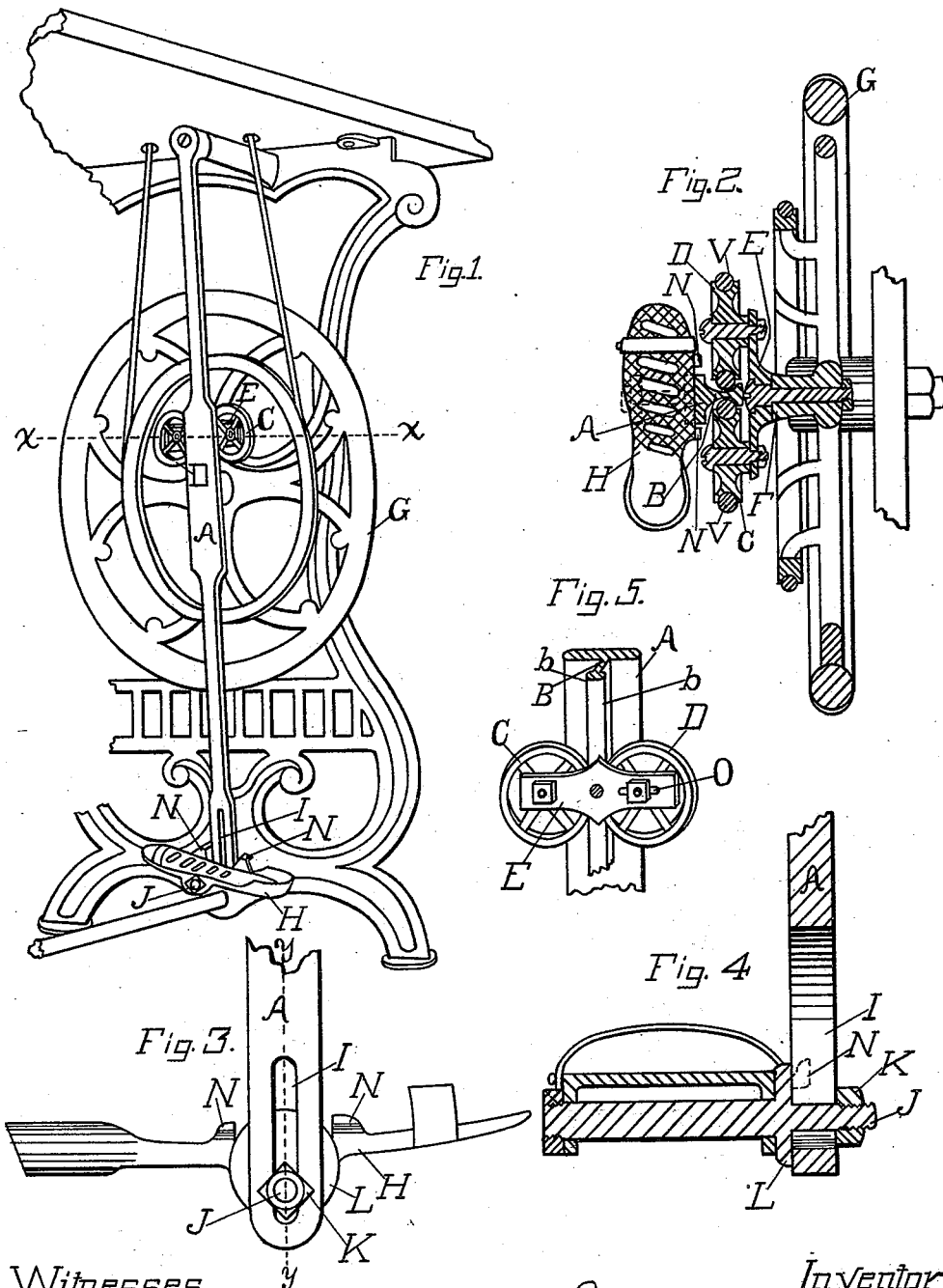


(No Model.)

E. A. COCHRAN.  
PENDULUM BAR TREADLE.

No. 421,858.

Patented Feb. 18, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

EDWARD A. COCHRAN, OF PASADENA, CALIFORNIA, ASSIGNOR OF ONE-FIFTH TO ELIZA J. BEACH, OF SAME PLACE.

## PENDULUM BAR TREADLE.

SPECIFICATION forming part of Letters Patent No. 421,858, dated February 18, 1890.

Application filed August 8, 1889. Serial No. 320,186. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD A. COCHRAN, a citizen of the United States, residing at Pasadena, in the county of Los Angeles and State of California, have invented a new and useful Pendulum Bar Treadle, of which the following is a specification.

The object of my invention is to produce mechanism whereby sewing-machines and other like machines can be operated by foot-power with greater ease and less noise than is possible with the treadles now in use; also, to make the same adjustable for the convenience of persons of different sizes. I accomplish these objects by means of the device described herein, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention adjusted to operate a sewing-machine. Fig. 2 is a cross-section on line *a x*, cutting through the cross-head and anti-friction wheels. Rubber bands are shown around such wheels in this view. Fig. 3 is a side view of the treadle. Fig. 4 is a vertical mid-section of the treadle and lower end of the pendulum. Fig. 5 is a view of the pivoted cross-head and the anti-friction wheels pivoted thereto, looking toward the pendulum-bar, a portion of which is shown.

A is the pendulum treadle-bar, pivoted at its upper end to swing back and forth, and provided on one side near its mid-length with an axially-arranged laterally-projecting rib or flange B. Anti-friction wheels C D, journaled upon a cross-head E, which is journaled or pivoted upon the crank-pin F between the periphery and hub of the driving-wheel G, are arranged upon either side of the rib to engage therewith as the bar is vibrated. The bar A is provided with a vertically-adjustable treadle H, which may be sandal-shaped, or of any other suitable form, and is arranged for one foot, that being sufficient for the operation of a machine provided with my improvement. The treadle is made adjustable as to height by means of a slot I at the bottom of the bar, through which one end of the treadle pivot-pin J is passed

and secured friction-tight by burr K, which clamps the bar A between itself and flange L. By loosening the burr K the treadle can be raised or lowered through the slot I and thereby be adjusted to the foot of the operator, so that by making such adjustment the machine can at pleasure be adapted to be operated by a child or an adult. The foot-piece or treadle is provided with stops M N to engage with the bar A to prevent the treadle from tipping too far. The anti-friction wheels may be provided with rubber tires V, as shown in Fig. 2, if desired, to give smoothness and noiselessness to the movement. The rib B is provided at its outer edge with two oppositely-arranged lateral flanges *b b*, which engage with the rims of wheels C D when the treadle is swung from wheel G, thereby holding the bar in place.

In practice the foot is placed upon the treadle H and is swung backward and forward, thus vibrating the bar A. The flange B presses first against wheel D, thereby pushing the crank-pin F backward. The wheel D partially revolves as the pin moves backward and down to a point level with the hub of the driving-wheel. Then the bar is swung forward and engages with the wheel C, pressing it downward and forward until it passes below the hub, and then upward and forward until it reaches the level of the hub, and the bar begins its backward oscillation, thus engaging with the wheel D, as at first described. The pivoted cross-head vibrates to accommodate the wheels C and D to the rib B as the driving-wheel rotates.

The axial slot O in the cross-head permits the adjustment of wheel D, so as to leave a greater or less amount of space between wheels C and D for the rib to play in.

Now having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination set forth of a pendulum treadle-bar, anti-friction wheels journaled upon a pivoted cross-head and arranged one upon each side of the bar to engage therewith as the bar is vibrated, a driving-

wheel, and the cross-head pivoted to such wheel between its periphery and the hub.

2. The combination set forth of the pendulum treadle-bar provided with the rib B, having flanges *b b* at its outer edge, anti-friction  
5 wheels C D, journaled upon cross-head E, and arranged one upon each side of the rib

to engage therewith as the bar is vibrated, a driving-wheel, and the cross-head E, pivoted to such wheel between its periphery and hub. 10  
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Witnesses:

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