Nov. 10, 1925. 1,560,989

M. HEDGLON

PORTABLE IRONING MACHINE

Filed Sept. 25, 1924 2 Sheets-Sheet 1

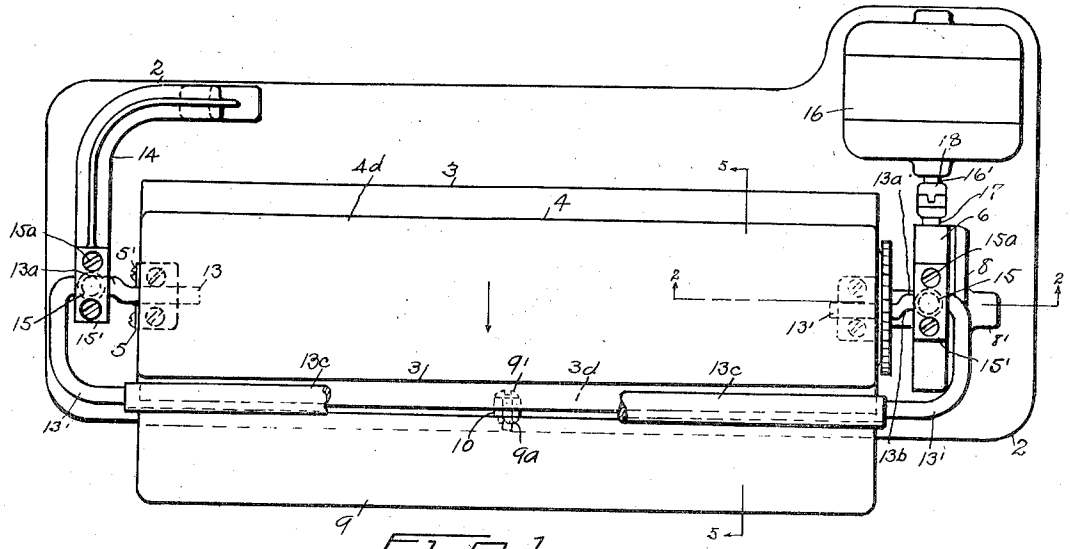


FIG. 1.

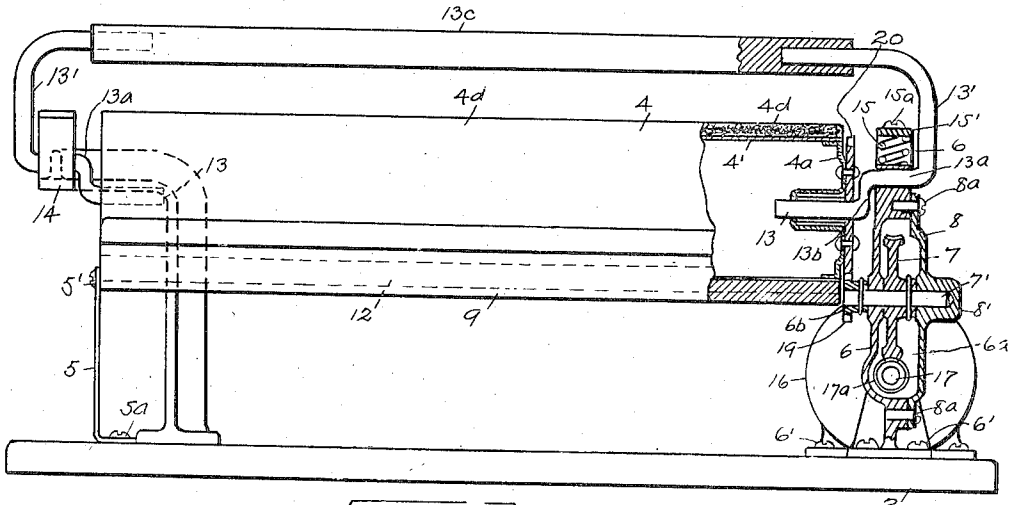


FIG. 2.

INVENTOR
Mead Hedglon
BY Harry D. Wallace
ATTORNEY

Nov. 10, 1925. **1,560,989**

M. HEDGLON

PORTABLE IRONING MACHINE

Filed Sept. 25, 1924 2 Sheets-Sheet 2

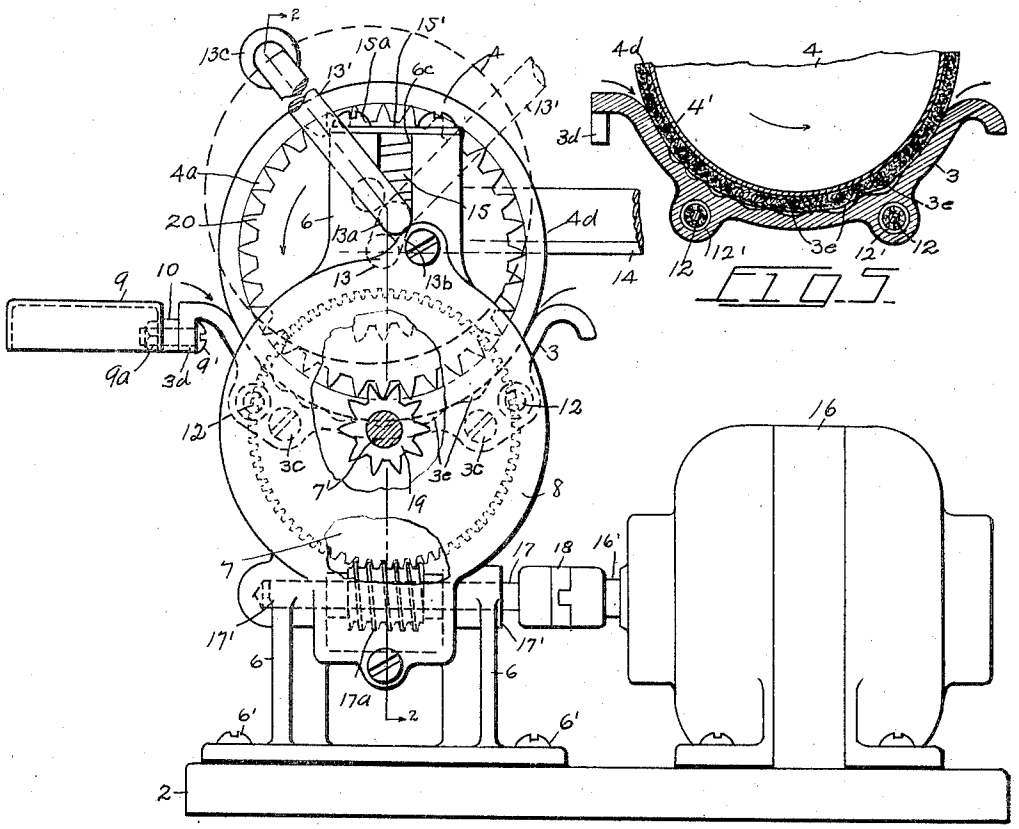


FIG 1

FIG 5

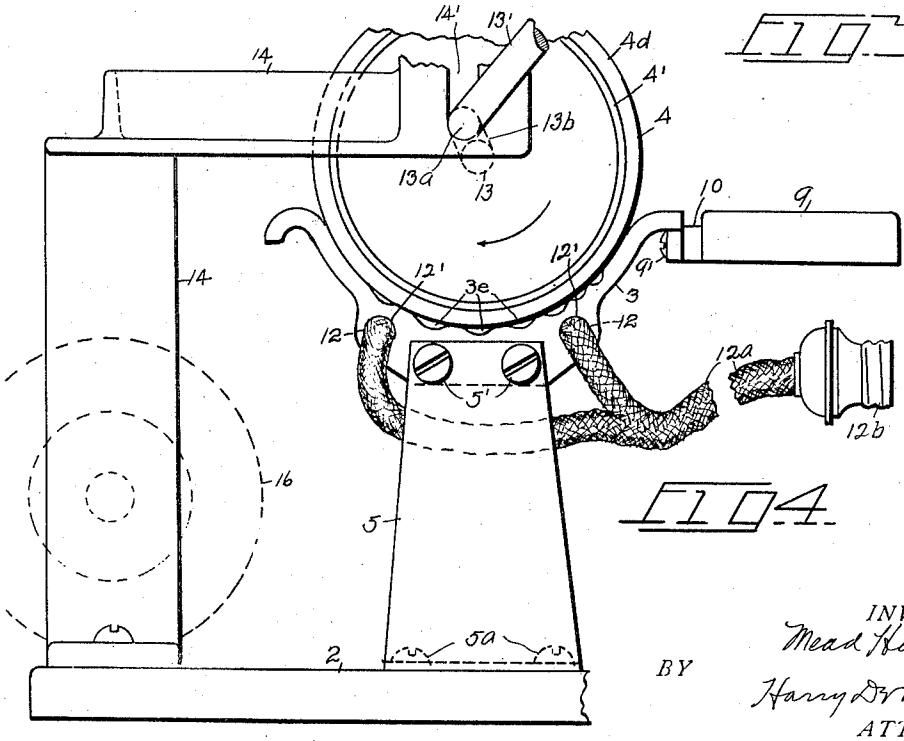


FIG 4

INVENTOR.
Mead Hedglon.
BY
Harry D. Wallace
ATTORNEY

Patented Nov. 10, 1925. 1,560,989

UNITED STATES PATENT OFFICE.

MEAD HEDGLON, OF SYRACUSE, NEW YORK.

PORTABLE IRONING MACHINE.

Application filed September 25, 1924. Serial No. 739,936.

To all whom it may concern:

Be it known that I, MEAD HEDGLON, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Portable Ironing Machines, of which the following is a specification.

This invention relates to improvements in ironing machines, and has for its object to provide a novel, simple and light machine of the class, which is readily portable and is suitable for domestic use, the machine preferably being driven by electricity, and being heated by the same medium. A further object is to provide a trough-like shoe, in which a padded roll rotates and produces the adhesive friction necessary to effect the ironing and smoothing of the articles, as they move over a heated surface of the shoe, the said shoe being heated throughout and having longitudinal flutes or grooves of varying breadth and depth, which tend to stretch the shrunken cloth, and also increases the heating surface of the shoe over which the clothes are carried; the said flutes also serve for ventilating the relatively large area of the ironing surface of the shoe, by allowing the hot moist vapor from the damp fabrics to escape at the ends of the flutes, instead of being absorbed by and saturating the padded covering of the press-roll, as heretofore. A further object is to provide a press-roll which is supported by eccentric members and may be moved bodily towards and away from the shoe for applying and adjusting the clothes. And a further object is to generally improve and simplify the construction and to render more perfect the operation of portable power driven ironing machines.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawings, in which—

Figure 1 is a top-plan view of the complete machine. Fig. 2 is a front side elevation and partial central vertical section, the section being taken on line 2 of Fig. 1. Fig. 3 is an enlarged front end elevation, with portions broken away for showing different parts of the driving mechanism. Fig. 4 is a rear-end elevation; showing the electrical heating parts. And Fig. 5 is a broken transverse section, taken on line 5—5 of Fig. 1.

In the drawings, 2 represents a common base, preferably wood, upon which the ironing and driving mechanisms are mounted and rendered portable as one part. The ironing parts comprise mainly an elongated trough-like shoe or bed 3, and a press-roll or cylinder 4 which is rotatable in the trough, the said parts being concentric when in the ironing position, as shown in Figs. 3, 4 and 5. The shoe 3 is supported at its opposite ends by brackets 5 and 6, the bracket 5 connecting directly to the rear-end of the shoe by screws 5′, and to the base by screws 5^a. The bracket 6 rises from the base to which it is secured by screws 6′, substantially to the top of the cylinder 4, and its outer face is formed with a relatively large circular cavity 6^a, in which is disposed a worm-gear 7, the latter being rigid on a shaft 7′, whose inner end journals in the bracket 6 at 6^b, while its outer end journals in a socket-bearing 8′ of a substantially circular housing 8, which closes the said cavity and is secured to the bracket by screws 8^a. At the opposite sides of the bearing 6^b, the bracket 6 is perforated to receive screws 3^c, which are threaded into the front end of the shoe 3, as shown by dotted circles in Fig. 3.

The lateral margins of the shoe are correspondingly curved, to facilitate the feeding and the discharging of the articles that are being ironed, and at the front side of the machine, the shoe is formed with a longitudinal depending slotted flange 3^d, which serves to support a work-table 9, the latter usually being made of wood and extending the length of the shoe, and which is held in place by bolts 9′ and nuts 9^a. As the shoes 3 are usually heated to a relatively high degree, they communicate more or less heat to the tables, which tends to warp, crack, or burn the tables. To obviate this trouble, spacing blocks 10, preferably consisting of asbestos, or similar non-conductors of heat, are inserted and clamped between the table and the flange 3^d, as shown in Figs. 1, 3 and 4. The arrows in Fig. 3 show the course of the articles during the ironing operations. The shoe 3 is preferably heated electrically by elongated cartridge-like elements 12, which are inserted at the rear end of the machine, into spaced parallel openings 12′ (see Figs. 3, 4 and 5), the terminals of said elements being joined in a single flexible cord 12^a, to which an ordinary plug, as 12^b, may be attached, for insertion into any

electric socket in common use. These heating elements are well-known and need not be described in detail herein.

The press-roll 4 comprises an elongated hollow cylinder 4′, preferably made of sheet metal normally open throughout, whose opposite ends are closed by similar pressed or cast metal discs 4^a, which may be soldered or otherwise permanently held in place. The central portions of the discs 4^a are preferably drawn inwardly for providing alining axial bearings for horizontal gudgeons 13, upon which the roll freely rotates. These gudgeons are integral portions of a pair of similar eccentric members 13′, by which the roll may be rocked vertically towards and away from the shoe 3, as shown in Fig. 3, the members 13′ being formed substantially U-shaped, and the corresponding ends of the members being formed into crank-like portions comprising the gudgeons 13 and horizontal portions 13^a, which are connected by vertical portions 13^b. According to the present showing, the part 13^a, at the front end of the machine is journaled in the bottom of a vertical slot 6^c of the bracket 6 (see Figs. 2 and 3), and the part 13^a at the rear end is journaled in a similar slot 14′ of an L-shaped bracket 14 (see Figs. 1, 2 and 4). From the bearings 6^c and 14′, both members 13′ extend upwardly above the roll 4, and thence longitudinally towards each other in the same plane and their facing ends are embedded in the ends of a wooden or other suitable handle, as 13^c (see Fig. 2), by which the eccentric actions which raise and lower the press-roll are effected, as shown by the full and dotted lines in Fig. 3. The roll 4 is resiliently held in the operative position (see full lines in Figs. 2, 3, 4 and 5), by tension springs 15, which are disposed in the slots 6^c—14′, the said springs being held in place and depressed against the tops of the parts 13^a, by caps 15′ and screws 15^c. These springs are preferably of such strength as to effect the required pressure of the roll 4 upon the articles supported by the shoe, and yet yield readily to ordinary exertion when the operator swings the roll away from the shoe, for applying or adjusting the articles to be ironed. The roll 4 is preferably entirely covered by a relatively thick layer of cushion material 4^d, as felt, which is made fast to the drum 4′, and affords the requisite adhesive friction to move the articles over the concave surface of the shoe, which effects the smoothing and ironing. In a majority of the older power ironing machines, it has been the practice to form the concave upper surface of the shoes plain and smooth, and without any means of draining or ventilating the said surfaces. By reason of this construction and arrangement of the parts, the greater portion of the hot moist vapor resulting from the heating and pressing of the damp articles, has been absorbed by the thick padding of the press-rolls, and when the ironing is continued for long intervals, the padding becomes saturated to such extent that the fabrics, instead of being thoroughly dried and smoothed by the ironing operation are discharged from the machines in a damp and limp condition, that renders the articles unfit for wear or other use. In the present case, the ironing surface of the shoe 3 is formed with parallel longitudinal gutters or flutes, as 3^e, which preferably extend the full length of the shoe, and preferably increase in breadth and depth in the direction of the travel of the articles during the ironing, as best seen in Figs. 4 and 5. These grooves or gutters are preferably undulations, without any sharp or abrupt margins, that might tear or distort the fabric, and they are so constructed that the pressure exerted upon the roll 4, owing to the compressible or spongy nature of the padding 4^d, forces the web of the pliant article downwardly into the gutters 3^e, as shown in Fig. 5. This tends to stretch and smooth out the shrunken and wrinkled fabric, without unduly straining the web, and restores the goods to their original or natural condition, as before they were wetted and washed. This pressing of the fabric into the gutters 3^e, materially increases the area of the heating surface, without requiring increase of the size of the shoe and press-roll, and greatly facilitates and improves the ironing work. The flutes 3^e also serve to effectively ventilate and drain the relatively long and broad ironing surface of the shoe, and being open at their opposite ends, afford ready means of escape for the hot moist vapor given off by the damp articles, which tends to keep the padding 4^d in a relatively dry state during long ironing periods.

My machine is preferably driven by an electric motor, as 16, whose armature shaft 16′, connects with an alining shaft 17, by a clutch or coupling 18. The shaft 17 rotates in bearings 17′, which may be integral parts of the bracket 6, and preferably passes horizontally through the cavity 6^a, and supports and drives a worm 17^a, which meshes with and operates the worm-gear 7. The gear 7, as explained, is mounted on the shaft 7′, which also supports and drives a pinion 19, the latter meshing with and driving a spur-gear 20, which is rigidly secured to the adjacent disc-head 4^a of the press-roll 4. The pinion 19 is preferably provided with sharp star-teeth, which facilitates the ready meshing and unmeshing of the gears 19—20, when the roll 4 is lowered and raised, as shown in Fig. 3.

My portable ironing machines for household use are only 30 to 36 inches in length,

and may be readily handled by grown members of a family. The machines may be laid flat upon a table or other support, or they may be supported at their opposite ends like the common ironing-boards. When skirts, shirts, or other tubular articles are to be ironed, the operator should first swing the roll 4 upwardly away from the shoe, then insert the rear-end of the machine into the garment. The opposite ends of the machine should be placed upon suitable supports and the press-roll lowered for starting the ironing, which may thereafter proceed as in the case of ordinary articles, as explained.

The maintaining of the padding 4^d in its natural dry and cushion state, devoid of excessive moisture and the resultant sogginess, when taken in connection with the undulating path over which the articles are moved during the ironing operations, as explained, enables me to effect the ironing work more rapidly and more perfectly, than by any other method and apparatus known to me.

Having thus described my invention, what I claim, is—

The combination with a frame, and a padded press roll operatively mounted in said frame, of a longitudinally fluted concave heated shoe supported by said frame below said roll, the flutes of said shoe increasing in breadth and depth in the direction of travel of the articles while the latter are being ironed, the weight of the roll tending to press the padding and the articles deeper into the said flutes as they are moved over the shoe, and means for heating the shoe throughout.

In testimony whereof I affix my signature.

MEAD HEDGLON.