Feb. 19, 1929. 1,702,598

P. R. GLASS

FOLDING MACHINE

Filed June 7, 1922 2 Sheets-Sheet 1

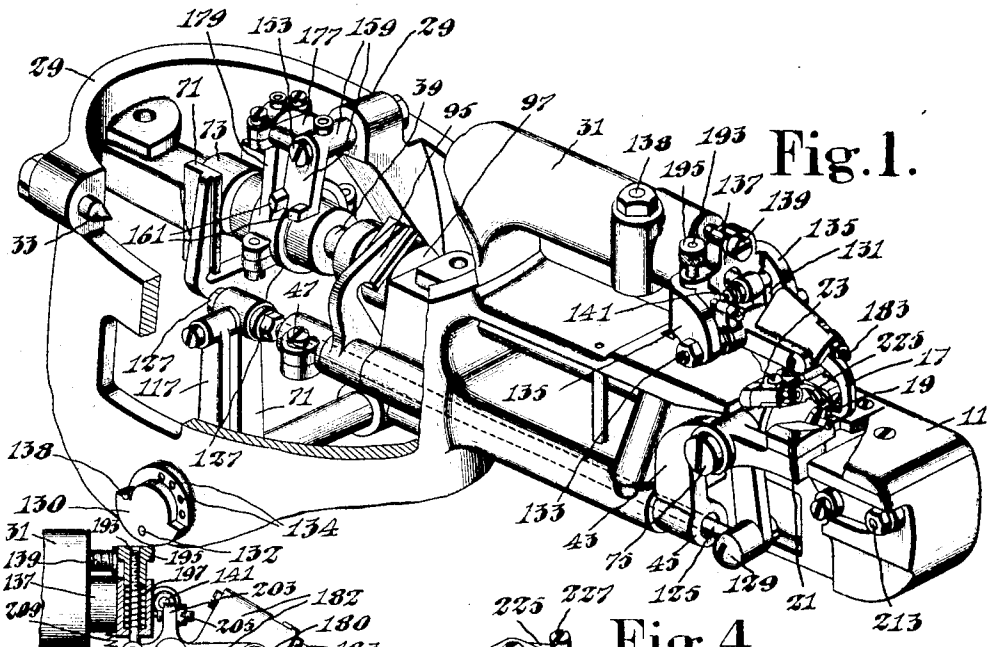


Fig.1.

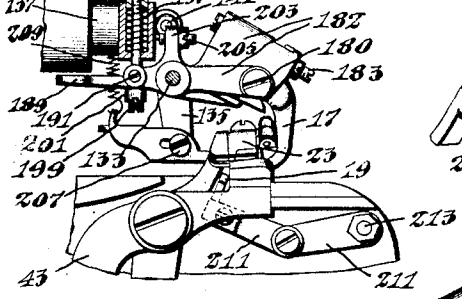


Fig.3.

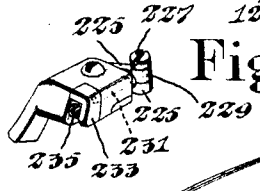


Fig.4.

Fig.2.

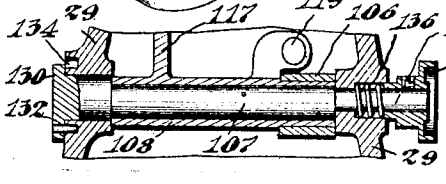


Fig.5.

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P. R. GLASS

FOLDING MACHINE

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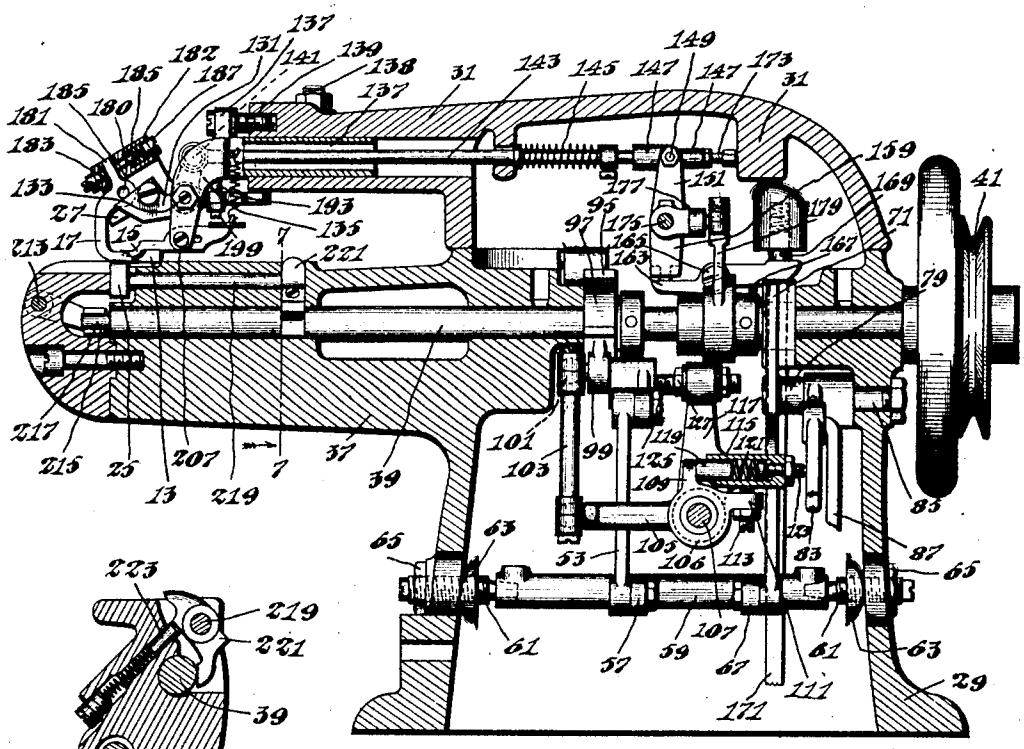


Fig.6.

Fig.7.

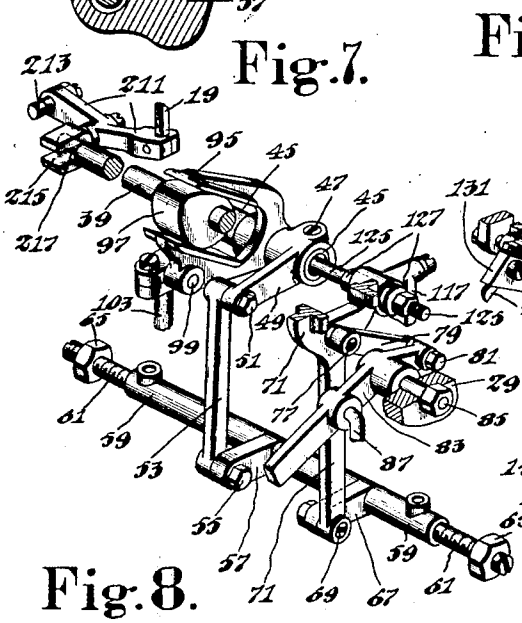


Fig.8.

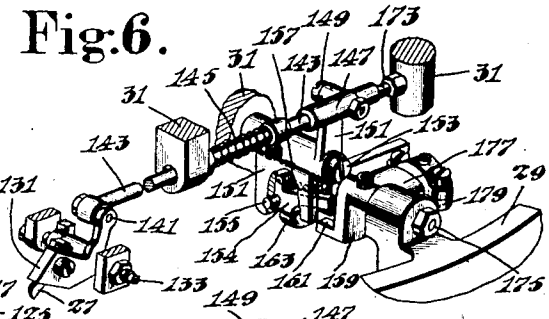


Fig.9.

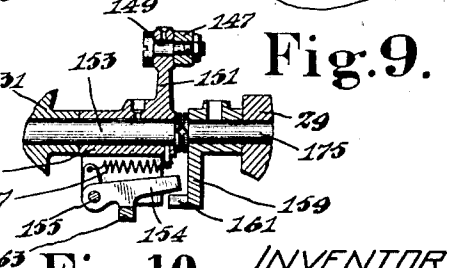


Fig.10.

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By his Attorney,

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Patented Feb. 19, 1929. 1,702,598

UNITED STATES PATENT OFFICE.

PERLEY R. GLASS, OF WAYLAND, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

FOLDING MACHINE.

Application filed June 7, 1922. Serial No. 566,643.

This invention relates to folding machines and is herein described as embodied in a machine for folding the edges of pieces of leather or similar material which are to be incorporated in boots or shoes.

Many different thicknesses of leather are used in the manufacture of boots and shoes and consequently the folds at the edges thereof differ greatly in thickness. In all folding machines, there is provided a fold-presser, usually in the form of a hammer which presses the fold. It is desirable that the proper pressure be applied to any given fold. If the pressure is too light, the fold will not be properly pressed. On the other hand, if the pressure is too great, the folded edge of the leather is liable to be stretched. Hitherto it has been possible to adjust the fold presser for this purpose only when the machine was at rest; and practically it has usually been necessary to adjust the presser several times—trying it upon the work after each adjustment—before a proper adjustment was reached.

According to one feature of the present invention, the fold-presser or hammer may be adjusted while the machine is operating upon the work. The operator can thus see at once the effect produced by an adjustment and can immediately change it if it is not a proper one. In the illustrative machine an adjusting rod having a conveniently accessible finger hold may be turned at any time to any desired position and locked therein, the turning of the rod serving to change the location of the path of reciprocation of the fold-pressing hammer so as to cause the force of the blow struck by the hammer to be varied.

Further features of the invention relate to the mounting of the actuating mechanism in a hollow base and a hollow hinged cover, the cover and the base carrying respectively arms one of which overhangs the other, on which arms the work engaging parts are mounted, such construction permitting ready access to all the moving parts.

These and other features of the invention, including certain details of construction and combinations of parts, will be described as embodied in an illustrative machine and pointed out in the appended claims.

Referring now to the accompanying drawings,

Figure 1 is a perspective of the upper portion of a machine, in which the present invention is embodied, certain parts having been broken away, and most of the knife actuating mechanism having been omitted.

Figure 2 is a perspective of the machine turned about ninety degrees from the position which it occupies in Figure 1.

Figure 3 is a detail principally in elevation showing more particularly the mounting of the creaser.

Figure 4 is a detail in perspective of the hammer.

Figure 5 is a detail principally in section of the eccentric stud which controls the position to which the hammer descends.

Figure 6 is a vertical longitudinal section of the machine.

Figure 7 is a detail in section on the line 7—7 of Fig. 6 showing the means for operating the release block.

Figure 8 is a perspective of the mechanism for controlling the rate of feed of the work.

Figure 9 is a perspective of the mechanism for operating the knife; and

Figure 10 is a detail in section of the means for connecting the knife with and disconnecting it from its actuating member.

Referring first more particularly to Figures 1 and 2, the general mode of operation of the machine will be described. The work, the margin of which is to folded, is fed over a work supporting plate 11 with its margin engaging a preliminary turning member or plow 13, a gage 15, which extends over the plow, limiting the extent of margin which is turned upwardly and hence the width of the fold. Just ahead of the plow, in the direction of feed, a creaser 17 engages the work to determine the line of fold; and over the edge of this creaser the upturned margin of the work is bent by a folder in the form of a folding finger 19. This finger is reciprocated in a path inclined about sixty degrees to the horizontal from a position beneath the level of the work to one above it. The fold thus formed is pressed against an anvil 21 by a hammer 23. Besides pressing the fold, the hammer and anvil act

to feed the work, being operated first to grip the work, thereby pressing the fold, then to feed the work and then to release it and return to initial position. In order to hold the work during the return of the hammer and anvil to initial position as well as during the time the folder is bending the margin of the work about the edge of the creaser, a block 25 is swung up at the proper time to grip the work against the lower face of the creaser 17, said block being swung downwardly in time to release the work and permit it to be fed. When concavely curved edges are encountered in the work, it is desirable to snip the margin, and to this end a snipping knife 27 is provided which may be thrown into and out of operation by depressing a treadle, said knife, when cutting, co-operating with a flat face formed on the farther side of the plow 13, as viewed in Figure 2, which acts with the knife as a shearing member. As thus briefly described, the work-engaging parts of the machine operate in a manner similar to that of the machine shown and described in Patent No. 1,281,555, granted Oct. 15, 1918, upon an application filed in my name. The mechanism for operating the parts of the present machine, however, is quite different from that of the patented machine, and this mechanism together with certain other improvements will now be described.

The machine comprises a hollow base 29, adapted to be fastened to a bench, and a cover 31 hinged on two pointed screw bolts one of which is shown in Figure 1 at 33, said cover being held in closed position by a thumb-screw 35 (Figure 2). The base 29 is provided with an overhanging arm 37, and in the base including this arm is rotatably mounted a driving shaft 39 which is rotated by a belt (not shown) and a pulley 41.

Turning first to the mechanism for operating the hammer 23 and the anvil 21 (Figs. 1, 6 and 8) the anvil is rigid with an arm 43 formed on the outer end of a rocking sleeve 45, said sleeve being mounted for rocking movement in a long cylindrical bearing formed in the base of the machine and having fastened by a pinch-screw 47 to its inner end the hub of an arm 49. The outer end of the arm is pivoted at 51 to the upper end of a link 53 the lower end of which is pivoted at 55 to an arm 57 rigid with a comparatively long rocking rod 59 the ends of which have conical sockets to receive the conical ends of trunnion screws 61 threaded through opposite bosses 63 in the hollow base and held in proper position by lock nuts 65. A second arm 67 on the rod 59 is pivoted at 69 to the lower end of the stem of a yoke 71 which embraces a cam 73 on the driving shaft 39.

The hammer 23 (Figure 1) is pivoted at 75 to the same arm 43 which carries the anvil, and consequently the hammer and anvil are rocked in unison; and it is this rocking movement, during the time that the hammer and anvil are gripping the work, which causes the work to be fed. It is desirable at times to vary the extent of these intermittent feed movements, and to this end (see Figure 8) the yoke 71 is pivoted at 77 to one end of a link 79 the other end of which is pivoted at 81 to a lever 83, said lever in turn being pivoted about a stud 85 carried by the base of the machine and having its free end projecting out through a slot in the base of the machine, as shown in Figure 2. A treadle rod 87 (Figure 8) is pivoted at its upper end to the lever 83 and at its lower end to a treadle (not shown), said treadle being normally held down by a spring (also not shown), the extent of downward movement being limited by a pin 89 which may be placed in any desired one of a plurality of holes 91, this position of the lever giving the maximum feed. Depressing the treadle raises the lever 83 until its projecting outer end strikes a stop screw 93 whereupon minimum feed is obtained. By changing the positions of the pin 89 and the stop screw 93, the extent of the maximum and minimum feed movements may be varied.

As has been indicated above, the hammer 23 is brought down to grip the work against the anvil just before the hammer and anvil are swung in a direction to feed the work and is raised at the end of the feed movement so as to release the work while the hammer and anvil swing back to initial position. The mechanism by which this is accomplished will now be described, referring more particularly to Figures 6 and 8. Loosely mounted on the sleeve 45 is a yoke 95 which embraces a cam 97 on the driving shaft 39, the lower arm of the yoke carrying a stud 99 on the outer end of which is formed a ball 101. This ball is received in a suitable socket in the upper end of a link 103 the lower end of which has a similar socket to receive a similar ball carried at the outer end of an arm 105. The hub 106 of this arm (Fig. 5) is rotatable on the elongated hub 108 of an upright arm 117, the elongated hub being mounted on a portion of a rotatable adjusting rod 107 which is eccentrically located with respect to the axis of the rod. The rod is provided with an easily accessible finger hold 110 by which it may be turned to adjust the hammer in a manner presently to be described. The hub 106 of the arm 105 is provided with two lugs 109, 111 arranged about ninety degrees apart. Threaded up through the lug 111 is a screw 113, the upper end contacting with the under side of a casing 115 formed integral with the arm 117 the hub 108 of which, as has been explained, is mounted on the eccentrically located portion of the rod 107. The other lug 109 serves as an abutment for a plunger 119 located in the casing 115 and acted upon at all times by a coiled spring 121

the tension of which may be adjusted by turning a screw 123. The upper end of the arm 117 has an eye through which passes one end of a rod 125, the bore in the eye being slightly larger than the cross-sectional area of the rod so that the rod has a slight play in the bore. Nuts 127 hold the rod 125 from all but a very slight longitudinal movement, the purpose of the whole connection of the rod 125 with the eye of the arm 117 being to cause the rod to be reciprocated when the arm is oscillated. The rod 125 (Fig. 1) extends through the oscillatory sleeve 45, being only about one-half the diameter of the bore in the sleeve, and is pivoted at its forward end at 129 to the lower end of the stem of the hammer 23. Consequently when the driving shaft 39 is rotated, the hammer is vibrated about its pivot 75. Referring now to Fig. 6, the purpose of the construction of the connection between the arms 105 and 117 will be explained. With the parts of the machine in the positions shown, in which the hammer is raised, the arm 117 is in its extreme left-hand position, having been moved positively into that position by the upward push of the upper end of the screw 113 upon the under side of the casing 115. When it is time for the hammer to be caused to descend, the arm 105 will be rocked in a clockwise direction, whereupon the lug 109, through the plunger 119 and spring 121 will swing the arm 117 to the right, thereby exerting a pull to the right upon the rod 125 and bringing the hammer down upon the work. It will be observed, therefore, that the blow struck by the hammer is a yielding one but that the hammer is raised positively.

In a folding machine it is desirable to provide means for varying the location of the path of the hammer in order to provide for pieces of work of different thicknesses. The extent of oscillation of the arm 105 is always the same and consequently the extent of the path of reciprocation of the hammer is always the same; but by varying the location of the path of reciprocation the hammer may be caused at the end of its downward stroke to be spaced more or less from the work support. It is possible to bring about this result in the present machine by adjusting the screw 113 while the machine is at rest; and similar adjusting means have been provided in prior machines. It is desirable, however, to be able to make this adjustment while the machine is running; and in the present machine, the adjusting rod 107 is designed to permit this to be done. Referring more particularly to Figures 1 and 5, the rod 107 extends through the hollow base 29 of the machine, being rotatably mounted in opposite bearings in the walls of the base. The rear end of the rod has a head 130 in which is fixed a locking pin 132, said pin being capable of being caused to enter any one of a series of holes 134 which are arranged in a circular pattern about the axis of the rod. A coiled spring 136 urges the rod at all times in a direction to maintain the pin in its hole whereby the rod is held from turning. At any time, however, the operator may push the rod in opposition to the force of the spring in a direction to free the pin from its hole, turn the rod about its axis, and permit the spring to move the rod back again with the pin in another hole and the rod consequently held in another angular position. A stop-pin 138 driven into the base 29 is so located as to cooperate with either one of two flat surfaces on the head 130 to limit the extent of possible angular adjustment of the rod. Referring now more particularly to Figure 6, it will be seen that turning the adjusting rod 107 in a counterclockwise direction tends to raise the hammer so that, on its down stroke, it will not approach so near to the work support. It should be particularly noted that the adjusting rod may be manipulated at any time during the operation of the machine to vary the location of the path of reciprocation of the hammer.

The knife 27 is fast to a bell-crank lever 131 mounted on a pivot 133 which is held in the arms 135 of a carrier 137, said carrier having a hollow, cylindrical stem adjustably held by a binding screw 138 in a bore in an overhanging tubular portion of the cover 31. Through a slot in a lug at the top of the carrier 137 extends an adjusting screw 139, said screw being threaded into the overhanging arm of the cover 31 but held from longitudinal movement with respect to the lug. By turning the screw, the carrier may be adjusted in and out. The bell-crank lever 131 to which the knife is fastened is pivoted at 141 to the outer end of a rod 143, said rod being normally held in its extreme right-hand position as viewed in Figure 6 by a coiled spring 145 mounted as shown. The right-hand end of the rod 143 extends loosely into a bore in a member 147 to which is pivoted at 149 the upper end of a lever 151. The hub of the lever 151 is pivotally mounted on the smooth portion of the stem of a pivot screw 153 which is carried by the cover 31. The lower end of the lever 151 is slotted to receive a pawl 154 which is pivoted to the lever at 155, said pawl having a tail connected by a tension spring 157 to a pin which is driven into the hub of the lever. The spring tends at all times to swing the pawl downwardly into engagement with a continually oscillating actuating member 159. This member is shown best in Figure 1 and comprises a downwardly extending arm having at its lower extremity two lugs 161 between which the free end of the pawl 154 is moved by the spring when permitted. Returning now to Figures 6, 9 and 10, the pawl is normally held in raised, inoperative posi-

tion by the outer end of a lever 163 pivoted to the cover 31 at 165, the other end of the lever being held down against a stop 167 by a spring-pressed plunger 169, the compression spring which acts upon the plunger being stronger than the tension spring 157 which acts upon the pawl 154. A treadle rod 171 connected with a treadle (not shown) provides means for lifting the right-hand end of the lever 163 when desired to permit the spring 157 to throw in the pawl. In order to adjust the lever 151 into such a position that the pawl 154 will engage the lugs 161 of the actuating member 159, an adjusting screw 173 is threaded into an extension of the member 147 and abuts with its head a downwardly projecting lug on the cover 31. It will be noted that all of the knife mechanism thus far described except the actuating member 159 is mounted on the cover 31 and swings back with the cover when the cover is opened. The actuating member 159 has a hollow stem through which and through a bore in a lug on the hollow base 29 passes a pivot bolt 175. The hollow stem of the actuating member 159 has extending from one side a short arm 177 having at its outer end a ball (not shown) which is received in a spherical socket in the upper end of an upright eccentric rod 179 having at its lower end an eccentric strap encircling an eccentric on the driving shaft 39. Rotation of this shaft thus imparts oscillation to the actuating member 159; and when the treadle rod 171 is pushed up to release the pawl 154 the free end of the pawl is swung between the lugs 161 of the actuating member, and the knife is vibrated to snip the margin of the work.

The creaser 17 (Figs. 3 and 6) is pivoted at 180 to a holder 182 which is in turn pivoted about the same axis 133 as is the knife-carrier 131. An upwardly extending lug 181 on the creaser is received between the end of an adjustable stop screw 183 and the end of a spring-pressed plunger 185, the tension of the spring being capable of being varied by turning a screw 187. The creaser-holder 182 has a rearwardly extending tail terminating in a finger hold 189. Pivoted to the tail at 191 is the lower end of a rod 193 upon the upper end of which is screwed a guide and adjusting nut 195. A coiled spring 197 bearing at its lower end upon the bottom of a socket in the carrier 137 and at its upper end against the nut pulls the tail of the creaser-holder upwardly, the extent of such upward movement being limited by an adjustable stop-screw 199 locked by a check nut 201, the upper end of the screw contacting with a suitable surface on the carrier 137. In order to limit the extent to which the creaser-holder 182 may be rocked in a counter-clockwise direction, as viewed in Figure 3 to lift the creaser preparatory to presenting a piece of work to the machine, an upwardly extending lug 203 (Fig. 3) on the creaser-holder has threaded through it a screw 205 which strikes the carrier 137.

The gage 15, which determines the extent of the margin of the work which shall be turned up by the plow and hence the width of the fold, is pivoted at 207 to one of the depending arms 135 of the carrier 137; and its operative end is urged downwardly at all times by a tension spring 209 fastened at its lower end to the tail of the gage and at its upper end to a pin driven into the carrier 137.

The folding finger 19 (Figure 8) is clamped at one end of a bent lever 211, the other end of which is pivoted at 213 to a part of the overhanging arm 37 projecting from the base 29. The bent lever 211 carries pivotally mounted in it near its middle a yoke 215 between the arms of which extends a crank-pin 217 carried at the outer end of the driving shaft 39. Rotation of the shaft thus causes reciprocation of the folding finger.

The block 25 which cooperates with the creaser to hold the work during the operation of the folding finger and while the hammer and anvil are returning in spaced relation to initial position, is fast to one end of a rock-shaft 219 (Figs. 6 and 7). To the other end of the rock-shaft is fastened a cam-follower 221, a downwardly extending lug of which contacts with a cam formed on the shaft 39, the lug being held at all times against the cam by a spring-pressed plunger 223 as shown in Figure 7. Rotation of the driving shaft 39 thus causes the block 25 to grip and release the work at the proper times. In order to permit the block to be depressed at any time to release the work, an extension of the cam-follower 221 projects up through a slot in the overhanging arm 37 in position to be depressed by the operator when desired.

When a piece of work is presented to the machine with its leading edge between the creaser 17 and the work supporting and releasing block 25, the hammer, when it comes down in its initial position will not strike the edge of the work and consequently will not feed it. In order to cause the work to be seized and fed when it is first presented to the machine, the hammer carries on that side which is adjacent to the creaser a feed finger 225 (Figs. 1 and 4) which operates much like the spring finger of the machine of the patent mentioned above, but is differently mounted. The hub of this finger is fastened by a screw 227 to an eye 229 formed at the outer end of a small rock-shaft 231 rotatably mounted in a bearing in the hammer. The end of the rock-shaft remote from the eye has fast to it a small L-shaped member 233 located in a recess in the hammer. Between one arm of the L-shaped member and a face of the recess

is a compression spring 235 which normally holds the edge of the other arm against the same face of the recess, said face acting thus as a stop. With this construction the feed finger is normally held down but may yield to accommodate itself to pieces of work of different thicknesses.

By providing the machine with the two arms, one of which overhangs the bench upon which the machine is mounted and the other of which overhangs the first arm, the handling and turning of the work is greatly facilitated; the mounting of the creaser permits it to be readily adjusted for all kinds of work; and the means for adjusting the hammer permits this adjustment to be made while the machine is running. By reason of the fact that most of the operating parts are carried by the upper arm and that this arm is carried by a hinged cover, the moving parts of the machine are readily accessible.

Although the invention has been set forth as embodied in a particular machine, it should be understood that the invention is not limited in the scope of its application to the particular machine which has been shown and described.

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

1. A machine of the class described having, in combination, a work support, feeding, folding and fold pressing means comprising a fold presser, actuating mechanism therefor including a positively operated member, a spring between the member and the fold presser, and means independent of the spring for adjusting the member during the operation of the machine to adapt the fold presser to the pressing of folds of different thicknesses.

2. A machine of the class described having, in combination, a work support, feeding, folding and fold pressing means comprising a fold presser, actuating mechanism therefor including an actuating member, means for moving said member in a given path, a spring between said member and the fold presser, and means for changing the location of the path of movement of said member during the operation of the machine.

3. A machine of the class described having, in combination, a work support, feeding, folding and fold-pressing instrumentalities for feeding the work over the support for folding the margin thereof and for pressing the fold, said instrumentalities including a fold pressing hammer, mechanism for moving the hammer toward and from the work support first to press and then to release the fold and means capable of being operated while the machine is running for adjusting said mechanism to vary the location of the path of the hammer so that its pressing movement toward the work support may be arrested at different desired localities to provide for pieces of work of different thicknesses.

4. A machine of the class described having, in combination, a work support over which the work is fed, means for forming a fold in the margin of the work, a fold-pressing hammer, mechanism for operating the hammer in such manner that it moves intermittently to a point located a predetermined distance from the support, and means for adjusting said mechanism during the operation of the machine to vary the location of the point so that the distance will be greater or less as may be desired.

5. A machine of the class described having, in combination, a work support over which the work is fed, means for forming a fold in the margin of the work, a fold-pressing hammer, mechanism for operating the hammer in such manner that it moves intermittently to a point located a predetermined distance from the support, and a stationary adjusting member manipulation of which adjusts said mechanism during the operation of the machine to vary the location of the point so that the distance will be greater or less as may be desired.

6. A machine of the class described having, in combination, a work support over which the work is fed, means for progressively forming a fold in the margin of the work, a fold-pressing hammer, mechanism for reciprocating the hammer in a path of a given location with respect to the work support, a stationary adjusting member for the hammer-operating mechanism capable of being moved during the operation of the machine into various positions to locate the path of reciprocation of the hammer nearer to or farther from the work support, and means for holding the adjusting member in the selected one of the various positions to which it may be moved.

7. A machine of the class described having, in combination, a work support over which the work is fed, means for forming a fold in the margin of the work, a fold-pressing hammer, means for reciprocating the hammer in a path of a given location and means capable of being manipulated at any time during the operation of the machine for changing the location of the path, said means comprising a rod having an eccentric portion and two arms having driving connection with each other, the hubs of said arms being mounted for angular movement about said portion.

8. A machine of the class described having, in combination, a hollow base adapted to be mounted on a bench and having an arm which overhangs the bench, a movable cover for the base provided with an arm which overhangs the arm of the base, and feeding, folding and fold-pressing instrumentalities carried by the arms.

9. A machine of the class described having,

in combination, a hollow base adapted to be mounted on a bench and having an arm which overhangs the bench, a cover pivoted on the base and provided with an arm which overhangs the arm of the base, feeding, folding and fold-pressing instrumentalities carried by the arms, and actuating mechanism for the machine mounted in the hollow base and the cover.

10. A machine of the class described having, in combination, a hollow base adapted to be mounted on a bench and having an arm which overhangs the bench, a cover for the base provided with an arm which overhangs the arm of the base, feeding, folding and fold-pressing instrumentalities carried by the arms, and actuating mechanism mounted in the hollow base and cover, said mechanism including a train of members which are connected when the cover is closed and disconnected when it is open.

11. A machine of the class described having, in combination, a hollow base adapted to be mounted on a bench and having an arm which overhangs the bench, a cover for the base provided with an arm which overhangs the arm of the base, feeding, folding and fold-pressing instrumentalities carried by the arms, and actuating mechanism mounted in the hollow base and cover, said mechanism including knife actuating parts which are operative when the cover is closed and inoperative when it is open.

12. A machine of the class described having, in combination, a hollow base adapted to be mounted on a bench and having an arm overhanging the bench, a cover for the base having an arm which overhangs the arm on the base, a driving shaft carried by the base, snipping mechanism carried partly by the base and partly by the cover constructed and arranged to be rendered inoperative when the cover is opened.

13. A machine of the class described having, in combination, a hollow base, a cover having an overhanging arm, a folder mounted in the base, feeding and fold-pressing members carried by the base, a folding member carried by the base, means for operating said members, and a presser carried by the arm.

14. In a folding machine, a creaser-holder carrier adjustable transversely of the line of feed of the work, a creaser-holder pivoted to the carrier, means for adjusting the holder about its pivot, a creaser arranged to engage the unfolded portion of the work along the line of the fold and pivoted to the holder and means for adjusting the creaser about its pivot.

15. In a folding machine, a creaser, a creaser-holder, a creaser-holder carrier, an adjusting member manipulation of which adjusts all three members in unison, a second adjusting member manipulation of which adjusts the holder and the creaser in unison, and a third adjusting member manipulation of which adjusts the creaser alone.

16. In a folding machine, a creaser-holder carrier adjustable transversely of the line of feed of the work, a creaser-holder pivoted to the carrier, yielding means for urging the creaser-holder about its pivot, a stop for limiting the extent of this movement, a creaser arranged to engage the unfolded work along the line of the fold pivoted to the holder, yielding means for urging the creaser about its pivot, and a stop for limiting its movement.

17. A machine of the class described having, in combination, a support for the work, means for forming a fold in the margin thereof, a hammer, means for moving the hammer to press the fold and to feed the work, a feed finger pivoted to the hammer, and yielding means for holding the finger against the work.

18. A machine of the class described having, in combination, a support for the work, means for forming a fold in the margin thereof, a hammer, means for moving the hammer to press the fold and to feed the work, a rock-shaft mounted therein, a spring and a stop arranged to hold the shaft normally in a given position and to permit it to rock in one direction, and a feed finger carried by the shaft.

19. A machine of the class described having, in combination, a work support over which the work is fed, means for forming a fold in the margin of the work, a fold-pressing member, means for reciprocating the member in a path of a given location with respect to the work support, and means capable of being manipulated at any time during the operation of the machine for locating the path farther from or nearer to said support.

20. A machine of the class described having, in combination, a support over which the work is fed, means for forming a fold in the margin of the work, a combined fold presser and feed member, means for moving the member toward and from the support in a path the limits of which are at given distances from the work support to press the fold and for moving the member in another direction while it is in engagement with the fold so as to feed the work, and operator-controlled means adapted to be manipulated at any time during the operation of the machine for changing the location of the path of movement of the member toward and from the work support in such manner that said limits are nearer to or farther from the work support as may be desired to provide for pieces of work of different thicknesses.

In testimony whereof I have signed my name to this specification.

PERLEY R. GLASS.