





# UNITED STATES PATENT OFFICE.

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## MACHINE FOR MAKING HAT-FRAMES.

No. 814,992.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, WILLIAM STOLL, a citizen of the United States, residing at Ashtabula, Ashtabula county, State of Ohio, have  
5 invented new and useful Improvements in Machines for Making Hat-Frames, of which the following is a specification.

This invention relates to an improved machine for making wire hat-frames, the machine being so constructed that hat-frames  
10 of all conceivable contours may be made thereon.

In the accompanying drawings, Figure 1 is a plan of my improved machine for making  
15 hat-frames; Fig. 2, a vertical longitudinal section, partly in elevation, thereof; Fig. 3, a perspective view illustrating one form of a hat-frame made on the machine, and Fig. 4 is a detail.

20 The letter *a* indicates an upright spindle adapted to be rotatably secured to a support *b* by a clamp *c*. To spindle *a* is secured a collar or head *d*, having radially-projecting arms *d'*, to each of which is fulcrumed at *e'* a  
25 two-arm lever *e*. The levers *e* may be tilted on their fulcrums by a tubular slide *f*, movable on spindle *a* and having pins *f'*, that engage oblique slots *e<sup>2</sup>* of levers *e*. Thus when the slide is raised the upper ends of  
30 levers *e* will converge, while when the slide is lowered such upper ends will diverge. The slide *f* is operated by a hand-lever *g*, received within a longitudinal groove *a'* of spindle *a* and pivoted to the latter at *a<sup>2</sup>*.  
35 Lever *g* has a curved finger *g'* engaging an opening *f<sup>2</sup>* of slide *f*, so that by tilting the lever the slide may be raised or lowered.

To the upper end of each lever *e* is adjustably secured a radially-extending arm or  
40 support *h*. The adjustment between the parts *e* and *h* is such that the arms *h* may be set at different angles to the levers *e*, to which effect the upper end of each lever *e* is provided with three, more or less, radial  
45 slots *e<sup>3</sup>* and with a bolt *e<sup>4</sup>* back of such slots. The inner end of each arm *h* has a longitudinal slot *h'*, adapted to engage bolt *e<sup>4</sup>*, and a laterally-extending pin *h<sup>2</sup>*, adapted to engage either one of the slots *e<sup>3</sup>*. Along each arm *h*  
50 extends a spaced parallel plate *i*, connected thereto by a series of bolts *j*. Each arm *h*

carries at its inner end a hat-frame-crown support *k* and along its body a series of hat-frame-rim supports *l*. The supports *k l* are  
55 clamped to arm *h* by plate *i* and bolts *j*, so that the supports may be secured to the arms at various angles and at various elevations.

Each hat-crown support *k* consists of a doubled wire, to which is adapted to be  
60 clamped at different elevations a slide *m*, having notch *m'*. The slide *m* serves to receive the top crown-wire *n*. At its lower end each support *k* is provided on each shank with a  
hook *k' k<sup>2</sup>*, adapted to receive the bottom  
65 crown-wire *o*. By employing either the outer set of hooks *k'* or the inner set of hooks *k<sup>2</sup>* the slant of the hat-crown may be changed to conform to the size or fashion desired.

Each of the rim-supports *l* consists of a  
70 doubled wire the shanks of which straddle bolts *j* between parts *h* and *i*. Each support *l* has at its upper end a hook *l'*, adapted to receive one of the rim-wires *p*. The length of each row of supports *l* increases preferably  
75 from the center outward.

In use the levers *e*, arms *h*, and supports  
80 *k l* are so adjusted as to produce a hat-frame of the desired shape and size. The top crown-wire *n* is laid around slides *m* and is connected at its ends, after which the radial  
wires *q* are connected thereto. The bottom  
85 crown-wire *o* is laid around either set of hooks *k' k<sup>2</sup>* and is connected at its ends, and then the radial wires *q* are connected to wire  
*o*. In like manner the rim-wires *p* are suc-  
90 cessively laid around supports *l*, each wire being connected to the crown by the cross-wires *q*. In this way the frame is built up in a quick and simple manner. After the frame  
is finished the lever *g* is manipulated to raise  
95 slide *f*, and thereby contract the upper ends of levers *e*, so that the supports *k* and *l* clear the frame and permit the latter to be raised off the hooks.

If double-rim hat-frames are to be made, a  
100 notched slide *r* is mounted upon each of the rim-supports *l*, as shown in Fig. 4. The slides *r* are surrounded by the lower rim-wires *s*, secured to the frame-crown by the cross-wires *t*.

What I claim is—

In a machine for making hat-frames, the

combination of a rotatable spindle with a  
slide, a series of levers engaged thereby, a  
series of arms, means for adjustably securing  
the arms to the levers, crown-supports and  
5 rim-supports adjustably secured to the arms,  
and slides mounted on the crown-supports  
and rim-supports, substantially as specified.

Signed by me at New York city, (Manhat-  
tan), New York, this 11th day of August, 1905.

WILLIAM STOLL.

Witnesses:

WILLIAM SCHULZ,  
FRANK V. BRIESEN.