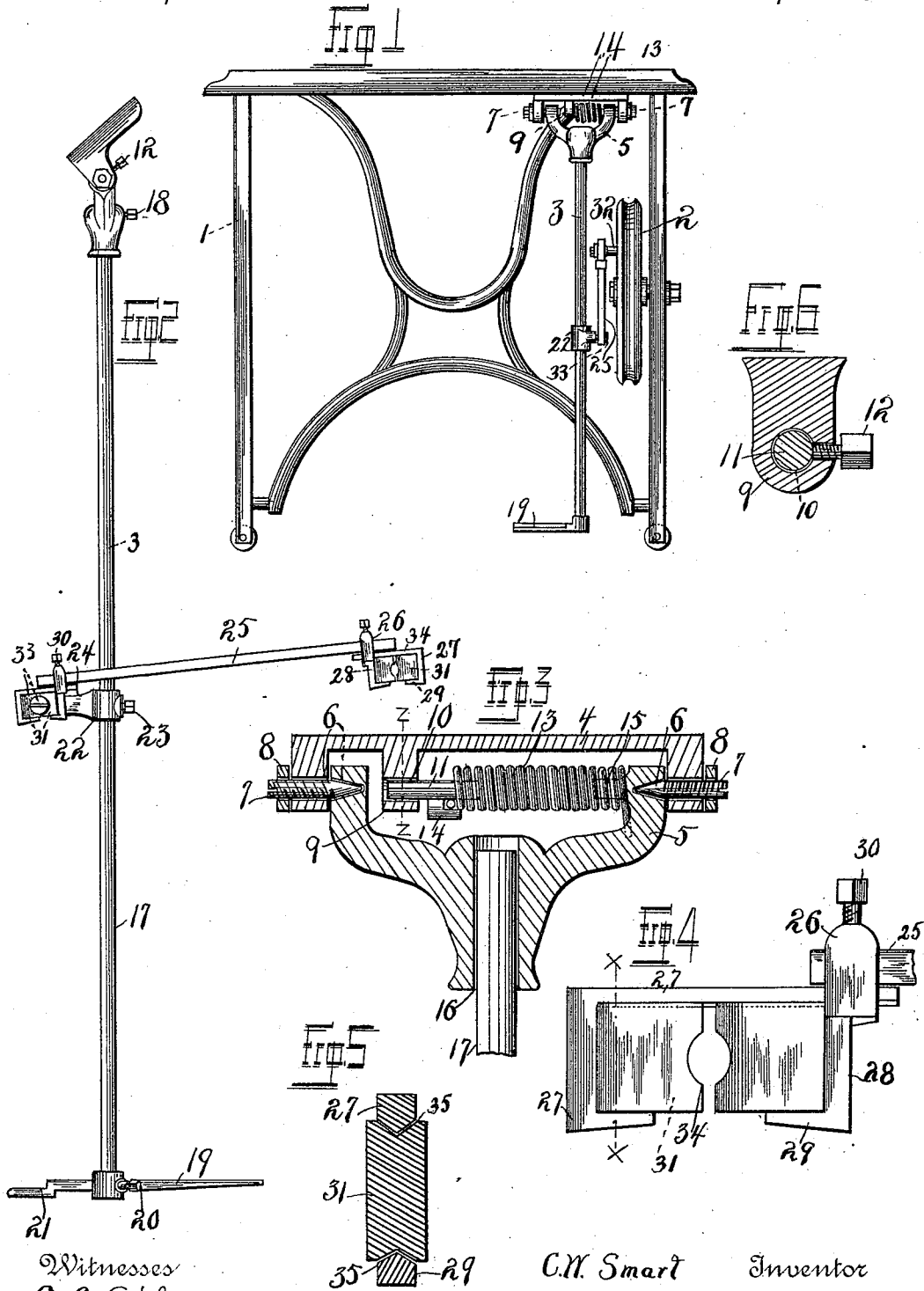


(No Model.)

C. W. SMART.
SWINGING SEWING MACHINE TREADLE.

No. 470,843.

Patented Mar. 15, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES W. SMART, OF CARBONDALE, ILLINOIS.

SWINGING SEWING-MACHINE TREADLE.

SPECIFICATION forming part of Letters Patent No. 470,843, dated March 15, 1892.

Application filed October 16, 1891. Serial No. 408,855. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SMART, of the city of Carbondale, Jackson county, and State of Illinois, have invented certain new and useful Improvements in Swinging Sewing-Machine Treadles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in swinging sewing-machine treadles; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a rear elevation of a machine-stand having my invention applied thereto. Fig. 2 is a side elevation of my complete invention detached. Fig. 3 is a longitudinal section of the upper end of my invention. Fig. 4 is a detail view in side elevation of one of the bearings which I employ. Fig. 5 is a cross-section taken on the line $x x$ of Fig. 4, and Fig. 6 is an enlarged cross-section taken on the line $z z$ of Fig. 3.

Referring to the drawings, 1 represents a machine-stand having the ordinary power or fly wheel 2 attached thereto in the usual manner and to which my invention can be easily applied.

3 represents my complete oscillating treadle, which is connected in any mechanical manner to the under surface of the top of the stand 1 and in the rear thereof, and also to the power-wheel, in a manner as hereinafter specifically described.

4 represents a bearing-plate, which is attached to the under surface of the top of the stand 1 by screws or any other mechanical manner.

5 represents a casting so constructed as it will be easily attached to the bearing-plate 4 in a manner as hereinafter described.

In order to produce as little friction as possible, I form in the casting 5 cone-shaped bearings 6, which are adapted to receive the cone-shaped screws 7, passing through the bearing-plate 4 and carried thereby, the same being held, when adjusted properly, by means of nuts 8 on said screws and bearing against the said plate, as best illustrated in Fig. 3.

Cast with the bearing-plate 4 or suitably

attached thereto is a depending portion 9, within which is formed an opening 10 for receiving a short shaft 11, one end of which shaft is secured within said opening by means of a screw 12 and the opposite end of said shaft projecting horizontally and free to receive a coil torsion-spring 13. The shaft 11 has formed with it a depending right-angled extension 14, which receives one end of the spring 13 and which is held securely thereby. The opposite end of said spring bears against the solid portion of the casting 5, thereby preventing the spring from turning when the device is operated. In order to hold the spring 13 in its proper position and location, the said casting 5 is provided with a right-angled extension 15, which receives the body of the spring. The said spring, as will be seen, is interposed between the solid portions of the casting 5 and the extension 14 of the shaft 11, making a rigid and mechanical connection.

The casting 5 is provided with a socket 16, within which the oscillating arm or rod 17 is adapted to fit and is held thereto by a set-screw 18. To the lower end of the oscillating arm 17 is secured and adjustably thereon (to the lower end) a foot-plate 19, which is adapted to be adjusted on said rod by means of a set-screw 20. The foot-plate 19 is provided with a depression 21, which is adapted to fit the heel of the shoe carried by the operator, which facilitates greatly in the operation.

22 represents an adjustable clamp movable upon the oscillating rod 17 and is provided with a set-screw 23, whereby the said clamp is held in any desired position upon the said rod. The said clamp 22 is provided with a rearward extension 24, which extension receives a short shaft or screw answering the same function, whereby the pitman 25 is connected thereto.

25 represents the adjustable pitman for uniting and connecting the power-wheel of the machine to the oscillating rod 17. The bearings on each end of said pitman are similarly constructed, and therefore it is deemed only necessary to specifically describe one of them.

The pitman 25 consists, principally, of an arm, the ends of which are received by the clamps 26, carried by said bearings.

27 represents an L-shaped arm, the inner surface of the parallel arms thereof being V-shaped in cross section, as best illustrated in Fig. 5 of the drawings. To the clamp 26 is formed a depending portion 28, and at the end thereof is formed a horizontal arm 29 at right angles to the said portion, also V-shaped in cross-section. The clamps 26 are of such a size as to permit both the pitman 25 and one end of the arm 27 to be clamped and adjusted within the said clamps by means of set-screws 30.

31 represents four blocks, made, preferably, of hard wood, rubber, or other suitable material, which form the bearing proper for both the crank-pin 32, carried by the power-wheel, and the pin 33, carried by the clamp 22. Each block is provided with semicircular cut-away portions 34, which are adapted to come in contact with the shafts, as hereinbefore described.

The blocks 31 are provided upon their opposite edges with V-shaped grooves 35, (see Fig. 5,) which correspond to the V-shaped portions, as previously described, whereby the said blocks are adjusted and held in their proper positions.

The main object I have in view is to construct a cheap, substantial, and adjustable device in the way of an oscillating treadle, the utility of which can be readily seen.

By the use of my invention a continual bending of the ankle of the operator in order to drive the machine, which frequently results in great fatigue and injury to the person using the machine, is obviated.

By my improved form of treadle it is only necessary in order to operate the machine to swing the foot back and forth from the knee and without bending the ankle.

By means of the adjustable pitman, as hereinbefore described, the movement of the oscillating rod or treadle is regulated, which is very desirable.

Having fully described my invention, what I claim is—

1. In a treadle for sewing-machines, the combination of an oscillating treadle-rod depending from the machine, a treadle carried by the rod, shiftable devices on the treadle-rod adjustable longitudinally thereon and located above the treadle, and an adjustable pitman shiftable longitudinally relatively to and connected with said adjustable device and with the power-wheel, substantially as set forth.

2. In a treadle, the combination of a bearing-plate, an oscillating treadle-rod movably connected with the same, a clamp provided with a bearing-pin, said clamp being adjustable upon the treadle-rod, a pitman having bearings for said pin, and a clamp for holding said bearings, said clamp having a device for adjustably holding the pitman, substantially as set forth.

3. An oscillating treadle having pitman 25, clamps 26 for receiving each end of said pitman, whereby it is adapted to be adjusted within said clamps at both ends, arms 27, also adjustable within said clamps, extensions 28, formed with the clamps 26, one of said clamps having a pin 33, and the blocks 31 within the arms 27, and extensions 28, and the blocks 31 for encircling both the pin 33 and the crank-pin of the drive-wheel, substantially as set forth.

4. In an oscillating treadle, the combination of the bearing-plate 4, a shaft 11, carried by the same, the extension 14, formed with the shaft, the casting 5, movably connected to the said bearing-plate, the coil-spring 13, interposed between said casting and extension 14, the adjustable clamp 22, carrying a crank-pin 33, and adjustable pitman 25, carrying adjustable bearings, substantially as set forth.

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

CHARLES W. SMART.

Witnesses:

ED. E. LONGAN,
L. L. TRACEY.