Jan. 19, 1943. R. O. STEVENSON 2,308,941

FLATIRON SUPPORTING MECHANISM

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Fig. 1.

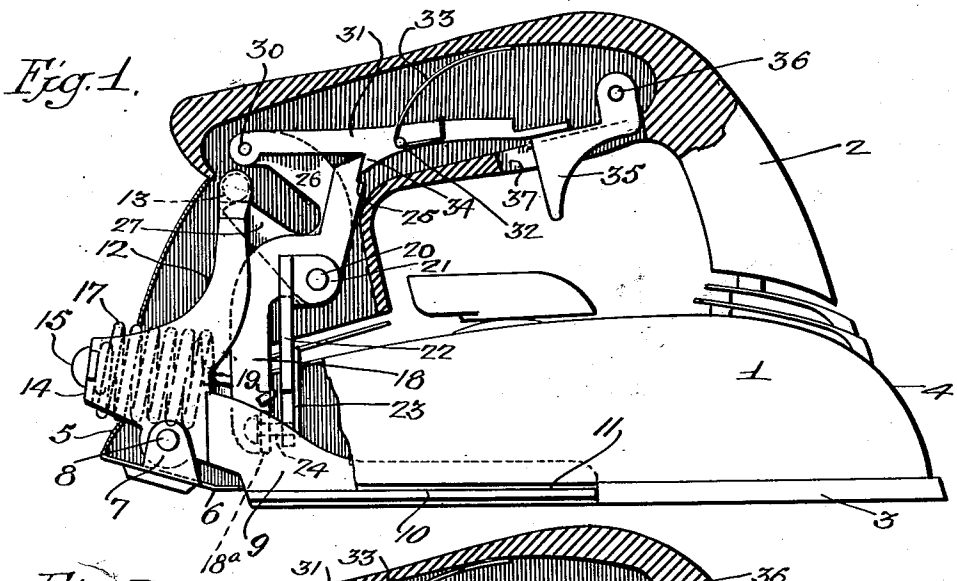


Fig. 2.

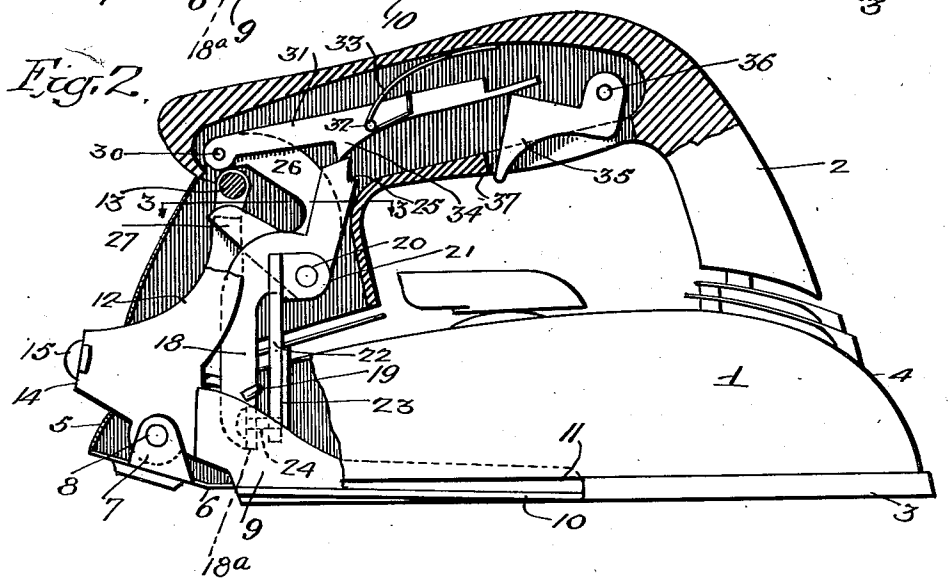
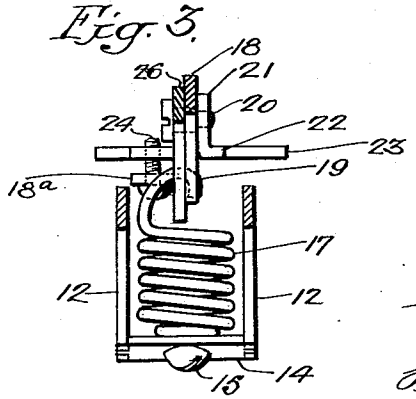


Fig. 3.



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Fig. 4.

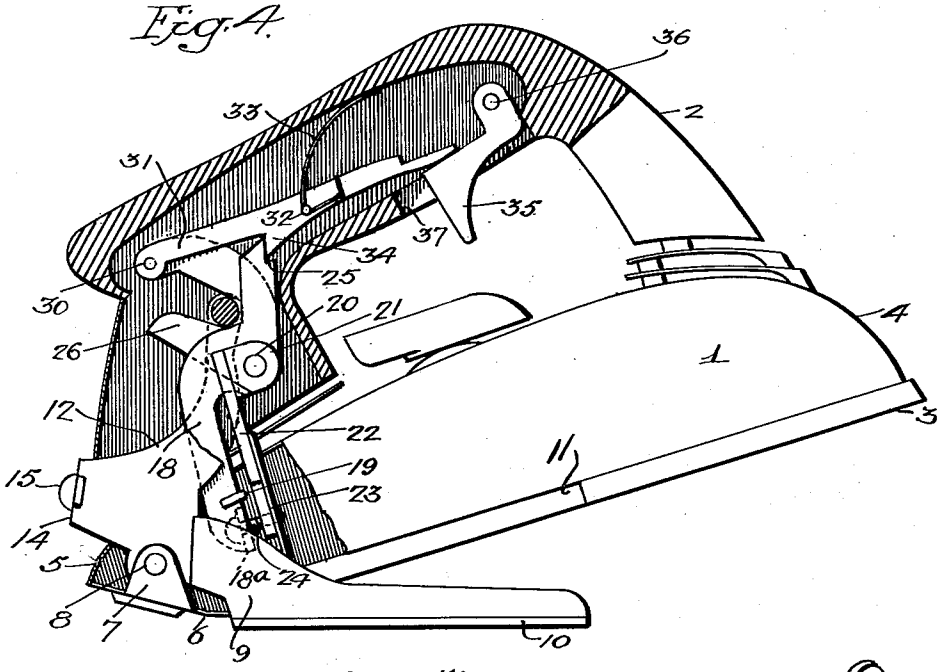
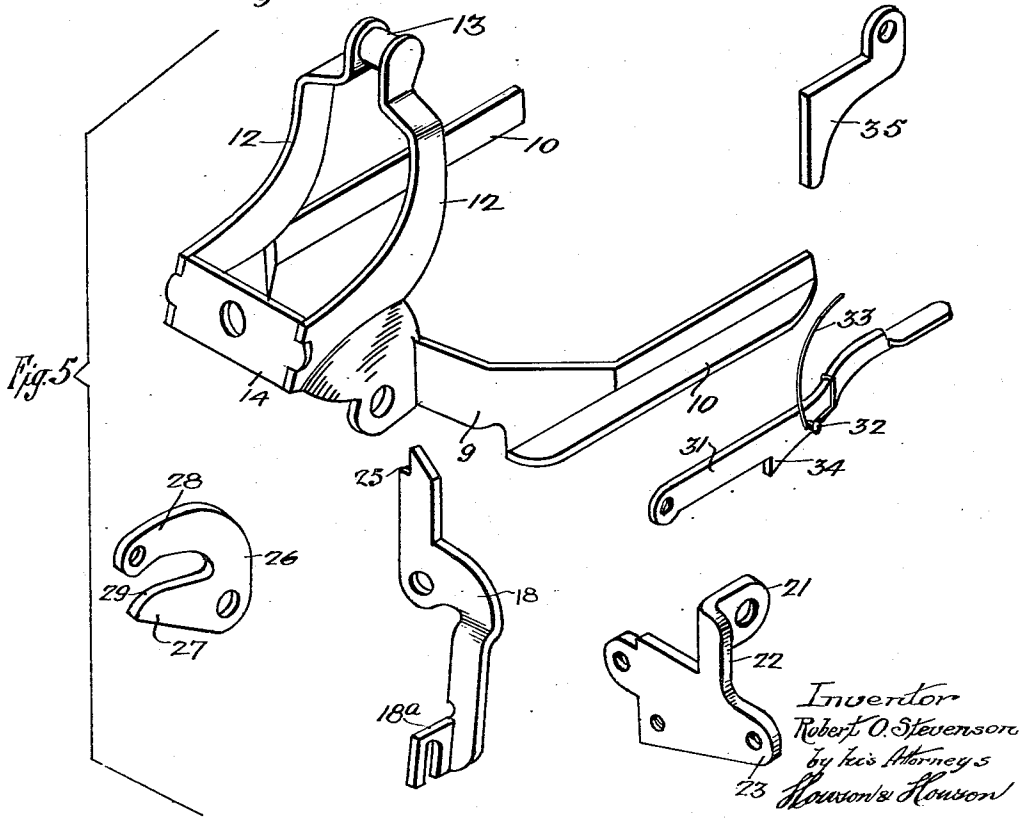


Fig. 5



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Patented Jan. 19, 1943

2,308,941

UNITED STATES PATENT OFFICE

2,308,941

FLATIRON SUPPORTING MECHANISM

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Application August 27, 1940, Serial No. 354,436

9 Claims. (Cl. 38—79)

This invention relates to devices for supporting a flat-iron away from an operating surface whenever the iron is not being used. The principal object of the invention is to provide an improved device of this character embodying certain novel features which render the device an improvement over prior devices of the same class.

A more specific object of the invention is to provide a device of this character which may be operated with a minimum amount of effort on the part of the user and which eliminates entirely any necessity for lifting the iron during use.

A further object of the invention is to provide a device of this character wherein the supporting means for the iron has an associated latching mechanism which may be tripped by a finger-operable element to cause the iron to tilt upward on its support, and when it is desired to again use the iron, the supporting means may be moved to inoperative position simply by pressing downward on the handle of the iron whereupon said latching mechanism operates automatically to latch said supporting means in said inoperative position.

Still another object of the invention is to provide a device of this character wherein the latch tripping mechanism includes a trigger element depending from the handle of the iron and operable by the user's forefinger.

These and other objects of the invention, and the various features and details of the construction and operation thereof, are hereinafter fully described and shown in the accompanying drawings, in which:

Figure 1 is a side elevation view of the flat-iron showing a substantial portion thereof in section to illustrate the mechanism provided by the invention, the parts being shown in position for use of the iron;

Figure 2 is a view similar to Figure 1 but showing the latching mechanism after the same has been tripped preliminary to causing the iron to tilt upward on its support;

Figure 3 is a view in section taken on line 3—3 of Figure 2;

Figure 4 is a view similar to Figures 1 and 2 but showing the iron in tilted position with the operating parts positioned accordingly; and

Figure 5 is an exploded view showing the parts of the support and latching mechanisms in perspective.

Referring to the several views of the drawings, the flat-iron comprises a flat-iron body 1 and a handle 2 fixedly secured thereto. For the most part, the handle is hollow to accommodate the parts described hereinafter. The body 1 comprises the usual sole plate 3 and cover 4 which, in the present instance, extends beyond the rear of the sole plate to provide a rearwardly-extending hood 5. A supporting plate 6 is secured to the rear of the sole plate and has turned-up ears 7 for supporting a transverse pin 8 upon which the iron-supporting member 9 is pivotally carried.

The supporting member 9 has forwardly-extending feet 10 which extend longitudinally of the iron and are normally disposed within recesses 11 in the body 1, as shown in Figure 1. The supporting member 9 also comprises a pair of arms 12 which extend upwardly into the handle and which carry at their ends a cross-pin 13 (see Fig. 5). A cross-bar 14 extends between arms 12 and carries a screw 15 to which is anchored the rearward end of a heavy coil spring 17, the forward end of which is secured to a latch member 18 at 19.

When the supporting member is in its inoperative position, as shown in Figure 1, the spring 17 is under tension, so that it tends to rotate the supporting member clockwise relative to the iron, as viewed in Figure 1. In other words, the spring urges the supporting member to its operative position shown in Figure 4, but the supporting member is normally held in its inoperative position by the latching mechanism now to be described and including the aforesaid latch member 18.

The latch member 18 is pivotally secured intermediate its ends at 20 to the forwardly extending lug portion 21 of a bracket 22 which in turn is secured to and extends upwardly from the forward vertically extending portion 23 of the supporting plate 6. The said latch member at its lower end has a slotted extension 18a (see Fig. 5) through which a screw 24 projects, the screw being fastened to bracket 22 and portion 23 of plate 6. The head of the screw serves as a stop against which the slotted extension 18a of member 18 normally rests. The latch member 18 projects upwardly into the handle 2 of the iron and has its upper end formed to provide a latch portion 25 for a purpose that will hereinafter appear.

Pivotally mounted on the lug 21 is a member 26 comprising rearwardly extending spaced arm portions or bifurcations 27 and 28, respectively. Of these, the lower arm 27 has its free end formed to provide a cam edge 29 of predetermined curvature, and the upper arm 28 his pivotally connect-

ed to its free end portion, by means of a pivot pin 30, an arm or lever 31 which extends forwardly of the iron within the handle 2 thereof.

Secured to a pin 32 on the arm or lever 31 is a spring 33 the free end of which engages the upper interior wall of the handle 2, thereby constantly urging the lever 31 in a clockwise direction about its pivot pin 30. Also, the arm or lever 31 is formed to provide a latch portion 34 thereon adapted to cooperate with latch portion 25, as illustrated.

For the purpose of tripping or disengaging the latch portion 34 from the latch portion 25 there is provided a trigger member 35 pivotally mounted within the forward portion of the handle 2, the pivot pin being shown at 36. This trigger member is arranged to engage the forward end of the arm or lever 31. A portion of said trigger member 35 projects outwardly of the handle 2 through an opening 37 in the underside thereof, and the arrangement is such that it may be actuated to release the latch 34 by the forefinger of the hand used to grasp the handle 2.

When the flat-iron is being used, the parts are disposed as illustrated in Figure 1, the member 26 being latched by the lever 31, and the cam edge 29 engaging the cross-pin 13 to maintain the supporting member 9 in inoperative position. It will be noted that the lever 31 engaging the latch member 18 holds the member 26 in the position illustrated, thereby maintaining the cam edge 29 in effective position. Thus the member 26 constitutes a retaining member for holding the support 9 in inoperative position.

When it is desired to discontinue the use of the flat-iron, the user engages the latch-tripping member 35 with the forefinger, moving the said member clockwise about pivot 36 and causing lever 31 to move upwardly against its spring 33 until the latch portion 34 is disengaged from the latch portion 25, whereupon the member 26 is pivoted slightly (see Fig. 2) to free its arm 27 and the cam edge 29 from the cross-pin 13. The spring 17 is thus allowed to become effective to cause relative movement between the flat-iron and the supporting member 9 when pressure is released from the handle 2, and since the arms 10 cannot move beyond the working surface on which the iron is placed, the effect of the spring action is to tilt the iron upward to the position shown in Figure 4, at which time the iron is completely removed from the ironing surface and rests entirely on the supporting legs 10.

During this tilting movement of the iron, the cross-pin 13 carried by the support arms 12 moves forwardly in the slot-like space between the arms 27 and 28 of the member 26 and, as shown in Figure 4, the pin 13 engages the inner edge of the slot and moves member 26 slightly in a clockwise direction, thus actuating the lever 31 forwardly. This permits the latch 34 to reengage latch 25 under the influence of the spring 31. This reengagement of the latch portions 25 and 34 does not operate to latch the supporting member 9 in its operative or supporting position but merely resets the latch mechanism for subsequent operation.

When it is desired to again use the iron, the user grasps the handle in the normal manner and exerts downward pressure, causing the iron to move toward the ironing surface, thereby bringing the supporting member substantially into its inoperative position. In this manner, the iron itself is used as a lever or fulcrum to bring the supporting member into its inoperative position and little pressure is necessary to effect this action, particularly since the iron is of substantial weight and tends of itself to move downward. During the movement of the iron the action of the mechanism is as follows:

Since member 26 is effectively interlocked with lever 18, as the iron is moved downward the pin 13 rides on cam arm 27 and rotates members 26 and 18 counter-clockwise slightly. As the lower end of lever 18 moves away from its stop (head of screw 24), the distance between the spring anchorage points 15 and 19 is increased, placing spring 17 under greater tension. The spring tension increases until pin 13 reaches the high point on cam 27. As the pin passes over the high point of the cam, the excess energy stored in spring 17 is now directed through the down pitch on cam 27 against pin 13 to rotate the support member 9 counter-clockwise until the pressure of pin 13 on cam 27 is relieved, permitting the spring 17 to rotate lever 18 clockwise. During this movement the member 26 is also rotated through latch 31, and the feet 10 have entered recesses 11 and come to rest above the ironing surface.

It will be noted that the member 26 constitutes a retaining member which is movable from its effective position of Fig. 1 to its ineffective position of Fig. 2 by means of latch 31. Moreover, the retainer member 26 is moved to its effective position when the iron is lowered from the position of Fig. 4 to that of Fig. 1. It will be noted also that the mechanism employed causes the spring 17 to assist in the latching operation toward the end of the downward movement of the iron.

Thus, it will be seen that when the iron is in use, the user has only to trip the latching mechanism through the medium of member 35 and this causes the parts to move automatically to the position shown in Figure 4. Moreover, when the user desires to again use the iron, it is only necessary to grasp the handle in the usual way and exert slight downward pressure, whereupon the support is returned to and automatically latched in its inoperative position. It will be seen, therefore, that there is no need to lift the iron at any time and the supporting mechanism requires a very small amount of energy to operate the same.

While the invention has been illustrated and described with reference to a specific form of the device, it will be understood that various changes and modifications are possible without departing from the scope of the invention.

I claim:

1. In a flat-iron, a body, a stationary handle on said body, a support pivotally mounted at the rear of said body and comprising a pair of legs extending forwardly of the iron, whereby the iron is tiltably movable relative to said support, spring means arranged to move the iron upward to its supported position, and means responsive to downward manual movement of the iron for lifting said support away from the operating surface and for maintaining the support in its inoperative position against the action of said spring means.

2. In a flat-iron, a body, a support pivotally mounted at the rear of said body, said support comprising forwardly extending legs and an arm extending angularly with respect to said legs, spring means arranged to move the iron upward relative to the support, a retaining member arranged cooperatively with said arm and movable to effective and ineffective positions, said mem-

ber in its effective position being adapted to move the support into its inoperative position and maintain it in said position in response to manual downward movement of the iron, relatively movable latch members adapted to hold said retaining member resiliently in its effective position during downward movement of the iron, and manual means operative on said latch members to release said retaining member, thereby to permit upward movement of the iron under the influence of said spring means.

3. In a flat-iron, a body, a stationary handle at least part of which is hollow affixed to said body, a support pivotally mounted at the rear of said body, said support comprising forwardly extending legs and an arm extending angularly with respect to said legs into said handle, spring means arranged to move the iron upward relative to the support, and means including a retaining member arranged cooperatively with said arm within said handle and operative in response to manual downward movement of the iron to move the support to its inoperative position and maintain it in said position.

4. In a flat-iron, a body, a stationary handle at least part of which is hollow affixed to said body, a support pivotally mounted at the rear of said body, said support comprising forwardly extending legs and an arm extending angularly with respect to said legs into said handle, spring means arranged to move the iron upward relative to the support, means including a cam member arranged cooperatively with said arm and operative in response to manual downward movement of the iron to move the support to its inoperative position and maintain it in said position, and manually operable means for rendering said cam member ineffective, thereby to permit upward movement of the iron under the influence of said spring means.

5. In a flat-iron, a body, a support thereon movable between a supporting position and a retracted position above an ironing surface, a spring interconnected between said body and said support and arranged to urge the iron upward to its supported position, whereby downward movement of the iron from its supported position stores energy in said spring, and means responsive downward manual movement of the iron onto said surface for causing said spring to retract the support above the ironing surface.

6. In a flat-iron, a body, a support mounted on said body and movable relative thereto to supporting and retracted positions, and a mechanism operatively associated with said support for actuating the same to its supporting and retracted positions, said mechanism comprising an element rigidly associated with said support, a pivoted element on said body arranged cooperatively with said first element, said elements being relatively movable and having a dead center position disposed between their limits of relative movement, a pivoted member on said body, a spring connected between said support and said pivoted member, and means for latchably interconnecting said pivoted element with said pivoted member, the spring connection between the support and said pivoted member being such that said pivoted element is normally urged toward said first element by said member acting through the intermediary latching means, whereby said spring may be caused to actuate said support to its supporting position by the release of said latching means, and the spring is caused to retract the support fully whenever said elements are relatively moved beyond their dead center position in a direction to retract the support.

7. In a flat-iron, a body, a stationary handle on said body, a support movably mounted on said body, whereby the iron is movable relative to said support to a raised position above the operating surface, spring means arranged to move the iron upward to its supported position, and means responsive to downward manual movement of the iron for lifting said support away from the operating surface and for maintaining the support in its inoperative position against the action of said spring means.

8. In a flat-iron, a body, a stationary handle on said body, a support movably mounted on said body, whereby the iron is movable relative to said support to a raised position above the operative surface, spring means arranged to move the iron upward to its supported position, means responsive to downward manual movement of the iron for lifting said support away from the operating surface and for maintaining the support in its inoperative position against the action of said spring means, and manual means operable at will to render said last-named means ineffective so as to permit upward movement of the iron under the influence of said spring means.

9. In a flat-iron, a body, a stationary handle on said body, a support movably mounted on said body, whereby the iron is movable relative to said support to a raised position above the operating surface, spring means arranged to move the iron upward to its supported position, and means responsive to downward manual movement of the iron for lifting said support away from the operating surface and for maintaining the support in its inoperative position against the action of said spring means, said last-named means comprising a mechanism having a dead center position through which it passes just prior to the engagement of the iron with the operating surface.

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