

(No Model.)

J. E. BRADLEY.
TREADLE.

No. 558,716.

Patented Apr. 21, 1896.

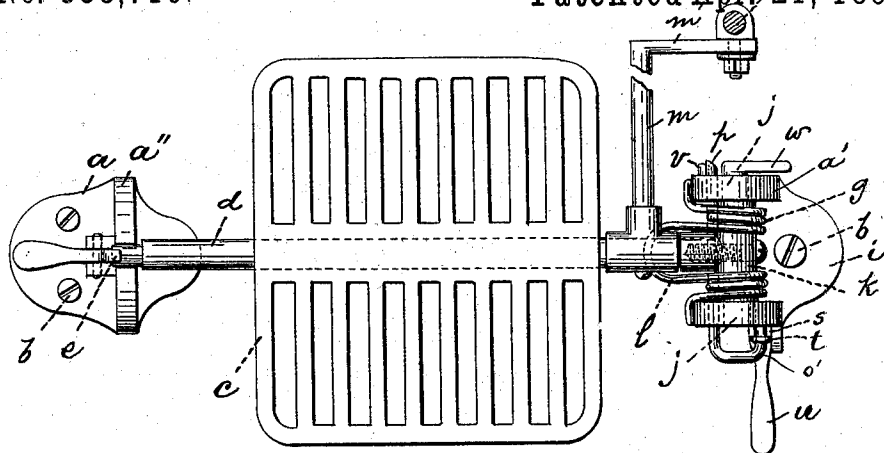


Fig. 1.

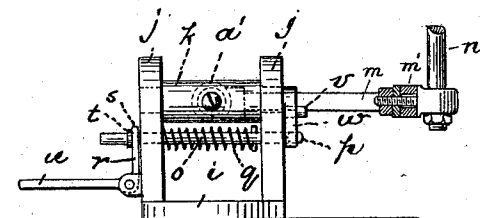


Fig. 2.

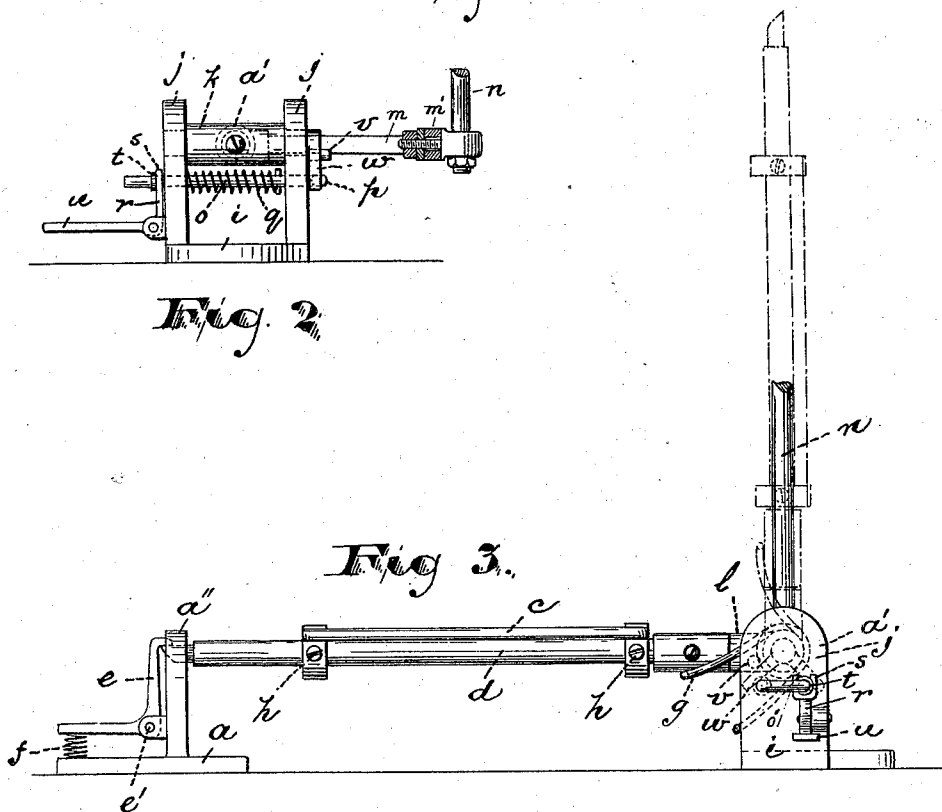


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES E. BRADLEY, OF NEWARK, NEW JERSEY.

TREADLE.

SPECIFICATION forming part of Letters Patent No. 558,716, dated April 21, 1896.

Application filed November 30, 1895. Serial No. 570,582. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. BRADLEY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machine-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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to enable the floors of factories, having large numbers of sewing or other machines operated by power and governed or controlled by foot-treadles fastened to the said floors, to be swept after work hours with greater facility and more thoroughly than has been possible heretofore; and the invention consists in the improved machine-treadle, and in the arrangements and combinations of parts, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the views, Figure 1 is a plan of the improved treadle and its bearings, the connection with the machine being shown in section. Fig. 2 is a side view of one of the bearings; and Fig. 3 is a front elevation showing the treadle in normal operative position, and in outline raised to admit of an easy and convenient sweeping of the floor.

In said drawings, *a a'* are bearings adapted to be fastened to the floor by screws *b* or other means.

c is the foot-plate on which the feet of the operator rest when operating or controlling the operations of the machine, and *d* is the shaft carrying said plate, and adapted to be oscillated in its bearings thereby when said plate is turned by pressure alternately at the forward and rear sides by the feet of the operator in the ordinary manner.

The bearing *a* is provided with a notched upright *a''*, in the notch of which the shaft *d* rests when in its horizontal position. It is held, in the preferred construction, in said notch by a catch *e*, Figs. 1 and 3. Said catch

is preferably in the form of a lever fulcrumed at *e'* and controlled by a spring *f*. Said spring serves to throw the catch automatically into engagement with the end of the shaft when the latter is forced down to its horizontal position. By pressing the foot upon the horizontal end of the lever-like catch, the hooked end thereof is thrown away from the end of the shaft *d* and the latter may be raised, or, in the preferred construction, automatically rises, under the power of the tilting-springs *g*, to the vertical position shown in Fig. 3. The shaft oscillates in said notch and is beveled, as in Fig. 3, so as to throw the hooked end of the catch outward and pass automatically down to its bearing in the notch, as will be apparent.

The foot-plate is adjustable in its relation to the shaft *d* both longitudinally on said shaft and in its degree of inclination to the floor, set-screws *h h* serving to hold the parts at the desired adjustment. The bearing *a'* for the opposite end of the horizontal oscillating shaft *d* comprises a fixture *i*, attachable to the floor, having vertical ears *j j*, between which a T-shaped bearing-piece *k* is pivoted, as shown in Fig. 1. The arm *l* of said bearing-piece is hollow and receives the extremity of the shaft *d*, and serves to allow the desired oscillatory movement. The T-shaped bearing also serves as the hinge on which the said shaft and its foot-plate may be turned to and from the desired position to allow of an easy and free sweeping of the floor beneath where the said foot-plate normally rests.

The spring *g* is preferably coiled around the T-shaped hinge-piece and has an arm extending a little distance along the shaft, bearing upward on the under side, so as to raise said shaft automatically when the latter is released. Adjacent or contiguous to said hinge-piece at one end of the shaft *d* is fastened an arm *m*, which projects forward or to one side of the shaft to provide an eccentric bearing for the connecting-rod *n*, which extends upward to the machine, to govern or control the clutching or other operative mechanisms of the machine or to otherwise effect the operations of the same. Said connecting-rod is pivotally coupled to a lateral extension *m'* of said arm *m* at a point in line with the center of oscillation of the hinge member *k*, on which

the shaft *d* tilts in rising to its vertical position, and thus the action of said shaft when raised on its end will not affect any operation of said connecting-rod *n* or produce a disarrangement of the working parts of the machine.

The oscillation of the shaft *d* in its bearings *a* *a'* produces a corresponding reciprocating movement of the arm *m* and connecting-rod *n* in the usual manner, as will be understood without further explanation.

I have provided the bearing *a'* with a catch for holding the foot-plate and its shaft in its elevated position while the floor is being swept. This may be of any suitable construction; but the construction preferred is illustrated in the drawings and consists of a sliding latch *o*, having bearings in the ears *j* *j'* of the fixture *i*. Said latch at one end is provided with a beveled nose *p* and at the opposite end with a return-bend *o'*, the extremity of which enters a second bearing in one of the ears *j*, and thus said latch will be prevented from turning pivotally in its bearings, and the beveled nose will maintain a proper relation to the hinge. A spring *q* tends to hold the nose *p* in its normally-projecting position outside the ear *j*, and a foot-lever *r*, having a fork *s*, engaging a shoulder *t* of the latch, is adapted to repress the latch against the power of the spring when the foot is pressed upon the horizontal pedal *u* to withdraw said latch from its treadle-holding position. A stop projection *v* limits the upward movement of the treadle, stopping it when at the vertical position of Fig. 3 just after the hinge-finger *w* has passed over the nose of the latch and the latter has sprung into its normal holding position.

The finger *w* referred to is fastened upon the hinge-piece *k* outside of the ear *j*, having a bearing for the beveled or nose end of the latch, and turns with said hinge-piece, so as to engage the stop and nose entering between the same, as indicated in Fig. 3 in outline.

In operating the device, when it is found necessary or desirable to sweep the floor the janitor simply places his foot upon the horizontal foot portion or pedal of the lever *e* and thus releases the free end of the shaft. The spring *g*, when one is employed, then acts automatically to raise said shaft on its end, and with it the treadle foot-plate *c*. This enables the floor to be swept thoroughly and quickly, and while this operation is being carried on, said treadle is prevented from being thrown down accidentally, by the latch, which has automatically caught the fingers *w*, as described. After the floor has been swept the latch is drawn back by pressure of the foot upon the pedal *u*, and the treadle is thus released and may then be pressed down by hand or otherwise, so that the said free end will enter the notch of the bearing *a* and be automatically caught and held therein by the catch *e*.

While I have described the preferred construction of the device in detail, I am fully

aware that various modifications may be made and parts omitted without materially altering the invention, broadly considered, and therefore I do not wish to be understood as limiting myself by the specific descriptive terms employed, excepting as the state of the art may require.

Having thus described the invention, what I claim as new is—

1. The improved treadle for sewing and other machines, herein described, comprising bearings adapted to be fixed to the floor, a foot-plate and shaft *d*, a T-shaped bearing-piece arranged pivotally at one side of said foot-plate in said bearings and having an arm carrying one end of the shaft *d*, and connections of said foot-plate and shaft with the operating parts of the machine, all combined substantially as set forth.

2. The improved treadle for sewing-machines, &c., comprising bearings adapted to be fixed to the floor, a foot-plate, a shaft *d*, for the same, a pivotal bearing-piece *k*, in which said shaft *d*, is journaled at one end, a catch *e*, holding said shaft at its opposite end in one of the fixed bearings, a spring for automatically raising the shaft endwise and connections of said shaft to transmit movement to the machine, all arranged and combined, substantially as set forth.

3. The improved treadle for sewing-machines, &c., comprising fixed bearings for the floor, a shaft *d*, a foot-plate adapted to oscillate with said shaft, connections for transmitting movements to the machine, and a hinge connection at one end of said shaft, substantially as set forth.

4. The combination with the bearings *a*, *a'*, and a T-shaped hinge-piece fitting in one of said bearings, of a shaft, a foot-plate and a machine connection, said shaft being pivoted in said hinge-piece, and adapted to be raised endwise and carry the foot-plate therewith, substantially as set forth.

5. The improved treadle, comprising bearings *a*, *a'*, a hinge-section in one set of bearings, an oscillatory shaft removable from the other of said bearings and arranged in the hinge-section to oscillate therewith, a foot-plate on said shaft and an arm *m*, to receive the connecting-rod, all combined, substantially as set forth.

6. The improved treadle, comprising bearings, *a*, *a'*, one of which is provided with a notch and catch, and the other with a hinge-section and a spring for automatically turning the same upward, an oscillatory shaft removable from one of said bearings and arranged in the hinge-section of the other, a foot-plate and an arm oscillating with the shaft and adapted to receive the machine connecting-bar *n*, all combined substantially as and for the purposes set forth.

7. The improved treadle, comprising a foot-plate, a shaft and its bearings, an arm *m*, extending from said shaft and adapted to oscillate therewith and to be raised when the said

shaft is turned endwise, a catch for holding said treadle and shaft in a vertical position, said parts being arranged and combined, substantially as and for the purposes set forth.

5 8. The improved treadle, comprising a foot-plate, hinge connections and latch, a spring for throwing said latch automatically into holding engagement and means for repress-
10 ing said latch, substantially as and for the purposes set forth.

9. The improved treadle, comprising a foot-plate, hinge connections, a latch for holding said foot-plate in its vertical position, and a lever *r*, having a pedal by which said foot-
15 plate may be released by foot-pressure, substantially as set forth.

10. The improved treadle, comprising a foot-plate, a hinge connection, and an arm *m*, bent as at *m'*, and extending to a point in line with
20 pivotal center of the hinge connection, and a connecting-rod *n*, coupled to said arm at said line, said parts being arranged and combined, substantially as set forth.

11. The improved treadle, comprising an os-
25 cillating foot-plate, a hinge connection, an arm extending from the center line of oscillation of said foot-plate to the center line of

movement of said hinge connection, and the connecting-rod, *n*, pivoted to said arm in the center line of hinge movement, said parts be- 30
ing arranged and combined, substantially as set forth.

12. The improved treadle, comprising a foot-plate and its connections for operating the machine, a hinge and a spring for raising 35
said foot-plate from its normal operative position bodily to an elevated position, combined substantially as set forth.

13. The improved treadle, comprising a foot-plate and its connections for operating the 40
machine, a hinge and a spring for counteracting the weight of said foot-plate, and tending to raise said foot-plate from its normal operative position, and a catch for holding
45 said foot-plate elevated while the floor is being swept beneath, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of November, 1895.

JAMES E. BRADLEY.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.