MACHINE FOR SKIVING SHOE STIFFENERS

This invention relates to machines for skiving shoe stiffeners, for example counters, toe pieces and similar articles, and is herein illustrated as embodied in a skiving machine comprising an abrasive tool.

The operation of skiving shoe stiffeners to reduce the margins to a thin edge is commonly carried out by moving said stiffeners across the sharp edge of a knife blade. The means for presenting stiffeners to the knife blade commonly involves a matrix shaped like the stiffener and into which the stiffener is pressed as it is presented to the edge of the blade. Such machines require mechanism for pressing the stiffener into the matrix in order to distort it so that the straight blade will be effective to skive the stiffeners. Moreover, in the case of stiffener blanks of leather board or fiber board, difficulty has been experienced in properly skiving the blanks because of the tendency of such material to tear and peel under the action of the skiving tool.

In accordance with the present invention as herein exemplified, the stiffener blanks are supported in a plane parallel to the plane of the active surface of a rotatable abrasive tool and the margins of the blanks are raised and moved into contact with the tool while it is rotated. Advantageously the end or radial face of a cylindrical grinding wheel may be employed and a carrier be supported in a matrix as relative movement is effected between the matrix and the grinding tool in a plane parallel to the end face thereof, the stiffener being pressed into the matrix by the action of the grinding wheel. During the relative movement of the stiffener and the tool, one is progressively moved toward the other, thereby gradually and progressively cutting away a marginal portion of the stiffener.

One object of the present invention is to provide an improved skiving machine in the use of which margins of shoe stiffeners may be beveled by abrading means in accordance with my novel method.

In accordance with the above-stated object, one feature of the invention resides in a skiving machine utilizing a rotary abrasive tool for beveling the margins of the shoe stiffeners and in which a carrier having a matrix is provided for presenting stiffeners to the grinding wheel in a plane forming a large angle with the horizontal, the illustrated carrier being arranged in a substantially vertical plane parallel to the plane of the end surface of the grinding wheel. In one form of the invention, the carrier has a series of matrices each of which is provided with a low marginal rim for holding the stiffeners in the matrix as a relative traverse is produced between the grinding wheel and the matrix to present a stiffener to the abrasive action of the grinding wheel. The construction and arrangement of the machine are such that the stiffener is distorted and its central portion pressed into the matrix by the resistance of the grinding wheel.

Another feature of the invention resides in an improved carrier in which the matrix-like recesses adapted to receive shoe stiffeners are provided with moveable bottoms and means are provided for moving the bottoms of the recesses during the movement of the carrier to present a stiffener to the action of the skiving mechanism such as a grinding wheel.

Another feature of the invention resides in a skiving machine having a rotatable grinding wheel with an exposed end surface, in which machine means are provided for presenting shoe stiffeners to said end face comprising a member rotatable about an axis parallel to the axis of the grinding wheel. As illustrated this member has its supporting surface opposed to and overlapping the end surface of the grinding wheel so that the stiffeners are carried in a curved path overlapping the path of movement of the active surface of the grinding wheel which, if it is a cup-shaped wheel, will comprise an annular path.

In order that the illustrated machine may be substantially automatic in its operation, it is, in accordance with other features of the invention, provided with a magazine for supporting a stack of the stiffener blanks which stack is continually pressed into engagement with the surface of the work-presenting carrier. As a recess in the carrier passes the
end of the magazine a blank is pressed into the recess where it is supported by the engagement of the rim with its edges and is carried on past the skiving mechanism. When, as previously mentioned, the carrier is provided with a moveable bottom for the recess, then means may be provided for retracting said bottom to deepen the recess when it is opposite the magazine and for raising the bottom of the recess to raise the blank into engagement with the skiving mechanism, and later for moving said bottom member still further to expel the blank from the carrier. Cam-controlled driving mechanism is preferably provided for the carrier so that it halts momentarily when the recess is in position for the reception of a blank from the magazine, and, as illustrated, manually- operated devices are provided so that the control mechanism may be rendered inoperative.

In the drawings—

Fig. 1 is a side elevation of an automatic skiving machine constructed in accordance with my invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a side elevation partly in section of a clutch and its controlling mechanism;

Fig. 4 is an end elevation of the mechanism shown in Fig. 3;

Fig. 5 is an elevation of a fragment of a blank-carrying wheel having a matrix-like recess;

Fig. 6 is a section on the line VI—VI of Fig. 5 showing the matrix-like bottom of the recess in elevated or blank ejecting position; and

Fig. 7 is an elevation of the end of the grinding wheel and one of the magazines showing in dotted lines the relation of the work carriers to said parts.

In general, the illustrated machine for skiving shoe stiffeners comprises a cup-shaped grinding wheel 10 rotateable about a horizontal axis and having an exposed end or radial face 12 to which shoe stiffener blanks, such as counters, are presented by means of carriers 14 and 16 rotateable about axes parallel to the axis of the grinding wheel 10 and each provided with matrix-like recesses 18, 18, blanks being supplied to the recesses 18 from magazines 20, 20. The blanks are inserted in the recesses of the carriers at the tops thereof and are carried across the active face of the grinding wheel as indicated in Fig. 7 and expelled from the carriers at the bottoms. Since the carriers 14 and 16 in their driving and controlling mechanism are duplicates, a description of the carrier 14 will suffice and it will be understood that the description applies equally well to the parts of the carrier 16.

The grinding wheel 10 is supported upon a shaft 22 mounted in bearings 24 and 26 in a support 28 carried on a bed 30 which is secured to a base 32. The grinding wheel 10 is rotated constantly during the operation of the machine by power applied through a driving pulley 34 mounted on the shaft 22. The position of the active face 12 of the grinding wheel may be adjustably determined by means of a hand wheel 36 threaded on a sleeve 38 which surrounds the shaft 22 and is held against end-wise movement with respect thereto by the driving pulley 34 and a collar 40 held upon the shaft 22 by a pin 42.

In order to avoid clogging the surface of the grinding wheel with the refuse material or dust cut from the blanks, I have provided grooves 44 and 46 in the surface 12 which are disposed along lines tangential to the inner circumference of the cup-shaped wheel. Any dust or other material which accumulates in these grooves will be thrown outwardly by centrifugal force as the wheel rotates in the direction of the arrow as in Fig. 7. Preferably, the grooves 44 extend across the active surface of the wheel 10 while the intermediate grooves 46, occupying a position midway of the segmental surfaces between two of the grooves 44, are arranged to extend only part way across the active face of the wheel.

Each magazine 20 holding a supply of blanks is supported on the machine by means of base members 50 bolted to the support 28 and furnishing means for the adjustable attachment of guides 52 and 54 which are provided with slots 56 through which pass bolts 58 into the base members 50. A stack 60 of blanks, here shown as counters or heel stiffeners, will be placed between the guides 52 and 54 and pressed into engagement with the surface of the work carrier 14 by means of a presser head 62 detachably secured to a socket member pinned to the end of the presser bar 66 which is guided in an arm 68 forming an extension of the base member 50. The presser head 62 may tilt to compensate for uneven thickness in the blanks. It will be understood that the presser head 62 is made detachable in order that suitable sizes and shapes may be used in accordance with the size and shape of the particular pieces of work being treated. To even up the endmost blanks of the stock and thereby to insure their correct presentation to the carriers 14 and 16, additional overhanging guides 70 are provided at the outlet of the magazine which are adjustably secured to the guides 52 and 54 by means of screws 72 passing through slots 74 (Fig. 1) in said guides. This presser head 62 is continually urged against the stack 60 by means of a weight 80 which is connected to the presser bar 66 by a chain 82 passing over a pulley 84 journaled in ears 86 upon the arm 68 and received within a groove 88 in the lower face of the presser bar 66. A handle 90 is provided at the end of the presser bar 66 in order that it may be retracted for the insertion of a stack of blanks and a latch 92 is pivoted on the arm 68 and arranged for engagement in a notch 94 in the presser bar to hold the latter.
in retracted position as shown at the left in Fig. 2. The blank carrier 14 is provided with a plurality of recesses 13 shaped to correspond to the shape of the particular shoe stiffener which is to be treated. The illustrated machine is arranged to handle shoe counters and accordingly the carrier 14 (Fig. 5) is provided with a detachable segment 100 recessed at 102 in the shape of a shoe counter and the recess is provided with a movable bottom 104 constituting a matrix for holding the work. The edge of the matrix depression is beveled from the edge of the bottom 104 inwardly to the bottom of the depression to form a bevel of a length and angle to give to the finished article a bevel of desired form. Thus this matrix bottom member 104 is shaped to lift the edges of the counter while allowing the central portion of the counter to be received in the matrix and to be substantially untreated by the skiving mechanism. A plurality of spurs 106 are provided in this movable bottom member 104 to assist in retaining the work in the matrix but it will be understood that the bottom member is cam-controlled, as will be later described, so that it is retracted when the recess is opposite to the magazine. This allows the endmost blank of the stack 60 to be pushed into the recess by the pressure of the presser head 62 whereupon the engagement of the rim of the recess with the periphery of the counter will be sufficient to carry the counter along in a plane parallel to the plane of the active grinding surface 12 of the wheel 10. Each bottom piece 104 is provided with a shank 108 extending through a sleeve-like extension 110 of the turret 14, and the shank 108 is provided at its outer end with a roller 112 journaled upon a pin 114 extended laterally to form an abutment to receive the pressure of a spring 116 surrounding the extension 110 by means of which the bottom member 104 is normally retracted into the recess 102.

The carrier 14 is supported for rotation by a shaft 120 journaled in bearings 122 and 124 formed in uprights upon a support 126 secured to the bed 30. Surrounding this shaft 120 and fixed in the bearing 122 is a sleeve 128 which carries a cam plate 130. The outer surface of the sleeve is threaded to provide for the end-wise adjustment of the cam plate by means of collars 132 and 134 between which the cam plate 130 is rigidly held in fixed position. This allows the operator to adjust the machine so as to determine the amount of material which will be removed from the counter during a half revolution of the carrier 14. The cam plate 130 is provided with a recessed portion 136 allowing the retraction of the bottom member 104 by the spring 116 so as to receive a counter from the magazine. As the carrier moves forward to present the counter to the skiving mechanism, the roller 112 travels over a cam surface 138 which is arranged progressively to push the counter into engagement with the face of the grinding wheel until the outer edge of the bottom member 104 is almost flush with the face of the carrier 14, and finally at the bottom of the cam 130, the roller 112 engages an elevated surface 140 (Fig. 1) by means of which the counter is expelled from the carrier and allowed to drop into a suitable receptacle (not shown). It will be observed from an inspection of Fig. 7 that the leading end of the counter comes into engagement with the face of the grinding wheel before it is entirely relieved from the pressure of the stack 60. It is then pushed against the grinding wheel with sufficient pressure so that the resistance offered by the grinding wheel distorts the counter and presses the central portion of the counter into the matrix of the bottom member so that the action of the grinding wheel is principally on the edges of the counter which are reduced to a thin edge determined by the relation of the bottom member 104 to the face 12 of the grinding wheel 10. It has been found that the pressure with which the counter is held against the grinding wheel, combined with the action of the spurs 106 and the upwardly extending edge of the matrix in the bottom member 104, is sufficient to retain the counter in the carrier even if the adjustment of the cam 130 and of the grinding wheel 10 is such that the counter is skived to practically a knife edge and is, therefore, not held by engagement of its periphery with the margin of the recess 102. The progress of the counter along an arc-shaped path overlapping the annular path of movement of the cup-shaped grinding wheel is in a plane perpendicular to the axis of rotation of the grinding wheel. This manner of presenting the shoe stiffener to the action of the grinding wheel has been found to be particularly effective in the case of shoe stiffeners which are made of leather board, fiber board, and the like which may be skived without tearing or peeling the material.

The rotation of the work-carrying turret 14 to present the shoe stiffener blanks to the skiving mechanism is such that the carrier is held for a brief interval with its recess opposite to the magazine, is then advanced steadily through a half revolution to carry the blank past the skiving mechanism and is then held for a short interval while the first blank is being ejected and a new blank is inserted in the opposite recess. It will be understood that although the particular mechanism herein described is laid out for use with a carrier provided with only two recesses, it would require only slight changes in the mechanism to make it effective for other arrangements involving a greater number of recesses in the carrier.
Power is supplied to effect the rotation of the carriers from a drive shaft 142 provided with tight and loose pulleys 144 and 146 (Fig. 1) and a hand wheel 148. The drive shaft 142 is provided with a gear 150 meshed with a skew gear 152 loosely mounted on the meeting ends (Fig. 3) of a two-part transverse shaft 154 journalled in bearings 156 formed in brackets 158 secured to the uprights of the supports 126 and this gear 152 is adapted to be clutched at intervals to said cross-shaft 154. The shaft 154 is provided with worms 160 placed for engagement with worm gears 162 which are secured to the supporting shafts 120 of the carriers. The endwise thrust of the worms 160 is taken up by means of ball thrust-bearings 164, one of which is shown at the left of Fig. 2. The connection of the gear 152 to the cross-shaft 154 is controlled bycams 166 formed upon the hubs of the gear 152 and by other cams 168 formed upon the lateral surfaces of the gears 162. The illustrated arrangement is such that the shaft 120 supporting the blank carrier 14 makes one revolution for each six revolutions of the cross-shaft 154 and once during every revolution of the cross-shaft 154, the cam 166 permits the connection of the gear 152 to a corresponding half of the cross-shaft 154 and once during every half revolution of a work carrier, the cam 168 disconnects the clutch and stops the drive of the corresponding half of the cross-shaft 154. To this end, the gear 152 is provided with outwardly extending hubs 170 (Figs. 3 and 4) each of which is provided with a cam 166, having a projection 172 upon its periphery and provided with a recess 174 in its lateral face in which there is located a stud 176. Adjacent to the recessed face of the hub 170 is a clutch 178 secured to the shaft by a key 180 and this clutch member is provided with a sleeve extension 182 which is secured to the shaft by a key 184.

Slidably mounted in these clutch members is a clutch bolt 186 provided with a recess 188 for engagement by the wedge-shaped end 190 of a member secured to the lower arm of a bell crank lever 192. When the bell crank lever 192, which is pivoted on a stud 194 secured in the bracket 158, is tilted so that the wedge-shaped member 190 is brought into the path of the clutch pin 188, then the clutch pin will be withdrawn and carried out of engagement with the stud 176. When the bell crank lever is tilted upwardly (counterclockwise in Fig. 4), then the clutch bolt 186 will be thrown by a spring 187 into engagement with the stud 176 to cause the gear 152 to drive the corresponding half of the cross-shaft 154. The above-described combination of a spring-urged clutch pin actuated by a wedge-shaped member is well known, and is disclosed in United States Letter Patent No. 958,303, granted May 17, 1910, to T. G. Plant, and No. 1,011,903, granted Dec. 19, 1911, to Arthur Bates. The tipping of the bell crank lever 192 is effected by the projection 172 on the cam 166 and to this end said lever is provided with a roller 196 journalled on a rod 198 extending laterally from the lower arm of the lever 192. This roller is normally held in engagement with the cam 166 by means of a spring 200 (Fig. 4) underlying a lug 202 formed on said lever. The upwardly extending arm of the bell crank lever 192 is also provided with a roller 204 for engagement with the cam surface 168 on the lateral face of the gear 162. This surface 168 is provided with opposed and similar depressions 206 corresponding in position to and 90 degrees displaced from the recesses on the carrier 14.

Under the action of the mechanism just described, the bell crank lever 192 will be tilted every time the gear 152 rotates by reason of the projection on the cam 166 unless otherwise controlled and in so doing will lift the wedge-shaped member 190 out of engagement with the clutch bolt and cause the corresponding half of the cross-shaft 154 to be driven, thereby to rotate the gear 162 and with it the carrier 14. As soon as the gear 162 starts to rotate, however, the elevated surface 168 on said gear will lift the roll 204 on the other arm of the bell crank lever 192 and hold the wedge 190 out of range of the clutch bolt until the turret has made a half revolution. The roll 204 will then drop in the corresponding other depression 206 on the face of the gear 162 and the timing is such that this will occur just after the projection 172 on the hub of the gear 162 has passed the roller 196. The driving connection will thereby be interrupted and will not be made again until the gear 152 has made another 180°, which allows plenty of time for the filling of the recess in the carrier from the stack 60 in the magazine.

When the supply of blanks in the magazine has been used up, or when for any other reason, it is desired to stop the driving of a particular carrier 14 or 16 without interrupting the operation of the rest of the machine, the mechanism shown in Figs. 3 and 4 is so arranged that the clutch may be thrown temporarily out of operation. To this end, a collar 210 held on the sleeve 152 by screws 212 passing through slots in said collar may be given a partial rotation with respect to the sleeve 152 and caused to hold the clutch bolt 186 in withdrawn position. The collar 210 is provided with an operating handle 214 and with a projection 216 for engagement in a notch 218 of the clutch bolt 186. Provision is also made for sliding the stud 198 which bolts the roller 196 laterally to carry said roller out of range of the projection 172 on the cam 166. Accordingly, the stud 198 is provided with a handle 220 extending
through a slot in the lower arm of the lever 192. A spring contained within a projecting boss 222 engages a pointed plunger 224 which cooperates with notches 226 in said stud 198 to hold the stud in either of the two described positions. The lateral withdrawal of the roller 196 prevents the clutch from being closed as the cam rotates and the action of the collar 210 in holding the clutch bolt 196 out of engagement with the stud 176 permits the rotation of the carrier 14 by hand. Each half of the cross-shaft 154 is provided with a squared end 280 (Fig. 2) to receive a handle (not shown) by means of which the worm 160 may be rotated to turn the gear 162 and with it the carrier 14.

In the use of the machine, the magazines 20 will be filled with stacks 60 of shoe stiffener blanks which will be pressed against the faces of the carriers 14 and 16 by the weight-operated presser heads 62. Supposing that the drive shaft 142 and the shaft 22 carrying the grinding wheel 144 are both in mesh, the machine will rotate the work carriers intermittently to remove a blank from the corresponding magazine, to carry it in an arc-shaped path past and overlapping the active end or radial face of the grinding wheel, and to eject the blank from the carrier at the end of half a revolution thereof. At the same time, another blank is inserted in the recess at the other side of the carrier and the operation is continued. If the grinding wheel wears away or it is necessary to substitute a new wheel, its position may be adjusted by means of the hand wheel 96, and if blanks of different thicknesses are being treated, the elevation of the bottom members in the carrier and the consequent projection of the blanks into the path of the grinding mechanism may be controlled by adjusting the cams 130 through their collars 132 and 134. It will be understood that the machine may be adapted for blanks of different shapes by adjusting the lateral guides 52 and 54 of the magazine and the upper guides 70 cooperating therewith. Preferably, also, the presser head 62 will be changed to provide a presser head of shape corresponding to that of the blank to be treated. This change in the kind of work will also necessitate a removal of the quadrant 100 and the substitution of new quadrants having suitably shaped recesses 102 and correspondingly shaped matrix bottom members 104.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a machine of the character described, a cylindrical grinding wheel having an exposed end surface, means comprising a matrix having beveled marginal portions for supporting said shoe stiffener, and means for pressing together and relatively traversing the grinding wheel and the matrix in a substantially vertical plane, constructed and arranged to cause the grinding wheel to distort the stiffener by pressing it into the matrix.

2. In a machine of the character described, a cup-shaped grinding wheel rotatable about a horizontal axis with its annular end surface exposed for the presentation of work, a pair of rotatable carriers mounted upon axes parallel to the axis of the grinding wheel, said carriers having shoe stiffener-supporting matrices having beveled marginal portions, said carriers being arranged to move shoe stiffeners supported by said matrices in curved paths overlapping the annular face of the grinding wheel, and means for pressing the stiffeners between said matrices and said grinding wheel to distort the stiffeners according to the form of said matrices.

3. In a machine of the character described, a skiving mechanism, a carrier rotatable about a horizontal axis, a magazine holding a stack of shoe stiffeners, means for urging said stiffeners towards said magazine, said carrier being rotatable to transfer a stiffener from the magazine to the skiving mechanism, said carrier being constructed and arranged so that the stiffener is not wholly released from the pressure of the stack until after it has come into engagement with the skiving mechanism.

4. In a machine of the character described, a grinding wheel rotatably mounted so that the end surface of the wheel is exposed, a carrier rotatably mounted about an axis parallel to the axis of the grinding wheel and having a recessed surface opposite to and overlapping the surface of the grinding wheel, a magazine for pressing a stack of shoe stiffeners against the carrier, said carrier being constructed and arranged to remove one of the stiffeners from the stack and progressively to press the edges of said stiffener into engagement with the grinding wheel as the carrier moves the stiffener across the end surface of the grinding wheel.

5. In a machine of the character described, means for supporting a shoe stiffener in a vertical plane, supply means constructed and arranged to deliver a stiffener to said supporting means, rotatable means for skiving the margin of said stiffener operating in a plane parallel to the plane of said supporting means, and means for relatively moving said supporting means and said skiving means to bring the margin of the stiffener into contact with the skiving means, said supply means and said skiving means cooperating with the supporting means to hold a stiffener thereon.

6. In a machine of the character described, means for supporting a shoe stiffener comprising a plate provided with a matrix constructed and arranged so that the matrix is provided with a low marginal rim for holding the stiffener in the matrix, positive means for progressively varying the depth of said rim,
a rotatable skiving mechanism operating in a plane parallel to the plane of said plate to skive the margin of the stiffener, and means for relatively traversing the skiving mechanism and the matrix while the stiffener is held in the matrix by the co-action of the rim thereof with the peripheral edge of the stiffener.

7. In a machine of the character described, means for supporting a shoe stiffener comprising a recessed plate constructed and arranged so that the rim of said recess contacts with the peripheral edge of the stiffener, the bottom of said recess being shaped to provide a matrix for lifting the edges of the stiffener, and a rotatable skiving mechanism operating in a plane parallel to the plane of said plate to skive the margin of the stiffener, said skiving mechanism being adapted to press the central portion of the stiffener into said matrix.

8. In a machine of the character described, a skiving mechanism operating in a zone within a plane, a shoe stiffener supporting mechanism for holding a shoe stiffener in a plane parallel to the plane of operation of the skiving mechanism, means for producing relative movement of said mechanisms to carry said stiffener in a curved path overlapping the zone of operation of the skiving mechanism, and positive means urging said stiffener toward the plane of operation of the skiving mechanism during said relative movement.

9. In a machine of the character described, a skiving mechanism, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a recess, a movable bottom for said recess, means for retracting the said bottom to allow the placing of a stiffener in the recess and for raising the bottom progressively to push the stiffener partially out of the recess into contact with the skiving mechanism as the carrier moves the stiffener into cooperative relation with the skiving mechanism, and means for actuating the movable bottom to expel the skived stiffener.

10. In a machine of the character described, a skiving mechanism, means for presenting shoe stiffeners to said mechanism comprising a magazine for holding a plurality of stiffeners, a rotatable carrier provided with a recess, a movable bottom for said recess, forming a matrix for the stiffeners constructed and arranged to relieve the pressure on the central portions thereof, means for retracting the bottom of the recess when it is adjacent to the magazine so as to receive a stiffener from the magazine, and means for raising the bottom of the recess to bring the stiffener against the skiving mechanism as the carrier is rotated.

11. In a machine of the character described, a skiving mechanism, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a plurality of work holders, driving mechanism for said carrier arranged to rotate it intermittently to permit a counter to be supplied to each successive work holder and then to bring each successive work holder into operating position, comprising an intermediate shaft and a clutch, and means for controlling said clutch responsive to the rotations of the intermediate shaft.

12. In a machine of the character described, a skiving mechanism, a carrier shaft, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a plurality of work holders, said carrier being mounted upon said carrier shaft, driving mechanism for said carrier shaft arranged to rotate it intermittently to permit a counter to be supplied to each successive work holder and then to bring each successive work holder into operating position, comprising an intermediate shaft and a clutch, and means independent of said clutch for controlling said clutch responsive to the rotations of the carrier shaft.

13. In a machine of the character described, a skiving mechanism, a carrier shaft, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a plurality of work holders, said carrier being mounted upon said carrier shaft, driving mechanism for said carrier shaft arranged to rotate it intermittently to permit a counter to be supplied to each successive work holder and then to bring each successive work holder into operating position, comprising an intermediate shaft and a clutch, and means responsive to the rotations of both the intermediate shaft and the carrier shaft.

14. In a machine of the character described, a skiving mechanism, a carrier shaft, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a plurality of work holders, said carrier being mounted upon said carrier shaft, driving mechanism for said carrier shaft arranged to rotate it intermittently to permit a counter to be supplied to each successive work holder and then to bring each successive work holder into operating position, comprising an intermediate shaft and a clutch, means responsive to the rotation of the carrier shaft for disconnecting said clutch to interrupt the rotation of the carrier, and means responsive to the rotation of the intermediate shaft for again reconnecting the clutch to continue the rotation of the carrier.

15. In a machine of the character described, a skiving mechanism, a carrier shaft, a rotatable carrier for presenting shoe stiffeners to said mechanism provided with a plurality of work holders, said carrier being mounted upon said carrier shaft, driving mechanism for said carrier shaft arranged to rotate it intermittently to permit a counter to be supplied to each successive work holder and then to bring each successive work holder into operating position, comprising an intermediate shaft and a clutch, means responsive to the...
rotation of the carrier shaft for disconnecting said clutch to interrupt the rotation of the carrier, and means responsive to the rotation of the intermediate shaft for again reconnecting the clutch to continue the rotation of the carrier, the interval between the disconnection of the clutch and its reconnection being substantially the time required for a revolution of the intermediate shaft.

16. In a machine of the character described, a skiving mechanism, a carrier on a rotatable shaft for presenting shoe stiffeners to said mechanism, means for rotating said carrier comprising an intermediate shaft provided with a clutch, means independent of said clutch and responsive to the rotations of one of said shafts for disconnecting said clutch and manually operable means for rendering said disconnecting means inoperative.

17. In a machine of the character described, a skiving mechanism, a rotatable carrier for presenting shoe stiffeners to said mechanism, means for intermittently rotating said carrier comprising a clutch, and manually operable means independent of said clutch for rendering said clutch inoperative when it is desired to operate said rotating means manually.

18. In a machine of the character described, a skiving mechanism, a carrier shaft, a carrier mounted upon said shaft for presenting shoe stiffeners to said skiving mechanism, an intermediate shaft, driving connections between said carrier shaft and said intermediate shaft for rotating said carrier shaft, driving means for said intermediate shaft, a clutch interposed between said intermediate shaft and said driving means, and control means for said clutch responsive to the rotation of said carrier shaft.

19. In a machine of the character described, a skiving mechanism, a carrier shaft, a carrier mounted upon said shaft for presenting shoe stiffeners to said skiving mechanism, an intermediate shaft, driving connections between said carrier shaft and said intermediate shaft for rotating said carrier shaft, driving means for said intermediate shaft, a clutch interposed between said intermediate shaft and said driving means, and control means for said clutch responsive to said driving means.

20. In a machine of the character described, a skiving mechanism, a carrier shaft, a carrier mounted upon said shaft for presenting shoe stiffeners to said skiving mechanism, an intermediate shaft, driving connections between said carrier shaft and said intermediate shaft for rotating said carrier shaft, driving means for said intermediate shaft, a clutch interposed between said intermediate shaft and said driving means and control means for said clutch responsive both to the rotation of said carrier shaft and of said driving means.

21. In a machine of the class described,