

No. 747,963.

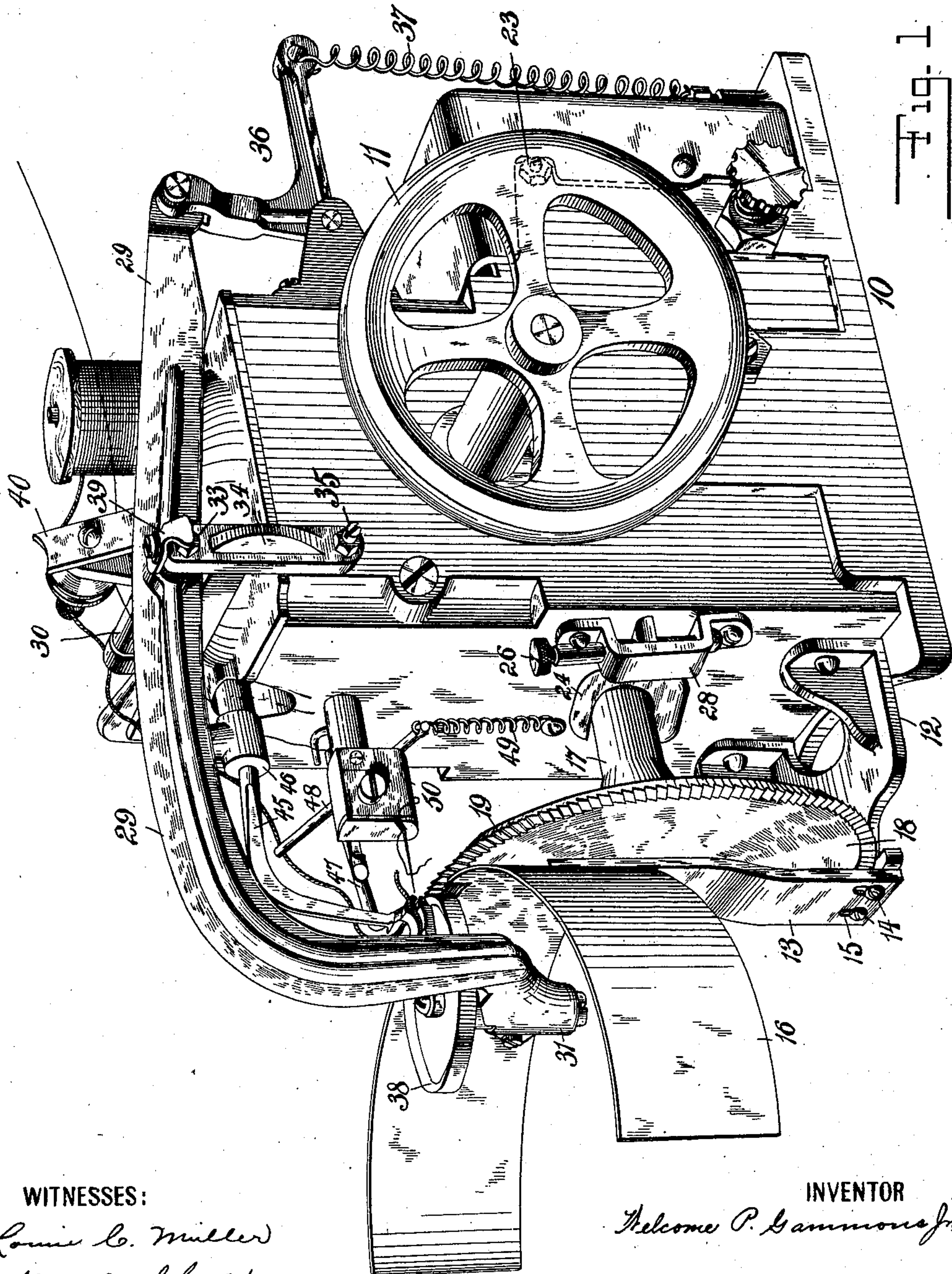
PATENTED DEC. 29, 1903.

W. P. GAMMONS, JR.
MACHINE FOR SEWING SWEAT BANDS INTO HATS.

APPLICATION FILED DEC. 9, 1901.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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Ella C. Sheridan.

INVENTOR

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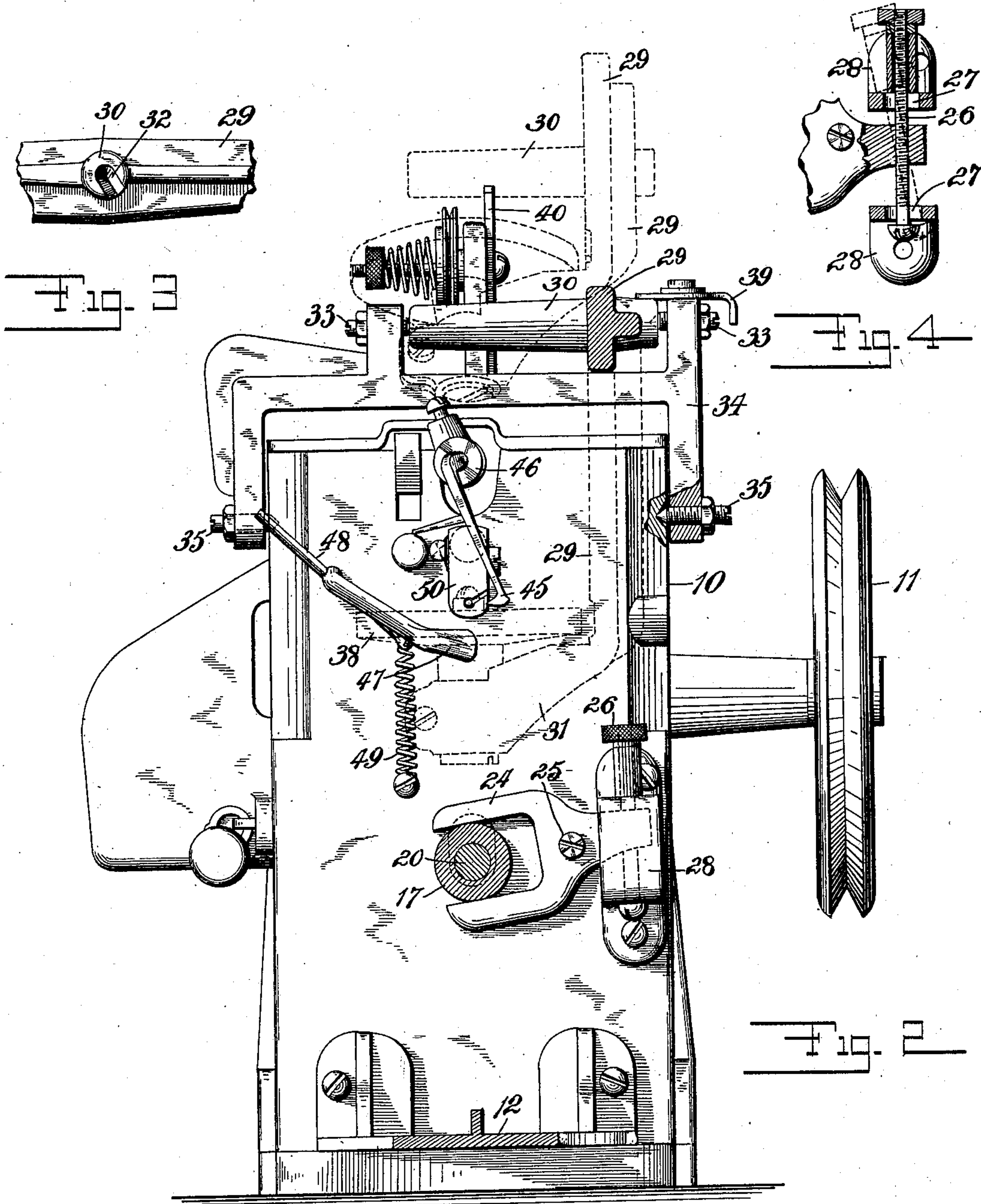
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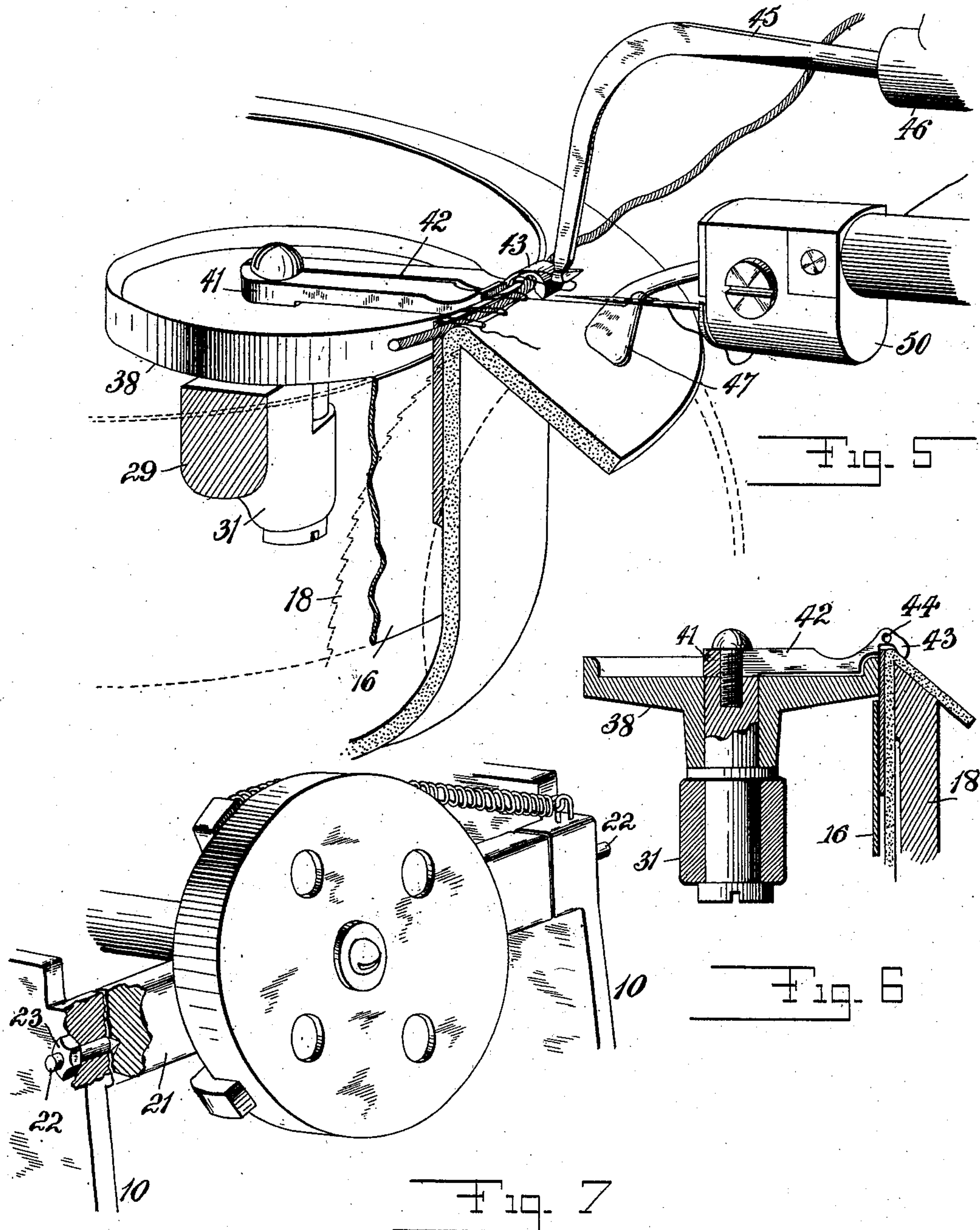
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WITNESSES:

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UNITED STATES PATENT OFFICE.

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MACHINE FOR SEWING SWEAT-BANDS INTO HATS.

SPECIFICATION forming part of Letters Patent No. 747,963, dated December 29, 1903.

Application filed December 9, 1901. Serial No. 85,176. (No model.)

To all whom it may concern:

Be it known that I, WELCOME P. GAMMONS, Jr., a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Machines for Sewing Sweat-Bands into 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, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to a machine for sewing the sweat-band into hats and also, if found desirable, to feed a reed or cord into its proper place when it is included as an element of the seam.

Another object is to provide a guide for the hat and the sweat-band and one adapted to press the sweat-band and the fold of the hat together and in their proper relative positions, another object of the invention being to provide a presser-wheel and support which permits of a quick and easy insertion of the elements of the seam and can be engaged and disengaged with despatch. Furthermore, I provide a serrated wheel that acts as a feeder for the hat and is adjustable vertically in order to regulate the depth of the engagement as presented to the needle for different thicknesses of material to insure a firm or less hold on the felt. This feeding-wheel in practice has a beveled edge that receives the fold of the hat and supports it under the path of the needle. It feeds from the inside of the fold and in conjunction with a spring-finger holds down the brim and presents the edge of the fold to the stitching mechanism.

In my Patent No. 477,750 is illustrated the old method of folding and feeding. A former makes the fold, and a feeding-wheel feeds from the outside of the fold, with the accompanying risk of marking the hat. In the present construction the folding and feeding are done by one element, and the consequent marks, if any, being under the brim, are covered by the hat-band.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the machine, and Fig. 2 is a face view with the hat-supporting frame removed and the presser-wheel shown in dotted outline. Figs. 3 and 4 are details to be described hereinafter. Fig. 5 is a perspective with the hat-support broken away and the hat and sweat-band shown in section to illustrate their relative positions. Fig. 6 is a section of the presser-wheel and a portion of the feed-wheel. Fig. 7 is a perspective of the rear of the feeding-wheel shaft.

In the views similar numerals of reference indicate corresponding parts.

The machine-casing 10 incloses and supports the machine, and the usual form of pulley 11 serves to drive the mechanism when connected by a belt.

Extending from the lower part of the front of the machine is a frame 12, which acts as a support for a leaf 13, which is secured to the frame 12 by the screws 14 and is made adjustable by means of the slots 15, as will be evident. This leaf supports the hat-supporting frame 16, which is preferably made semi-circular, or approximately so.

In close proximity to the inner face of the leaf 13 is the feeding-wheel 18, provided with the teeth 19 on the edge of its face. In practice where the feeding in this class of machinery is accomplished by the feeding mechanism engaging the brim outside the fold there is a stretching of the hat-body which causes an uneven stitch. This invention, in which the feeding-wheel engages the body of the hat, causes the movement of the body to be uniform without any stretching or distortion, and by having the teeth on the face of the wheel that portion of the body is engaged which is afterward covered by the band, and the minute markings on the hat caused by the teeth are covered, and said wheel is provided with a hub 17, which in turn is slid and fastened on the shaft 20, and said shaft 20 (see Fig. 7) is provided on the other end with a bearing 21, which is secured on its ends by a pair of screws 22, provided

with lock-nuts 23, which allows of a slight tilting of the shaft to adjust the top edge of the feeding-wheel. The adjustment is accomplished on the forward end of the shaft 5 by means of a pivoted fork 24, which embraces the hub of the feeding-wheel and acting with the screw 25 as a fulcrum is actuated by the screw 26, which works in slots 27 in the bracket 28, which allows of its tilting to adapt itself to the motion of the fork 10 24 and prevent the binding of the screw 26 in its bearing. It will be readily understood that by turning the screw 26 in either one direction or another the shaft and the feeding-wheel can be adjusted. 15

Lying over the tops of the casing and extending down into the hat-supporting frame is the arm 29, provided with the cross-arm 30, and is provided on the forward end with a bearing 31. Said cross-arm 30 is provided 20 at either end with a slot 32, which are adapted to fit over two pivotal screws 33 on a yoke 34, which is itself pivoted to the casing 10 by means of the screws 35. (See Fig. 2.)

The rear end of the arm 29 is pivoted to a bell-crank 36, which in turn is actuated by a spring 37, the tension of which, combined with the pivoted yoke 34, acts to always keep the arm pulled back, which keeps the presser-wheel 38 on the end of the arm pressed 30 against the serrated edge of the feeding-wheel 18. When it is desired to temporarily place the said presser-wheel out of engagement, a latch 39 on the yoke 34 can be turned to allow of the cross-arm's removal from the screws 33, and the cross-arm can be raised and set on a support 40, conveniently placed, but represented in the drawings attached to the thread-tension. The whole structure of 40 the presser-wheel holder will then assume the position shown in the upper dotted outline in Fig. 2.

On the presser-wheel 38 is placed a block 41, in which there is a needle-way 42 in line 45 with the horizontal reciprocating needle in the needle-holder 50. This block 41 has a nose-piece 43, which is provided with a perforation 44, through which the cord for the seam is fed. A loop-taker 45 on a bar 46 50 travels obliquely across the path of the needle, combined with a drop on either end of the stroke to retain the loops of the thread, to be described hereinafter.

When it is desired to sew a sweat-band into 55 a hat, the presser-arm mechanism is raised to the position on the support 40 and the sweat-band and hat are placed on the hat-support, as in Figs. 5 and 6, and the presser arm and wheel are lowered and placed in position on 60 the pivotal screws 33 on the yoke 34, locked by the latch 39 and held by the action of the spring 37. The hat-holding support 16 being cut away at that point where the presser-wheel engages the feed-wheel 18 keeps the hat and 65 sweat-band together by the pressure against

the feeding-wheel 18. The brim of the hat is held down against the rear inclined face of the wheel 18 by the finger 47, which is pivoted in the casing and provided with a finger-piece 48 and is held in engagement by the action of the spring 49. 70

The presser-wheel is free to revolve on its central bolt, which is fast, and said bolt has secured to the top thereof the block that forms the needle-way. The needle makes the stitch, 75 starting through the fold of the hat, then through the leather, leaving the loop to be carried by the loop-taker 45, and as the needle is withdrawn the feeding-wheel, having an intermittent circular motion, feeds the hat 80 and band the required distance for the next stitch. The resultant stitch is fully set forth and illustrated in my patent application for a seam, filed contemporaneously with this application, which bears the Serial No. 85,175 85 and was filed December 9, 1901.

When it is desired to incorporate the cord as an element of the seam, it is fed through the perforation 44, and, after the first stitch, is drawn through as the material is fed around 90 the support, and the nose 43, with the finger 47, gives the fold the proper sharpness. As heretofore made machines for this purpose have sewed the sweat-band and hat by inserting the needle through the leather sweat-band first, and as the thread was brought 95 over, the strain, coming on the felt first, was allowed to give or cushioned, as the leather was not drawn as tight as in this form, where the stitch is started from outside the hat and 100 the loop coming over is pulling directly on the edge of the sweat-band, which, being stiff, is drawn up close to the hat-body.

Whereas I have described the purpose for which the machine is constructed, and being 105 aware of other fields for its use I do not care to be limited to the sewing of hats.

Having thus described my invention, what I claim is—

1. In a hat-sewing machine, a casing, a vertically-disposed adjustable feeding-wheel rotating in an approximately vertical plane on an approximately horizontal axis, a hat-support, a horizontally and vertically movable presser-arm provided with a wheel engaging 115 the face of the feeding-wheel, a horizontal reciprocating needle, and a needle-way above the presser-wheel to receive the needle, substantially as set forth.

2. In a hat-sewing machine, a casing, a vertically-disposed adjustable feeding-wheel, a hat-support, a horizontally and vertically movable presser-arm provided with a wheel engaging the face of the feeding-wheel, a horizontally-reciprocating needle, a block on the 125 presser-wheel support and over the presser-wheel provided with a needle-way to receive the needle, substantially as set forth.

3. In a hat-sewing machine, a casing, a vertically-disposed adjustable feeding-wheel, a 130

hat-support, a horizontally and vertically movable presser-arm provided with a wheel engaging the face of the feeding-wheel, a horizontally-reciprocating needle, a block on the presser-wheel support and over the presser-wheel, forming a guide for the sweat-band, said block having a cord-guide thereon, and said block being provided with a needle-way, substantially as set forth.

4. In a hat-sewing machine, a casing, a feeding-wheel, means for vertically adjusting said feeding-wheel, an adjustable hat-support, a horizontally and vertically movable presser-arm provided with a wheel engaging the face of the feeding-wheel, a horizontal reciprocating needle, and a needle-way above the presser-wheel to receive the needle, substantially as set forth.

5. In a hat-sewing machine, a casing, a vertically-disposed adjustable feeding-wheel, a hat-support, a presser-arm provided with a presser-wheel which engages the face of the feeding-wheel, said presser-arm being pivoted in a rocking yoke, which allows a forward and backward movement of the presser-wheel, a horizontally-reciprocating needle, and a block above the presser-wheel forming a guide for the sweat-band, and provided with a needle-way, substantially as set forth.

6. In a hat-sewing machine, a casing, a vertically-disposed adjustable feeding-wheel, a semicircular hat-support, a presser-arm provided with a presser-wheel, said presser-arm being provided with a cross-bar, slots in said cross-bar fitting over pivots in a rocking yoke, a latch on the yoke locking the cross-bar and a spring-actuated bell-crank adapted to pull the presser-arm and thereby cause the presser-wheel to engage the face of the feeding-wheel, a horizontally-reciprocating needle and a block on the presser-arm to form a needle way and guide, substantially as set forth.

7. In a hat-sewing machine, a casing, a feeding-wheel, a semicircular hat-support, a presser-arm provided with a presser-wheel, the presser-wheel acting against the serrated face of the feeding-wheel, a horizontally-re-

ciprocating needle, a loop-taker traveling obliquely across the path of the needle and adapted to carry the loop, a block on the presser-arm provided with a needle-way and a guide for the sweat-band, and a nose on one side of the block guiding the fold and having a cord and leather guide, substantially as set forth.

8. In a hat-sewing machine, a casing, a stitch-forming mechanism, a hat-support, a feeding-wheel, provided with a serrated face, and a beveled back, the edge to receive the fold of a hat, a spring-actuated finger pressing on said back to hold the brim of the hat in engagement, a presser-arm pivoted in a rocking yoke and provided with a presser-wheel in engagement with the articles to be sewed, a needle-way formed in a block arranged over said presser-wheel, said block forming guides each side of the needle-way for the sweat-band, substantially as set forth.

9. In a hat-sewing machine, a stitching mechanism, a presser-wheel, a feeding-wheel with supporting means approximately horizontally disposed, said feeding-wheel having a toothed face, a sharp peripheral edge and a beveled rear face and a finger for holding a hat in engagement with the periphery and beveled rear face of the feeding-wheel.

10. In a hat-sewing machine, a stitching mechanism, a vertically-disposed feeding-wheel, a supporting means for the wheel, the feeding-wheel having a beveled edge forming a sharp periphery, said periphery being adapted to enter the fold of the material to be sewed, teeth on the face of the wheel placed to extend part way in from the periphery and arranged approximately radial to the center of the wheel, and means arranged to press the material to the wheel.

In testimony that I claim the invention set forth above I have hereunto set my hand this 7th day of December, 1901.

WELCOME P. GAMMONS, JR.

Witnesses:

WM. A. KNIGHT,
J. G. VAUGHAN.