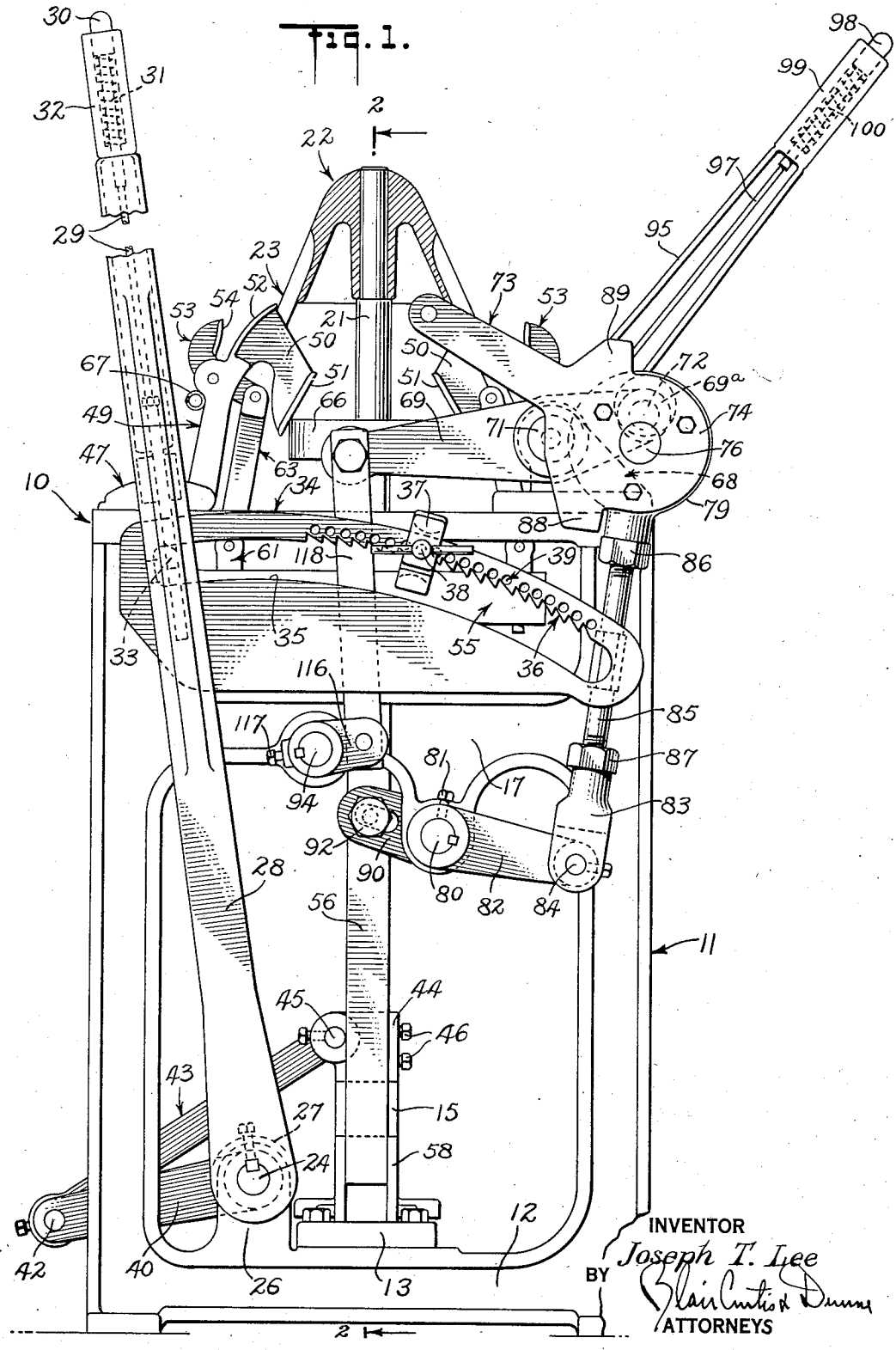
Aug. 27, 1935. J. T. LEE 2,012,882

BAT STRETCHING MACHINE OR THE LIKE

Filed Jan. 26, 1934 4 Sheets-Sheet 1

Fig. 1.



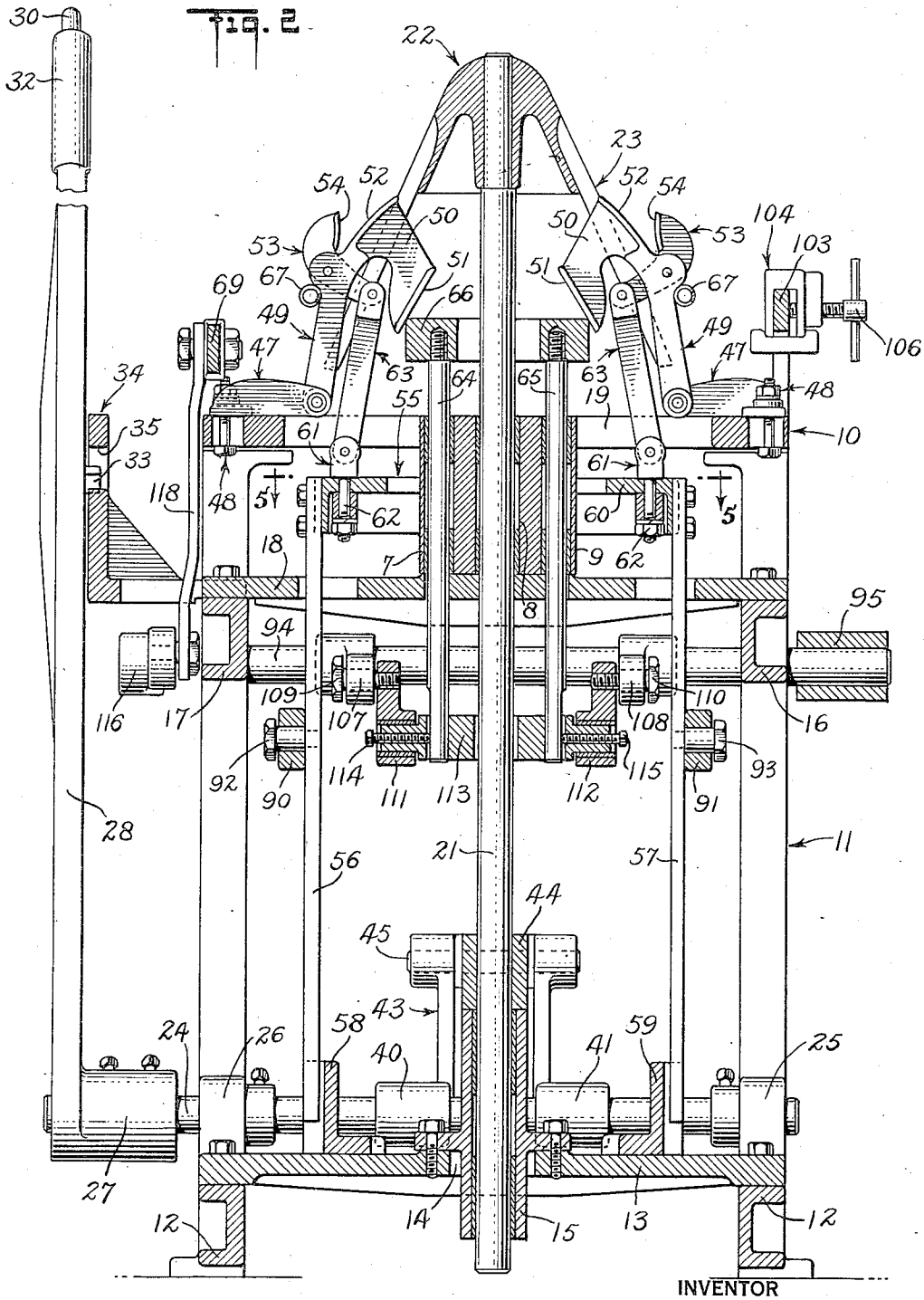
INVENTOR
Joseph T. Lee
BY Blair Curtis & Dunn
ATTORNEYS

Aug. 27, 1935. J. T. LEE 2,012,882

BAT STRETCHING MACHINE OR THE LIKE

Filed Jan. 26, 1934 4 Sheets-Sheet 2

Fig. 2.



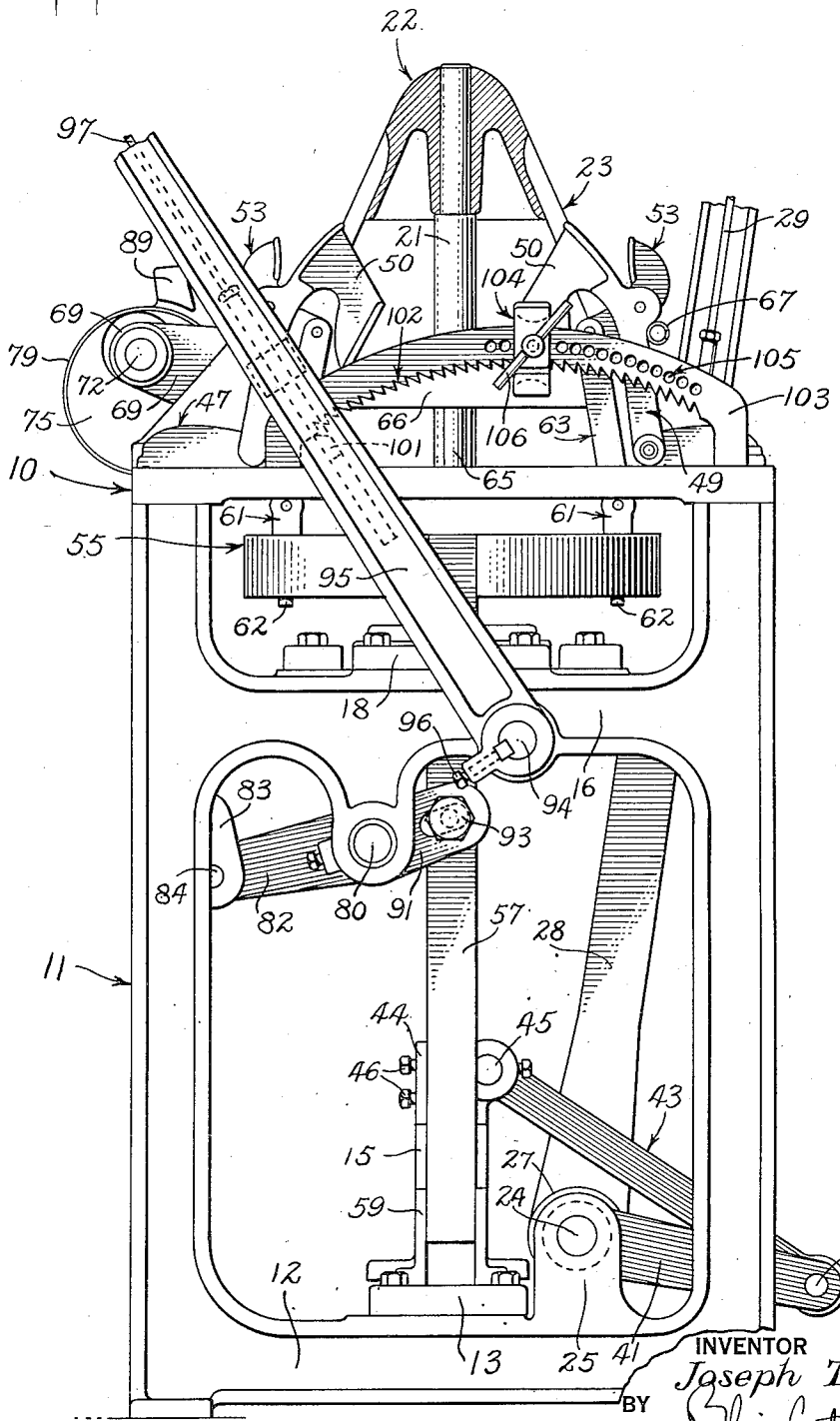
INVENTOR
Joseph T. Lee
BY Blair Curtis & Dunne
ATTORNEYS

Aug. 27, 1935. J. T. LEE 2,012,882

BAT STRETCHING MACHINE OR THE LIKE

Filed Jan. 26, 1934 4 Sheets-Sheet 3

Fig. 3.



INVENTOR
Joseph T. Lee
BY Blair Curtis & Dunne
ATTORNEYS

Aug. 27, 1935. J. T. LEE 2,012,882

BAT STRETCHING MACHINE OR THE LIKE

Filed Jan. 26, 1934 4 Sheets-Sheet 4

Fig. 4.

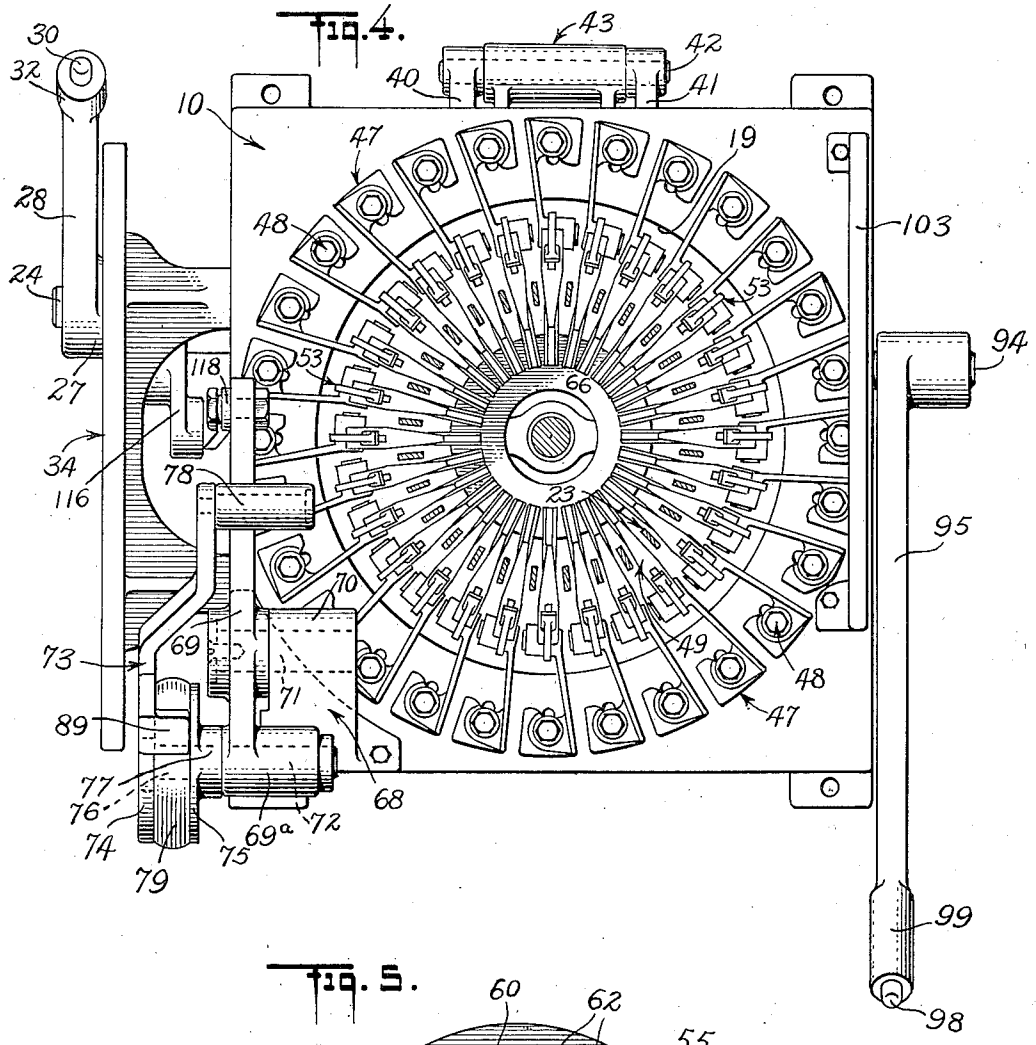


Fig. 5.

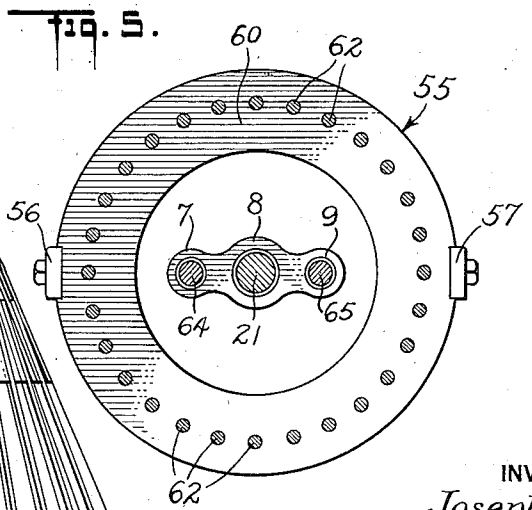
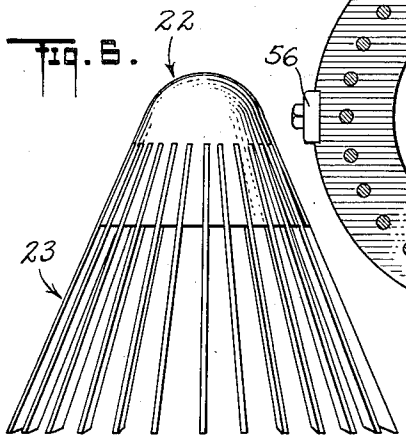


Fig. 6.



INVENTOR
Joseph T. Lee
BY
Blair Curtis & Dunne
ATTORNEYS

Patented Aug. 27, 1935 2,012,882

UNITED STATES PATENT OFFICE

2,012,882

BAT STRETCHING MACHINE OR THE LIKE

Joseph T. Lee, Danbury, Conn., assignor to Lee & Foley, Danbury, Conn., a co-partnership composed of Edward L. Foley and Joseph T. Lee

Application January 26, 1934, Serial No. 708,370

30 Claims. (Cl. 223—15)

This invention relates to a bat stretching machine or the like.

One of the objects of this invention is to provide a bat stretching machine which will be simple and practical in operation. Another object is to provide a machine of the above character which may be economically manufactured with a minimum amount of labor. Another object is to provide a machine of the above character which will be rapid and effective in operation. Another object is to provide a machine of the above character which will materially reduce the number of steps necessary to bring a bat down to proper size and thus be an effective factor in the reduction of labor costs. Another object is to provide a machine which will perform this bat stretching function practically without subjecting the operator to bodily injury. Another object is to provide a machine of the above character whose standards of operation may be changed at will and which will produce bats of standard proportions. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, in which is shown one of the various possible embodiments of my invention,

Figure 1 is a side elevation of my machine ready for operation, certain of the parts thereof being broken away;

Figure 2 is a vertical sectional view of my machine taken along the line 2—2 of Figure 1;

Figure 3 is an elevational view of my machine taken on the other side from that shown in Figure 1, certain of the parts thereof being broken away;

Figure 4 is a top plan view of my machine with the cone shaped supporting part broken away;

Figure 5 is a horizontal sectional view taken along the line 5—5 of Figure 2, and

Figure 6 is an elevational view of the bat supporting part of my machine.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to Figure 1, there is shown a table generally indicated at 10 supported by suitable legs generally indicated at 11, thus forming a framework for my machine. Legs 11 are joined in any suitable manner by sections 12 (Figure 2) upon which is mounted a suitable supporting piece 13.

As more clearly shown in Figure 2, there is provided an opening 14 in supporting piece 13, a sleeve-like member 15 extends therethrough and is bolted or otherwise secured to piece 13. Legs 11 are also joined by a pair of supporting sections 16 and 17 upon which a plate 18 is mounted and secured. Table 10 has a large substantially circular opening 19 formed therein and plate 18 has upstanding therefrom three sleeve-like bearing members 7, 8 and 9 which may be secured thereto or integrally formed therewith in any suitable manner.

A vertically disposed bar 21 is slidably mounted in sleeve-like member 15 and bearing 8 to extend above table 10, sleeve-like member 15 and bearing 8 being preferably packed to provide a suitable bearing surface for the vertical movement of bar 21. A bat supporting part generally indicated at 22 (Figure 6) is secured to the upper end of bar 21 in any suitable manner. Part 22, as best shown in Figure 6, is preferably cone shaped with a rounded upper portion. The lower section of part 22 has formed therein a plurality of longitudinally disposed slots generally indicated at 23 for purposes to be more fully described hereinafter.

A shaft 24 (Figure 2) is journaled in a pair of uprights 25 and 26 preferably bolted to supporting piece 13. Rigidly secured to shaft 24 by way of a collar portion 27 is a lever arm 28. As better shown in Figure 1, arm 28 extends upwardly a substantial distance above table 10 so that it may be easily grasped by the operator of the machine when in a standing position. A rod 29 is slidably mounted in the upper portion of arm 28 and has secured thereto a button 30 so that it may be depressed downwardly against a suitable spring 31 disposed within the handle 32 of the arm. Secured to the lower end of rod 29 is a cam piece 33, as better shown in Figure 2, and a ratchet part generally indicated at 34 is secured to plate 18 and extends upwardly along a plane parallel to and substantially adjacent the path of travel of arm 28.

A slot 35 is provided in ratchet part 34 into which cam piece 33 extends so that spring 31 (Figure 1) forces the cam piece against the upper surface thereof. The upper surface of slot 35 is provided with a series of ratchet teeth generally indicated at 36. Accordingly, movement of arm 28 in a clockwise direction, as viewed in Figure 1, causes cam piece 33 to ride along the top surface of slot 35 and ratchet teeth 36, and, upon

engagement with the ratchet teeth, movement of arm 28 in a counter-clockwise direction is prevented until pressure is applied to button 30 to release cam 33 from the teeth. I also prefer to provide a suitable stop 37 slidably mounted on ratchet part 34 into which is threaded a screw part 38 capable of engaging any one of a series of indentations generally indicated at 39 on ratchet part 34. Accordingly the movement of arm 28 in a clockwise direction (Figure 1) is limited by stop 37 and may be predetermined by the positioning of the stop.

A pair of lever members 40 (Figure 1) and 41 (Figure 4) are rigidly connected to shaft 24 to swing therewith. As better shown in Figure 4, I prefer to connect the outer ends of lever parts 40 and 41 with a pin 42. Rotatably mounted upon pin 42 is a link member generally indicated at 43 having its opposite sides pivotally connected to a collar member 44 (Figures 1 and 2) by way of a pin 45. Collar 44 is rigidly connected to bar 21 preferably by way of screws 46 (Figure 1). Accordingly movement of arm 28 in a clockwise direction (Figure 1) imparts similar movement of lever parts 40 and 41 to move part 43 as well as bar 21 in an upward direction. Furthermore the upward movement of bar 21 as well as bat supporting part 22 may be predetermined by positioning stop 37 on ratchet part 34, all as described above.

Referring now to Figures 2 and 4, a plurality of bracket-like members generally indicated at 47 are suitably secured to table 10 preferably by way of bolts generally indicated at 48. Bracket members 47 are disposed about table 10 in substantially circular fashion as shown in Figure 4. Each bracket member has pivotally connected thereto a finger member generally indicated at 49. Thus finger members 49 are free to pivot toward and away from part 22 in substantially radial directions with respect thereto, their upper ends thus forming a larger or smaller circle about part 22.

As more clearly shown in Figure 2, finger members 49 have enlarged upper portions 50, one surface 51 thereof being cam shaped for purposes to be described more fully hereinafter. These portions are also provided with a pinching surface 52 and immediately therebelow a series of finger parts generally indicated at 53 are pivoted. Finger parts 53 have a pinching surface 54 adjacent pinching surface 52 of the finger members. Accordingly finger parts 53 may be pivoted about their axes on the finger members to bring the pinching surfaces 52 and 54 into engagement, all as will be more fully described hereinafter.

Turning now to Figure 2, there is shown a part generally indicated at 55 positioned beneath table 10 and having two depending arms 56 and 57 extending through plate 18 and preferably guided by a pair of bracket-like parts 58 and 59 respectively secured to supporting part 13. Thus arms 56 and 57 are spaced from supporting part 13 and in fact part 55 is suspended in this position in a manner to be described hereinafter, the upper portion 60 of part 55 (Figure 5) extending about bearings 7 and 9 but being preferably out of engagement therewith.

A plurality of studs generally indicated at 61 are secured to part 55 preferably by way of bolts 62 (Figure 2), and a plurality of links generally indicated at 63 form a pivotal connection between these studs and the inner ends of finger part 53. Thus downward movement of part 55, as viewed in Figure 2, causes finger parts 53 to pivot about their axes on finger members 49 until pinching surfaces 52 and 54 engage. Upward movement of part 55 of course causes the reverse or spreading action of the fingers.

Still referring to Figure 2, a pair of bars 64 and 65 are slidably mounted within bearing members 7 and 9 to extend above table 10. Secured to bars 64 and 65 above table 10 in any suitable manner is a ring part 66 having its upper peripheral edge in engagement with the cam surfaces 51 of finger members 49. I also prefer to provide a suitable spring 67 (Figures 2 and 4) embracing finger members 49 to force cam surfaces 51 thereof against ring part 66. Thus cam surfaces 51 are in continuous engagement with ring part 66, and, due to their oblique surfaces, any movement of the ring part in an upward direction causes finger members 49 to spread outwardly in radial directions carrying with them finger parts 53. Conversely, a downward movement of ring part 66 allows spring 67 to contact to pivot finger members 49 about their axes in an inward radial direction or substantially toward each other. Accordingly if the correct vertical movement is transmitted to ring part 66 and part 55 respectively, members 49 and finger parts 53 may be made to clamp the brim of a bat and then move outwardly to stretch it, all as will be more fully described hereinafter.

Referring now to Figures 1 and 4, a bracket piece generally indicated at 68 is suitably secured to one corner of table 10. A lever arm 69 is supported between two upright sections 70 of bracket piece 68 and is pivotally connected thereto by way of a shaft 71. On one end of lever 69 is a sleeve-like portion 69a thereof within which is mounted a stud shaft 72. Rotatably mounted upon stud shaft 72 is a crank arm generally indicated at 73. Crank arm 73 comprises two spaced sections 74 and 75 connected by a shaft 76. A boss 77 extends from section 75 and is in registry with sleeve-like portion 69a and shaft 72 extends therein. Accordingly crank arm 73 including its sections 74 and 75 is free to pivot about shaft 72 as an axis. Crank arm 73 is provided with a suitable handle 78 so that it may be easily swung about the axis of shaft 72.

Shaft 76, as more clearly shown in Figure 1, is eccentrically disposed with respect to shaft 72, and rotatably mounted thereon between sections 74 and 75 (Figure 4) is a connecting head 79. Journaled within supporting sections 16 and 17 (Figures 1 and 3) is a shaft 80, and rigidly connected thereto by way of a set screw 81 (Figure 1) is a link 82. A yoke 83 is pivotally connected to the extremity of link 82 by way of a pin 84. A bar 85 is threaded within yoke 83 and connecting head 79, its ends having threads running in opposite directions so that rotation thereof in one direction causes a lengthening of the distance between connecting head 79 and yoke 83 while rotation in the other direction causes a shortening of this distance.

A pair of nuts 86 and 87 are threaded on bar 85 to lock the bar in any predetermined position against further rotation until desired. Extending inwardly from section 74 of crank arm 73 are a pair of stops 88 and 89 (Figures 1 and 4). Thus rotation of crank arm 73 in a clockwise direction is finally prevented by the engagement of stop 88 with connecting head 79 while rotation of the crank arm in the opposite direction is finally prevented by the engagement of stop 89 with the connecting head.

A pair of links 90 and 91 (Figures 1 and 2) are rigidly connected to shaft 80 and pivotally connected to a pair of bolts 92 and 93 (Figure 2) threaded into arms 56 and 57. Accordingly it will now become clear that upward movement of bar 85 causes shaft 80 to rotate in a counter-clockwise direction (Figure 1), which movement, by way of links 90 and 91, is converted into a downward movement of part 55. And conversely, movement of bar 85 in a downward direction causes part 55 to move upwardly. As described above, the downward movement of part 55 causes finger parts 53 to move into their clamping position while upward movement of this part makes for the spreading action of the fingers. Furthermore links 91 and 90 hold part 55 in a suspended position beneath table 10 for arms 56 and 57 are spaced from supporting section 13. Thus part 55 is free to move in either vertical direction. It will also be clear that vertical movement of bar 85 may be accomplished in one of two ways. Thus if crankarm 73 is pivoted in a clockwise direction, as viewed in Figure 1, until stop 89 engages connecting head 79, bar 85 is moved upwardly due to the eccentric position of shaft 76 with respect to shaft 72. On the other hand, bar 85 may be moved upwardly or downwardly as lever arm 69 pivots about shaft 71 (Figure 4).

A shaft 94 is journaled within supporting sections 16 and 17, as best shown in Figures 1, 2 and 3, and a lever 95 (Figure 3) is rigidly connected thereto by way of a set screw 96. Disposed within lever 95 is a rod 97 substantially similar in construction and position to rod 29 of lever 28 (Figure 1), thus being provided with a button 98 extending from the handle 99 of the lever arm. Suitably disposed within handle 99 is a spring 100 capable of forcing button 98 as well as rod 97 in an upward direction as viewed in Figure 1. Secured to rod 97, as best shown in Figure 3, is a pawl 101 positioned to engage a plurality of ratchet teeth generally indicated at 102 on a ratchet part 103. Ratchet part 103 is suitably secured to table 10, and slidably mounted thereon is a stop generally indicated at 104 similar in construction and operation to stop 37 (Figure 1). Thus ratchet part 103 is provided with a series of indentations generally indicated at 105, and a set screw 106 (Figure 2) is threaded into the stop to engage any of the indentations. In this manner the distance which lever 95 may move in a clockwise direction (Figure 3) can be readily predetermined. To move the lever, button 98 is pressed downwardly (Figure 1) to release pawl 101 (Figure 3) from ratchet teeth 102, thence to be moved against stop 104, and, upon release of the pressure applied to the button, the lever is held in position against the stop by the engagement of pawl 101 with one of teeth 102.

Turning now to Figure 2, I have provided a pair of links 107 and 108 rigidly connected to shaft 94 and in turn connected by bolts 109 and 110 to a pair of supporting parts 111 and 112. Mounted within supporting parts 111 and 112 is a member 113 into which bars 64 and 65 extend. Member 113 is rigidly connected to bars 64 and 65 preferably by way of a pair of set screws 114 and 115. It will now become clear that the movement of lever 95 against stop 104, as described above, rotates shaft 94 in a clockwise direction, as viewed in Figure 3, thus causing links 107 and 108 to move upwardly and force bars 64 and 65 in an upward direction as viewed in Figure 2. The upward movement of bars 64 and 65, as described above, pivots finger members 49 in an outward direction due to the engagement of ring part 66 with the cam surfaces 51 of the fingers.

Referring now to Figure 1, a link 116 is rigidly connected to shaft 94 preferably by way of a set screw 117. Link 116 and the left hand end of lever member 69, as viewed in Figure 1, are connected by a link 118. The movement of lever 95 against stop 104 (Figure 3) causes rotation of shaft 94 in a counter-clockwise direction, as viewed in Figure 1, consequently to force link 118 upwardly by way of link 116; but crank arm 73 (Figure 1) is supported by lever 69 and consequently the upward movement of link 118 causes lever 69 to move bar 85 downwardly. The downward movement of bar 85 moves part 55 upwardly thus pivoting finger parts 53 (Figure 2) in an outward direction.

In the actual manufacture of hats, a machine such as this is generally used over a period of time to stretch a large number of bats to one particular size. Accordingly the positions of stops 37 and 104 on ratchet parts 34 and 103 are first determined and the stops set in those positions so that finger members 49 move outwardly and part 22 moves upwardly distances just sufficient to stretch the bat the required amount.

To operate the machine, a bat is slipped over part 22 (Figure 2) so that its brim portion rests upon pinching surfaces 52 and 54 of finger members 49 and finger parts 53 respectively. Next the operator grasps handle 78 (Figure 4) of crank arm 73 and pulls it toward him in a clockwise direction as viewed in Figure 1 until stop 89 abuts against connecting head 79. As described more fully above, the movement of crank arm 73 moves rod 85 upwardly to force part 55 in a downward direction (Figure 2).

The downward movement of part 55 forces finger parts 53 to move against the bat so that it is pinched tightly against finger members 49 and thus held against displacement therefrom. The bat is now ready for stretching. Next lever 95 (Figure 3) is moved against stop 104 thus causing links 107 and 108 to move upwardly as viewed in Figure 2. Now ring part 66 moves against cam surface 51 of finger members 49 (Figure 2) to move the finger members outwardly in radial directions against the action of spring 67. As finger members 49 move outwardly the brim portion of the bat, which is held thereon by finger parts 53 as described above, is stretched outwardly in all radial directions.

Although finger parts 53 are carried by finger members 49 (Figure 2), links 63 connect them with part 55. Therefore if part 55 remained stationary during the outward movement of finger members 49, the relative movement of the finger parts with respect to finger members 49 caused thereby might release the brim of the bat. However, when lever part 95 (Figure 3) is moved against stop 104, it not only forces ring part 66 against the finger members 49 to move them outwardly but also forces link 118 (Figure 1) upwardly, and, as more fully described above, thus causes bar 85 to move downwardly. The downward movement of bar 85 moves part 55 (Figure 2) upwardly by way of connecting links 90 and 91. Lever arm 69 (Figure 1) is so proportioned and positioned that by way of bar 85 and links 90 and 91 it moves part 55 upwardly just the right amount to maintain finger parts 53 (Figure 2) clamped against finger members 49 while the finger members are moving outwardly under the impetus of ring part 66 and in fact

when they reach their outermost radial position. Thus in effect lever part 69 (Figure 1) which may control the position of part 55 (Figure 2) is sympathetic to the movement of finger members 49 in either direction. The brim portion of the bat has now been stretched the required amount.

Next turning to Figure 1, lever 28 is moved against stop 37 thus moving lever parts 40 and 41 upwardly as described more fully above. This action moves bar 21 upwardly to force part 22 against the crown portion of the bat. Consequently when lever 28 reaches stop 37, the brim portion of the bat has been stretched the required amount. Preferably at this point the entire bat as it is stretched is doused with a plentiful supply of fairly hot water, some of this water which leaks through the bat may drain downwardly through slots 23 in part 22 (Figure 6).

The bat must now be removed from the machine. To accomplish this lever 28 (Figure 1) is moved back to the position shown in the drawings to move part 22 downwardly out of the crown portion of the bat. Next lever 95 (Figure 3) is returned to the position shown in the drawings, thus allowing spring 67 to contract (Figure 2) and force the finger members 49 into their inner position. Crank arm 73 may now be grasped by the handle and turned about in a counterclockwise direction until stop 86 abuts against connecting head 79. The return of crank arm 73 to its neutral position or that position shown in Figure 1, moves bar 85 downwardly and part 55 (Figure 2) upwardly to move the pinching surfaces 54 of finger parts 53 out of engagement with finger members 49. The bat may now be removed from the machine to make way for the next bat to be stretched in a manner substantially similar to that mentioned above. It will be understood that the positions of stops 37 and 104 may be changed at any time during the operation of the machine in order to change the amount of brim stretching or crown stretching as may be desired.

By the expression "bat" as used hereinbefore or hereinafter I mean to include and define a hat body which has been suitably "formed" from a bat and sized so that it is sufficiently durable and possesses sufficient tensile strength to withstand adequately the stretching operation performed by my machine.

It will thus be seen that I have provided a thoroughly practical and efficient machine in which the several objects hereinabove referred to as well as many others have been successfully carried out.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In hat machinery, in combination, supporting means, a series of pairs of clamping fingers arranged on said supporting means, means for moving one finger of each of said pairs toward the other finger of each of said pairs to clamp the brim portion of a bat, and means for moving said pairs of fingers outwardly in radial directions to stretch said brim portion, said second-mentioned means having an operative connection with said last-mentioned means to maintain said fingers in clamped relation as said pairs move outwardly.

2. In hat machinery, in combination, supporting means, a series of pairs of clamping fingers arranged on said supporting means, means for moving one finger of each of said pairs toward the other finger of each of said pairs to clamp the brim portion of a bat, means for moving said pairs of fingers outwardly in radial directions to stretch said brim portion, said second-mentioned means being operatively connected to said last-mentioned means to maintain a substantially constant clamped relation between the fingers of each of said pairs as said pairs move outwardly, and means adapted to extend into the bat to stretch the crown portion thereof.

3. In hat machinery, in combination, supporting means, a plurality of finger members pivotally mounted on said supporting means in substantially circular fashion, a supporting part, a plurality of finger parts pivotally connected to said finger members, means connecting said finger parts to said supporting part, means adapted to move said supporting part to bring said finger parts and said finger members into clamping relation, means for pivoting said finger members to move said finger members and said finger parts outwardly in radial directions, and means forming an operative connection between said last-mentioned means and said third-mentioned means to maintain a substantially constant relationship between said finger members and said finger parts as they pivot outwardly.

4. In hat machinery, in combination, supporting means, a plurality of finger members pivotally mounted on said supporting means in substantially circular fashion, a supporting part, a plurality of finger parts pivotally connected to said finger members, means connecting said finger parts to said supporting part, means adapted to move said supporting part to bring said finger parts and said finger members into clamping relation to clamp the brim of a bat, and means for pivoting said finger members to move said finger members and said finger parts outwardly in radial directions to stretch the brim of said bat, said last two mentioned means including a mechanical connection whereby they coact to maintain said finger members and said finger parts in clamped relation as said last-mentioned means acts to pivot said finger members, means adapted to extend into the bat to stretch the crown portion thereof, means for predetermining the stretching movement of said last-mentioned means, and means for predetermining the outwardly pivotal movement of said finger members.

5. In hat machinery, in combination, supporting means, a plurality of finger members pivotally mounted on said supporting means in substantially circular fashion, a supporting part, a plurality of finger parts pivotally connected to said finger members, means connecting said finger parts to said supporting part, means adapted to cause relative movement between said supporting part and said supporting means to bring said finger parts into clamped relationship with said finger members, means adapted to pivot said finger members outwardly in radial directions, and means forming a mechanical connection between said two last-mentioned means adapted to move said supporting part toward said supporting means as said last-mentioned means operates a distance sufficient to maintain said finger parts and said finger members in clamped relation as said finger members pivot outwardly.

6. In hat machinery, in combination, supporting means, a plurality of finger members pivotally mounted on said supporting means in substantially circular fashion, a supporting part, a plurality of finger parts pivotally connected to said finger members, means connecting said finger parts to said supporting part, means adapted to move said supporting part away from said supporting means to bring said finger parts into clamped relationship with said finger members, means adapted to pivot said finger members outwardly in radial directions, means forming a mechanical connection between said two last-mentioned means adapted to move said supporting part toward said supporting means as said last-mentioned means operates a distance sufficient to maintain said finger parts and said finger members in clamped relation as said finger members pivot outwardly, and means adapted to extend into the crown portion of a bat held by said finger members and said finger parts after the operation of said last-mentioned means and operable to stretch the crown portion of said bat.

7. In hat machinery, in combination, supporting means, a plurality of finger members pivotally mounted on said supporting means in substantially circular fashion, a supporting part, a plurality of finger parts pivotally connected to said finger members, means connecting said finger parts to said supporting part, means adapted to move said supporting part away from said supporting means to bring said finger parts into clamped relationship with said finger members, means adapted to pivot said finger members outwardly in radial directions after said finger parts and said finger members assume their clamped relationship means forming a mechanical connection between said two last-mentioned means adapted to move said supporting part toward said supporting means as said last-mentioned means operates a distance sufficient to maintain said finger parts and said finger members in clamped relation as said finger members pivot outwardly, and means for predetermining the pivotal movement of said finger members.

8. In hat machinery, in combination, supporting means, a plurality of finger members pivotally connected to said supporting means, means associated with each of said finger members adapted to secure the brim portion of a hat thereto, said finger members each having a cam surface, a yoke member in engagement with said cam surfaces and capable of vertical movement to impart pivotal movement to said finger members, a lever connected to said supporting means, and means connecting said yoke to one end of said lever whereby movement of said lever in one direction forces said yoke against said cam surfaces to pivot said finger members in an outward radial direction.

9. In hat machinery, in combination, supporting means, a plurality of finger members connected to said supporting means, a plurality of finger parts, a table member connected to said finger parts, said table member adapted to move said finger parts toward said finger members upon downward movement, means adapted to move said finger members outwardly in radial directions upon upward movement, lever means connected to said last-mentioned means, lever means connected to said table member, and means forming a connection between both of said lever means to move said table member in an upward direction when said second-mentioned means moves upwardly in response to the actuation of said first-mentioned lever means.

10. In hat machinery, in combination, supporting means, a plurality of pairs of finger members connected to said supporting means, an actuating part adapted to move said pairs of fingers outwardly, an actuating member adapted to move said finger members into clamping relationship, lever means associated with said actuating part, lever means associated with said actuating member, and means forming a connection between both of said lever means whereby said actuating member is moved a distance sufficient to maintain said finger members in clamped relationship when said actuating part moves.

11. In hat machinery, in combination, supporting means, a plurality of pairs of finger members connected to said supporting means, the finger members of each of said pairs being pivotally related, an actuating part adapted to move said pairs of fingers outwardly, an actuating member adapted to move said finger members into a clamping relationship, lever means associated with said actuating part, lever means associated with said actuating member, means forming a connection between both of said lever means, whereby said actuating member is moved a distance sufficient to maintain said finger members in clamped relationship, when said actuating part moves, said finger members being adapted to clamp and stretch the brim portion of a hat, and means for stretching the crown portion of said bat.

12. In hat machinery, in combination, supporting means, finger members pivotally connected to said supporting means, a part, means connecting finger members to said part, the movement of said part in one direction causing said finger members to move towards a clamping position, a lever connected to said supporting means and adapted to impart vertical movement to said part, whereby upon an upward movement of said part by said lever said finger members will move outwardly with respect to said part, said finger members being adapted to clasp the brim portion of a bat, means for stretching the crown portion of said bat, means for predetermining the extent to which said crown portion is to be stretched, and means for predetermining the extent of the outward movement of said fingers.

13. In hat machinery, in combination, a support, a plurality of clamps connected to said support, said clamps being adapted to clasp the brim of a bat, actuating part adapted to move said clamps outwardly, an actuating member adapted to effectuate a clamped relationship between said clamps and said bat, lever means associated with said actuating part, lever means associated with said actuating member, link means forming a connection between both of said lever means, whereby said actuating member is sufficiently moved to maintain said clamped relationship when said actuating part moves, and means for predetermining the extent of the outward movement of said clamps.

14. In hat machinery, in combination, a plurality of clamping members each having a pair of pivotally related jaws adapted to grasp the brim of a bat, means for pivotally supporting said clamping members, said means including a stationary member and a movable member, lever means for moving said last-mentioned member to bring said jaws into clamped relationship, a part adapted to move said clamping members outwardly to stretch the brim of said bat, lever

means associated with said part, and means forming a connection between both of said lever means whereby the clamped relationship of said jaws is maintained as said clamping members are moved by said part.

15. In hat machinery, in combination, a plurality of clamping members each having a pair of pivotally related jaws adapted to grasp the brim of a bat, a stationary supporting member, a movable supporting member, said clamping members being pivotally related to both of said supporting members, a lever for actuating said movable supporting member whereby said jaws are pivoted into clamped relationship, a part having a driving connection with one of each of said pairs of jaws and movable to force said clamping members outwardly to stretch the brim of said bat, a lever for moving said part, and link means connecting both of said levers whereby, upon operation of said last-mentioned member to move said clamping members outwardly, a relative movement is imparted to said movable supporting member to maintain the clamped relationship of said jaws.

16. In hat machinery, in combination, supporting means, a plurality of clamp jaws pivotally connected to said supporting means, an actuating part, a second plurality of jaws pivotally related to said first plurality of jaws, a plurality of link members connecting said second plurality of jaws with said actuating part, lever means associated with said actuating part and adapted to move said jaws to clasp the brim of a bat, an actuating member operable to move said jaws outwardly to stretch the brim of said bat, lever means for imparting movement to said actuating member, and means forming a connection between both of said lever means whereby the clamped relationship of said jaws is maintained as said jaws move outwardly.

17. In hat machinery, in combination, supporting means, a plurality of pairs of clamp jaws connected to said supporting means one of each of said pairs of jaws having a cam surface, means for bringing said jaws into clamped relationship to clasp the brim of a bat, and means operating on said cam surface to force said clamps outwardly to stretch the brim of said bat.

18. In hat machinery, in combination, supporting means, a plurality of pairs of clamp jaws connected to said supporting means one of each of said pairs of jaws having a cam surface, means for bringing said jaws into clamped relationship to clasp the brim of a bat, means operating on said cam surface to force said clamps outwardly to stretch the brim of said bat, link means connecting said first-mentioned and said second-mentioned means to effect a relative movement therebetween upon operation of said second-mentioned means whereby the clamped relationship of said jaws is maintained as said clamps move outwardly.

19. In hat machinery, in combination, supporting means, a plurality of pairs of clamp jaws connected to said supporting means one of each of said pairs of jaws having a cam surface, means for bringing said jaws into clamped relationship to clasp the brim of a bat, means operating on said cam surface to force said clamps outwardly to stretch the brim of said bat, link means connecting said first-mentioned and said second-mentioned means to effect a relative movement therebetween upon operation of said second-mentioned means whereby the clamped relationship of said jaws is maintained as said clamps move outwardly, and link means connecting said clamp operating means and said cam.

20. In hat machinery, in combination, a vertically movable bat support, a plurality of clamp members disposed radially of said bat support and pivotable away therefrom, said clamp members being adapted to clasp the brim of a bat mounted on said support, means for bringing the jaws of said clamp members into clamped relationship, means for pivoting said clamp members outwardly to stretch the brim of said bat, means connecting said first-mentioned and said second-mentioned means to maintain the clamped relationship of the jaws of said clamp members as said clamp members move outwardly, and means for moving said bat support vertically to stretch the crown portion of said bat.

21. In hat machinery, in combination, a vertically movable bat support, a plurality of clamp members disposed radially of said bat support and pivotable away therefrom, said clamp members being adapted to clasp the brim of a bat mounted on said support, means for bringing the jaws of said clamp members into clamped relationship, means for pivoting said clamp members outwardly to stretch the brim of said bat, means connecting said first-mentioned and said second-mentioned means to maintain the clamped relationship of the jaws of said clamp members as said clamp members move outwardly, means for moving said bat support vertically to stretch the crown portion of said bat, means for predetermining the amount to which said brim is to be stretched, and means for predetermining the amount to which said crown portion is to be stretched.

22. In hat machinery, in combination, supporting means, a plurality of clamps pivotally connected to said supporting means, said means including an actuating part adapted to move the jaws of said clamps into clamped relationship, means for moving said clamps outwardly, and link means forming a connection between said actuating part and said second-mentioned means whereby the clamped relationship of said jaws is maintained as said clamps move outwardly, said clamps being adapted to stretch the brim portion of a bat.

23. In hat machinery, in combination, supporting means, a plurality of clamps pivotally connected to said supporting means, said means including an actuating part adapted to move the jaws of said clamps into clamped relationship, means for moving said clamps outwardly, link means forming a connection between said actuating part and said second-mentioned means whereby the clamped relationship of said jaws is maintained as said clamps move outwardly, said clamps being adapted to clamp and stretch the brim portion of a bat, lever means operable to actuate said actuating part and said second-mentioned means, and means for predetermining the extent of swing of said lever means.

24. In hat machinery, in combination, supporting means, a plurality of clamps pivotally connected to said supporting means, said means including an actuating part adapted to move the jaws of said clamps into clamped relationship, means for moving said clamps outwardly, link means forming a connection between said actuating part and said second-mentioned means whereby the clamped relationship of said jaws is maintained as said clamps move outwardly, said clamps being adapted to stretch the brim portion

of a bat, and means for stretching the crown portion of said bat.

25. In hat machinery, in combination, a pair of relatively movable supports, a pair of clamp jaws pivotally connected to said supports and to each other whereby upon movement of one of said supports said jaws clamp together to secure the brim portion of a bat therebetween, means for pivoting said jaws as a unit to stretch said brim portion, and means operatively related to said last-mentioned means for changing the position of one of said supports as said unit is pivoted whereby the clamped relation of said jaws remains substantially unchanged.

26. In hat machinery, in combination, a pair of relatively movable supports, a pair of clamp jaws pivotally connected to said supports and to each other whereby upon movement of one of said supports said jaws clamp together to secure the brim portion of a bat therebetween, means for pivoting said jaws as a unit to stretch said brim portion, means operatively related to said last-mentioned means for changing the position of one of said supports as said unit is pivoted whereby the clamped relation of said jaws remains substantially unchanged, and means for stretching the crown portion of said bat.

27. In hat machinery, in combination, a fixed support, a movable support, a clamp jaw pivotally connected to said fixed support, a clamp jaw pivotally connected to said movable support and to said first-mentioned clamp jaw, means for moving said movable support to bring said jaws into clamped relationship to grasp the brim of a bat, means for pivoting said jaws as a unit to stretch the brim of said bat, and means forming a mechanical connection between said last-mentioned means and said movable support whereby the pressure exerted by said jaws on said bat brim remains substantially constant as said unit pivots outwardly.

28. In hat machinery, in combination, a fixed support, a movable support, a clamp jaw pivotally connected to said fixed support, a clamp jaw pivotally connected to said movable support and to said first-mentioned clamp jaw, means for moving said movable support to bring said jaws into clamped relationship to grasp the brim of a bat, means for pivoting said jaws as a unit to stretch the brim of said bat, means forming a mechanical connection between said last-mentioned means and said movable support whereby the pressure exerted by said jaws on said bat brim remains substantially constant as said unit pivots outwardly, and means for stretching the crown portion of said bat.

29. In hat machinery, in combination, a fixed support, a clamp jaw positively pivotally connected to said fixed support, a movable support, a link positively pivotally connected to said movable support, a clamp jaw positively pivotally connected to said link and to said first-mentioned clamp jaw whereby upon movement of said movable support said jaws move together to grasp the brim portion of a bat, means for moving said jaws as a unit outwardly to stretch said brim portion, said means being mechanically connected to said movable support whereby said jaws exert a substantially constant pressure on said brim portion as they move outwardly.

30. In hat machinery, in combination, a fixed support, a clamp jaw pivotally connected to said fixed support, a movable support, a clamp jaw pivotally connected to said movable support and to said first-mentioned clamp jaw, means for moving said movable support to clamp said jaws about the brim portion of a bat, means for moving said jaws as a unit outwardly to stretch said brim portion, and means forming an operative connection between said last-mentioned means and said movable support whereby said movable support moves toward said fixed support as said unit moves outwardly thereby to maintain a substantially constant clamping pressure of said jaws on said brim portion.

JOSEPH T. LEE.