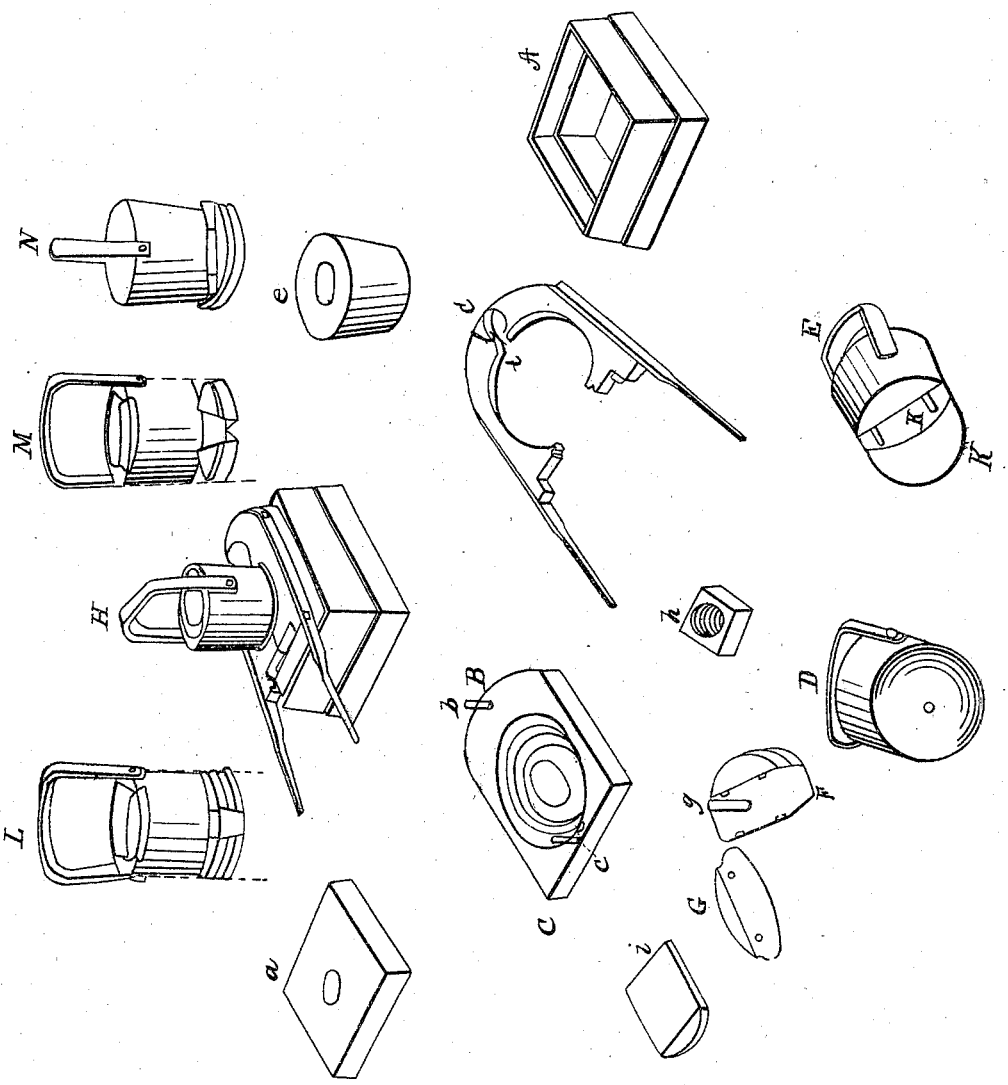
T. Kendall.

Pressing Hats.

No. 3728 Patented Sep. 3, 1844.



Witnesses:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR PRESSING BONNET-TIPS.

Specification of Letters Patent No. 3,728, dated September 3, 1844.

To all whom it may concern:

Be it known that I, THOMAS KENDALL, of the city, county, and State of New York, have invented a new and useful Machine called "Kendall's Bonnet-Tip Press," of which the following is a full and exact description and specification.

The machine consists of three principal parts constructed chiefly of cast iron, although other metals may be used.

The first part is a box of cast iron, or other metal, denominated the "lower heater holder"; it may be of any shape, and of any required dimensions. The box of the machine, from which the drawing annexed to this specification is made, is eight inches square, three inches high and on each of its sides below the ledge made to receive the molding press is one inch thick and half an inch thick above that ledge; upon this ledge (which is depressed one inch below the top of the box and on the inside,) the molding press rests when the machine is in operation, within the box is placed a cast iron or metallic heater of a shape corresponding with the box, and of the thickness of one inch or more being considerably smaller than the box, in order to allow for the expansion of the iron or other metal used when heated.

The second part of the machine is separate from the lower heater holder or box. It consists of three principal parts: 1st, a cast iron or metallic slab (in which, or upon whose upper surface is molded, turned or cut a matrix, called the lower cup or mold, half an inch deep or more.) This slab is made to fit into the iron or metallic box and rest upon its ledge; one side of the slab is made to project beyond the box or lower heater holder to the distance of two inches, and is rounded at the ends so as to receive the molding tongs or forceps. These molding tongs or forceps constitute the second part of the lower mold and are fixed by a pin of wrought iron or other metal in the center of the projected edge of the cast iron or metallic slab at the point where they form a rabbet joint. They also are of cast iron or of other metal (with the exception of their handles which are of wrought iron or other metal) and are in two parts united by a rabbet joint and by the same pin which fastens them to the edge of the slab. The size of the molding tongs or forceps when taken together and united measured on the side corresponds with that of the slab in which the cup or matrix is molded, shaped, grooved or turned, not only as to length and breadth but thickness. They are made in two halves and of the thickness of one inch or more in the center of which, when shut, a hole is cut of the size of the bonnet tip required, and nearly of the size of the cup, mold or matrix in the cast iron or metallic slab, but somewhat smaller, in order to give a proper shape to the tip. The edges of this hole are beveled toward the center, from the upper and lower surfaces of the molding tongs, and for the same purpose. The movement of the tongs or forceps when in operation is somewhat similar to that of a "blacksmith's shears" to cut iron, except that they come together even and work horizontally instead of vertically, the two halves embracing the ball or male part of the mold and pressing the bonnet tip during the process of drying and thereby shaping or conforming the neck of the tip to their own shape. Upon the sides of the two molding tongs or forceps are screwed two straight handles of wrought iron or other metal, each of the dimensions of three quarters of an inch in breadth, and one quarter of an inch in thickness, and about twelve inches in length; and lastly at the point where the two halves of the molding tongs or forceps come together and meet when in operation, a wrought iron pin is screwed into the cast iron or metallic slab to prevent their meeting at any other point than the center of the slab, and a groove, to receive the pin when the molding tongs come together, is cut in each half of the same.

The third part of the machine is the upper mold or movable ball, or male part of the machine, with the heater appurtenant to it. This also is of cast iron or other metal, and is entirely separate from the lower part of the machine, and consists of three parts. First the heater holder which is nearly of the shape of a small common "water pail" being wider at the top than at the bottom. It also is made of cast iron or other metal one inch thick or more at the edges and about four inches high exclusive of its permanent handle which is made somewhat like the bail of a water pail and screwed fast to the sides of the upper heater holder, like the handle of a "smoothing iron." The upper

heater holder is hollow; within its cavity is placed a cast iron or metallic heater, about the size and shape of a four pound weight, and somewhat smaller than the cavity. A lid or cover of cast iron or other metal to prevent the escape of the heat is made to slide in a dove tailing groove at the top of the heater holder, so as to retain the heat of the heater. Upon the bottom of the heater holder is affixed the ball of the mold or tip iron, being the male part of the machine, consisting of three parts, all made of cast iron or other metal by the wedge and two half molds; the wedge is screwed to the bottom of the heater holder and is about one inch and a half broad at the base (where it is affixed to the heater holder) three fourths of an inch broad at the top, and about one inch and a half thick, and of the length of the diameter of the bottom of the upper heater holder, the sides being beveled or slanting like the sides of a pyramid from the base to the top, and the ends being rounded so as to correspond with the shape of the upper heater holder. In each of the beveled sides of the wedge is cut parallelly one or more dovetailing grooves each nearly one inch in depth, and extending from the bottom or base of the wedge where it is screwed to the heater holder two thirds of the thickness of the wedge and one fourth of an inch wide on the outside and considerably broader at the bottom of the groove. To each of these dovetailed grooves in the wedge is fastened on each side of the wedge what I denominate "a half mold" each being the segment of a circle and less than a semi-circle and the two together with the wedge (intervening between them) making up an entire circle and each being (like the wedge) of cast iron. These are circular and grooved, so as to present a molded rim on the outside but beveled and straight on the inside so as to fit the sides of the wedge and corresponding in size when joined to the wedge, with the size of the hole in the molding tongs, and of the same thickness with the wedge itself. Near the edge or base of each of these half molds of the ball or tip iron is affixed one or more wrought iron pins (two are used generally) projecting about three fourths of an inch from the straight side of each half mold, and being as to size about one fourth of an inch in diameter, and each having a head considerably larger than its body, so as to prevent the pins coming out of the dovetailed grooves in the wedge when inserted therein and upon the wedge being screwed to the upper heater holder. These movable half molds composing along with the wedge the ball or tip iron are thus made to slide or move up and down in the dovetailed grooves of the wedge by means of the pins referred to, and without admitting of separation or of any material variation from the wedge, when the latter is screwed to the upper heater holder.

In the operation of the machine the male parts thereof consisting of the upper heater holder with the wedge and two half molds affixed thereto is placed in the cup or matrix of the machine; being lifted by the permanent handle of the upper heater holder and is then raised and depressed (and also turned around so as to properly mold the tip and at the same time prevent its sticking to the ball) by means of the upper heater holder and as occasion requires, the two circular half molds of the ball or tip iron moving up and down the whole length of the dove tailed grooves in the wedge expanding so as to fit the cup or matrix of the machine, when pressed down and contracting so as to pass through the hole in the molding tongs when elevated, and also causing by its contraction the ball to separate from the bonnet tip when the latter is molded, without sticking or adhering thereto, a point of very material importance in the manufacture. The ends of the wedge not precisely corresponding with the shape of the rims of the half molds referred to, the turning of the ball around in the process of molding becomes requisite in order to give a proper shape to the tip, as well as to prevent its sticking to the ball.

The use of the machine is to mold or form the crowns or tips for bonnets or hats in an expeditious and cheap manner in lieu of the ordinary method of molding them by hand upon a wooden block, sewing them thereto, or tying them with a string and drying them with a heated smoothing iron. In the process of manufacture the buckram or cloth being starched and wet is placed over the molding tongs and molding cup, the tongs being partly open. A cast iron or metallic heater being made red hot is placed in the upper heater holder and the sliding door in the latter is then closed; a cast iron or metallic heater likewise heated red hot is placed in the lower box or heater holder under the cup, and the upper heater holder and mold or ball appurtenant are then placed upon the buckram or cloth and pressed down by means of the cup forcing the buckram or cloth along with the mold; the molding tongs or forceps are then brought together by pressing the handles thereof inward and toward each other and the ball or tip iron is turned around several times by means of the handle of the upper heater holder so as to properly mold the tip and prevent its sticking to the ball, and in less than a minute the cloth or buckram is dried by the heaters, and in drying is molded to the shape of the machine and forms the bonnet tip required.

Explanation of the drawing annexed to the

above specification—the proportions of the parts therein not being always correct, viz: A, the cast iron or metallic box or lower heater holder; *a*, the cast iron or metallic heater for the same; B, the slab containing the matrix or lower mold or cup; *b*, the wrought iron pin for the joints of the molding tongs or forceps; C, the molding tongs or forceps; *c*, the pin against which the forceps rest when closed; D, the upper heater holder before the wedge is screwed to it; E, L, M, N, the upper heater holder with the mold or "movable ball" or "tip iron" and wedge screwed to it presented in different positions, E represents it with one of the molds omitted; *e*, the cast iron or metallic heater for the upper heater holder; F, the wedge separate from the heater holder and having one of its circular molds affixed to it; G, one of the circular molds separate from the wedge; *g*, the screw whereby the wedge is fastened to the upper heater holder; *h*, the nut from said screw; *i*, the door or slide for the upper heater holder; H, the whole bonnet tip machine put together with the molding tongs or forceps closed; K, the dovetailed groove in the wedge; *l*, the rabbet joint in molding tongs or forceps.

I claim as my invention under the foregoing specification the following parts of the machine above described, viz:

1. The upper mold or "movable ball" or "tip iron" (exclusive of its heater holder,) and consisting of the wedge and two half molds with their pins and grooves as above described, for expeditiously filling out and molding tips for hats and bonnets during the processes of drying without sticking to the mold. The same is marked E and K and L and M and N in the annexed drawing No. 1′, and the parts thereof F and G in said drawings No. 1.

2. I claim it as my invention of whatever materials it may be made and as the same is described in said specification; and the plan whereby it is made to expand so as to fill the cup when pressed down, and to contract so as to easily separate from the tip when molded and so as to pass through the forceps with facility when lifted up and without necessarily opening the latter.

3. I claim this as invented by me, to be used in combination with the upper and lower heater holders with the lower cup and with the molding forceps or tongs and for the purpose aforesaid.

In witness whereof, I, the said THOMAS KENDALL, hereunto subscribe my name in the presence of the witnesses whose names are hereto subscribed on the fourth day of May A. D. 1844.

THOMAS KENDALL

Witnesses:
DAVID P. HALL,
GEORGE I. PARTRIDGE.