Model.)

J. E. KIRK.  
TREADLE FOR MACHINERY.

No. 516,333.

Patented Mar. 13, 1894.



Witnesses

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# UNITED STATES PATENT OFFICE.

JASON E. KIRK, OF BURNSIDE, ASSIGNOR OF ONE-HALF TO JOSEPH KIRK,  
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## TREADLE FOR MACHINERY.

SPECIFICATION forming part of Letters Patent No. 516,333, dated March 13, 1894.

Application filed April 15, 1893. Serial No. 470,360. (No model.)

*To all whom it may concern:*

Be it known that I, JASON E. KIRK, a citizen of the United States, residing at Burnside, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Treadle for Machinery, of which the following is a specification.

My invention relates to improvements in treadles for sewing and other machines, the objects in view being to provide means to prevent the stopping of the drive-wheel upon the dead centers and enable the machinery to be started solely by means of the treadle.

In carrying out my invention I employ a double crank pin provided with main and auxiliary spindles, and a supplemental treadle operating in connection with the ordinary treadle, such treadles being connected, respectively, to the spindles of the crank pin. By this construction the spindles of the crank pin travel in different paths and are continually changing their relative positions whereby at no time can the two spindles be upon a dead center simultaneously.

My invention is more fully described hereinafter in connection with the drawings, and the novel features thereof are particularly pointed out in the appended claims.

In the drawings—Figure 1 is a perspective view of a treadle mechanism constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the treadles showing the crank pin, driving-wheel and pitmen in elevation. Fig. 3 is a similar view showing the main treadle in its depressed position in order to illustrate the position of the crank pin at such time. Fig. 4 is a detail view of the crank-pin detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 represents a supporting framework which may be of any preferred construction to suit the kind of machine to which my improvement is applied. In this case it is the form of frame commonly used for sewing machines.

2 represents a driving-wheel and 3 represents a transverse horizontal treadle-shaft upon which the ordinary treadle 4 is fulcrumed. The manner of mounting the

treadle upon said shaft forms no part of this invention.

5 represents a supplemental treadle which is fulcrumed independently to the treadle-shaft in close proximity to the undersurface of the treadle 4, and is provided at opposite ends with vertical projections 6 which register with correspondingly shaped openings or slots 7 in the treadle 4 and are adapted in certain relative positions of the treadles to lie in such openings or slots and project above the upper surface of the treadle 4.

8 represents a crank pin, which, for convenience, I have termed a "double" crank pin, and it is provided with the main and auxiliary parallel spindles 9 and 10 arranged in different radial planes, or planes embracing the radii of the driving-wheel. These spindles are so disposed with relation to each other that when at either the top or the bottom of the wheel, or in more general terms, when adjacent to the line of the dead centers they are disposed in different vertical planes, and only upon the descending and ascending sides of the wheel are such spindles arranged in the same vertical plane. The spindles of the crank pin are connected, respectively, to the main and supplemental treadles by means of the pitmen 11.

In Fig. 2 of the drawings, the main treadle is shown in full lines in its elevated position with the spindle to which it is connected arranged upon the line of the dead center of the driving-wheel, and by reference to said figure it will be noted, furthermore, that the spindle to which the supplemental treadle is connected has not yet reached the limit of its vertical movement. It will be seen, furthermore, that the projections at the lower or near end of the supplemental treadle extend above the surface of the main treadle and hence are in position to be encountered by the foot of the operator. Therefore, the depression of the heel of the operator upon such projections will cause an elevation of the spindle to which such supplemental treadle is connected, and hence the wheel will be started in the desired direction.

From the above description, taken in connection with the drawings, it will be understood that in this way the wheel may be started

ed from any position of rest at any time, and furthermore, that the wheel will, in each case, be started in the same direction. Furthermore, by reversing the relative positions of the spindles of the crank pin, for instance, by arranging the auxiliary spindle to which the supplemental treadle is connected upon the opposite side of the main spindle to which the main treadle is connected, as indicated by dotted lines in Fig. 2, the wheel will, in each case, be started in the opposite direction.

Various changes in the construction of the treadles and of the crank pin may be made without departing from the spirit of my invention, the only essential points to be observed being that such treadles operate substantially together and that the spindles of the crank pin lie in different vertical planes at points near the line of the dead center, so that at no time can both spindles be on the line of the dead center, and therefore locked against movement.

Having described my invention, what I claim is—

1. In a device of the class described, the combination, with main and supplemental co-acting treadles, and a drive-wheel to receive power therefrom, of a double crank pin fixed to said drive-wheel and having main and auxiliary spindles, arranged in different

radial planes and connections between said treadles and the spindles, respectively, substantially as specified.

2. In a device of the class described, the combination with a drive-wheel, of a double crank pin having main and auxiliary spindles arranged in different radial planes, a main treadle, a subjacent supplemental treadle having projections which lie in openings in said main treadle, and connections between said main and supplemental treadles and the spindles of the crank pin, respectively, substantially as specified.

3. The combination with a drive-wheel, of a double crank pin having main and auxiliary spindles, main and supplemental treadles mounted independently upon a common treadle-shaft, said supplemental treadle being provided with vertical projections to lie in openings in said main treadle, and pitmen connecting said main and supplemental treadles, respectively, to the spindles of the crank pin, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JASON E. KIRK.

Witnesses:

JOS. M. WILSON,  
WILLIAM REED.