May 18, 1937. A. F. YOERG 2,080,682

ELECTRIC OSCILLATING LAUNDRY IRON

Filed Sept. 18, 1935

Fig. 1.

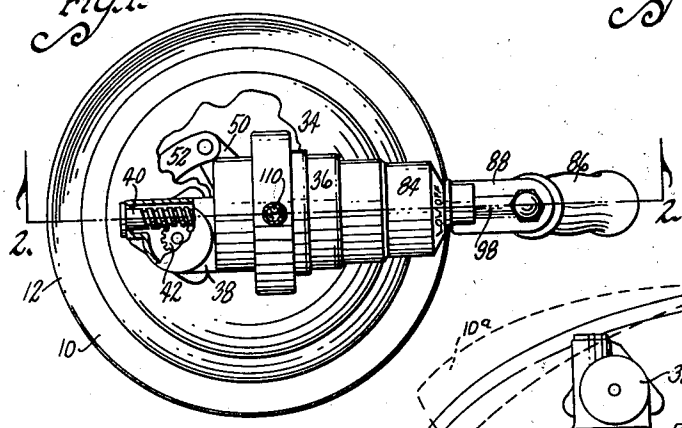


Fig. 4.

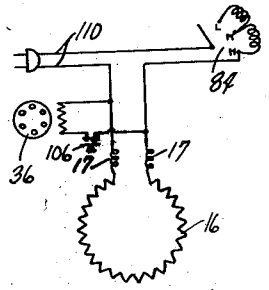


Fig. 5.

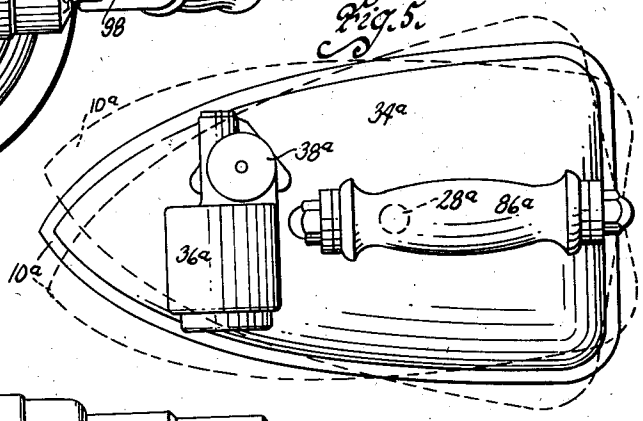
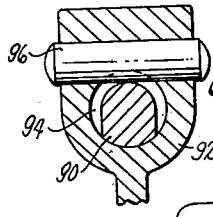


Fig. 3.



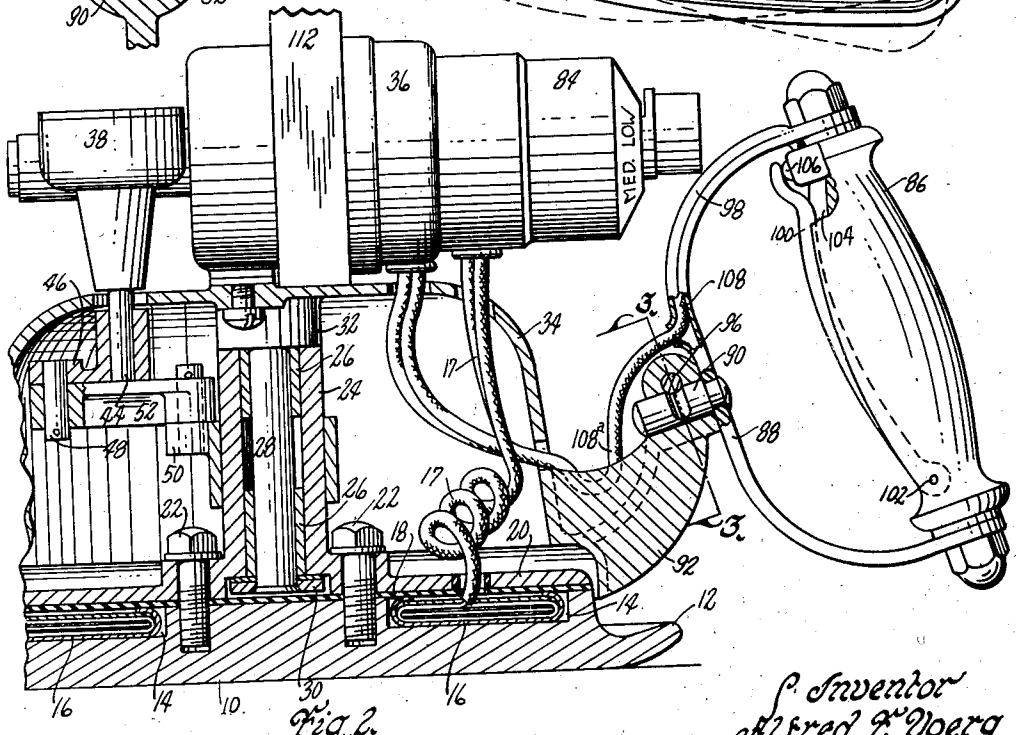


Fig. 2.

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ELECTRIC OSCILLATING LAUNDRY IRON

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Application September 18, 1935, Serial No. 41,083

17 Claims. (Cl. 38—74)

An object of my invention is to provide an oscillating iron for laundering, pressing and the like, which is simple, durable and comparatively inexpensive to manufacture.

A further object is to provide a tool having a heated sole plate which oscillates relative to the major portion of the tool for the purpose of traveling over a much greater area of material being ironed or otherwise finished during normal movement of the tool across the material, thus reducing the amount of manual movement required in proportion to the actual passage of the sole plate over the material.

Still a further object is to provide a laundry iron or the like having a sole plate to which rotary oscillatory movement is imparted, the sole plate being mounted for such movement on an axis perpendicular to the pressing surface of the sole plate.

Still a further object is to provide a compact iron comprising a casing having a manipulating handle, oscillatable sole plate mounted on and enclosing the bottom thereof and an electric motor carried by the casing and connected with the sole plate which is oscillated thereby during the operation of the iron.

Still another object is to provide a switch in the handle of the iron connected with the motor so that the motor operates only when the handle is gripped during the operation of the iron.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawing, in which:

Figure 1 is a plan view of an oscillating laundry iron embodying my invention.

Figure 2 is an enlarged sectional view on the line 2—2 of Figure 1 to show internal details of construction.

Figure 3 is a detail sectional view on the line 3—3 of Figure 2 to show a means for connecting the handle of the iron to the casing and permit only limited swiveling of the handle.

Figure 4 is an electro-diagrammatic view of the motor and heating element of my invention; and

Figure 5 is a plan view of a modified form of construction showing an oscillating iron of the shape of the usual domestic electric iron instead of one having a circular outline as shown in Figure 1.

On the accompanying drawing I have used the reference numeral 10 to indicate a sole plate. It is circular in shape, being preferably upturned at its periphery as indicated at 12. An annular groove 14 is formed in the sole plate 10 within which I locate an electric heating element 16.

The heating element 16 is retained in position by a sheet of insulation 18 and a cover plate 20. Cap screws 22 are provided for retaining the cover plate 20 in position and clamping the sheet of insulation 18 between the cover plate and the sole plate.

The plate 20 has a tubular extension 24 in which is located a pair of graphite bearings 26. These rotate on a stationary shaft 28 having a head 30 and mounted as by screw threading or the like in a hub 32 of a casing 34. Thus the sole plate 10 is oscillatably mounted relative to the casing 34.

Mounted on the casing 34 is a motor 36. A gear casing 38 is connected with the motor 36 within which gear casing the shaft of the motor has a worm 40 which meshes with a worm gear 42 (see Figure 1). The worm gear 42 drives a crank shaft 44 journalled in the casing 38.

Within the casing 34 a crank 46 is secured to the lower end of the crank shaft 44 and is provided with a crank pin 48. An arm 50 is secured to the sleeve 24 and its outer end is connected by a link 52 to the crank pin 48.

From the construction of the parts just described, it will be obvious that rotation of the crank 46 will impart oscillation to the arm 50 and consequently to the sole plate 10.

For controlling the heating element 16 I provide a rheostat switch 84 which is preferably of the snap acting type and operable to energize the heating element 16 for low, medium or high heat as desired. Within the casing 34 the circuit for the heating element 16 includes a pair of flexible leads 17 which permit oscillation of the sole plate. The switch 84 is consequently located adjacent a manipulating handle 86 which is mounted on the casing 34 by means of a yoke 88, a swivel stud 90 and a bracket 92. The stud 90 has a semi-annular groove 94 (see Figure 3), a retainer pin 96 extends through the bracket 92 for retaining the stud 90 in position yet permitting swiveling movement thereof, this movement being limited to approximately a half revolution due to the fact that the groove 90 is not completely annular.

The yoke 88 is provided with a wire carrying channel 98 and the handle 86 is provided with a trigger portion 100. The trigger is pivoted at 102 and is adapted when the handle is grasped to counter-sink into a channel 104 of the handle and in so doing to close the circuit through a

push button 106. When the handle 86 is released the push button moves back to the open circuit position, moving the trigger 100 with it. The push button 106 is connected in the circuit of the motor 36, thus providing an automatic control which de-energizes the motor whenever the operator stops using the iron by letting go of the handle. Flexible leads 108 extend from the switch 106 to the casing 34, these leads being looped as indicated at 108a to permit swiveling of the handle 86.

The current supply wires for the motor and heating element are indicated at 110. These may extend to a yoke 112 secured to the casing 34.

In Figure 4 I show a wiring diagram illustrating that the heating element and motor are independently controlled by their respective switches. The switch for the heating element is of the rheostat or some other type for obtaining different degrees of heat as desired.

In Figure 5 I show a modified construction in which the sole plate 10a and the casing 34a are in the shape of the usual household iron.

As shown by dotted lines the sole plate oscillates about the axis shown at 28a and the handle 86a is mounted in the usual position of domestic irons. The motor 36a and gear casing 38a are mounted ahead of the handle 86a. The internal construction and operation of the modified construction is substantially similar to that described in connection with Figure 2.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. In an oscillating iron of the character described, a manipulating handle member, a sole plate oscillatably mounted relative thereto, means for heating said sole plate and means for oscillating said sole plate including a motor operatively connected therewith, said last means including a crank pin and link connection between said motor and said sole plate.

2. In a tool of the character described, a body member, a sole plate thereon, a handle connected with said body member for moving said body member and thereby said sole plate across material to be finished, means carried by said body member to oscillate said sole plate and means carried by said sole plate to supply heat thereto.

3. In a tool of the character described, a body member, a sole plate thereon, means for moving said body member and thereby said sole plate across material to be finished, means carried by said body member and operatively connected with said sole plate to oscillate said sole plate relative to said body member and means for heating said sole plate during the oscillation thereof.

4. In an oscillating iron of the character described, a casing, a sole plate oscillatably mounted relative thereto, means for heating said sole plate, means for oscillating said sole plate and a handle mounted on said casing for manipulating said iron, said means for oscillating said sole plate comprising a motor mounted on said casing, worm gearing connected therewith and a crank pin and link connection within said casing connecting said worm gearing with said sole plate.

5. In an oscillated iron of the character described, a casing, a sole plate mounted for rotary oscillatory movement relative thereto, means for heating said sole plate, means for rotatably oscillating said sole plate and a handle mounted on said casing for manipulating said iron.

6. In an oscillating iron of the character described, a casing, a sole plate oscillatably mounted relative thereto, means for heating said sole plate and means for oscillating said sole plate comprising a motor mounted on said casing, worm gearing connected therewith and a crank pin and link connection within said casing connecting said worm gearing with said sole plate.

7. In an oscillating iron of the character described, a casing having a manipulating handle member, a sole plate oscillatably mounted relative thereto, means for heating said sole plate and means carried by said casing for oscillating said sole plate.

8. In a laundry iron, a casing, a sole plate oscillatably mounted on the bottom thereof, and a motor mounted on said casing and operatively connected with said sole plate to oscillate the same relative to the casing.

9. In a laundry iron, a casing, a sole plate oscillatably mounted on the bottom thereof, a heating element carried by said sole plate and a motor mounted on said casing and operatively connected with said sole plate to oscillate the same relative to the casing.

10. In a device of the class described, an inverted dished casing, a sole plate for closing the bottom thereof, means depending from the top of said casing to oscillatably mount said sole plate, heating means within said casing for said sole plate and a motor for imparting oscillations to said sole plate.

11. In a device of the class described, an inverted dished casing, a sole plate for closing the bottom thereof, means depending from the top of said casing to oscillatably mount said sole plate, heating means within said casing for said sole plate, crank pin and link means within said casing for oscillating said sole plate and a motor mounted on said casing and operatively connected with said means.

12. In a tool of the character described, a body member, a sole plate mounted thereon for rotary oscillatory movement on an axis perpendicular to the pressing surface of the sole plate, a handle connected with said body member for moving said body member and thereby said sole plate across material to be finished, means carried by said body member to rotatably oscillate said sole plate and means carried by said sole plate to supply heat thereto.

13. In an iron of the character described, a casing, a sole plate mounted thereon for rotary oscillatory movement relative thereto on an axis perpendicular to the pressing surface of the sole plate, means for heating said sole plate and means for imparting such movement thereto comprising a motor mounted on said casing, a worm gearing connected therewith and a crank pin and link connection within said casing connecting said worm gearing with said sole plate.

14. In a laundry iron, a casing, a sole plate mounted on the bottom thereof for rotary oscillatory movement relative thereto on an axis at substantially right angles to the pressing

surface of the sole plate and a motor mounted on said casing and operatively connected with said sole plate to impart such rotary oscillatory movement thereto.

15. In a laundry iron, a casing, a sole plate mounted on the bottom thereof for rotary oscillatory movement on an axis at substantially right angles to the bottom surface of the sole plate, a heating element carried by said sole plate and a motor mounted on said casing and operatively connected with said sole plate to impart rotary oscillatory movement to the sole plate relative to the casing.

16. In a device of the class described, an inverted dished casing, a sole plate for closing the bottom thereof, means depending from the top of said casing for mounting said sole plate for rotary oscillatory movement on an axis perpendicular to the pressing surface of the sole plate, heating means within said casing for said sole plate and a motor for imparting movement to the sole plate.

17. In a device of the class described, an inverted dished casing, a sole plate closing the bottom thereof, means depending from the top of said casing to mount said sole plate for rotary oscillatory movement relative to the casing, heating means within said casing for said sole plate, crank pin and link means within said casing for imparting to the sole plate such rotary oscillatory movement and a motor mounted on said casing and operatively connected with said means.

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