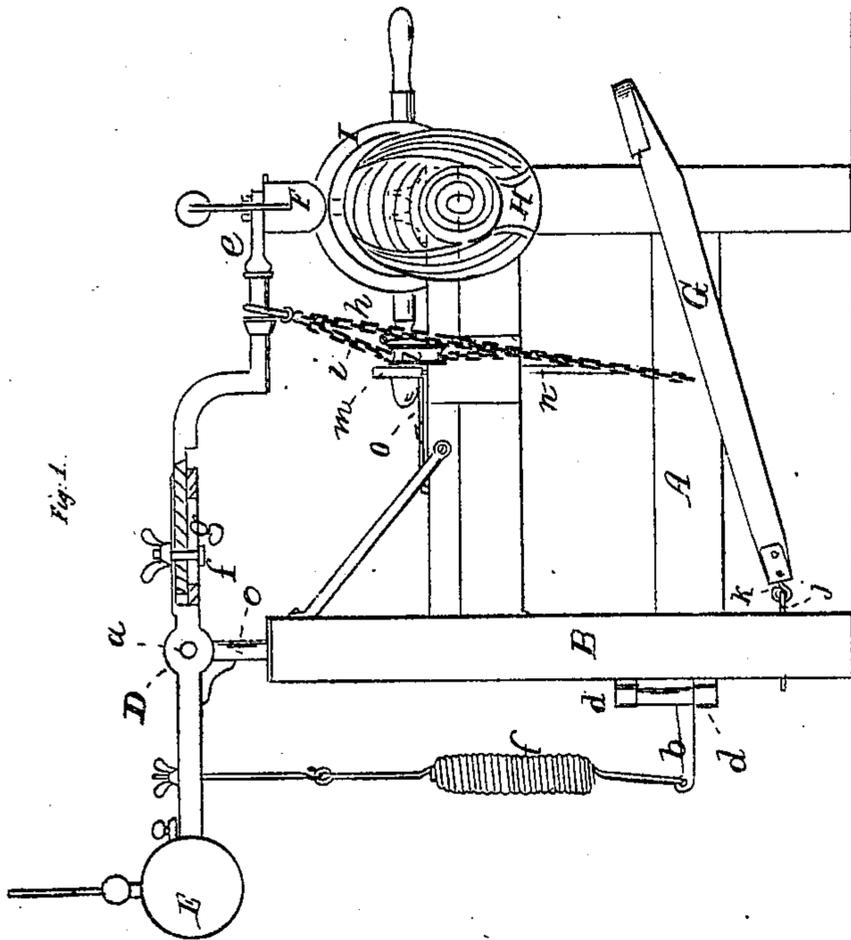
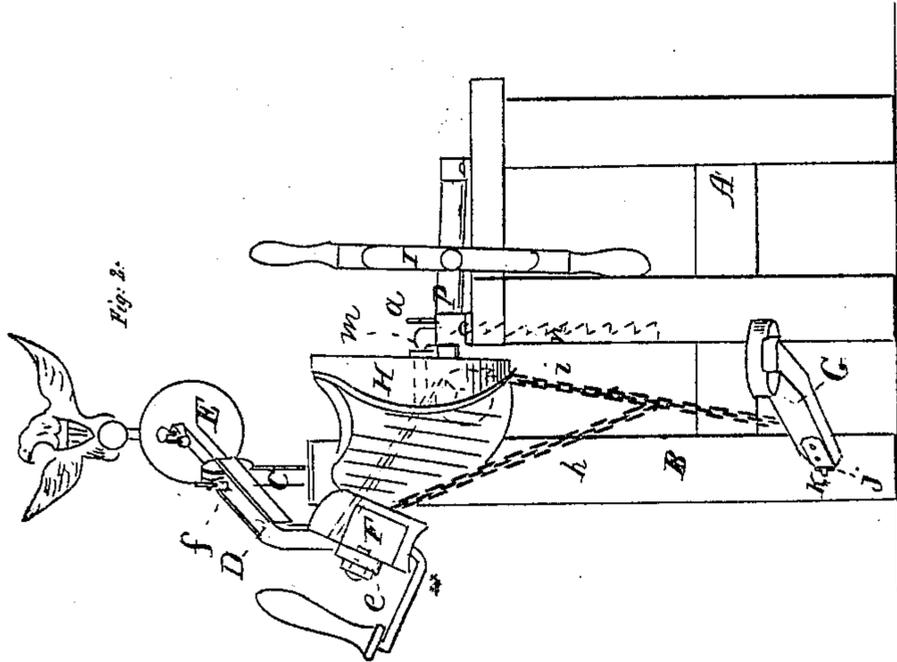


*C. W. Russell,  
Ironing Hats.*

*No. 25219.*

*Patented Aug. 23, 1859.*



Witnesses: } *R. S. Spence*  
*Chas. W. Russell*

Inventor:  
*Chas. W. Russell*

# UNITED STATES PATENT OFFICE.

C. W. RUSSELL, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR PRESSING BONNETS.

Specification of Letters Patent No. 25,219, dated August 23, 1859.

*To all whom it may concern:*

Be it known that I, CHARLES W. RUSSELL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Machine for Pressing Bonnets, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a side elevation of my invention.

Fig. 2 is a front elevation of ditto, representing the working parts of the same in a different position.

Similar letters of reference in both views indicate corresponding parts.

The principal object of this invention is to connect the lever which carries the pressing iron with the treadle in such a manner that the pressing surface of the iron may be brought to act on the bonnet in any desired direction by merely depressing the treadle and without the aid of the hands, and I have accomplished this object by arranging an adjustable arm or roller in such relation to the chain which connects said lever with the treadle that the strain exerted on the pressing iron by depressing the treadle, can be brought to act in a horizontal, or in a vertical or in an inclined direction according to the position given to the adjustable arm or roller, so that the whole surface of the bonnet can be pressed by simply depressing the treadle.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A represents a frame constructed of wood or any other suitable material, and its several parts are of sufficient strength for the required work.

Attached to the top of one of the corner posts, B, of the frame, A, is a swivel joint, C, to which the lever, D, is secured by means of a pivot, *a*, so that said lever turns freely in a horizontal as well as in a vertical direction. The rear end of this lever is furnished with a balance weight, E, and this end is also connected to a swivel arm, *b*, attached to the lower part of the post, B, by means of a spring, *c*, so that the front end of the lever, D, rises whenever the power exerted on the same relaxes. The arm, *b*, turns freely between two lugs, *d*, so that the same when connected with the lever,

D, does not prevent the latter moving to a certain extent in a horizontal direction.

F is the pressing iron which is secured to a swivel arm, *e*, which turns freely on the front end of the lever, D, to which it may be secured either by a screw-thread or in any other convenient manner, which leaves the arm free to turn, and this end of the lever is constructed of two parts united by a set-screw, *f*, fitting into a slot, *g*, in the lower part so that said end may be lengthened or shortened at pleasure. A chain, *h, i*, connects this end with the treadle, G, which is secured to the post by means of an eye bolt, *j*, and hook *k*, as clearly represented in Fig. 1, so that by depressing the treadle the strain exerted on the chain causes the pressing iron to come in contact with the bonnet. The chain consists of two branches, *h* and *i*, the first one of which extends straight down to the treadle while the other one passes over a roller, *l*, which is attached to an arm, *m*, extending from the top of a serrated bar, *n*, which latter is adjusted higher or lower by means of a spring catch, *o*, which engages with the teeth of the bar.

The bonnets are fastened on a form or block, H, which is mounted on the end of a rotary shaft, *p*, to which motion is conveyed by means of a hand-wheel, I, so that the several parts of the surface of the bonnet can be exposed to the action of the pressing iron.

The operation is as follows: The bonnets or hats are secured to the block, H, one after the other, as represented in the drawing, and the pressing iron is brought down on their surface by putting the foot on the treadle, both hands being free to operate the hand-wheel, I, and the roller, *l*, is so adjusted that by the action of the branch, *i*, of the chain the pressing iron is kept on the side of the bonnet, and it will be easily understood how the strain exerted by the two branches of the chain may be so adjusted that it acts either in a horizontal, or in a vertical or in an inclined direction. Any strain exerted on the chain is decomposed in two components, one acting in the direction of the branch, *h*, and the other one acting in the direction of the branch, *i*, and the relative proportion of these two components is controlled by the position of the roller, *l*. If this roller is so adjusted that the component acting in the direction of the branch, *h*, of the chain is considerably

larger than the component acting in the direction of the branch, *z*, the pressing iron is applied in a vertical direction to the sides of the bonnet. In order to reach the corners the roller is so adjusted that both the components are nearly equal so that the iron is brought to act in an inclined direction and if the top or head piece of the bonnet is to be pressed, as represented in Fig. 2, the roller, *z*, must be so adjusted that the component of the force exerted on the treadle, which acts in the direction of the branch, *z*, of the chain, is considerably larger than the other component so that the pressing iron is drawn up to the top of the bonnet in a horizontal direction.

It is obvious that instead of the roller, *z*, a simple hook might be used for the purpose of retaining the branch *z* of the chain in the required position; I prefer to use a roller, however, as the chain works easier over a roller than over a hook. It is also not indispensable to construct the chain with two branches as hereinbefore described, and the roller or hook might be applied to the chain in such a manner as to control the direction in which the strain is exerted so that the pressing iron might be brought to act in a horizontal, or in a vertical or in an inclined direction. I do not confine myself therefore to the particular construction and application of the chain and roller as

herein shown and described but I prefer to use a chain with two branches, arranged as described because it enables me to keep the pressing iron more easily on the required place of the bonnet than I could do if I had to control the action of the pressing iron with only one chain.

The particular advantage which I derive by constructing the press lever, *D*, as above described needs no further explanation as by this construction I am enabled to set the pressing iron to suit all sorts of bonnets and the pressing iron adapts itself quite readily to the inequalities of the surface of the bonnets.

It is self evident that this machine may be used for hats or bonnets of every description.

What I claim as new, and desire to secure by Letters Patent, is:—

The arrangement of the adjustable roller, *z*, or its equivalent, in such relation to the chain or rope which connects the treadle with the press lever, *D*, that the direction in which the pressing iron acts can be controlled, substantially in the manner and for the purpose herein described.

CHAS. W. RUSSELL.

Witnesses:

J. W. COOMBS,  
R. S. SPENCER.