C. C. Dow,

Ironing Hats.

No. 6585, Patented. July. 10. 1849.

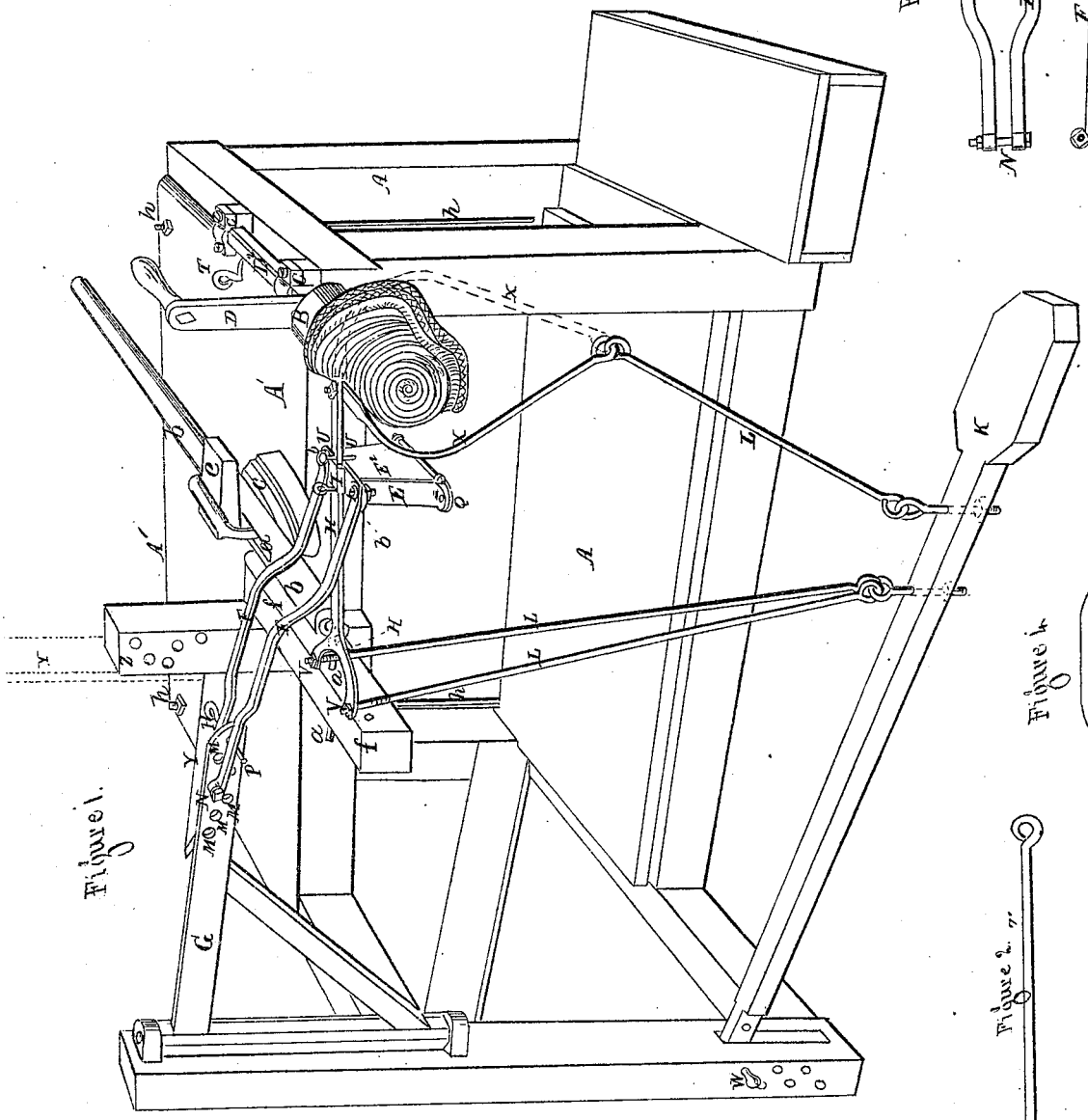

Figure 1.

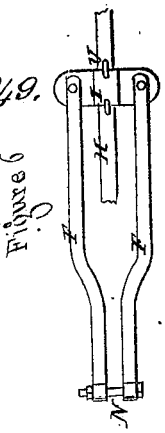

Figure 6.

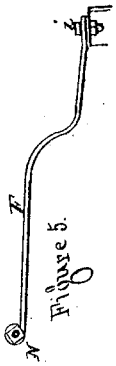

Figure 5.

Figure 4.

Figure 2.

Figure 3.

UNITED STATES PATENT OFFICE.

C. C. DOW, OF THOMPSON, CONNECTICUT.

PRESSING BONNETS.

Specification of Letters Patent No. 6,585, dated July 10, 1849.

To all whom it may concern:

Be it known that I, C. C. Dow, of Thompson, in the county of Windham and State of Connecticut, have invented a new and useful Improvement in a Machine for Pressing Bonnets, Hats, and other Articles, which is described as follows, reference being had to the annexed drawings of the same making part of this specification.

Figure 1, is a perspective view of the machine ready for operation—a bonnet being represented as placed on the block to be pressed. Fig. 2, is a plan of the rod or holder for managing the heated core. Fig. 3, is a perspective view of the core. Fig. 4, is a plan of the plate of steel fastened to the bottom of the suspended box. Fig. 5 is an edge view of the springs. Fig. 6, is a top view of ditto.

Similar letters in the several figures refer to corresponding parts.

A is the frame.

B is the roller upon which the bonnet to be pressed is placed.

C C are the boxes in which the axle D^2 of the roller B turns.

D is a crank for turning the roller, and with it the bonnet.

E is a cast iron box suspended by springs F F to a crane G.

H is a tri-branched bar attached to the top of the box by a loop I or staple cast with the box and to a treadle K by three rods L for enabling the operator to press the box, which contains the heated iron, upon the bonnet by the application of the foot of the operator to the treadle.

M are apertures into which the connecting pin N or bolt is inserted that connects the springs to the crane.

P is an adjustive pin inserted into one of the holes M in the crane, beneath the springs, for elevating or depressing the springs, by inserting the pin into a higher or lower aperture.

Q is an oblong plate of polished steel with rounded ends fastened to the bottom of the cast iron box (containing the heated iron S) for pressing the bonnets move effectually than the box would do without said plate of steel. The rounded ends of this plate project a little beyond the ends of the cast iron box. The heated iron or core S is made of cast iron and inserted by means of an iron rod or holder T in the usual manner.

E^2 is the door of the box at which the heated iron is inserted.

U is a pin for holding the door—when closed.

V are nuts screwed upon the rods L L that connect the tri-branched bar (to which the cast iron box is fastened) to the treadle for changing the position of the box and steel plate to correspond with the character of pressing that may be required to be performed.

W is a pin that connects the treadle to the post. This pin being inserted loosely allows the treadle to be altered in its position as may be required in changing the position of the pressing iron.

X is a bow shaped and swiveled section of the front connecting rod L that connects the treadle with the forward end of the suspension tri-branched bar H. This bow shaped section can be turned round horizontally in almost every direction and serves as a lever or handle by which to cant the suspension bar H and with it the box E and pressing iron Q to any required angle.

Y is a notched bar attached by one of its ends by a joint pin to a post Z let into the top of the frame, having its notched end bearing against the crane G when the latter is turned aside and is not in use as represented in the drawing.

When the crane is required to be turned toward the block in order to bring the pressing iron over the bonnet the notched bar Y may be turned up to a vertical position against the aforesaid post as represented by the dotted lines. This post contains a number of horizontal holes for the insertion of a jointed connecting pin, *a*, attached to the end of a bar or lever *b* to which a flat iron *c* is affixed for pressing the portions of the bonnet that cannot be conveniently pressed by the suspended pressing iron Q. This bar contains an oblong opening *d* into which the handle of the flat iron *c* is inserted, being held therein by a transverse key *e* or wedge. When this iron is used the box iron is to be turned aside. And the jointed connecting pin *a* is inserted in one of the apertures in a horizontal arm *f* fastened to the top of the table extending over and beyond the edge of the table beneath the crane and parallel with the axis of the block on which the bonnet is placed. And when the box iron is to be used the flat iron is placed upon the table as represented at *c* Fig. 1. This iron is also used

to press tips on vertical blocks placed upon the table in front of the aforesaid perforated post Z into which the jointed rod (*a*) of the lever (*b*) is inserted. *h*, *h*, are holding rods for holding the frame firmly to the floor. These rods have flanges on their lower ends through which screws are passed for securing the flanges to the floor. The upper ends of the rods pass through apertures in the caps of the frame having nuts screwed on them for confining the rods to the frame. These nuts serve to make the frame more steady by turning them to the right when the frame has become loose from any cause.

Each of the springs F is made of the best spring steel in the form represented in Figs. 5 and 6, the upper end being bent in the form of an eye through which the bolt N is passed that connects the springs to the crane, and the lower ends being perforated for the insertion of screw bolts *i i* that are passed down through the springs and cast ears on the box E beneath which are nuts screwed upon said bolts. These springs may be varied in form and temper to suit the required position of the pressing box; and, as before stated, they may be raised or lowered by changing the position of the connecting pin N and of the sustaining or supporting pin P upon which they rest.

The back of the box E should form an angle of about 90 degrees with the base and the front or door should be parallel with the back; and the ends should incline toward each other at an angle of about 80 degrees with the base, with which they unite in curved lines. The top should be parallel with the base. The door E^2 should be hinged to ears cast on the base and be composed of sheet iron, or any suitable material.

The apertures in the curved branches of the bar H, should be of greater diameter than the rods L, in order that either of the curved branches may rise and fall on the rods L below the nuts V, as the box E, is canted to the right or to the left on its rounded ends; or so that both branches may rise and fall on the rods L, simultaneously as the box is canted back on its straight edge by the bow X.

The nuts *v*, *v*, on the upper ends of the rods L, are for regulating the movement of the tri-branched bar H on the rods L, in canting the box. The nuts *v*, *v*, beneath the treadle are for changing the position of the bar H, and box E, by loosening one of them and tightening the other, and also for raising the outer end of the treadle when required.

The position of the bent iron or swivel bow X, as represented in Fig. 1, will answer to cant the box E, longitudinally on either of its rounded ends. When the swivel bow is turned around so as to be next the crank the same effect can be produced, and when the bow is in the position represented by dotted lines the box E, can be canted back on its straight edge.

Operation: In the first place the bonnet to be pressed is made perfect in shape, stiffness, and color, by a newly discovered process, which will be taught and furnished to those who may wish to use my machine and which I intend shall form the subject of a separate patent. The bonnet is then placed upon the block or roller in a proper position to be pressed. The operator then draws the iron rod T from its place in the bench and inserts it into the aperture in the side of the heated core S and conveys it to the swinging box E into which it is placed and secured. In a few moments the core will impart sufficient heat to the box and steel pressing plate and will cause it to retain its heat a sufficient length of time to press three or four bonnets, or more. The notched holder is then disengaged from the crane and the latter is swung round until the pressing iron is perpendicularly over the bonnet. The foot of the operator is then placed upon the treadle K which brings the iron upon the bonnet with a greater or less degree of pressure as the operator may deem requisite, varying from two pounds to four hundred pounds. The bonnet is then turned against the heated polished steel plate on the bottom of the heating iron by merely turning the crank to the right and left or toward and from the operator as many times as may be required and at the same time lessening the pressure of the foot and applying the left hand to the swivel bow X and moving the pressing iron over the surface of the bonnet in the arc of a circle scribed from the axis of the crane while turning the block on its axis and at the same time changing the position of the pressing iron so as to bring either point of the steel plate in contact with the braids of straw around the cape of the bonnet, or wherever required to apply the iron by changing the position of the swivel-bow crane, and treadle and by applying the requisite degree of power to the several parts to effect the intended object—the pressing iron being raised instantaneously from the bonnet by the elasticity of the springs F to which it is suspended by removing the pressure from the treadle and swivel-bow. The crane G may be moved by the slightest effort, requiring only the point of the finger to accomplish it. Any portion of the steel pressing iron may be brought upon the bonnet from the sixteenth part of an inch to the whole length and breadth of the iron, which generally measures in length about six and a half inches. Either point of the pressing iron Q may be brought on to meet any part of the bonnet required to be pressed, touching any part of a braid even to a hair's breadth; being completely under

the control of the operator; and by turning the crooked iron or swivel bow in a line with the block the whole amount of pressure may be thrown directly on either point raising nearly the entire face of the pressing iron from the bonnet. The pressing iron can be regulated in the most perfect manner by means of the nuts V V screw-rods L L. The suspending spring may be raised or lowered as occasion may require by changing the position of the sustaining pin P. The treadle K may also be adjusted in the same manner. The body, front, and cape of the bonnet being finished the tip must next be pressed. To do this the suspended box iron must be turned aside by moving the crane and bringing the notched bar Y against it in the position represented in the drawing, Fig. 1. The flat iron *c* previously heated and attached to the lever *b* by the mortise *d* and wedge *e* is then brought against the tip and the bonnet turned against it by turning the crank D with the right hand while with the left hand the lever *b* is managed so as to bring the surface of the flat iron over every part or portion of the tip of the bonnet which may be accomplished in one minute. The flat tips are pressed by placing the bonnet on the block by which it was shaped and setting it on the table directly opposite the perpendicular post Z and then passing the joint pin attached to the lever through one of the holes at a proper height to bring the iron on a level with the top of the block by which means a lever purchase may be obtained which will press the tips sufficiently by a few sweeps of the lever to the right and left.

Heretofore this branch of the business has been very destructive to health and has destroyed many valuable lives in consequence of the excessive labor required to accomplish the object desired, requiring the application of all the strength in the system to make any impression on the bonnet, requiring an exertion of lifting, stooping, and pressing, thus contracting the chest, and, consequently, cramping the muscles &c., and in a short time destroying the health of the operator. These injurious effects are all obviated by the use of my machine; and instead of the exercise being injurious to health it becomes healthful, for the pressure is obtained by standing, instead of pressing, by muscular exertion of the hands, and may be varied from the slightest touch to a very considerable weight and the heaviest pressure may be applied with the same ease as the lightest, by bringing the gravity of the body upon the treadle to any degree required. The pressing iron raises by the elasticity of the springs. The slightest pressure from the point of the finger removes the iron from the bonnet; and it may be brought back by degrees, varying from the sixteenth part of an inch to the whole length of the iron, touching every part of the bonnet in the nicest manner and finishing every braid, however narrow. A bonnet of delicate material can be pressed in less than five minutes, the hardest and most obstinate in less than ten minutes; and when pressed by this machine is as far superior in its appearance to a bonnet pressed in the old style, as the machine itself is, in its operation, superior to the machines in use for a similar purpose. With one of my machines (properly made and operated) a person can press at least seventy-five bonnets in a day with less fatigue than seven can be pressed in the ordinary manner—the operator standing perfectly erect, at the same time expanding the chest and giving to the limbs an easy and graceful exercise.

I am aware that bonnets have been pressed by machinery and the application of lever power to the iron box containing the heated core, upon a hat block turned by a crank axle; and therefore I do not claim this as my invention in this application; but—

What I do claim as my invention and desire to secure by Letters Patent is—

1. The combination of the suspended core box E constructed as aforesaid with a smooth steel pressing plate fastened to its under surface, tri-branched pressing bar H; curved suspension and lifting springs E; crane G adjustive connecting rods L; swiveled bow X; and the adjustive treadle K; constructed, arranged, and operated in the manner and for the purpose herein fully set forth.

2. I also claim constructing the suspended box E to receive the core S in the manner and for the purpose herein set forth, irrespective of the parts to which it is suspended and connected.

3. I also claim the combination of the pressing iron *c*; slotted lever *b*; key *e*; jointed connecting rod *a* and perforated arm *f* to which the lever is connected with the table A′ to which the horizontal perforated arm *f* is secured for pressing the tip of the bonnet whilst on the roller B of the crank shaft D^2.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

C. C. DOW.

Witnesses:
WM. P. ELLIOT,
LUND WASHINGTON, Sr.