

Nov. 14, 1944.

A. T. SMITH

2,362,590

FLATIRON

Filed Dec. 13, 1939

Fig. 1.

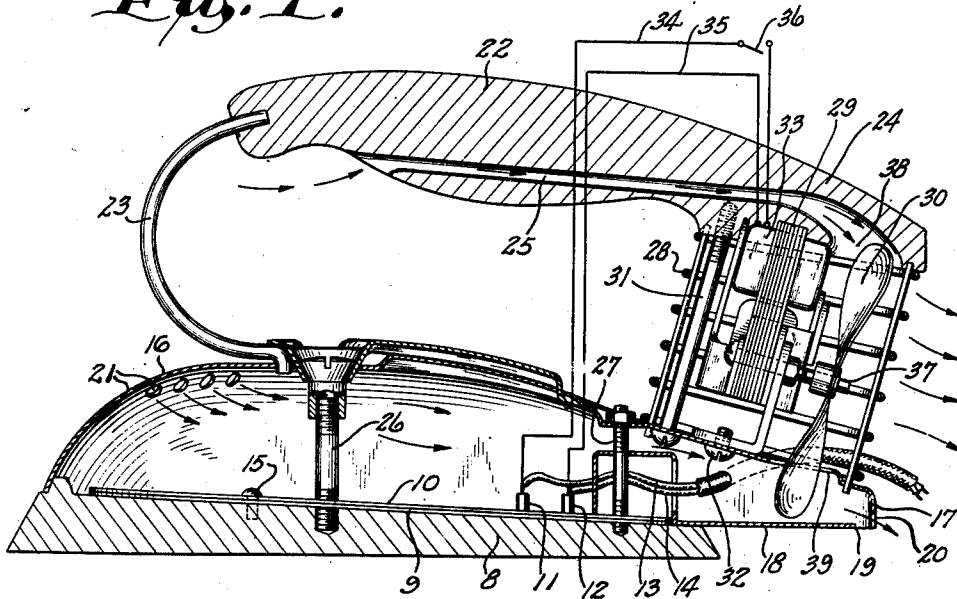


Fig. 2.

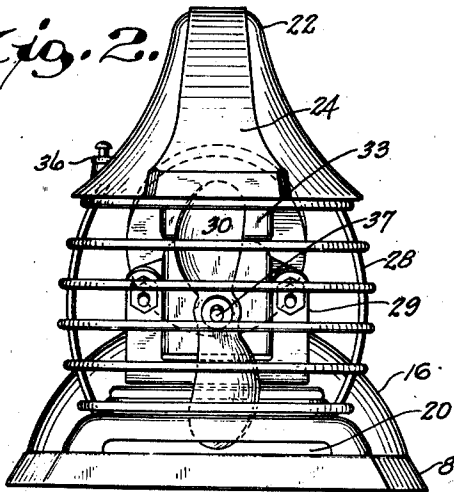


Fig. 3.

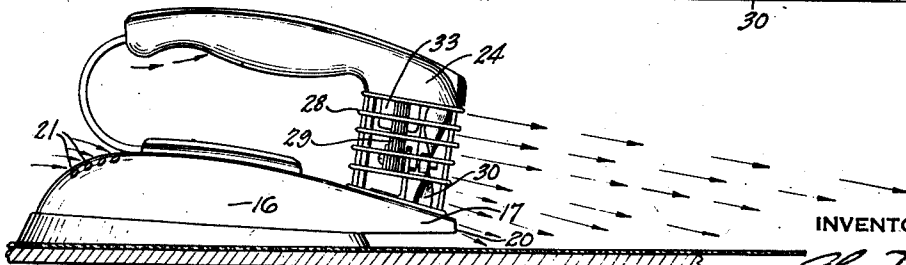
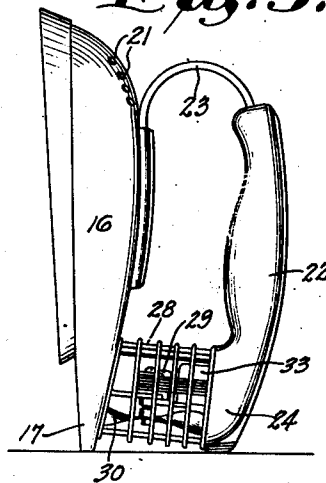


Fig. 4.

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2,362,590

FLATIRON

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Application December 13, 1939, Serial No. 308,891

2 Claims. (Cl. 38—89)

This invention relates to improvements in flatirons.

In the use of flatirons, such as those of the electrically heated type, it is customary to press many fabrics while the latter are in a damp condition, and it is further necessary to go over each portion of the material a number of times to attempt to dry out the moisture therein. Even with this method of procedure, most materials are still damp when the ironing has been completed and must be carefully laid out to dry. If garments which have been pressed are worn immediately thereafter, the dampness therein causes them to quickly lose their newly pressed condition.

A further objectionable feature of the present-day iron resides in the fact that the wasted heat of convection rises above the iron to overheat the handle and also rises into the vicinity of the operator's head causing said operator discomfort, particularly in warm weather.

It is one of the objects of the present invention to utilize this wasted heat of convection for the purpose of evaporating moisture from those portions of the fabric over which the iron has passed, to materially reduce the number of necessary ironing strokes, and to cause the material to be in a substantially dry condition when the ironing is completed.

A further object of the invention is to utilize the wasted heat of convection for the above purposes and at the same time prevent said heat from rising in the usual manner to cause discomfort to the operator.

A further object of the invention is to provide a construction as above described which will materially reduce the amount of time necessary to iron a particular garment.

A more specific object of the invention is to provide an iron having a motor driven fan associated therewith, the iron being specially constructed to accommodate said motor and fan in a position where the fan is effective for the purpose specified and where there is no interference with the handling of the iron.

A further object of the invention is to provide an iron of the class described having a motor driven fan wherein said motor is of such type and so mounted that the field coil thereof is removed from the zone of maximum heat.

A further object of the invention is to provide a construction which is applicable to pressing irons of various types regardless of the method of creating heat, and which is also applicable to steam discharging irons.

With the above and other objects in view, the invention consists of the improved flatiron and all its parts and combinations as set forth in the claims and all equivalents thereof.

In the accompanying drawing, illustrating one complete embodiment of the preferred form of the invention, in which the same reference numerals designate the same parts in all of the views:

Fig. 1 is a longitudinal vertical sectional view through the iron, the motor and fan being shown in full;

Fig. 2 is a rear view of the improved iron;

Fig. 3 is a side view of the iron showing it resting on its heel; and

Fig. 4 is a side elevational view of the iron in its normal position of use, the ironing board and fabric being shown in longitudinal section.

Referring more particularly to the drawing the numeral 8 designates a base or sole plate of usual construction, the numeral 9 an electrical heating element, and the numeral 10 the usual pressure plate. The heating element may be of the standard flat form having terminals 11 and 12 for connection by wires 13 and 14 with source of current. One or more bolts 15 may be used to hold the heating element and pressure plate on the sole plate.

A hollow shell 16 of stamped metal is positioned on top of the sole plate in the usual manner forming an enclosure for the heating element. The shell 16 is formed with a hollow extension portion 17 which projects rearwardly beyond the rear edge of the sole plate forming a cooperating part with the rear of the handle whereby the iron may be stood on its heel in the manner shown in Fig. 3. The bottom of the extension 17 is closed by a bottom plate 18 which projects beyond the rear of the sole plate but which terminates short of the rear edge 17 as at 19. The rear of the extension 17 is cut out as at 20 whereby there is an air discharge space at 20 as indicated by the arrow in Fig. 1.

The front of the hollow casing 16 is preferably apertured as at 21 so that air entering the apertures 21 may circulate through the casing 16 and be discharged from the rear opening 20. A handle 22 has its front portion secured by a curved rod 23, or any other suitable means to the housing 16, and the rear of the handle has a portion 24 projecting rearwardly over the casing extension 17 and spaced therefrom. The handle is formed with an air duct 25 extending longitudinally there-through.

Bolts 26 and 27 secure the casing to the sole

plate in the usual manner and the bolt 27 also holds the bottom extension plate 18 in position.

Mounted between extension 17 of the casing and extension 24 of the handle is a cage 28 for an electric motor 29 and fan 30, there being bolts 31 for maintaining the parts in assembled relation. The cage 28 cooperates with the upper surface of the extension 17 and with the lower surface of the handle extension 24 to form a housing for the fan. The said lower surface of the handle extension 24 and the upper surface of the casing extension 17 provide air-directing wall portions which are positioned to aid in directing the air from the fan in a general direction longitudinally of the iron, and rearwardly for a substantial distance therefrom onto and along the surface of fabric over which the iron has passed.

The motor 29 is secured in position by bolts 32 and this motor is preferably a synchronous shaded pole type of motor having a single coil 33. It is to be noted that the single coil 33 is positioned at the upper part of the motor in a position farthest removed from the heat of the iron. The motor is electrically connected by wires 34 and 35 with the terminals 11 and 12 in the iron, and there may be a switch 36 for controlling the operation of the motor independently of the heating element.

The fan 30, which is rigidly mounted directly on the drive shaft 37 of the motor, has its upper portion movable in an enlarged part 38 of the handle recess 25, and has its lower portion projecting into an opening 39 in extension 17 as shown in Figures 1 and 2.

It is to be noted that by providing the spaced extensions 17 and 24 the motor and fan may be supported in suitable position at the rear of the iron without interfering with the handling of the iron and without having the motor unduly close to the zone of maximum heat. It is also to be noted that the extensions 24 and 17 cooperate to provide a heel rest; also the motor and fan are preferably supported at a slight incline as illustrated to direct air rearwardly and at an angle downwardly.

In the use of the device the heat of convection, which usually rises straight upwardly from the body of the iron to cause discomfort to the operator, is carried out by a forced draft through the rear discharge opening 20. Some of this heat of course will radiate from the casing 16 and the air heated from this source is also pulled rearwardly by the fan. In addition the fan keeps a current of air constantly circulating through the handle

to keep the latter cool. The heated air discharged by the fan is directed rearwardly and at an angle downwardly onto that portion of the fabric over which the iron has just passed to dry out moisture remaining therein. Thus the number of necessary ironing strokes for drying out the fabric is materially reduced and the heat of convection instead of being wasted to cause discomfort for the operator is put to a useful purpose.

If for any reason the fan is not desired for a particular piece of work, the motor may be readily shut off, independently of the heating element by use of the switch 36. Although only one form of the invention has been shown and described, it is obvious that various changes and modifications may be made, and all of such changes are contemplated as may come within the scope of the claims.

What I claim is:

1. In a flat iron having a body portion and handle, said body portion including a housing, a fan mounted on said iron at the rear thereof, a cage for said fan which has a rear opening and which has a front opening communicating with the exterior space between the iron handle and housing above said housing, said fan having blades shaped to draw heated air from the space over the iron housing and adapted to discharge air from the rear opening of the fan cage onto fabric over which the iron has passed to evaporate moisture remaining in said fabric.

2. In a flat iron having a body portion provided with a pointed front end and with a broad rear end and having a handle, said body portion including a shell, a fan mounted on said iron at the rear thereof, means located between the shell and the rear of the handle and cooperating therewith to form a housing for said fan, said means having a rear air outlet opening and including air inlet openings, the latter being open to the exterior at a location below the handle and above the body for the delivery of heated air directly from the exterior and adjacent the rear of the body, and means for rotating said fan in a direction to draw said heated air into said air inlet openings and propel the same out of the rear outlet, said fan housing having air directing wall portions leading to said rear outlet opening positioned to aid in directing the air from the fan in a general direction longitudinally of the iron and rearwardly for a substantial distance therefrom onto and along the surface of the fabric over which the iron has passed.

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