A power-operated machine is disclosed for attaching pronged hook-and-eye fasteners to garments. The machine has a unit construction permitting two similar self-contained clenching units having left-hand and right-hand configurations respectively to be fitted side-by-side to enable pairs of fasteners to be attached simultaneously throughout an extended range of spacings. An anvil-carrying mandrel for inserting into a garment waistband may be included, together with automatically operable means for supporting the mandrel and means for feeding the pronged fasteners and back-plate components to co-operating upper and lower dies.

7 Claims, 12 Drawing Figures
MACHINE FOR AttACHING PRONGED GARMENT FASTENERS

This invention relates to machines, commonly termed "clenching machines" or "clenching presses," for attaching to garment fabric material pronged fastener members of garment fastening devices, said fastener members being of the type having a plurality of prongs which are adapted to be forced through the thickness of the garment fabric material and to be folded or clenched over against an associated separate back-plate positioned against the rear face of the material.

In particular, the invention is especially applicable to clenching machines or clenching presses of a kind which are designed for attaching to garment fabric material pronged hook members and eye members of hook-and-eye garment fastening devices, and which may have provision for automatic loading of the fastener components.

One object of the present invention is to provide a clenching machine or clenching press having an improved construction which enables a high degree of mechanical simplicity and adaptability to be obtained, and which is particularly adapted for use in operations involving the attachment simultaneously of a pair of pronged fastener members in predetermined spaced relationship to garment fabric material.

Broadly, the invention provides a clenching machine for attaching pronged fastener members of garment fastening devices, such as hook-and-eye fastening devices, to garment fabric material, said machine comprising a press unit made-up of a body shell or casing having assembled therein a vertically-movable carrier member which carries an upper die or holder to receive a said fastener member, said body shell or casing further containing operating mechanism to control movement of said carrier member and having a bed part adapted to support a lower die in position beneath said upper die, said upper and lower dies being brought into co-operative relationship when said carrier member is moved towards the lower die to carry out a clenching operation, the upper die or holder being located in a position laterally offset from a vertical median longitudinal plane of the press unit so as to lie adjacent to one side wall of the body shell or casing, the construction of the press unit being adapted to enable its component parts to be assembled so as to locate said upper die or holder selectively adjacent to either of opposite side walls of the body shell or casing and provide either a right-handed or left-handed asymmetrical configuration, whereby a second press unit of identical construction but assembled to give said opposite configuration can be placed in adjustable side-by-side relationship with said first mentioned press unit so as to operate with the latter and thereby enable a pair of the pronged fastener members to be attached simultaneously to the garment fabric in predetermined spaced relationship which can be set closer than the width of either individual press unit.

Thus, in carrying out the invention, a clenching machine for attaching pronged hook-and-eye fasteners to garment material can comprise one or more similar press units to suit the particular type of fasteners and number thereof which are required to be attached simultaneously.

Preferably, each press unit is self-contained and includes a symmetrical form of body shell or casing, an upper die or holder to suit a particular hook or eye member of the garment fastener, an upper vertically sliding ram carrying the upper die or holder, operating mechanism for the ram, and a supporting bed. It may, also, incorporate means for automatically feeding the hook or eye member components of the fasteners and for loading them into the holder between each operation of the press, and/or means for automatically feeding associated back-plate components of the fasteners to the associated lower die which includes anvil means for clenching the prongs of the hook or eye member components.

Furthermore, the aforesaid automatic feed and loading means, and associated operating mechanism, are, or may be, conveniently designed to constitute optional extras for including in the basic unit, depending on the requirements of the user.

The above-mentioned lower die may be carried directly by the supporting bed of the press unit when a so-called "flat bed" type of clenching machine is required, or, for use in cases where the fasteners are to be attached to made-up garment waistbands or like pocket parts, the lower die may be carried by a mandrel insertable into the waistband. Such mandrel, however, is conveniently mounted independently on a common base structure of the complete machine which carries the press unit or assembly of press units.

Thus, if a pair of hook fasteners are to be attached simultaneously, in spaced positions, to a garment waistband, the complete machine will comprise a pair of the press units equipped with hook member holders assembled in reversed mirror image or left-hand and right-hand configurations, the units being mounted side-byside on a common base plate, and a common mandrel may be provided in the form of an elongate cantilever bar extending transversely at the front of the machine and in spaced relationship above the supporting beds of the individual press units, the inner end of the mandrel bar being carried by a bracket mounting upon the aforesaid common base plate. The common mandrel, with then carry, in the required spaced relationship, a pair of lower dies, each comprising a back-plate locating recess and associated anvil surfaces, disposed, respectively, beneath the upper rams and hook member holders of the two press units.

Means are also provided, when a mandrel is incorporated as described above, for supporting the outer end portion of the mandrel upon the supporting bed of at least one of said press units, and this supporting means may comprise a movable part and associated mechanism also incorporated, as an optional addition, in an individual press unit.

The invention will now be further described with reference to the accompanying drawings wherein:

FIGS. 1 and 2 are perspective views showing, respectively, a typical staple or eye component and associated back-plate, of a hook-and-eye garment fastening device which may be used with clenching machines constructed in accordance with the present invention;

FIG. 3 is a perspective view of a clenching machine representing one exemplary form of a preferred embodiment of the invention;

FIG. 4 is a vertical longitudinal section on line IV—IV of FIG. 3;
FIG. 5 is a fragmentary sectional view similar to FIG. 4 but showing an advanced stage during operation of the machine.

FIG. 6 is a vertical longitudinal section on line VI — VI of FIG. 3, but showing the operative parts towards the end of a clenching stroke of the machine.

FIG. 7 is a detail section on line VII — VII of FIG. 4 showing an overhead operating cross shaft and lever components connected thereto;

FIG. 8 is a longitudinal section through a holder member for the pronged fastening device component, taken in a plane perpendicular to the plane of the sectional view of FIG. 4;

FIG. 9 is an enlarged detail view of the back-plate loading operation shown in FIG. 5;

FIG. 10 is a perspective view of a base plate of the machine;

FIG. 11 is a detail perspective view showing a form of feed track used for staple or eye members of the type shown in FIG. 1; and FIG. 12 is a detail perspective view showing a modified form of feed track suitable for hook members of the type shown in FIG. 2.

In some of the views of the above-mentioned figures, it will be appreciated that some details are omitted for the sake of clarity.

Referring first to FIGS. 1 and 2 showing the components of a typical hook-and-eye fastening device for use with parts of wearing apparel, such as the overlapping ends of waistbands of trousers and skirts, the staple or eye fastening component 10 is formed of sheet metal and comprises a bar portion 11 having a depending shouldered prong 12 at each end. In attachment to the garment material the prongs 12, 12, are passed through the fabric and through apertures 14 in a complementary sheet-metal back-plate positioned against the rear face of the fabric, the prongs then being bent over or clench against the surface of the back-plate 15 thereby securely to hold the device in place in known manner.

The hook component 17 is also formed of sheet metal and comprises a cantilever hook tongue portion 18 joined by a cranked part or shallow step 19 to a short integral base 20 provided with a pair of spaced integral attachment prongs 21, 21 at upper and lower edges. Again a complementary back-plate 22 is provided which is of substantially rectangular form and which has a pair of elongated slots 23, 23 towards a ribbed end portion thereof to receive the prongs 21, 21 for securing to the garment fabric in a manner similar to that for the staple.

The particular clenching machine illustrated by way of example in the remaining figures of the drawings is designed and set up for attaching simultaneously a pair of the staple or eye pronged fastener members, in spaced positions, to a garment waistband, and the machine is equipped with means for automatically feeding and loading the fastener components from appropriate supply means.

The clenching machine thus comprises, in accordance with the invention, a pair of similar separate press units 25, 25a, which are each self-contained in respect of their operating mechanism and comprise a hollow body shell or casing 26, an upper die or holder 27 for the particular pronged fastener component of the hook-and-eye fastening device, an upper vertically-sliding ram 28 carrying the holder 27, power-operated mechanism, actuated by an air cylinder 29, controlling the ram 28, means for automatically feeding the pronged fastener components from a vibratory storage hopper 30 and for loading them into the holder 27 between each clenching stroke of the machine, and means for automatically feeding associated complementary back-plate components from a storage magazine 31 to a lower die 33 which includes anvils means for clenching the prongs of the fastener member.

The two press units 25, 25a are both bolted to a common base plate 35 which is provided with circular holes 36, 36, for receiving the bolts which fix unit 25 in a given position and with slots 37, 37, which receive the bolts which fix unit 25a in position. By this means, the position of units 25a relative to unit 25 can be adjusted to give the required spacing between the holders 27 of the two units to suit the spacing required for the pair of fastener members on the garment material.

In this embodiment, the lower dies 33 associated with the two units 25, 25a, are both carried by a common mandrel 40 which is insertable into the waistband and consists of an elongate flat bar of cantilever form supported at its inner end by a bracket arm 41 carried by a block (indicated at 42 in broken lines in FIG. 10) bolted to the far side of the base-plate 35. The lower dies are disposed towards the outer free end of the mandrel 40 in the required spaced relationship and each comprises a shallow recess adapted to receive and locate a back-plate and having sloping anvil surfaces 45.

The two separate press units 25, 25a are both of identical construction except in regard to a feature of arrangement hereinafter referred. For convenience, the detailed structure will therefore first be described in relation to the one unit 25 only.

In this press unit 25, the hollow body shell or casing 26 is of open box form and comprises a pair of spaced apart side plates 50, 50, which are upstanding from a solid rectangular bed plate 51 and which are connected by a top plate 52.

At the front, forwardly projecting upper check portions 50a, 50a, of the casing side plates embrace an overhanging head block 54 in which is mounted, in a guide channel 55 therein, the vertically-sliding ram 28. The operating mechanism for the ram 28 comprises a toggle linkage, through pivoted arms 57, 58, to an overhead operating shaft 60 which carries a relatively long lever arm 61 coupled through an actuating rod 62 to the air cylinder 29. The operating shaft 60 is pivotally mounted in the head block 54, and the lever arm 61 is fixed to said shaft so that it normally extends upwards when the ram 28 is in its raised inoperative position, as shown in FIG. 3, the actuating rod 62 extending rearwardly and obliquely downwards to, and in line with, the actuating air cylinder 29 which is pivotally mounted at its lower end, at 64 (see FIG. 6), to a lug 63 within the casing 26. By this arrangement, the maximum leverage forcing the ram down is exerted as the toggle arms 57, 58, straighten towards alignment right at the end of the operating stroke of the cylinder 29, this being the stage at which the prongs of the fastener members will be actually clenching against the anvil surfaces of the associated lower die.

As will be clear from the drawings, the ram 28, together with its associated toggle links 57, 58, are offset from the longitudinal median plane of the press unit, being adjacent the cheek portion 50a of one side plate 50 of the casing 26. Thus, the upper toggle link 57 is
secured to one end portion of the operating cross-shaft 60 whilst the lever arm 61 is fixed in laterally spaced relationship to the opposite end portion of said cross-shaft 60.

At its lower end, the ram 28 carries the holder 27 for the pronged fastener member, and this holder is pivotally mounted and designed so that it projects outwardly and presents its fastener receiving end forwardly for ease of loading when the ram is in its upper inoperative position, but it is automatically rotated to present the fastener with the prongs thereof directed downwardly during the clenching stroke.

More specifically, the holder 27 comprises a main rectangular block body 65 which is profiled at its outer end to form a seating recess 66 for receiving and locating the pronged fastener member and which is provided with a pair of spring-loaded pivoted jaws 67, 67, (see FIG. 8) adapted to grip opposite edge portions of the pronged fastener member.

At its opposite end, the holder body 65 has an integral projecting fin portion 69 which is received in a vertical slot 70 at the lower end of the ram 28 and which is connected to the latter by a transverse pivot pin 71.

In the forwardly presented loading position of the holder 27, as shown in FIGS. 4 and 5, this fin 69 extends horizontally rearwards and along its edge which is lowermost in this position it is formed with an obliquely extending slot 73, offset from the pivot 71, which is engaged by a fixed control pin 74 carried, adjacent the path of the ram 28 through guide channel 55, by a stationary part of the frame or head block 54. As the ram 28 descends during the operating stroke, the engagement of the fixed control pin 74 with the slotted fin 69 causes the holder body 65 to be rotated about pivot 71 from a horizontal position to a vertical position at the end of the stroke. Furthermore, the normal rear edge 75 of the fin 69, which becomes the upper edge when the holder is in its vertical operative position, slopes obliquely and is adapted to register with, and abut closely against, an inclined upper end wall 76 of the vertical slot 70 in the ram, whereby the holder 27 is accurately located on the pivot pin 71 is relieved of impact forces during the clenching operation. Moreover, the holder is securely locked in this position towards the end of the clenching stroke by engagement of the pin 74 with the edge of the fin adjacent the mouth of slot 73, as clearly shown in FIG. 6.

For supporting the outer end of mandrel bar 40 during the clenching operation, the press unit is conveniently provided with a reciprocable dolly 80 comprising a T-shaped block 81, slidable on the bed 51, which is operatively connected through rod 82 to an air cylinder 83 at its inner end and which is fitted, at its outer end, with a vertically slidable support stud 84 having an enlarged head. The dolly 80 is normally retracted and housed entirely within the casing 26, but on operating the controlling air cylinder 83 it is caused to project forwards and the rounded lower end of the shank of the support stud 84 engages and rides up a ramp surface 86 fitted on the bed 51 so that, at the end of the stroke of air cylinder 83, the support stud 84 is lifted into supporting engagement with the underside of the mandrel 40.

The press unit 25 is further provided with means for feeding back-plate components of the fasteners to the respective lower die 33 on mandrel 40. This feed means comprises a reciprocatable feed slide member 88 of composite construction, in association with a magazine storage means for the plates. The feed slide member 88 comprises a lower forwardly-extending horizontal support bar 89 on top of which lies a carrier bar or blade 90 which has an aperture 91 to accommodate and locate a back-plate which rests, whilst in said aperture, on the upper surface of the support bar 89 beneath. In the normal inoperative position, the back-plates drop down, one at a time, by gravity feed into this aperture 91 from a hollow column type magazine 31 located within the casing 26, adjacent the front thereof.

The support bar 89 is slidably mounted in a guide channel 94 in a fixed block 95 within casing 26 and is resiliently coupled to the upper carrier bar or blade 90 by a coiled compression spring 96.

As shown most clearly in FIGS. 4 and 5, the spring 96 extends longitudinally of bar 89 and the upper half is accommodated in a longitudinal slot 97 in the latter whilst the lower half seats within an elongate slot 98 in the upper face of block 95 which is bounded at the forward end by an end wall 99. The rear end of spring 96 abuts a vertical pin 100 which passes through a locating hole in the upper bar or blade 90, the lower portion of pin 100 projecting into slots 97 and 98.

The upper portion of pin 100 fits into an upstanding bracket arm 102 connected to the operating arm 103 of a control air cylinder 104. The latter is thereby coupled to the feed slide member 88, and on energising air cylinder 104, the two component bars 89 and 90 of feed slide member 88 move forwards together until the outer ends reach the edge of the mandrel 40 opposite to the respective lower die 33. The feed slide 88 is so positioned relatively to the mandrel 40 that, at this stage, the lower support slide bar 89 abuts against the side edge of the mandrel and is prevented thereby from moving further, and slightly before reaching this position the forward end of spring 96 reaches wall 99 of slot 98 so that all forward pressure on bar 89 is released.

The upper carrier bar 90, however, continues to move forwards against the bias of the spring 96 which is further compressed, and wipes over the top surface of the mandrel 40 until the back-plate drops out of its aperture 91 into the lower die recess 33. Both components 89 and 90 of the feed slide 88 are then retracted on the return stroke of air cylinder 104 thereby being placed ready to receive and feed the next back-plate.

To ensure that the back-plate drops out of the aperture 91 completely clear of the carrier bar 90 and enters fully into the die recess 33 without being displaced out of proper position, there is also provided a spring-biased pressure pad 106 which bears downwards on the back-plate during this loading operation as shown in FIGS. 6 and 9. This pressure pad 106 is carried by an offset bracket arm 107 mounted on a rod 108 which is slidable fitted through a bore in a fixed housing 109 secured on top of block 95. Rod 108 is fitted with a spring 110 which biases it to a retracted position, but during the forwards movement of feed slide 88, the upstanding bracket arm 102 engages the rear end of rod 108 so that it is pushed forwards against spring 110 and the pressure pad 106 is thereby advanced to follow the upper carrier blade or bar 90.

The upstanding bracket arm 102 further carries a laterally extending pin 112 arranged to engage an arcuate profiled edge 113 of a cam plate 114 which is pivotally mounted at 115 to a fixed frame member 116 carried by block 95. The top of the cam plate 114 is pivotally
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connected at 118 to a forwardly extending horizontal rod 119, and as the feed slide 88 is moved forwards, by the coupling through bracket arm 102 and operating rod 103 when air cylinder 104 is energised, the cam plate 114 is lifted by pin 112 causing the horizontal rod 119 to be drawn backwards. This movement of rod 119, of which the timing is controlled by the form of the cam plate 114, is then utilized to operate an injector member adapted automatically to load a pronged fastener member into the upper die holder 27 as hereinafter described.

For automatic feed and loading of the pronged fastener members, the latter are supplied to a channel form feed track 121 in known manner by the vibratory drum or hopper continuous feeding device 30 mounted on top of the unit. From the vibratory feeding device 30, the first portion, 121a, of the feed track slopes slightly downwards and extends forwards to the front of the machine where it leads into a vertically extending portion 121b which terminates at its lower end in a collector body 123 positioned forwardly of the lower end of the ram 28 and holder 27 when the latter is in its loading position. The collector body 123 is carried by a bracket arm 124 secured to the head block 54 and is formed with a vertical passage 125 in which the pronged fastener members collect in serial oriented order, one upon another, as they issue forth from the feed track 121.

At the bottom, the vertical passage 125 is intersected transversely by a horizontal passage 126 extending from front to back through the collector body 123. The rear section of passage 126 provides an opening directly in front of the recess 66 of the upper die holder 27 and the forward section of passage 126 forms a slideway in which is fitted a sliding injector head 128 which is connected to the pull rod 119 previously described.

In the normal inoperative position, the injector head 128 lies clear of the vertical passage 125, as shown in FIG. 4, and the lowermost fastener member in the latter takes up a position immediately in front of the rear section of passage 126 with its prongs directed forwardly.

When the rod 119 is drawn back, however, the injector head 128 is moved inwards and pushes the said lowermost fastener member, in correct orientated position, out through the rear section of passage 126 and presses it home into the recess 66 between the jaws 67, 67', of holder 27. On the return movement of injector head 128, the remaining fastener members move down so that the next one in line then takes up its position ready for the next loading operation.

In the drawings, the clenching machine is shown set up for use with the staple or eye members of the type shown in FIG. 1, and FIG. 11 is a detail view showing more clearly the simple channel form of feed track 121 which is found to be suitable for these components.

For use with the hook members of the type shown in FIG. 2, very little modification is necessary other than replacement of the upper die holder 27 by another having the appropriate profile and by substituting the collector 123 and feed track 121 by others designed to suit the particular shape of the hook member. Again, however, the feed track can be of relatively simple channel form, as shown in the detail view of FIG. 12, and in general, for both the hook and staple or eye components, it is found that the correct required orientation can be maintained throughout the feed and loading operations by means of relatively simple guide surfaces.

Operation of the unit is controlled by an operating bar 130, extending transversely across the front of the machine, connected to a lever 131, pivoted to the casing at 132, which is operatively-connected at its inner end, through a "lost motion" arrangement, to a valve device 134 which controls a compressed air supply to the actuating air cylinders. The operating bar 130 is also provided with bracket arms 133 which carry a transparent plastic shield 135 lying in front of the upper dies thereby forming a safety guard. The "lost motion" arrangement comprises a pair of spaced striker pins 136 and 136a, mounted on a plate secured to the inner end of lever 131, which are positioned either side of opposite abutment faces, 137, 138, of a disc carried by the air valve operating plunger 140, and it is useful to introduce a delay whereby the air valve 134 will only operate towards the end of the stroke, in either direction, of the operating lever 131.

Upon operating the air valve 134, the requisite timing of sequential operation of the respective air cylinders 29, 83 and 104, is controlled by the relative size of the bores and capacity of the air supply conduits in the system. By proper choice of the air flow characteristics, it is arranged for the loading air cylinder 104 to operate first, then the dolly control cylinder 83 operates and, after the loading operation is completed and the dolly 80 is in position, the main air cylinder 29 is operated to effect the clenching stroke.

The second press unit 25a of the machine is, as mentioned, identical with unit 25 except that, insofar as the units are asymmetrical about a longitudinal median plane, it represents a mirror image of unit 25. Thus, the ram assembly and actuating mechanism of the overhead operating cross shaft are disposed adjacent the sides of the casing opposite to those in unit 25, and the order of assembly upon the operating cross shaft is reversed. Thus the two units can be regarded as having relative left-hand and right-hand configurations, and by this means it is possible to bring the upper dies much closer together than would otherwise be possible, and together with the feature of adjustability of one press unit relative to the other on the common base 35, a most useful range of spacings for attachment of the pairs of fastener devices is provided.

By way of example of the adaptability of the construction herein described, it may be pointed out that if a "flat bed" type of press is required, lower dies can be provided on the bed parts 51 instead of using the mandrel 40, and the reciprocatable dolly mandrel support 80 and associated operating mechanism can be removed or omitted during assembly of each press unit, together with the back-plate feed mechanism. Or, if desired, the latter could be modified or replaced with similar mechanism to load the modified lower dies on the flat bed.

Similarly, if automatic feed and loading of the pronged fastener members is not required, the mechanism provided for this purpose can also be readily removed or omitted during assembly, the fastener members then being loaded by hand into the upper dies or holders.

I claim:

1. A clenching machine including co-operative upper and lower dies for attaching pronged fastener members of garment fastening devices to garment material, said
machine comprising a press unit having a casing, a vertically movable carrier member mounted in said casing, an upper die carried by said carrier member and adapted to receive and hold one of the pronged fastener members, a power operated actuating device, means operatively connecting said actuating device to said carrier member to control movement of the latter, a lower die which operates with said upper die, and a bed part to support said lower die, wherein the vertically movable carrier member comprises a ram slidably mounted in a vertical guideway, said ram carrying the upper die at its lower end, said press unit further comprising pivot means connecting said upper die to said ram to permit angular displacement between a loading position in which a recessed portion of said upper die which receives and holds the pronged fastener member is presented forwardly and an alternative operating clenching position in which said recessed portion is presented downwardly beneath the ram, and a stationary abutment which operatively engages and deflects said upper die automatically to control the angular displacement between said two positions during movement of the ram, said upper die further having an inclined abutment surface portion, spaced from the pivot connection to the ram, which engages and locates with a complementary surface of said ram when the upper die is in its operating clenching position thereby to relieve the pivot means of impact forces during the clenching operation.

2. A clenching machine having co-operative upper and lower dies for attaching pronged fastener members of garment fastening devices to garment fabric material, said machine comprising a press unit which includes an upper die and operating mechanism controlling movement of said upper die, said machine also comprising a lower die which co-operates with said upper die, a base, and a mandrel mounted on said base, said mandrel comprising a cantilever arm, insertable into a made-up garment waistband, which carries said lower die, and supporting means to support the outer end of said mandrel from beneath during clenching operation of the machine, said supporting means comprising a retractable support member movable into operative position during operation of the machine, said machine further comprising means for feeding and loading a back-plate of the pronged fastener member into said lower die in between each clenching operation, said back-plate feed and loading means comprising a reciprocating feed slide in association with back-plate supply means, said feed slide comprising a lower support member adapted to be moved into position adjacent a side edge of the mandrel and, coupled to said lower support member, an upper carrier member adapted to be moved beyond the lower support member at the end of the operative stroke of the feed slide so as to wipe over the upper surface of the mandrel and thereby to transfer a back-plate from the lower support member and deposit it in the lower die adjacent on said mandrel.

3. A clenching machine according to claim 1 in which said press unit further comprises pivot means connecting said upper die to said ram to permit angular displacement between a loading position in which a recessed portion of said upper die which receives and holds the pronged fastener member is presented forwardly and an operative clenching position in which said recessed portion is presented downwardly beneath the ram, and a stationary abutment which operatively engages and deflects said upper die automatically to control the angular displacement between said two positions during movement of the ram.

4. A clenching machine according to claim 3 further comprising in said press unit means to feed and load the pronged fastener members automatically into the upper die, said means including a feed track, a collector body connected to said feed track and disposed adjacent the upper die when the latter is in its loading position, a displaceable injector member associated with said collector body, and means to operate said injector member at a predetermined stage to drive the pronged fastener members out of said collector body into said upper die.

5. A clenching machine according to claim 1 wherein said press unit has an overhead rotary operating shaft, a toggle linkage connecting said operating shaft to the ram, a lever fast with said operating shaft, a connecting rod extending rearwardly and downwardly connecting said lever with the power-operated actuating device, and pivot means mounting said actuating device within the casing.

6. A clenching machine according to claim 1 including a mandrel mounted on said common base, said mandrel comprising a cantilever arm, insertable into a made-up garment waistband, which carries the lower die for said press unit, and supporting means to support the outer end of said mandrel from beneath during clenching operation of the machine, said supporting means comprising a retractable support member and mechanism to move said support member into operative position during operation of the machine and to retract said support member after each clenching operation.

7. A clenching machine according to claim 6 wherein the retractable support member comprises a horizontally movable arm, a vertically movable support element carried by said arm, and an inclined surface carried by the bed part which is co-operatively engaged by said support element when the arm is displaced into an operative position thereby to raise said support element into supporting engagement with the underside of the mandrel.