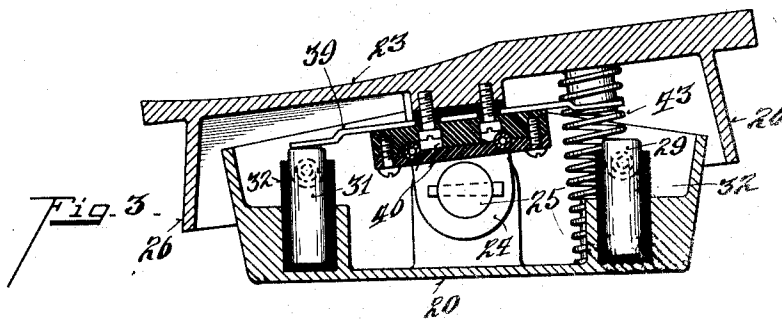
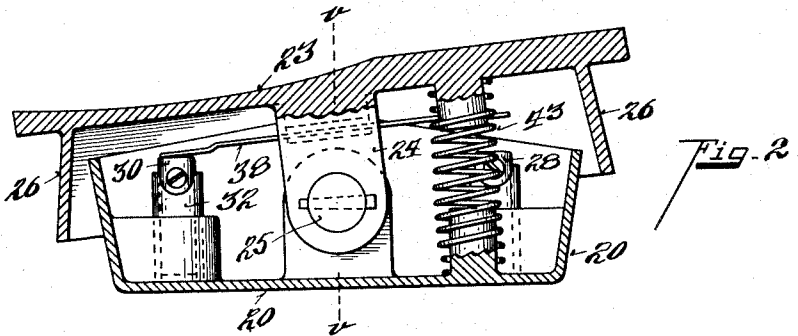
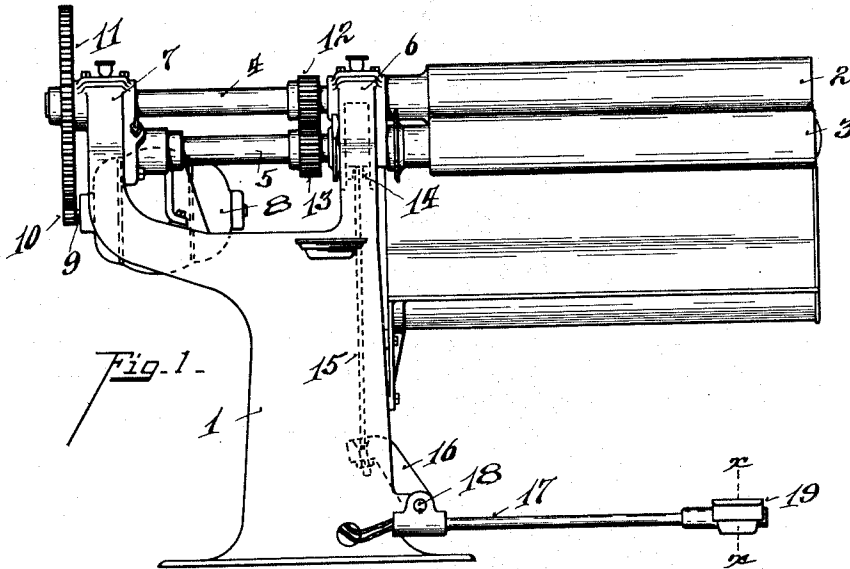


No. 874,895.

PATENTED DEC. 24, 1907.

A. B. MANN.
MOTOR CONTROLLING TREADLE.
APPLICATION FILED DEC. 4, 1906.

3 SHEETS—SHEET 1.



Inventor

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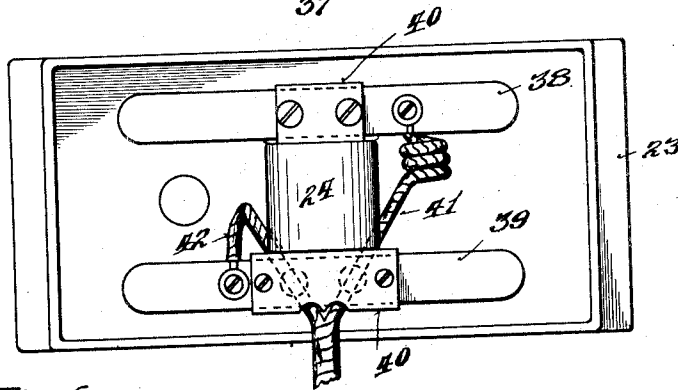
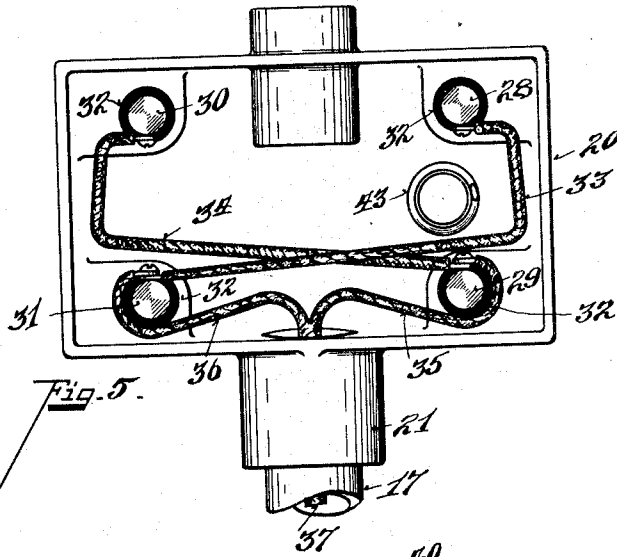
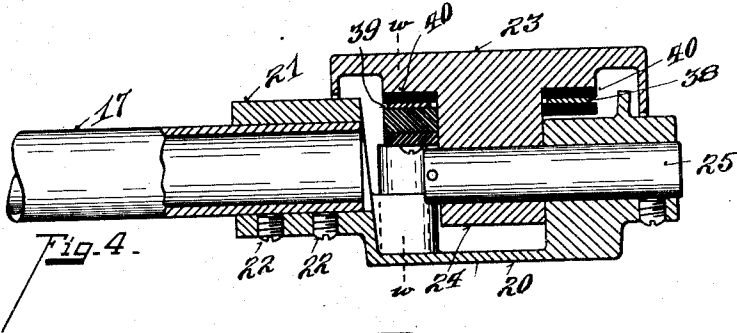
Albert B. Mann
By *Chas. W. Mann* Attorney

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3 SHEETS—SHEET 2.



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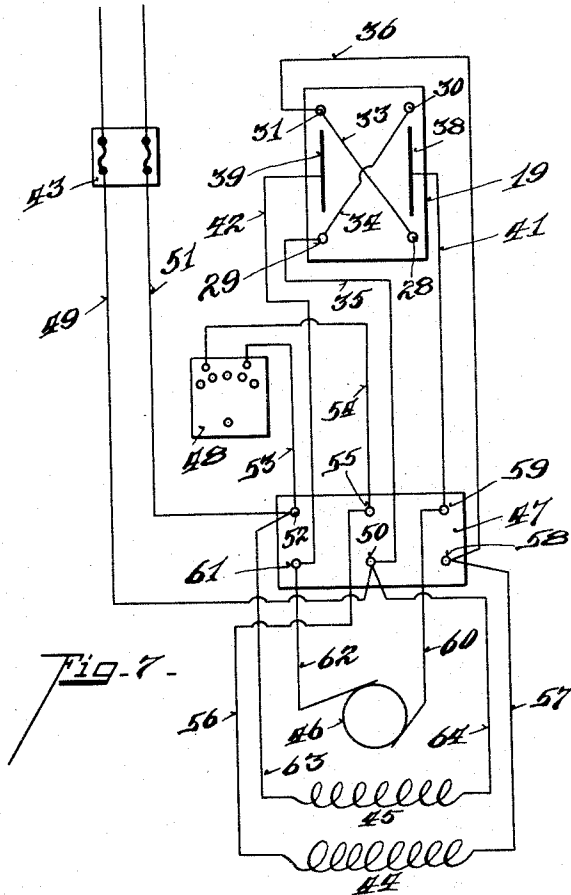
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

ALBRET B. MANN, OF CINCINNATI, OHIO, ASSIGNOR TO THE AMERICAN LAUNDRY MACHINERY COMPANY, OF NORWOOD, OHIO, A CORPORATION.

MOTOR-CONTROLLING TREADLE.

No. 874,895.

Specification of Letters Patent.

Patented Dec. 24, 1907.

Application filed December 4, 1906. Serial No. 346,349.

To all whom it may concern:

Be it known that I, ALBRET B. MANN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Motor-Controlling Treadles, of which the following is a specification.

My invention relates to a motor controlling treadle for operating certain kinds of machines.

The invention is particularly designed to be used with that type of machines illustrated in the accompanying drawings, which represents a laundry machine known as a "reverse body ironer." It will however be understood that the invention has a much wider application.

The object of the invention is broadly, to produce a combined treadle and electric switch which can be conjointly actuated in controlling the motor and operating the machine.

The features of the invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which:—

Figure 1 is a side elevation of an ironing machine with my improved motor controlling treadle in position. Fig. 2 is an enlarged section on line *x, x*, Fig. 1. Fig. 3 is a section on line *w, w*, Fig. 4. Fig. 4 is a section on line *v, v*, Fig. 2. Fig. 5 is a top plan view of the lower treadle member. Fig. 6 is an inside plan view of the upper treadle member. Fig. 7 is a diagrammatic view illustrating the circuit connections between the source of supply, switch and motor.

The organized machine selected to illustrate one particular use of the invention is shown in Fig. 1, in which 1 represents the standard.

2, 3, represent the ironing rolls having the end shaft extensions 4, 5, journaled in the pillars 6, 7.

8 represents the motor having the armature shaft 9 with pinion 10, intermeshing with gear wheel 11 fixed on the end of shaft 4.

12, 13, represent intermeshing gears connecting shafts 4 and 5, the depth of intermesh being sufficient to permit of the slight withdrawal of one of the shafts without disengaging the gears.

14 represents a mechanism which can be operated to raise and lower the roll 3. It is

connected by a link 15 to crank arm 16 of the hollow treadle stem 17 which is pivoted at 18 to the standard 1. The treadle may be rocked in a vertical plane to actuate the mechanisms 14, 15, 16, for raising and lowering the roll 3.

19 represents the foot treadle in its entirety.

It is the object of my invention to so construct this treadle and its component parts as to provide a switch mechanism for controlling the motor, operated by rocking the treadle 19 on the stem 17. The treadle 19 is a box having the lower member 20 rigidly secured to the hollow stem 17 by means of sleeve 21 and set screws 22, see Fig. 4.

23 represents the top member of the box which has a central depending lug 24 pivoted to the lower member 20 by means of the fulcrum stud 25, see Fig. 4. The fulcrum 25 is alined with the stem 17 from the medial line of the treadle 19. The top member 25 has the depending flanges 26 overlapping the sides of the bottom member 24, so as to form a cover for the box, and yet allowing the top member to be rocked in either direction on its fulcrum. Within this box is arranged the following switch mechanism:—28, 29, 30, 31, represent four contact posts erected in the lower member 20 and having the insulation 32. 33 represents a wire running diagonally across the switch box and connecting the terminals 28 and 31. 34 represents a similar wire connecting the terminals 30 and 29. 35 represents a wire running from terminal 29 to one pole of the source of supply, and 36 represents a wire running from terminal 31 to the field of the motor. The wires 35, 36, run through the hollow stem 17 and up through the body of the standard, as indicated at 37.

The cooperating contacts for the upper or rocking member 23, are formed as follows:—38 represents a contact finger secured to the upper member 23, and extending across the box in position so that its opposite ends may alternately contact the posts 28 and 30. 39 represents a like contact finger adapted to alternately contact the posts 29, 31. These pieces 38, 39, are insulated from the supporting parts by means of the insulation 40, see Fig. 3. 41, 42, represent the wires passing through the stem 17 and connected respectively to the fingers 38, 39.

In order to hold the top member 23 nor-

mally in plane with the contacts 38, 39, engaging the contacts 30, 31, as indicated in Figs. 2 and 3, in which position the motor is driven in one direction, I provide the spring mechanism 43, which holds the top member 23 appropriately tilted. When the member 23 is suitably tilted in the opposite direction, contacts 38, 39, are engaged with contacts 28, 29, respectively and the direction of the current is reversed, reversing the polarity of the armature and hence reversing the armature rotation.

The circuit from the source of supply through motor and switch is as follows:—43 represents a fuse block. 44 represents a field winding of the motor. 45 represents its shunt winding, 46 the armature. 47 represents the terminal block, and 48 represents the speed regulator. 49 represents a wire leading from one pole of the source of supply through the fuse block 43, and continuing to the plug 50 of the terminal block 47, from thence the circuit is continued by means of wire 35 to the switch contact 29. 51 represents a wire leading from the opposite pole of the source of supply through the fuse block to the plug 52 of the terminal block 47. 53 represents a wire leading from the plug 52 to the speed regulator 48. 54 represents a wire leading from the speed regulator box 48 to a plug 55 of the terminal block 47. 56 represents a wire leading from the plug 55 to the motor field windings 44. 57 represents a wire leading from the motor field to the plug 58, and 36 represents a wire leading from said plug 58 to the contact 31 of the treadle switch 19. 41 represents a wire leading from the contact finger 38 to the plug 59 of the terminal block 47, and 60 represents a wire leading from the plug 59 to one pole of the armature. 42 represents a wire leading from the contact finger 39 to the plug 61 of the terminal block 47. 62 represents a wire leading from the plug 61 to the opposite pole of the armature 46. 63 represents a wire leading from the plug 52 to the shunt windings 45, and 64 represents a wire leading from the plug 50 to the shunt windings 45.

Assume that the contact fingers 38, 39, are thrown into contact with the contacts 28, 29, the circuit for driving the armature shaft in one direction will be as follows:—from the source of supply through wire 51, contact plug 52, through wire 53, and the windings of the speed regulator 48, thence through wire 54, plug 55, wire 56, through the motor field windings 44, and thence through wire 57, plug 58, wire 36 to the contact 31 of the controlling switch, thence through the diagonal wire 33 to contact 28, contact finger 38, wire 41, plug 59, wire 60, thence through the armature 45, wire 62, plug 61, wire 42, contact fingers 39, contact 29, and thence through wire 35, plug 50, and the wire 49 to the opposite pole of the source of supply.

This drives the motor in the direction, say towards the right, the reverse direction is accomplished by throwing the contact fingers 38, 39, into engagement with contacts 30, 31, when a reversal of polarity is brought about to the armature. The electric circuit when the switch is in this position is as follows:—from one pole of the source of supply, through wire 51, plug 52, wire 53, thence through the speed regulator 48, wire 54, plug 55, wire 56, through the field windings 44, wire 57, plug 58, wire 36, contact 31, contact fingers 39, wire 42, plug 61, wire 62, armature 45, wire 60, plug 59, wire 41, contact fingers 38, contact 30, thence through the diagonal wire 34, contact 29 of the controlling switch, through wire 35, plug 50, and wire 49 to the opposite pole of the source of supply.

Thus by this simple mechanism the operator with his foot is in complete control of the operation of the motor, as well as the operation of the machine.

Having described my invention, I claim:—

1. A treadle for controlling a motor operated machine, consisting of a two-part boxing pivotally connected and held in a given normal position, switch mechanism having contacts on said two members within the box adapted to be alternately made and broken by rocking one of the members, and electric connections between said contacts, motor, armature, and the source of supply, whereby the polarity of the armature is reversed when said member is rocked, substantially as described.

2. A treadle for controlling a motor operated machine, adapted to be actuated for operating the machine, and having a foot piece formed of two parts pivotally connected, tension means holding said parts normally in a given position, contacts supported by said parts, and electric connections between said contacts, motor, armature, and the source of supply, whereby the polarity of the armature may be reversed when one of the parts is rocked, substantially as described.

3. A treadle for controlling a motor operated machine adapted to be actuated for operating the machine, a foot piece formed of two members pivotally connected and forming a housing for switch mechanism, tension means holding said parts normally in a given position, four contacts in the first member, two on each side of the pivot, the diagonally opposing contacts being electrically connected, the second member having two contacts extended on opposite sides of the pivot in position to alternately engage two of the contacts of the first member, the said contacts of the second member being appropriately electrically connected to the armature of a motor, substantially as described.

4. In a motor operated machine having working elements, a treadle for mechanically controlling said elements, connecting mechanism between said treadle and said working elements, said treadle comprising a relatively stationary member, a relatively movable member pivotally connected to said stationary member, fixed electrical contacts formed in one of said members, movable contacts formed in the other member, electric connections between said fixed contacts and movable contacts arranged to rotate the armature of the motor in one direction when the movable contacts are brought to one electric circuit closing position, and reverse the rotation of the armature when the movable contacts are brought in a second electric circuit closing position, substantially as described.
5. A treadle for mechanically controlling the working elements of a motor operated machine, comprising a relatively stationary member, a relatively movable member, pivotally connected to said stationary member, fixed electrical contacts formed in one of said members, movable contacts formed in the other member, electric connections between said fixed contacts and movable contacts arranged to rotate the armature of the motor in one direction when the movable contacts are brought to one electric circuit closing position, and reverse the rotation of the armature when the movable contacts are brought in a second electric circuit closing position, and means in connection with said treadle adapted to be actuated independent of the motor control actuation to mechanically control the working elements of the machine, substantially as described.
6. In a motor operated machine having working elements, a treadle for mechanically controlling said elements, mechanism connecting said treadle to said elements, said

treadle comprising two members pivotally united, a series of electrical contacts formed on each of said members, and electric connections between said contacts, source of supply, motor field, and armature, arranged to rotate the armature in one direction when the contacts of the members are brought to one electric circuit closing position, and reverse the rotation of the armature when the contacts of the members are brought to a second electric circuit closing position, substantially as described.

7. In a motor operated machine, working elements, a treadle for mechanically controlling said elements, mechanism connecting said treadle to said elements, said treadle consisting of two pivoted members having opposing contacts in electric connection with the motor armature and electric supply, said contacts making and breaking contacts alternately as the pivoted member is rocked for reversing the direction of current through the armature, substantially as described.

8. In a motor driven machine, employing working members, a lever for mechanically manipulating said members, a device for manually operating said lever consisting of a movable and stationary part, and electric connections in said parts adapted to make and break circuit for reversing said working members, whereby the device is mechanically controlled by depressing said member and electrically energized in reverse directions by manipulating the said movable piece carried by the lever, substantially as described.

In testimony whereof, I have hereunto set my hand.

ALBRET B. MANN.

Witnesses:

OLIVER B. KAISER,
LEO O'DONNELL.