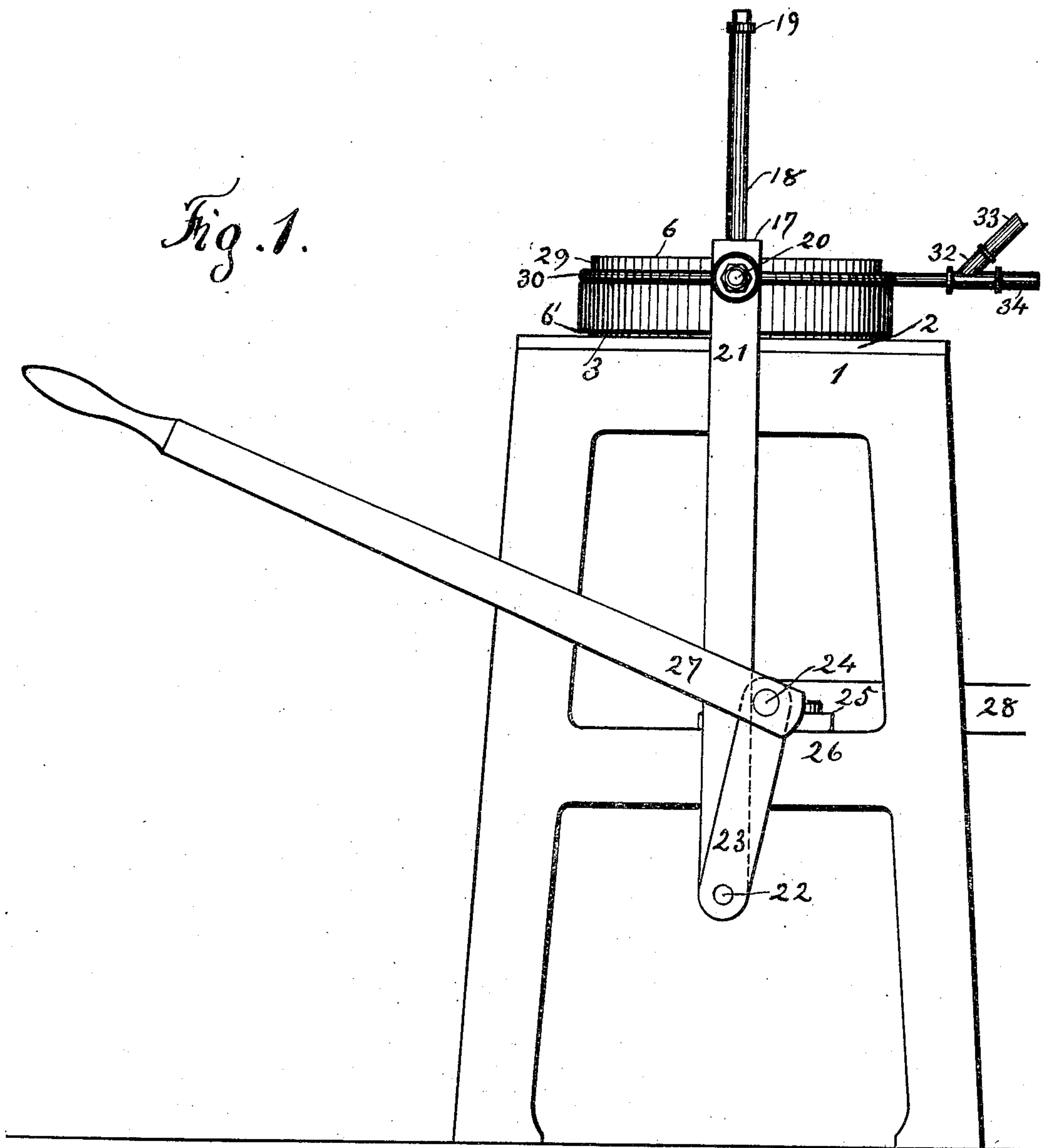


C. E. SACKETT.
HAT BRIM PRESS TO FORM WELT EDGES.
APPLICATION FILED APR. 27, 1908.

934,219.

Patented Sept. 14, 1909.
3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

James P. Wilson
Perry Wilson

INVENTOR

Chas E. Sackett

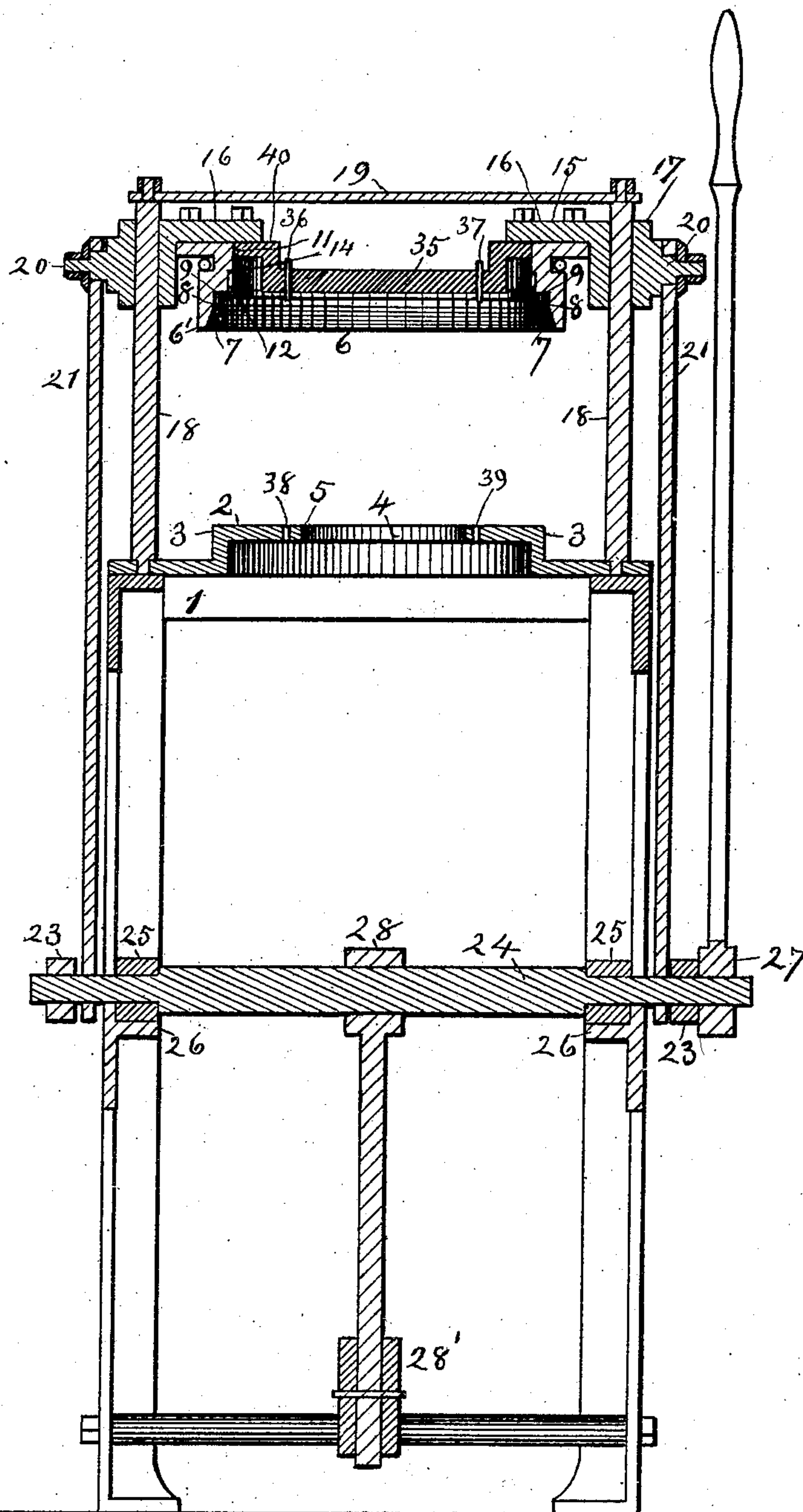
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3 SHEETS—SHEET 2.

Fig. 2



WITNESSES

James P. Wilson
Lerry Wilson

INVENTOR

Chas E Sackett

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3 SHEETS—SHEET 3.

Fig. 3.

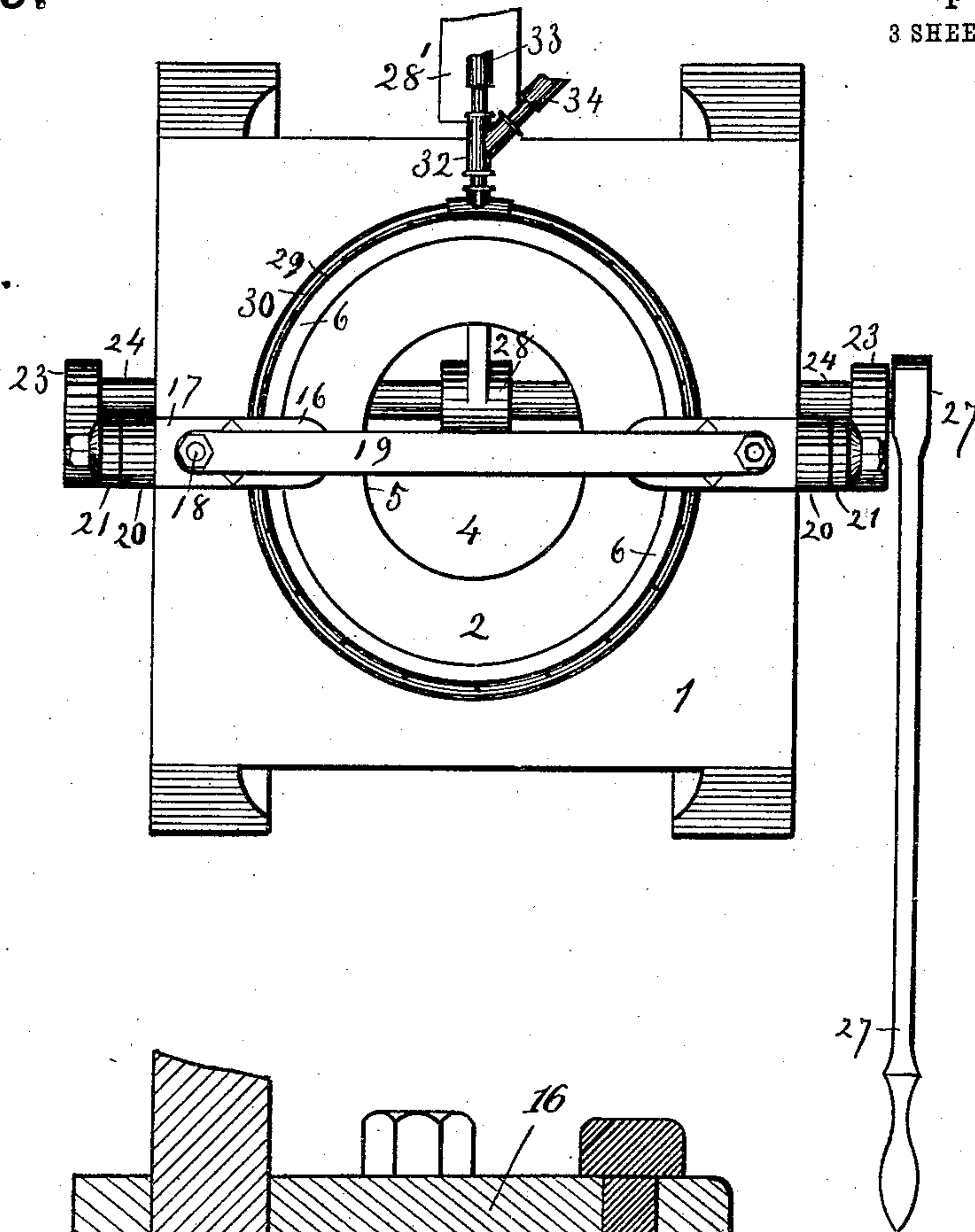
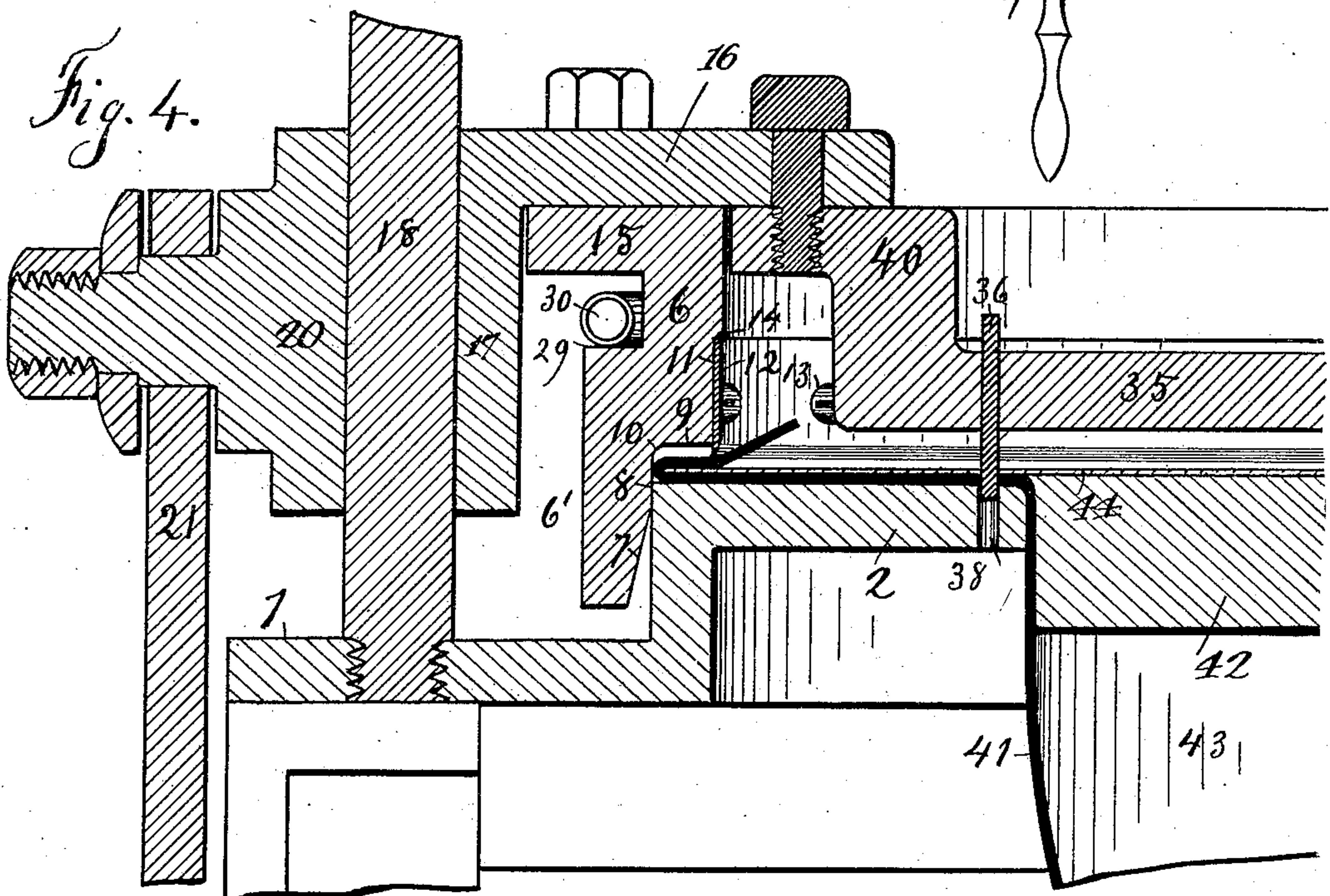


Fig. 4.



WITNESSES:

INVENTOR.

James P. Wilson
Perry Wilson

Chas. E. Sackett

UNITED STATES PATENT OFFICE.

CHARLES E. SACKETT, OF DANBURY, CONNECTICUT.

HAT-BRIM PRESS TO FORM WELT EDGES.

934,219.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 27, 1908. Serial No. 429,425.

To all whom it may concern:

Be it known that I, CHARLES E. SACKETT, a citizen of the United States, residing at the city of Danbury, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Hat-Brim Presses to Form Welt Edges, of which the following is a specification.

This invention relates to a mechanism for reinforcing the edge of a hatbrim by doubling the felt back upon itself to form a welt,—a style now coming into use, and already adopted in the hat for the United States Army. Heretofore the practice in general use for performing this operation has been to first form a reverse curl in the hatbrim edge by means of a curling machine, then to insert a matrix plate within the curl, then by hand labor with a heated iron to press the curl flat upon the upper side of the matrix, and then with a hatter's rounding jack to cut away the surplus brim, leaving an even width of reversed welt to be stitched down.

The object of my invention is to do away with the severe labor of hand ironing, and the expert use of a rounding jack, and to provide a quicker and better mechanical substitute, as well as to introduce other needed improvements in the art.

In the accompanying drawings, like numerals relate to like parts.

Figure 1, is a side elevation showing the press closed. Fig. 2, is a front elevation in central lateral cross section showing the press open. Fig. 3, is a plan view of Fig. 1. Fig. 4, is a portional section three-fourths full size, showing the action of pressing, trimming and punching.

1, is a suitable table. 2, a raised elliptical platform which may be cast with the table top or bolted to it, the periphery 3, of the platform is made to conform with the shape of the desired hatbrim; in the center of the platform is a recess 4, the edge 5, of which is made to conform with the outside shape of the crown of the hat so that when the crown is placed in the recess the brim edge necessarily conforms to the edge of the raised platform, (see Figs. 3 and 4).

6, is a movable press platen having a depending flange 6', with an inner elliptical face corresponding accurately with the periphery of the platform 2, so as to closely surround it upon its descent. To allow for any variation of movement the inner ellip-

tical face of the flange is tapered as at 7, to a sufficient extent to insure certainty of entry around the platform 2, and then contracts to the vertical face 8, accurately fitting it, and which face confines and shapes the edge of the hatbrim (see Fig. 4). At right angles to face 8, is the horizontal face 9, of the exact width of the desired reversed welt, this face constitutes the press platen proper, and the pressure is exerted on it only, if a square outer edge is desired on the hatbrim, the faces 8 and 9 form a sharp right angle, if a rounded edge is desired, the corner 10, is rounded, (see Fig. 4,) or these two faces in conjunction may be molded to give any desired shape to the welt edge.

In order to trim off the surplus brim extending beyond the desired width of welt, I attach to the vertical inner elliptical face 11, of the descending platen, a thin elliptical knife-blade 12, whose edge extends below the platen face 9, the usual thickness of the hatbrim felt. This blade is secured to the platen by screws 13, at proper intervals, and is also held in position by forming a projecting edge 14, above it.

On each side of the movable platen are cast lugs 15, which are bolted to overhead lugs 16, projecting from the side-boxes 17; these boxes slide upon vertical guide-rods 18, which are securely bedded in the table and are connected at their top ends by the stay-bar 19; the boxes are provided with outer bearings 20, from which depend connecting bars 21, which are journaled at their lower end upon bearings 22, secured in one end of the cranks 23, the other crank end being rigidly attached to the working shaft 24; this shaft is journaled in boxes 25, which are bolted to the table sides at 26. The shaft is worked by the lever 27, rigidly attached to it, about the central portion of the shaft is secured the arm 28 (see Fig. 2), which carries the weight 28', which balances in its downward movement all the rising weight of the press platen and its parts, thus leaving the operator only the work of movement and of exerting final pressure with the lever. To get the greatest pressure at the final point the lever is attached to the shaft at right angles to the cranks (see Fig. 1), thus bringing the fulcrum and connecting bar bearings nearly in vertical line as shown in Fig. 1; they can be brought quite in line by curving the connecting bars and placing the shaft 24, and boxes 25, midway of the

machine; by this means the press locks itself when under pressure and retains it until the lever is again moved.

It is necessary to heat the movable platen in order that it shall soften and remold the stiffening material in the hatbrim, to this end the platen is recessed on its outer face at 29 (see Fig. 1), to receive the encircling gas pipe 30, which is perforated at suitable distances with burner holes, and is connected by fitting 32, with flexible gas and air tubes 33, 34, which rise and fall with the platen. Owing to the necessity to heat the platen the heat draws the temper from the circular knife 12, preventing its carrying a keen enough edge to entirely always cut the surplus brim rounding clear, but it always cuts a deep and true score, and by running the point of a hard knife around the score line, the rounding is removed, the matrix-plate prevents cutting into the hatbrim, and any unskilled labor can accomplish what now requires skilled labor.

In some styles of hats with welt edges, notably the U. S. Army hat, eyelet holes are required on each side of the brim, located centrally adjacent to the crown, to receive a chin cord; these holes are now put in by using a hand punch and mallet. In this invention they are put in automatically and simultaneously with the formation of the welt by a construction consisting of a bridge casting 35 (see Figs. 2 and 4), which crosses the open space of the press platen centrally, and is provided at suitable points with two steel punches 36, 37, projected a sufficient distance below the bridge and platen face to pierce the hatbrim. The stationary platform 2, is provided with holes 38, 39 to receive the punch ends and dispose of the punchings, the bridge casting at its ends is continued upward to form lugs 40, which are bolted to the under side of the lugs 16, continued out from the boxes for that purpose. The bridge and punches are removable when eyelet holes are not required.

In Fig. 4 is shown by the heavy black line 41, the material or felt constituting a portion of a hatbrim and crown in the act of having the welt edge pressed and trimmed and the brim holes punched; the matrix is also here shown, which consists of a short hat-block 42, which is adapted to fit in the crown of the hat 43, and which is attached to a thin matrix-plate of zinc or copper 44, of the exact size of the brim, less the thickness of the material. It is obvious that when this matrix is inserted in the hat-crown with the plate within the curl of the brim, and the hat is dropped in the central recess 4, of the stationary platform 2, and the platen brought down upon it by means of the lever 27, the operation herein described will be performed by the operator in one single movement.

This machine is not designed to perform the operation of curling the edge of a hat brim, the hats come to the machine with the brims already curled, this machine is designed to press the curls into a flattened welt, and a different machine is required for each different size of hat.

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

1. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a centrally arranged section rising vertically from said platform, said raised section having a flat top surface constituting a press floor, said press floor having a plane surface, and a central opening adapted to receive the crown of a hat, the periphery of said press floor having the same ellipse as the periphery of a predetermined curled hat brim to be pressed thereon, the edge of said press floor terminating at its periphery in vertical sides extending downward to meet the platform above which said press floor is raised, and an annular movable ring surrounding said press floor adapted to restrain the spread of a curled hat brim, when subjected to pressure from above said press floor.

2. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a centrally arranged section rising vertically therefrom having a flat top surface constituting a press floor, said press floor having an opening centrally arranged therein, adapted to center the crown of a hat, and punch sockets arranged at each side of said opening in said press floor, adapted to receive the points of punches registering therewith and located above said press floor.

3. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a vertical section rising therefrom adapted to form a press floor, a press head centrally arranged above said press floor having a vertical reciprocal movement to and from said press floor, and a depending section adapted to encircle said press floor with an interior annular elliptical recess composed of a vertical and a horizontal face in right angular conjunction, said vertical face terminating in a conical elliptical section adapted to push any overlap of the hat brim within the periphery of said press floor, and to guide the vertical face of said section into true alinement with the vertical face of said press floor as it encircles it.

4. In a hat brim press to form welt edges, the combination of a machine frame, a supported platform, a section rising vertically therefrom forming a press floor, a press head arranged above said press floor having a vertical movement to and from said press floor, said press head having an interior an-

nular recess composed of a vertical and a horizontal face in right angular conjunction, said horizontal face being adapted to bear upon a hat brim when laid upon said press floor in conjunction with said vertical face adapted to surround the vertical sides of said press floor, thereby confining the periphery of a hat brim within the limits of said press floor, said vertical face extending downward from its junction with said horizontal face which is constructed of the same width as the width of a predetermined welt to be formed upon the edge of said hat brim.

5. In a hat brim press to form welt edges, the combination of a machine frame, a supported platform, a section rising vertically therefrom forming a press floor, a press head arranged above said press floor having an interior annular recess composed of a vertical and horizontal face in right angular conjunction, a vertical elliptical face rising from the inner edge of said horizontal face, said vertical face being recessed a sufficient depth and height to receive a vertical annular knife blade secured to said vertical face by screws, and projecting below said vertical face, with means to exert pressure upon said press head and the edge of said knife blade.

6. In a hat brim press to form welt edges, the combination of a machine frame, a supported platform, a section rising vertically therefrom forming a press floor, a press head arranged above said press floor, having a vertical movement to and from said press floor, said press head having an interior annular recess composed of a vertical and a horizontal face in right angular conjunction, an inner vertical elliptical face rising from the inner edge of said horizontal face forming a templet guide, and an outer vertical elliptical face parallel to said inner face, said outer face having an annular recess, an annular heating pipe arranged in said recess, said pipe being flexibly connected with stationary pipes adapted to supply the means of heat thereto, with means to give said press head and said pipe a vertical reciprocatory movement to and from said press floor.

7. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a section rising vertically therefrom forming a press floor, a press head arranged centrally above it, boxes secured to said press head upon opposite sides, said boxes having a vertical movement upon stationary guide rods bedded in and rising from said platform, journal bearings arranged upon the outer side of said boxes, depending side bars journaled on said bearings, said side bars being also journaled at their lower ends, to the extremities of cranks located at each side of said machine

frame, said cranks having their fulcrum ends attached to a shaft journaled in boxes on said machine frame, said shaft being located in said boxes parallel with the bearings on opposite sides of said press head, and sufficiently to one side of their perpendicular center, as will allow said side bars to fall in a perpendicular line between said bearings, and the bearings upon the extremities of said cranks, and a lever made fast to one end of said shaft, whereby the fulcrum center of said cranks and said lever is brought into a line with the side of said side bars, and between the ends of their pressure bearing journals to hold said press head under pressure at the end of its downward movement.

8. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a section rising vertically therefrom forming a press floor, a press head having boxes and outer journal bearings made movable on vertical guide rods centrally arranged above said platform, a shaft journaled in boxes attached to said machine frame arranged below said platform parallel with the bearings of said press head, cranks made fast to said shaft on each side of said frame, side bars connecting journal bearings at the extremities of said cranks, with the journal bearings at opposite sides of said press head, said cranks being horizontally parallel with said press head at the upper extremity of its movement, and perpendicular to it at the lower extremity of its movement, a lever made fast to one end of said shaft giving movement to said cranks, whereby said press head is given a quick movement to or from said press floor to shape a welt on the edge of a hat brim, or to discharge a hat after being welted, and an arm attached to said shaft carrying a weight whereby the movement of the mechanism actuated by said lever is balanced.

9. In a hat brim press to form welt edges, the combination of a machine frame, a platform supported thereon, a section rising vertically therefrom forming a press floor, a press head centrally arranged above it having boxes vertically movable upon vertical guide rods, outer journal bearings attached to said boxes, depending side bars journaled thereon, the lower ends of said side bars being journaled to the extremities of cranks, said cranks having their fulcrum ends supported by a shaft to which a lever is attached, the movement of said shaft by said lever being adapted to bring the fulcrum center of said cranks in a vertical line between the end bearings of said side bars, thereby obtaining the pressure of the toggle joint, and communicating such pressure to said press head at the extremity of its downward movement toward said press floor.

10. In a hat brim press to form welt edges,

the combination of a machine frame, a platform supported thereon, a section rising vertically therefrom forming a press floor, an opening in said floor centrally arranged to
 5 receive the crown of a hat, punch sockets arranged in said floor on opposite sides of said hat crown opening, a press head centrally arranged above said press floor having an interior elliptical opening, a bridge member
 10 centrally crossing said opening parallel with the punch sockets arranged in said press floor, said bridge member being removably secured to said press head, punches with downward points secured in said bridge
 15 member, said punches registering with the punch sockets in said press floor, and means to give said press head, bridge and punches, a vertical reciprocatory movement to and from said press floor, whereby holes are au-
 20 tomatically punched in said hat brim.

11. In combination, a machine frame, a platform, a press floor arranged above said platform, a press head adapted to descend thereon provided with an interior vertical
 25 annular cutter, punches made fast to said press head registering with sockets in said press floor, and a lever arranged to give movement to said press head toward said press floor, whereby a hat brim laid thereon

is welted, punched and trimmed, in one simultaneous operation by the movement of said lever. 30

12. In a hat brim press to form welt edges, in combination, a stationary press frame adapted to receive and support the brim and
 35 crown of a hat, a descending press head adapted to press and shape a reversed welt upon the edge of a hat brim, means for heating the said press head flexibly arranged, means for cutting the surplus rounding from
 40 said welt edge, means for punching eyelet holes in said hat brim automatically, means for automatically securing the descended press head while communicating heat and pressure, means for automatically retaining
 45 the press head in position when raised, and a controlling lever whereby said elements are made operative simultaneously by a single movement of said lever.

In testimony whereof, I have signed my
 name to this specification in the presence of
 two subscribing witnesses, this 24th day of
 April 1908. 50

CHAS. E. SACKETT.

Witnesses:

JAMES P. WILSON,
 PERRY WILSON.