

(No Model.)

2 Sheets—Sheet 1.

M. H. RYDER.

SEWING MACHINE FOR BRACE WIRING HATS.

No. 298,314.

Patented May 6, 1884.

Fig. 1

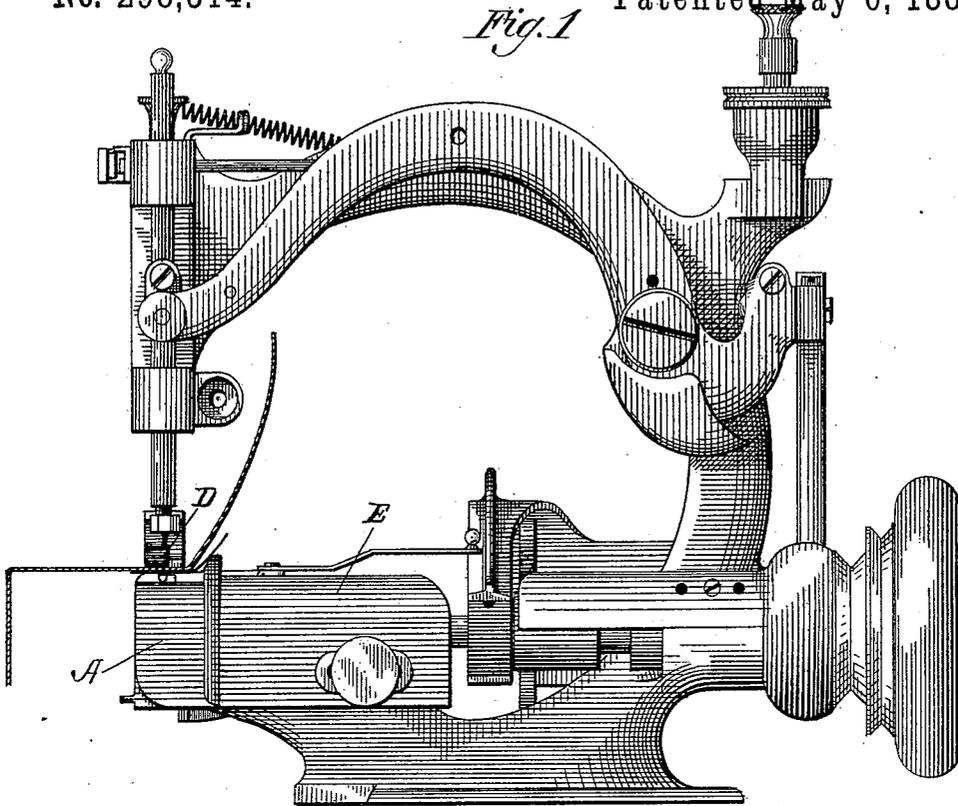


Fig. 2

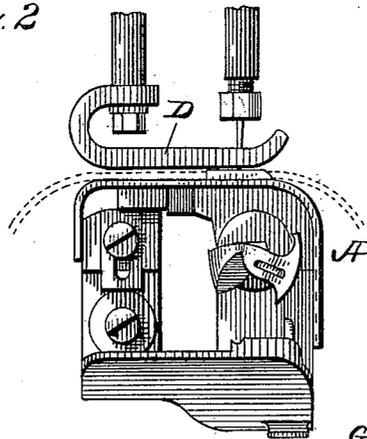
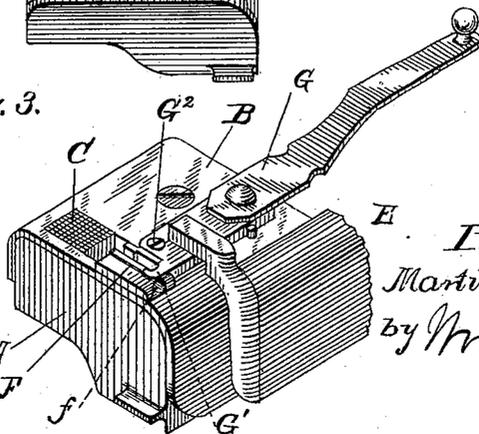


Fig. 3.



Witnesses:
W. H. Mortimer
S. S. Williams

Inventor:
Martin H. Ryder
 by *Wester & Smith*

Attys

(No Model.)

2 Sheets—Sheet 2.

M. H. RYDER.

SEWING MACHINE FOR BRACE WIRING HATS.

No. 298,314.

Patented May 6, 1884.

Fig. 4:

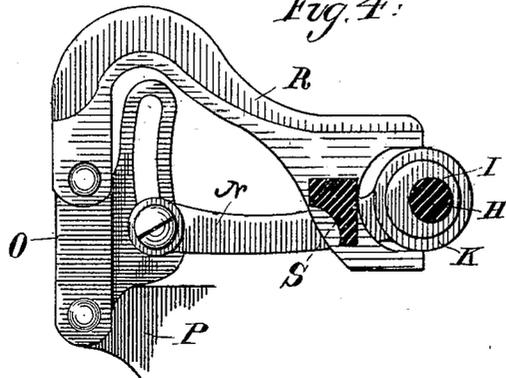
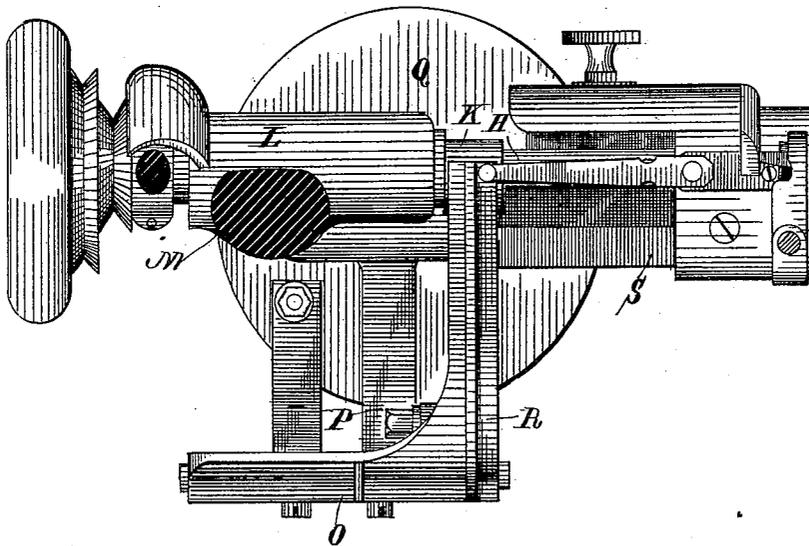


Fig. 5:



Witnesses
S. S. Williamson
A. M. Wooster

Inventor
Marvin H. Ryder.
By *Wooster & Smith*
Attys.

UNITED STATES PATENT OFFICE.

MARTIN H. RYDER, OF STAMFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO ELIZA A. WHITE, OF SAME PLACE.

SEWING-MACHINE FOR BRACE-WIRING HATS.

SPECIFICATION forming part of Letters Patent No. 298,314, dated May 6, 1884.

Application filed June 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, MARTIN H. RYDER, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines for Brace-Wiring Hats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sewing-machines, and has for its object to provide a machine which shall secure the brace-wires and the paper linings in hats at one and the same operation.

With this end in view my invention consists in the construction and combination of parts, as will be hereinafter fully described, and then specifically designated by the claim.

For the purpose of enabling those skilled in the art to which my invention relates to understand and use my improved machine, I will proceed to describe the same, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of entire machine. Fig. 2 is a partial end view showing the stitch-forming mechanism, which is that of the ordinary Willcox & Gibbs straw-sewing machine, and the guide-block for the wire; Fig. 3, a perspective view of the arm showing the feed-plate, feed, and latch. Fig. 4 is a side elevation of the feed-operating mechanism, the feed bar and shaft being in section; and Fig. 5 is a plan view of the machine with the arm, connecting-rod, and presser-foot bar in section.

Similar letters indicate like parts in all the figures of the drawings.

Heretofore it has been customary to sew the paper linings and the brace-wires into hats by separate operations, and each by hand. In performing these operations with a sewing-machine it is necessary that the work-plate shall pass within the crown of the hat, that the brim shall project up under the arm of the machine, and also that the horn of the machine shall be much longer than in ordinary machines of this class, in order that the paper lining may pass over smoothly, and not be

crumpled and pushed out of place by the movements of the feed-operating mechanism. In order to accomplish this result without bending the hat or allowing it to strike against any part of the machine, it is necessary to alter the position of the lever which actuates the feed-bar. In my improvement the entire feed-operating mechanism is carried inward two or three inches farther from the needle than in the ordinary Willcox & Gibbs machine, which allows the work-plate to act as an arm to support the crown of the hat, and permits the brim to pass under the needle-arm without bending and without coming in contact with any portion of the mechanism.

As a horn to support the hat-crown is an essential feature of my invention, I shall designate it in the drawings as A. B is the work-plate. C is the feed. D is the presser-foot. E is the sliding gage. In the last-mentioned parts no change whatever is made from the ordinary construction. In practice I make no use of the sliding gage, and frequently remove it from the machine.

F is a guide-block upon the feed-plate, through which the needle passes, and which is provided with a groove, *f*, in which the brace-wire lies and is guided in close proximity to the needle.

G is a latch pivoted at G², the point G¹ of which turns over the block and serves to keep the wire in the groove. The wire which is used for this purpose is ordinarily covered by braiding or winding with thread or paper, and through this cover the stitching passes.

H is the shaft, I the eccentric, K the strap, and N the eccentric-rod.

The rocking piece O is pivoted to supports P upon the base-plate Q. As seen in Figs. 1 and 5, I pivot the rocking piece at the right of the machine, back of the arm and housing, (see L and M, Fig. 5,) the effect of which is to carry the feed-operating lever R to the right beyond the center of the machine, so that instead of being located just inside the work-plate, as in the ordinary machine, the feed-operating lever and the eccentric are located as far to the right as the housing will allow, the feed-bar S being correspondingly lengthened, thus leaving the left side of the machine

to act as an arm to support the hat-crown, and ample space for the paper lining to lie flat and pass over without coming in contact with any of the operative parts.

5 I have not deemed it necessary to specifically describe the stitch-forming mechanism, as it is the same as in the ordinary Willcox & Gibbs machine. In the ordinary machine, however, the feed-operating lever is close to
10 the work-plate, thus making the arm of the machine too short for use in stitching in paper linings, as the feed-operating lever continually strikes the paper and makes it impossible to run it around evenly.

15 The operation is as follows: The wire is placed in a groove, *f*, and the latch is turned over it to hold it securely in place. The paper lining is then laid over the guide-block and the wire, the outer edge of the paper being al-
20 lowed to pass a quarter of an inch, or thereabout, outside of the needle. The hat is then placed on the horn over the paper lining and the wire in such a manner that the lower edge of the crown, just above the brim, will be under
25 the needle, and the brim itself will project upward under the curved needle-arm, as clearly shown in Fig. 1, thus allowing the hat to be rotated in a vertical plane without being bent out of shape or striking any part of the
30 machine. Having placed the covered brace-wire, the paper lining, and the hat in proper position, the presser-foot is lowered, which holds the hat and lining firmly down on the guide-block and the feed. The machine is
35 then ready for operation. In use the needle passes through the hat, the lining, and the covering of the wire, so that both lining and wire will be sewed to the hat. After the hat
40 has been stitched around, it is removed from the horn, and the paper lining is folded over the wire and against the inner surface of the crown of the hat.

45 In sewing-machines in which the feed-actuating mechanism is arranged at or near the forward extremity of the machine it is impossible to stitch the wire into the hat with any uniformity and without frequently stopping the machine to readjust the position of the hat

underneath the presser-foot, for the obvious reason that the levers which communicate motion from the feed-cam to the feed-dog are raised above the work-plate, thereby not only obstructing the work itself, but also continually, during each revolution of the shaft, striking the brim of the hat, after the manner of a
55 tappet, which not only distorts the shape of the brim, but also cockles the latter underneath the presser-foot, and invariably breaks the needle, or produces stitches so irregular as to render the hat unfit for the market. 60

By the use of my improvement the feed-actuating mechanism is remote from the feed-dog, and a surface presented to the brim perfectly free from all obstruction; and, moreover, no movable part of the machine comes
65 in contact with the hat, except the feed-dog and the needle, and this construction in the manufacture of hats has been found by actual experiment to afford a most simple, ready, and uniform means to accomplish the end aimed at. 70

By the use of my improved machine, steps which have previously required two operations by hand are accomplished by one operation and at a very high rate of speed, the result being a much better piece of workman-
75 ship performed in a mere fraction of the time required to perform the two operations by hand.

Having thus fully described my invention, what I claim as new, and desire to secure by
80 Letters Patent, is—

In a machine for stitching brace-wires and paper linings to hats at one operation, the combination, with the work-plate, the feed, and the feed-bar, of a rocking piece pivoted at the right
85 of the machine, back of the arm and housing, and a feed-operating eccentric and feed-lever located close to the housing, thus leaving the left side of the machine to serve as a horn to support the hat-crown and the paper lining. 90

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN H. RYDER.

Witnesses:

JAMES WALLACE,
A. M. WOOSTER.