J. A. RYDEN.

TREADLE.

APPLICATION FILED OCT. 26, 1916.

1,237,705.

Patented Aug. 21, 1917.

2 SHEETS—SHEET 1.

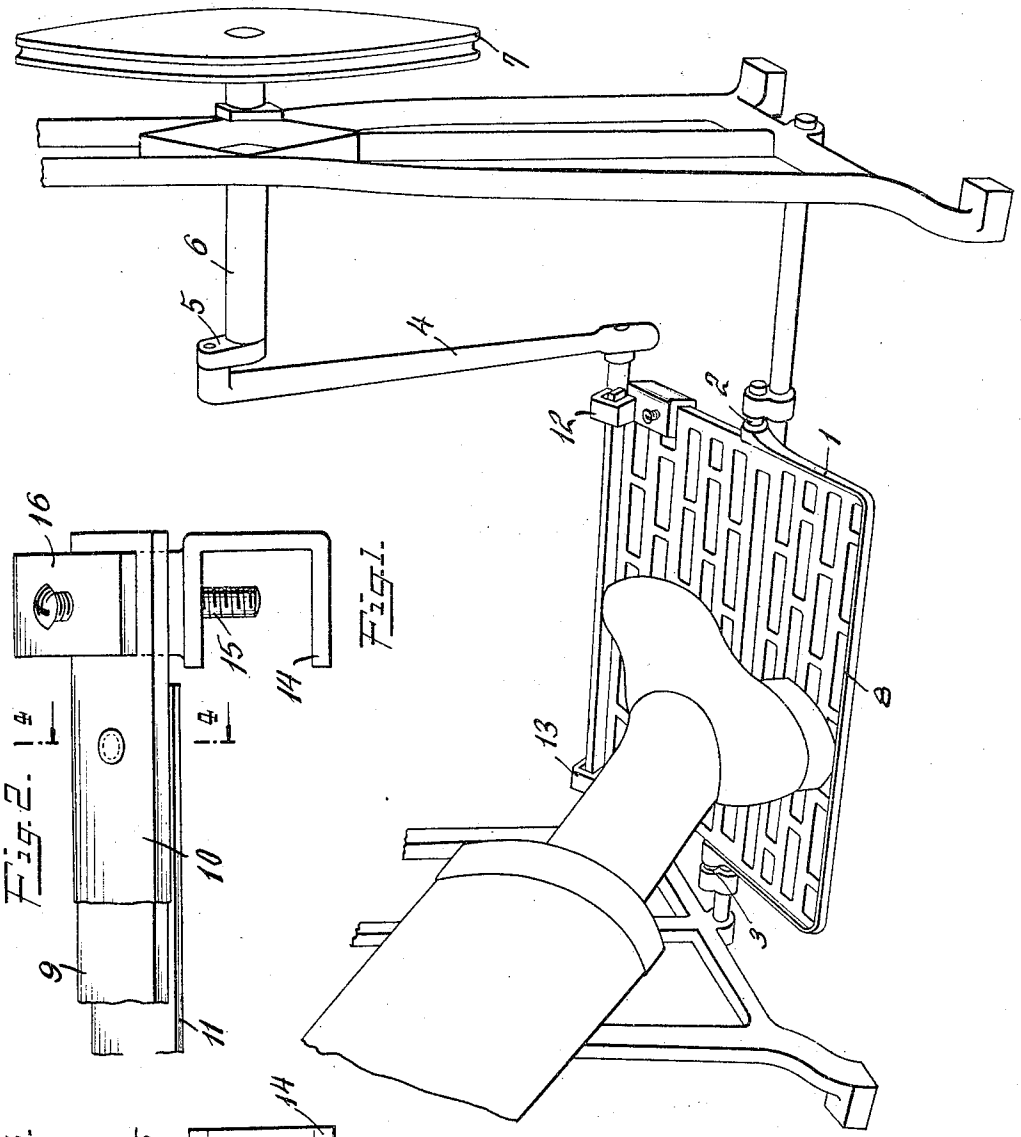

Fig. 1.

Fig. 2.

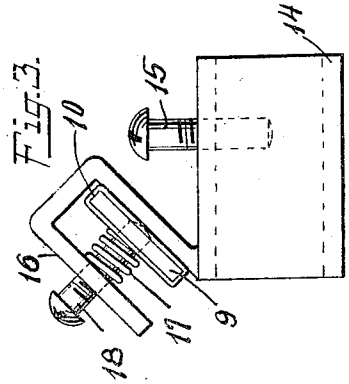

Fig. 3.

Fig. 4.

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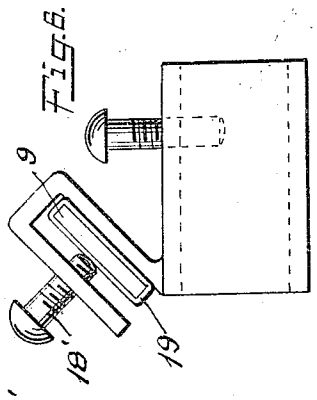

Fig. 6.

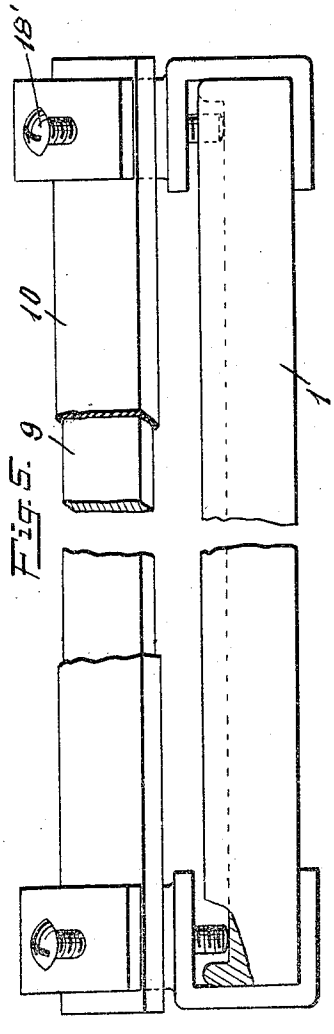

Fig. 5.

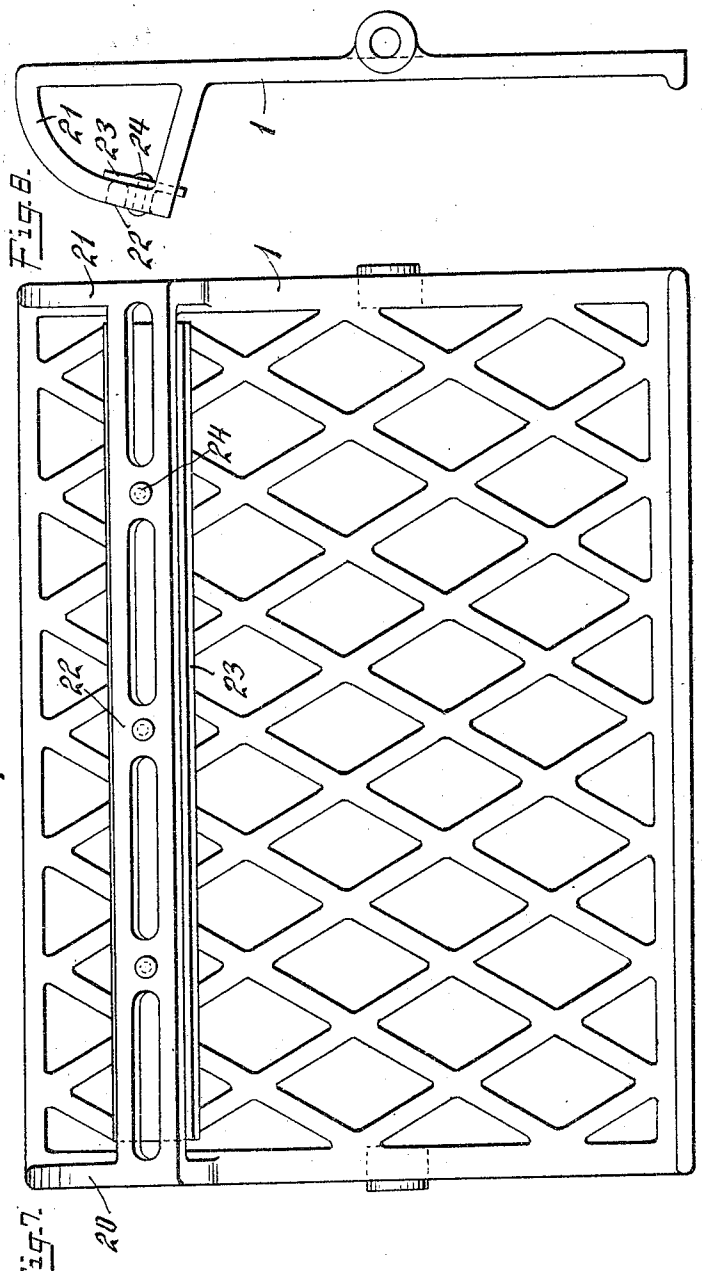

Fig. 8.

Fig. 7.

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UNITED STATES PATENT OFFICE.

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TREADLE.

1,237,705. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed October 26, 1916. Serial No. 127,788.

To all whom it may concern:

Be it known that I, JOHN A. RYDEN, a subject of the King of Sweden, residing in the city of Madison, county of Dane, and State of Wisconsin, have invented certain new and useful Improvements in Treadles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to treadles for sewing machines, turning lathes, jig saws and other like foot-power machinery.

It is an object of the present invention to increase the operator's control over the moving parts, to lessen fatigue of the operator, to provide means for varying the treadling movement of the operator's feet, and particularly to secure these ends by a simple mechanism which, in one embodiment, may be attached to treadles now in common use.

To attain these objects, and others hereinafter set forth, or inherent in the construction disclosed, the treadle of the present invention is provided with a toe-piece which extends substantially across the front edge of the treadle and engages or fits over the tips of the operator's shoes. This toe-piece, which is preferably in the form of a straight bar detachably clamped to the treadle, may be faced with rubber, or the like, and while affording a secure grip on the operator's shoes, does not needlessly restrict lateral movement of the shoe tips nor produce undue pressure on the shoe vamp.

In the accompanying drawings—

Figure 1 is a perspective view of one embodiment of the invention applied to a sewing machine;

Figs. 2 and 3 are, respectively, a front elevation and a side elevation of the toe-piece of Fig. 1, and Fig. 4 is a section therethrough on the line 4—4 of Fig. 2;

Figs. 5 and 6 are, respectively, a front elevation and an end elevation of a modified form of treadle attachment with the treadle shown in outline; and

Figs. 7 and 8 are, respectively, a plan view and an end elevation of a further modification, wherein the toe-piece is cast integral with the platform of the treadle.

In the embodiment illustrated in Figs. 1 to 4, inclusive, the treadle comprises a platform 1 mounted near its center on pivots 2 and 3 and connected at one of its front corners with a pitman 4 which is connected to a crank 5 to actuate a shaft 6 and a fly wheel 7, over which the belt of the machine may pass, all in accordance with ordinary sewing machine construction.

The lower or rear edge of platform 1 is provided with a rim or rail 8 to engage the heels of the operator's shoes and prevent them from slipping backward off the treadle.

At the front edge of the platform 1 is a straight toe-piece extending substantially across the front edge of the treadle and comprising a rectangular bar 9 which may be of metal, such as steel, and may be resilient, and which is preferably enveloped in a protective covering, such as a cloth envelop 10, faced on one side with a rubber cushion 11 and secured to the metal bar as by rivets properly distributed.

As a means for holding this metal bar in proper relation to the platform of the treadle, its ends are provided with clamping means in the form of brackets 12 and 13, each having a jaw 14 (Fig. 2) and a set screw 15 for detachably and adjustably embracing the edge of platform 1, and each having an upstanding lug 16 with an inclined longitudinal recess, wherein an end of the bar is received and is held under a spring 17 which is positioned in said recess and encircles a bolt 18. This bolt traverses said recess and passes through a hole in bar 9 so that the bar is free to slide along the bolt when spring 17 is compressed.

With the construction above described, the operator's shoes may rest squarely on platform 1 with the heels resting against and guarded by rail 8, and the tips of the toes engaging the rubber cushioned lower inclined face of the toe-piece at the front of the treadle. End clamps 12 and 13 may be so adjusted along the edge of platform 1 as to give the most appropriate distance between the cross-bar and the heel rail while leaving the operator's feet free to toe out or toe in, as may be most comfortable. The operator's feet can also be shifted from one side to the other when desired, and as the toe-piece engages only the tips of the shoes where they are stiffened and reinforced by the toe box, there is no uncomfortable pressure over the toes and no danger of chafing the operator's feet.

The operator's shoes have no chance to

slide forward over the front edge of the treadle, and the treadle is under more complete control of the operator's feet, particularly when starting or stopping the machine, because of the positive engagement of the tips of the operator's shoes with the toe piece at the front edge of the treadle. At the same time the operator has full freedom in moving his feet in any way desired.

When desired, the operator may withdraw the shoe tips from beneath the inclined toe piece, and by moving his feet forward, engage only with the top edge of the bar, thereby changing the angle of movement at the ankle and thereby in a sense finding relief from the fatigue of treadling.

In the modification illustrated in Figs. 5 and 6, the coiled springs are omitted and the bolts 18′ secure the toe piece rigidly within the inclined recess of the clamp by which it is attached to the treadle. In this modification, the cloth envelop is omitted and the metal bar 9 is completely enveloped in a rubber covering 19 which serves not only as an envelop, but as a cushion for engagement with the shoe tips.

In the modification illustrated in Figs. 7 and 8, the treadle 1′ has cast integral with the side edges thereof, a pair of brackets 20 and 21, between which and integrally therewith extends the metal toe piece 22. The lower inclined face of this toe piece is covered with a strip of rubber 23 held in place by rivets 24, or the like, and it is against this rubber strip that the tips of the operator's shoes bear when the treadle is in operation.

I claim:—

1. A treadle having a straight toe-piece extending substantially across the front edge thereof and being inclined with respect to said treadle to fit over the tips of the operator's shoes; substantially as described.

2. A treadle having a toe-piece, comprising a straight metal bar extending substantially across the front edge of said treadle and being inclined with respect to said treadle and having a cushioned face adapted to fit over the tips of the operator's shoes; substantially as described.

3. A treadle having a heel rail at one edge and a toe-piece at the other edge, said toe-piece comprising a straight bar extending substantially across the front edge of said treadle and inclined with respect thereto so that it will fit over the tips only of the operator's shoes, and said bar having a rubber facing where it is to contact with the operator's shoes; substantially as described.

4. The combination with a treadle, of a toe-piece therefor comprising a straight bar extending substantially across the front edge of said treadle and in inclined position to fit over the tips only of the operator's shoes, and clamping means detachably secured to said treadle and holding said bar in position; substantially as described.

5. In an attachment for the treadle of a sewing machine or the like, the combination of a pair of clamps each having a jaw and set screw for detachable connection with the edge of said treadle, and each having an inclined recess, a bolt traversing each of said recesses, coiled springs encircling said bolts, a straight resilient metal bar having perforate ends in said recess and adapted to slide on said bolts when said springs yield, said bar being of a length to extend substantially across the front edge of said treadle and in inclined position to engage with the tips only of the operator's shoes.

6. In an attachment for the treadle of a sewing machine or the like, the combination of a pair of clamps each having a jaw and set screw for detachable connection with the edge of said treadle, and each having an inclined recess, a bolt traversing each of said recesses, coiled springs encircling said bolts, a straight resilient metal bar having perforate ends in said recess and adapted to slide on said bolts when said springs yield, said bar being of a length to extend substantially across the front edge of said treadle and in inclined position to engage with the tips only of the operator's shoes, said bar being enveloped with a protective covering having a rubber surface for contact with said shoe tips; substantially as described.

7. In a treadle for sewing machines and the like, the combination of a platform with a toe-piece extending substantially across the front edge of said platform and adapted to engage the tips only of the operator's shoes, said toe-piece comprising a straight bar having a cushioned surface for engagement with the operator's shoes, and means for detachably securing said bar to said platform, said means comprising clamps at each end of said bar, said clamps each having means for attachment to the side of said platform and having an inclined recess in which the end of said bar is received, and a bolt holding the end of said bar in said recess; substantially as described.

8. In a treadle for sewing machines and the like, the combination of a platform pivotally mounted near its center, a toe-piece extending substantially across the front edge of said platform and adapted to engage the tips only of the operator's shoes, said toe-piece comprising a straight resilient bar having a rubber surface for engagement with the operator's shoes, and means for detachably securing said bar to said platform, said means comprising clamps at each end of said bar, said clamps each having means for attachment to the side of said platform and having an inclined recess in which the end of said bar is received, and means for de-

tachably and yieldingly holding the end of said bar against the inclined bottom of said recess.

9. In a treadle for sewing machines and the like, the combination of a platform pivotally mounted near its center, a toe-piece extending substantially across the front edge of said platform and adapted to engage the tips only of the operator's shoes, said toe-piece comprising a straight resilient bar enveloped in a protective covering having a rubber surface for engagement with the operator's shoes, and means for detachably securing said bar to said platform, said means comprising clamps at each end of said bar, said clamps each having means for attachment to the side of said platform and having an inclined recess in which the end of said bar is received, a bolt traversing said recess and passing through a hole in said bar to permit sliding movement of the same along the bolt, and a spring yieldingly holding the end of said bar against the inclined bottom of said recess.

10. In a treadle for sewing machines and the like, the combination of a platform pivotally mounted near its center and having a rail along one edge to serve as a heel guard, a toe-piece extending substantially across the other edge thereof and adapted to engage the tips only of the operator's shoes, said toe-piece comprising a straight resilient metal bar enveloped in a protective covering having a rubber surface for engagement with the operator's shoes, and means for yieldingly and detachably securing said bar to said platform, said means comprising clamps at each end of said bar, said clamps each having a jaw and set screw for attachment to the side of said platform and having an inclined recess in which the end of said bar is received, a bolt traversing said recess and passing through a hole in said bar to permit sliding movement of the same along the bolt, and a spring encircling said bolt and yieldingly holding the end of said bar against the inclined bottom of said recess.

In testimony whereof I affix my signature.

J. A. RYDEN.