

(No Model.)

J. H. WHITNEY.
TREADLE CUSHION.

No. 503,633.

Patented Aug. 22, 1893.

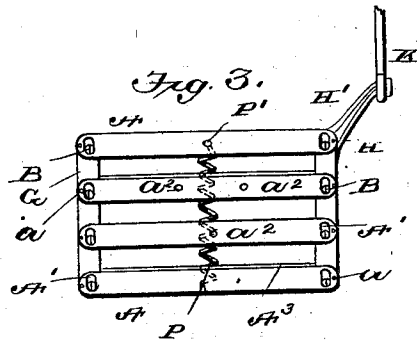
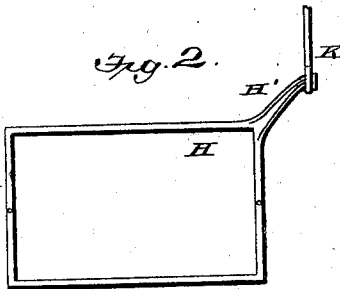
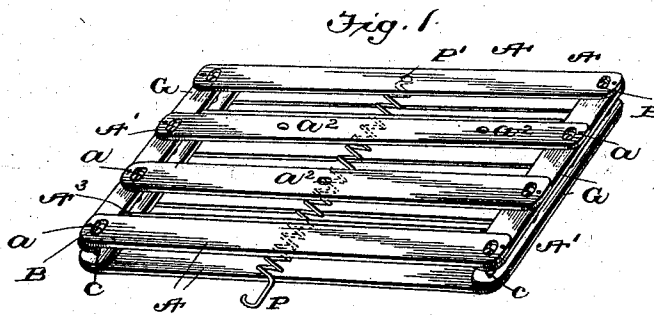


Fig. 5.



Fig. 4.

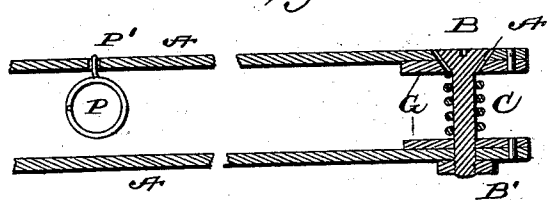
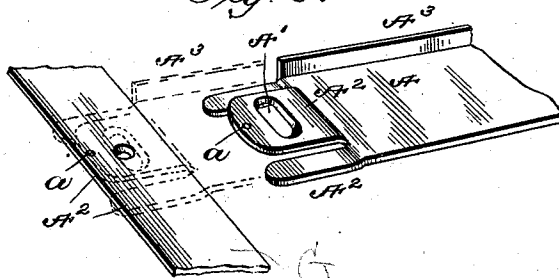


Fig. 6.



Witnesses

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TREADLE-CUSHION.

SPECIFICATION forming part of Letters Patent No. 503,633, dated August 22, 1893.

Application filed April 2, 1891. Serial No. 387,392. (No model.)

to all whom it may concern:

Be it known that I, JAMES HENRY WHITNEY, of Brooklyn, Kings county, New York, have invented a new and useful Improvement in Treadle-Cushions for Sewing-Machines, of which the following is a true and clear specification, enabling others skilled in the art to which it pertains to make the same.

My invention relates to treadle cushions such as are used for foot power on sewing machines, but its uses may be extended wherever a treadle is used.

Its object is to assist in overcoming the inertia of the treadle by presenting primarily to the foot pressure an elastic cushion, thereby reducing the shock of contact. In effecting this result, I use the device illustrated in the accompanying drawings, in which like letters refer to like parts in each.

Figure 1— is a perspective view of the device. Fig. 2 is a top view of treadle without cushion. Fig. 3— is a perspective of device on treadle. Fig. 4— is an enlarged section of one end of a slat showing bolt and spring in position. Fig. 5— is a perspective of bolt and spring. Fig. 6— is an enlarged view of end of slat.

In the drawings A represents a series of latitudinal slats constituting the pressure plane of the treadle. They are provided with slotted perforations on each end A' and preferably though not essentially forked on both ends. This construction is shown in Fig. 6. Here the forked end A² is shown in dotted lines extending under the bar G. The object of this forking of the end is to allow one part (shown in dotted lines) to pass under and the other part to pass over the bar G, and thus prevent the slat A from having too much spring at the end part where it is loosely attached to the bar G.

A³ is a flexible flange attached to the slats A. Fig. 6 shows this to be on the edge of the slat, and effects the purpose for which it is intended, which is to assist the foot in maintaining its hold on the treadle and impart its flexibility to the treadle. *a*, *a* are rivet holes. *a*², *a*², are perforations adapted to be used in securing the device to a treadle with twine or otherwise.

B is a bolt, having a head upon one end,

and a thread upon the other, upon which the nut B' is secured.

C is a coiled spring located on the bolt B.

G, G, are the longitudinal bars having slots in them corresponding with the slot A' in the latitudinal bars A, and rivet holes *a*.

H is a treadle frame, adapted to receive and hold the cushion in position.

K is the pitman.

P is a spiral spring passing between the upper and lower portions of the cushion.

In Figs. 1 and 2, it will be seen that the cushion is formed of two parts, each part consisting of a series of slats A, preferably four in number, running latitudinally, and another series of slats G, preferably two in number running longitudinally; each of these slats, where they come in contact, or cross each other, is pierced with slotted holes A'; they have also holes for rivets *a*. The slats A may be forked as shown in Fig. 6, at A², the object of this forking being to retain the slat in place. The elastic flange A³, Fig. 6, is a rubber strip attached to the edge of the slat A, and projecting above and at right angles to the slat, so as to assist in retaining a foothold, and adding elasticity to the cushion. Through the slot A', the bolt B passes, and upon the bolt B, is strung the coiled spring C. The bolt B passes through the slot of slat A, and through a corresponding slot in the slat G, and is secured on its under side by the nut B' or riveted. The spiral spring P is used as a recoil and to prevent the cushion from becoming displaced. The holes *a*² are for the purpose of attaching the cushion to a treadle. As all treadles are not alike a frame H, Fig. 3, is provided, with an arm H' so arranged that it may be easily attached to the pitman K of a sewing machine.

This device is intended as an improvement upon my Patents Nos. 394,626, and 407,804. In both of these I have provided a single direct acting spring, centrally located, on which the treadle is balanced; I found that while the vertical force of the pressure was reduced, the lateral pressure was in no wise relieved. In the present structure there is no point of rest in the cushion when a pressure is exerted upon it. The slots A', into and through which the bolts B pass loosely, admit of a free lat-

eral and vertical movement to the slats A, while the coiled springs C, located on the shank of the bolt, add an element of resistance to both a vertical and lateral pressure.

5 The elastic flange A³, acts as an aid in securing a foot-hold, when the foot presses upon them. They are the first to offer resistance to the shock of contact. Their recoil and the recoil of the entire cushion are assisted by the
10 recoil spring P, which passes entirely through between the upper and lower rows of slats, and is attached at one end to a slat, and at the other to the cushion frame or treadle. It will be seen that a cushion made as above is
15 capable of resisting a pressure exerted in any direction whatever, and in its movement greatly assists the natural effort of the muscles brought into play in exerting the foot power by distributing the plane of resistance
20 over an elastic and responsive medium.

I do not confine myself to any particular material in the construction of my device, but prefer metal and rubber.

25 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cushion for the treadle of a sewing machine, the two frames formed of slats constituting the upper and lower pressure planes
30 of the cushion, bolts passing loosely through slots formed for the purpose in the slats, and

interposed springs, as herein described and set forth.

2. In a cushion for a sewing or other machine treadle, the combination of two frames
35 formed of slats constituting the upper and lower surfaces of the treadle cushion, bolts passing loosely through slots in the slats provided for that purpose, and coiled springs strung on the bolts between the upper and
40 lower frames, as herein shown and described.

3. The combination in a cushion for a machine treadle of two frames made of slats, bolts passing through the slats, springs strung
45 upon said bolts, and one or more elastic flanges attached to the edge or edges of one or more of the slats forming the upper pressure plane of the treadle cushion, as herein described and set forth.

4. The combination in a cushion for a machine treadle of two frames formed of slats,
50 bolts passing loosely through slots formed in the slats, coiled springs upon the bolts, and a coiled spring located between said frames, and attached to one of them and acting as a
55 recoil spring in its lateral motion, as herein shown and described.

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Witnesses:

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