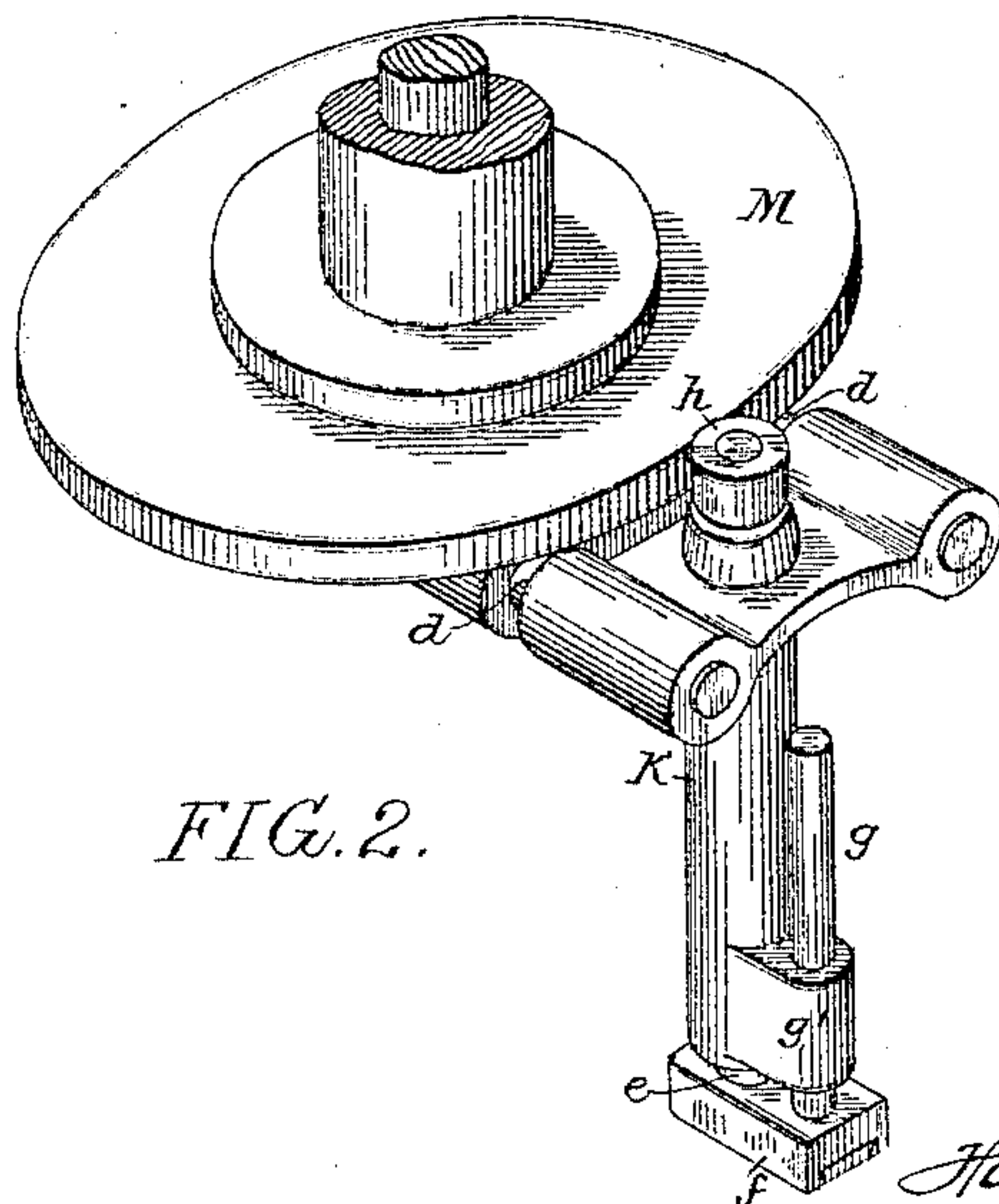
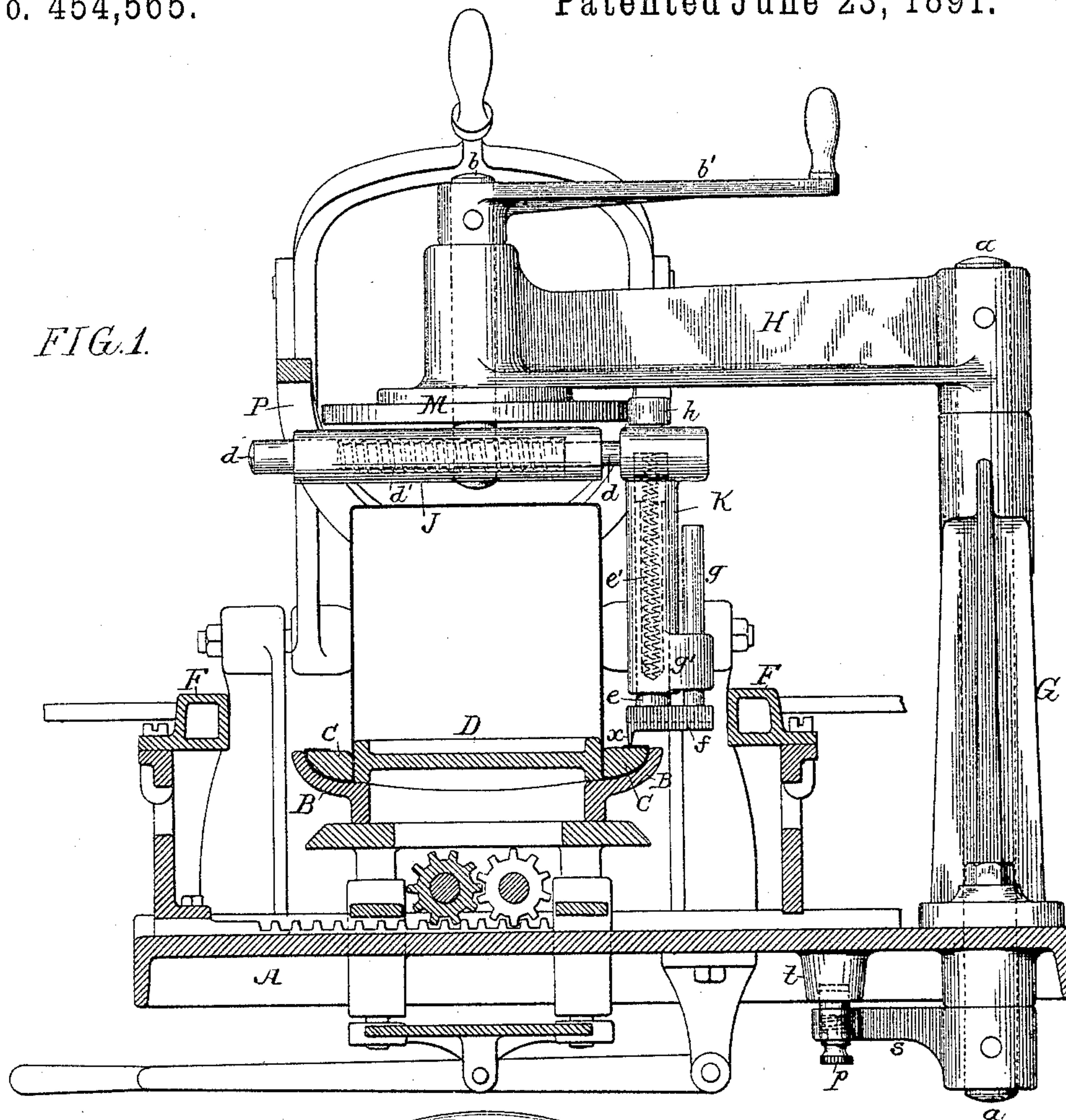


(No Model.)

J. FITZ & G., J. G. & M. O. REHFUSS.  
MACHINE FOR TRIMMING THE CURLED EDGES OF HAT BRIMS.  
No. 454,565. Patented June 23, 1891.



Witnesses:  
Jno. E. Parker  
Alex. Baskoff

Inventors:  
John Fitz,  
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by their Attorneys  
Howson & Howson



# UNITED STATES PATENT OFFICE.

JOHN FITZ, GEORGE REHFUSS, JOHN GEO. REHFUSS, AND MARTIN O. REHFUSS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO EVAN MORRIS AND JOHN FITZ, OF SAME PLACE.

## MACHINE FOR TRIMMING THE CURLED EDGES OF HAT-BRIMS.

SPECIFICATION forming part of Letters Patent No. 454,565, dated June 23, 1891.

Application filed August 7, 1888. Serial No. 282,127. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN FITZ, GEORGE REHFUSS, JOHN GEORGE REHFUSS, and MARTIN O. REHFUSS, all citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Machines for Trimming the Curled Edges of Hat-Brims, of which the following is a specification.

10 The object of our invention is to facilitate the complete shaping and curling of hat-brims, and this object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

15 Figure 1 is a sectional view, partly in elevation, showing mechanism embodying our invention; and Fig. 2, a detached perspective view of part of said mechanism.

20 So far as the general construction of the machine is concerned it is similar to that set forth in our patent, No. 434,438, dated August 19, 1890, A being the base of the machine, suitably supported upon which is a concave dish or bottom board B, so shaped as to impart the proper roll to the sides of the hat-brim and the proper dip to the front and rear portions of the same. On this dish is a block or band D, to which the crown of the hat is applied and by which said hat is held in position during the subsequent operations upon the brim.

30 F F are laterally-moving boxes heated by steam, hot air, or otherwise and operated by racks under control of suitable pinions, as fully set forth in the above-mentioned patent.

35 To a post or standard G at one side of the table A is adapted a shaft *a*, having at the upper end an arm H, the free end of which forms a bearing for a shaft *b*, which is provided with a suitable operating-handle *b'* and carries at its lower end a swiveled frame J, in which are bearings for spindles *d*. Depending from the outer ends of these spindles is a frame K, in which is free to move vertically a spindle *e*, having at the lower end a head *f*, carrying the cutting knife or blade *x*, the spindle being prevented from turning in

the frame K by means of a guide-rod *g*, which is adapted to a suitable projecting bearing *g'* on said frame.

50 Secured to the under side of the arm H at the outer end of the same is a templet M, the contour of which is similar to that of the desired contour for the inner edge of the curled brim of the hat, and an anti-friction roller *h*, carried by the frame K, is caused to bear constantly against the periphery of this templet by the action of springs *d'* upon the spindles *d*, carrying the frame K. A spring *e'* acts upon the knife-carrying spindle *e* and tends to depress the same and its knife.

60 The hat, having its brim previously softened by any of the usual means, is applied to the block or band D, the brim of the hat resting upon the dish or bottom plate B. The curling-dies C are then placed upon the brim, and the latter is pressed by said dies firmly down upon the dish B, so that it is caused to conform to the shape of said dish and have the proper roll and dip imparted to it. The heated side boxes F are then caused to approach each other, so as to bend the projecting portions of the brim over the tops of the curling-dies C C. The boxes are then retracted, the curled or bent portions of the brims moistened, and the boxes again moved inward over the same, and this operation is repeated as many times as may be necessary to effect the proper shrinking and ironing of these curled or bent portions of the brim. During this time the arm H, carrying the cutting mechanism, has been thrown around to one side out of the way, being held in this position by the engagement with any suitable stop of a spring pin or catch *p*, carried by an arm *s* on the lower end of the shaft *a*. After the shrinking and ironing of the curl has been completed, however, the side boxes are separated and the frame H swung around into the position shown in Fig. 1, and retained in this position by the engagement of the spring-catch *p* with a stud *t*. The knife *x* is then adjusted so as to act upon the inner portion of the curl of the brim, and the frame J is



rotated by means of the shaft *b* and handle *b'*, so as to carry the frame *K* and its knife around the hat, the knife being pressed down so as to cut by means of a spring *e'* and the frame *K* being compelled to take the proper course for cutting the brim by reason of its being under control of the templet *M*.

It will be observed that all the operations necessary to the complete shaping and curling of the brim of the hat—that is to say, the shaping and curling of the brim, the ironing of the curls, and the trimming of the latter—are effected without removing the hat from the block or band *D* or without disturbing the position of the hat on this block or band, so that the operations are very materially facilitated.

If desired, the curling portion of the brim may be acted upon by a cooling-ring *P*, (part of which is shown in Fig. 1,) as set forth in our patent above alluded to after the action of the heated side boxes *F* and before the trimming of the curls; but we do not limit our invention to this feature.

We therefore claim as our invention and desire to secure by Letters Patent—

1. The combination, in a hat-brim-curling machine, of the hat block or band, the bottom board, the curling-dies, the side pressers, a trimming-knife, a guided knife-carrier mounted in respect to the hat block or band as described, and means for moving said carrier, whereby the knife can be passed around the

hat after the pressing of the curls, substantially as specified.

2. The combination of the hat block or band, the bottom board, the curling-dies, the side pressers, a trimming-knife, a knife-carrier mounted so as to be passed around the hat, means for moving said carrier, and a templet upon which said knife-carrier has a bearing during its movement around the hat, substantially as specified.

3. The combination of the hat-holder, the templet, the swiveled frame having transverse openings therethrough, the trimming-knife, a knife-carrying frame having a vertical opening and guide-rods adapted to the openings of the swiveled frame, a knife-holder having a stem adapted to the vertical opening of said knife-carrying frame, and springs contained within the openings of the swiveled frame and knife-carrying frame and tending, respectively, to hold said knife-carrying frame in contact with the templet and to depress the knife-holder, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN FITZ.  
GEO. REHFUSS.  
J. GEO. REHFUSS.  
MARTIN O. REHFUSS.

Witnesses:

E. G. REHFUSS,  
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