

M. YAEGER.
MACHINE FOR MAKING WIRE HAT FRAMES.
APPLICATION FILED NOV. 20, 1908.

937,744.

Patented Oct. 19, 1909.

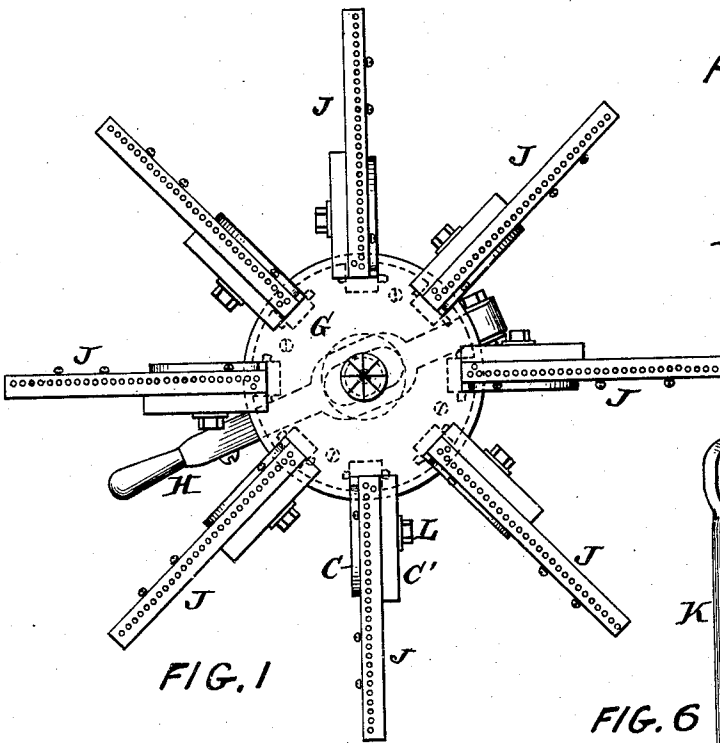


FIG. 1

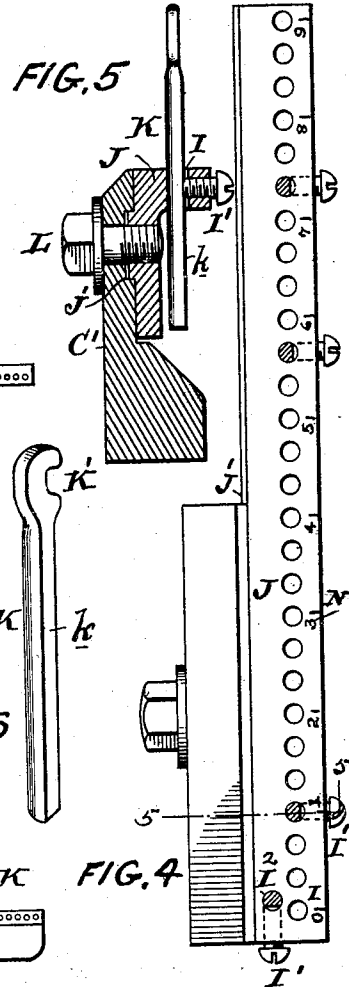


FIG. 5

FIG. 6

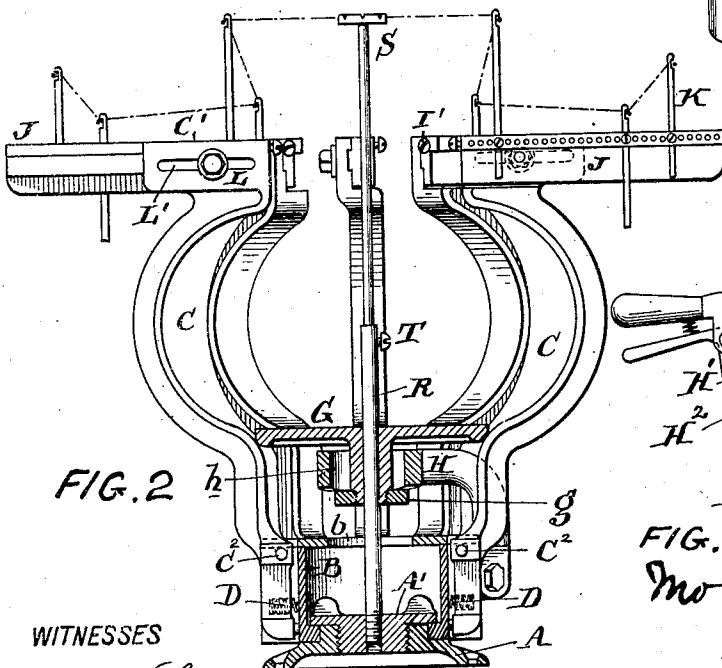


FIG. 2

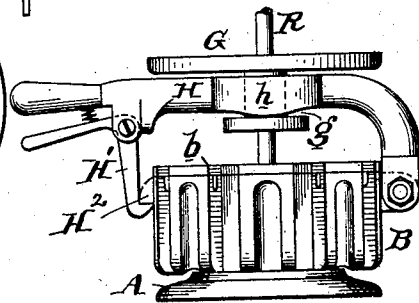


FIG. 3

INVENTOR

Morris Yaeger

BY

[Signature]

ATTORNEY

WITNESSES
Daniel Webster, Jr.
A. Rettig.

UNITED STATES PATENT OFFICE.

MORRIS YAEGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CROWN MANUFACTURING COMPANY, A CORPORATION OF CONNECTICUT.

MACHINE FOR MAKING WIRE HAT-FRAMES.

937,744.

Specification of Letters Patent.

Patented Oct. 19, 1909.

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To all whom it may concern:

Be it known that I, MORRIS YAEGER, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Machines for Making Wire Hat-Frames, of which the following is a specification.

My invention has reference to machines for making wire hat-frames and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings which form a part thereof.

The object of my invention is to provide a construction of machine which may be quickly adjusted to various shapes of hat-frames, and which will offer very little interference with the hand manipulation of twisting the wires during the formation of the hat-frame.

My object is also to so construct the machine that the hat-frame may be quickly and easily removed.

The construction employed in my invention, aside from simplicity and cheapness, is such as to enable an operator to produce a large number of hat-frames in a given time.

More specifically, my invention consists of a base, combined with a head pivoted thereto, a series of upwardly extending arms pivoted to the head and each having at its upper end a radial bar having a series of vertical holes and a plurality of clamping devices therefor, and a plurality of wires clamped in the holes of the bars and provided with notches adjacent to their upper ends; further in the above structure when further combined with a spreader plate carried by the base and acting upon the pivoted arms above their pivots to spread the arms relatively to each other, and a hand operated lever to operate the spreader plate; further in the above specified constructions when provided with a central crown guide adjustably supported centrally of the series of radial bars.

My invention also comprehends other features of construction recited in the claims which, together with those above specified, will be better understood by reference to the drawings, in which:

Figure 1 is a plan view of a wire hat frame making machine embodying my invention; Fig. 2 is a sectional elevation of the same; Fig. 3 is an elevation of a part of the machine showing the means for spreading the pivoted arms; Fig. 4 is a plan view of one of the radial bars; Fig. 5 is a cross section of the same; and Fig. 6 is a perspective of one of the notched guide wires.

A is a base plate and may be screwed upon a table or pedestal and has an upwardly extending cylindrical bearing upon which the head B is sleeved so as to be capable of rotating about a vertical axis. The lower part of the head B is inwardly flanged and locked in position upon the base A by a flanged bushing A' screwed into the base and extending over the flanged part of the head. The head B is slotted about its outer part to receive the lower portions of the pivoted arms C, which are pivoted at C² and held in position upon the head B by a cap plate b. It is immaterial as to the particular manner of pivoting of these arms C. The lower parts of the arms, below the pivots, are recessed and support coiled springs D which operate upon the pivoted arms so as to throw their upper or free ends toward each other and toward the vertical center line of the machine. There are 8 of these arms C shown, but more or less may be employed, as preferred, and they are so arranged as to move radially, whereby they approach each other or spread under adjustment. The springs D cause them to approach each other at their upper ends. To move the arms C in the opposite direction, namely to spread them, I provide a circular spreader plate G which has its perimeter arranged to co-act with the arms C above their pivots and which, when depressed, causes the arms to spread. This operation will be clearly understood by reference to Fig. 2, in which it will be seen that the arms C extend upward for a short distance and then curve outwardly so as to form cam surfaces against which the spreader plate G presses. This spreader plate G is guided upon a central tubular rod R, which is screwed into the bushing A' of the base plate A so that it is centered between the series of arms. H is a hand lever and is pivoted at one end to the head B and has a mid-

the portion *h* formed with a slot. A flanged hub *g* extends from the spreader plate *G* and through the slotted portion of the lever *H*, whereby depression of the lever will lower the spreader plate *G*. The lever *H* is further provided with a spring actuated locking pawl *H'* adapted to catch under a lug *H*² (Fig. 3) when the spreader plate *G* is depressed, to bring the arms *C* in the operative position for making of a wire hat frame.

When the hat frame is completed, the locking pawl *H'* is released and the springs *D* oscillate the arms *C* to bring their upper ends together to release the wire hat frame. While I have arranged the spreader plate *G* above the head *B*, it may be otherwise arranged to operate upon the arms *C*. The said spreader plate *G* is sustained in the position indicated by the arms *C* under the influence of the springs *D*, and when in this position the arms are in spread condition for the making of the hat frame. When the locking pawl *H* is released, then the spreader plate *G* is raised by the approaching arms *C* under the action of the springs *D*.

The upper ends or heads *C'* of the pivoted arms *C* are provided with radial bars *J* which are adjustably clamped in position so as to extend radially outward. These bars *J* are preferably inverted *L* shaped in cross section and have a sliding horizontal connection at *J'* with the upper part or heads *C'* of the arms *C*; they are clamped to the arms *C* by clamping screws *L* extending through slots *L'* in the heads *C'*, and in this manner are adjustable radially upon the arms to suit hats of extremes in diameter, whether of the crown or of the rim. The clamping means between the arms *C* and their radial bars *J* may be otherwise formed if so desired.

The bars *J* have their vertical flange clamped to the heads *C'* of the arms *C* and have their horizontal flange provided with a series of holes *I* arranged in a line along the length of the bar and preferably also with an extra hole *I*² at its inner end. These holes are provided with screw threaded holes opening into them adapted for reception of clamping screws *I'* of which there may be any number, but ordinarily one for each of the notched wires *Y* to be clamped in position in the holes. The wires *K* are preferably made with a flattened side *K* (Fig. 6) against which the clamping screws *I'* operate for insuring their being held in the proper position to have their hooked or notched portions *K'* directed outwardly. These wires are preferably straight and may be made in three or more lengths as will be evident from Fig. 2. The upper ends of the wires are flattened and notched at *K'* as clearly shown in Figs. 5 and 6. The wires *K* placed in the lateral holes *I*² are those for forming the lower circle of the crown.

The wires may be arranged and clamped in any holes desired to suit the shape of the hat required and giving to the milliner every opportunity of making any design of frame.

When the crown is to be high in the center the crown guide *S* may be raised. It consists of a grooved head having a downwardly extending stem adjustably clamped at *T* in the upwardly extending tubular guide *R* (Fig. 2).

By employing the radial bars *J* and the straight notched wires *K* the spaces between the arms *C* are kept comparatively clear so that the binding wires may be easily twisted about the circular wires held by the notched wire guides *K* because of space for the hands and wires between the arms and bars during such operations.

The structure of the machine is simple and desirable and is easily adjusted. For readily determining the size of the rim or hat to be made, the bars *J* may be provided with scales *N* as shown in Fig. 4. To change the diameter or size of the crown without changing the desired design or the wires *I* *I*² in the holes of the bars *J*, the bars *J* may be adjusted on the heads *C'* of the arms *C* by means of the screws *L*.

While I prefer the construction shown as excellently adapted for the commercial embodiment of my invention, I do not restrict myself to the details as these may be modified without departing from the spirit of the invention.

Having now described my invention what I claim as new and desire to secure by Letters Patent, is:

1. In a wire hat frame making machine, the combination of a base, a head pivoted upon the base, a series of arms pivoted to the head and extended upward and adjustable to or from the center, horizontal bars radially arranged with respect to the axis of the head and respectively carried upon the upper ends of the pivoted arms and each bar having a series of closely and fixedly arranged parallel vertical holes, and vertically adjustable wires for the holes of the several bars having notched upper ends.

2. In a wire hat frame making machine, the combination of a base, a head pivoted upon the base, a series of arms pivoted to the head and extended upward and adjustable to or from the center, horizontal bars radially arranged with respect to the axis of the head and respectively carried upon the upper ends of the pivoted arms and each bar having a series of closely and fixedly arranged parallel vertical holes having provision for clamping, spring devices for normally causing the upper ends of the arms to be moved toward each other, a spreader plate acting upon the arms independent of the spring devices for simultaneously spreading the arms apart, and vertically adjustable wires for the

holes of the several bars having notched upper ends and clamped in adjusted positions in the holes of the bars.

3. In a wire hat frame making machine, the combination of a base, a head pivoted upon the base, a series of arms pivoted to the head and extended upward and adjustable to or from the center, horizontal bars radially arranged with respect to the axis of the head and respectively carried upon the upper ends of the pivoted arms and each bar having a series of vertical holes closely and fixedly arranged throughout the length of the bar and one extra hole adjacent to the inner end and out of alinement with the series of holes and vertically adjustable wires for the holes of the several bars having notched upper ends and clamped in position.

4. In a wire hat frame making machine, the combination of a base, a head pivoted upon the base, a series of arms pivoted to the head and extended upward and adjustable to or from the center, horizontal bars radially arranged with respect to the axis of the head and respectively carried upon the upper ends of the pivoted arms and each bar having a series of closely and fixedly arranged parallel vertical holes, vertically adjustable wires for the holes of the several bars having notched upper ends, springs to normally move the upper ends of the series of pivoted arms toward each other, a hand lever pivoted to the base, and a spreader plate connected with the hand lever for acting upon the pivoted arms for spreading them against the action of the springs.

5. In a wire hat frame making machine, the combination of a series of radial bars free at their outer ends movable radially to or from each other and each provided with a series of closely arranged parallel vertical holes arranged along its length and an extra vertical hole at the inner end out of alinement with said series of holes, a plurality of vertical wires for each bar having notched upper ends and adjustably clamped in the holes, and means for moving the bars relatively toward or from each other.

6. In a wire hat frame making machine, a series of radial bars supported at their adjacent ends only and movable radially to or from each other and each bar provided with a series of closely arranged parallel vertical holes arranged along its length and also having a scale along its surface parallel to the series of vertical holes to indicate their respective distances along the bar, combined with a plurality of vertical wires for each bar having notched upper ends and adjustably clamped in the holes, and means for moving the bars relatively toward or from each other.

7. In a wire hat frame making machine, the combination of a series of radial bars movable radially to or from each other and

each provided with a series of closely arranged parallel vertical holes arranged along their length, a plurality of vertical wires for each bar having notched upper ends and adjustably clamped in the holes, spring devices for moving the bars relatively toward each other, hand operated means for spreading the bars, and a vertically adjustable crown guide arranged centrally of the series of radial bars.

8. In a wire hat frame making machine, a pivoted arm, combined with a radial bar having a series of vertical holes, clamping devices for adjustably clamping the bar upon the pivoted arm, a plurality of wires adjustably supported in the vertical holes of the bar and notched at their upper ends and a plurality of clamping devices for clamping the wires in the holes in adjusted positions.

9. In a wire hat frame making machine, the combination of a base, a head pivoted to the base, a series of upwardly extending arms pivoted to the head and each having a radial member at its upper end extending outward from the arm and adjustably secured to it so that its outer end is free, a series of parallel wires notched at their ends carried by each of the radial members and clamped thereto in permanent parallel adjustment, clamping means for clamping the wires to the radial members and holding them in vertical adjusted position, and means to adjust the arms to or from each other.

10. In a wire hat frame making machine, a bar for sustaining the guiding notched wires about which the wires of the hat frame are bent, consisting of a straight bar L-shaped in cross section so as to provide two flanges one of which flanges is provided with a series of parallel holes and lateral screw-threaded holes opening thereinto for set screws and the other flange provided with means for clamping the bar to a support, combined with the notched wires for the parallel holes, and set screws for holding the wires.

11. In a wire hat frame making machine, a bar for sustaining the guiding notched wires about which the wires of the hat frame are bent, consisting of a straight bar L-shaped in cross section so as to provide two flanges one of which flanges is provided with a series of parallel holes and lateral screw-threaded holes opening thereinto for set screws and also a scale to indicate the distance apart of the series of parallel holes and the other flange provided with means for clamping the bar to a support, combined with the notched wires for the parallel holes, and set screws for holding the wires.

12. In a machine for making hat frames, the combination of a head, a series of arms arranged about the head and pivoted thereto with their ends extending upwardly and ra-

dially movable at their free ends with respect to said head, spring controlled adjusting devices for moving the said arms toward each other at their free ends above the head
5 to release the hat frame, means independent of the spring controlled adjusting devices to spread and positively hold the said arms in their spread position, and notched wires ad-

justably supported by and movable with the free ends of each of the pivoted arms. 10

In testimony of which invention, I hereunto set my hand.

MORRIS YAEGER.

Witnesses:

R. M. HUNTER,

AUGUST W. RETTIG.