CHAPTER 32

The Linotype Self-Quadder

THERE ARE MANY forms of composition, each requiring its own treatment, which heretofore depended upon the skill of the operator and in some cases required considerable time. Without the Self-Quadder, the normal procedure for setting full measure would be to fill out the line to within the capacity of the spacebands to justify out to full length and also to tighten the line. In the case of short lines it was necessary to fill out with quads and spacebands to accomplish the same result, otherwise the line would not cast.

The Linotype Self-Quadder, however, has revolutionized setting of the many forms of composition and it is now possible to center accurately any length of line and to quad left or right. It will carry out the functions of quadding right or left and centering, with lines nearly full or with lines containing but a single matrix. Only a second is required for the operator to set the selector handle to any of the operations he wants it to perform.

Its versatility, precision, sturdiness and simplicity are qualities that make its use indispensable on many classes of composition. It will set white space at the beginning or end of a line without the expenditure of time or effort. It performs the important function of automatic quadding. It also automatically casts blank slugs when set for any of the foregoing functions.

It provides straight line or fixed indention at the left of a line and with the application of an additional optional arrangement, straight line or fixed indention at the right of a line is also possible.

The functions of the Self-Quadder can be eliminated by simply pushing in the lever *2*, Fig. 1-32 when the selector handle is set at "Reg.". The machine can then be operated as any Linotype not equipped with the device, with the exception of casting

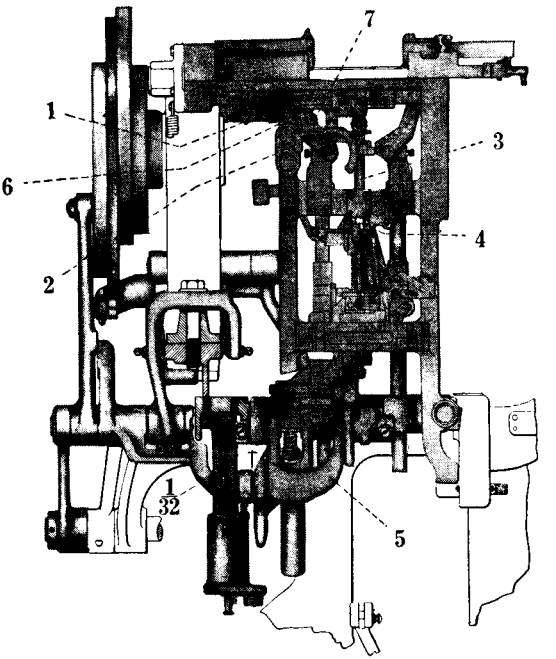
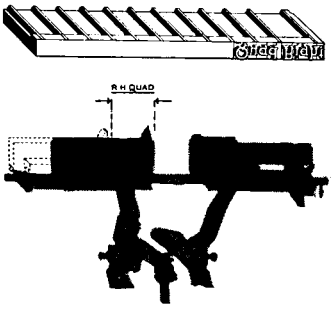


FIG. 1-32. Front view of the Self-Quadder mechanism.

blank slugs. Blank slugs can be conveniently cast by pulling out the lever 2, Fig. 1-32, putting the Self-Quadder back into action, which will then operate to cast blank slugs automatically.

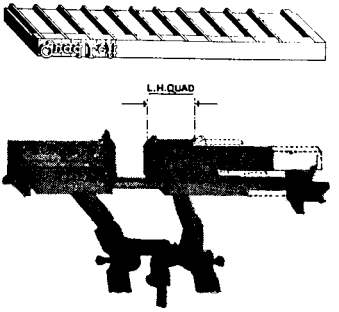
INSTRUCTIONS FOR OPERATING



Quadding to the Right—The operator should make the usual scale adjustments such as, setting the assembler slide, ejector blade and the knife block to conform with the length and point size of the slug to be cast. The line stop is automatic in its action and needs no manual positioning.

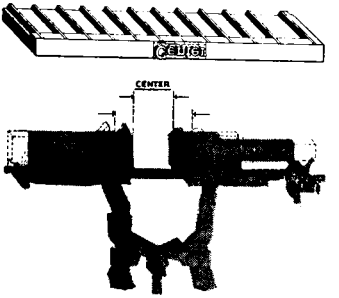
To set the left-hand vise jaw for length of slug to be cast, release locking latch on adjustment rod. Pull the adjusting rod to the right as far as possible, then turn clockwise ¼ turn. The vise jaw can then be moved until the desired length of line is indicated by the em scale pointer. Now turn adjusting rod counter-clockwise, until the locking latch enters the slot, and push rod to the left as far as possible.

Shift the selector handle *1*, Fig. 2-32, to the position marked "Reg. and R.H. Quad.". Pull out the lever *2*, Fig. 2-32, which engages the left-hand vise jaw to the control rod as shown at *8*, Fig. 2-32.



The machine is now properly adjusted for the operator to proceed with the setting of his copy. The assembling elevator is designed so that one or several matrices can be assembled and delivered into the first elevator jaw without the necessity of moving the delivery slide long finger to support the line of matrices. The action of the long finger is automatic.

Quadding to the Left—Follow exactly the same instructions as outlined for right-hand quadding. Shift the selector handle to the "L.H. Quad." position, as shown at *11*, Fig. 2-32. The delivery slide finger is automatic in its function and it eliminates the necessity of raising and lowering finger to prevent striking the left-hand vise jaw when centering or quadding.



Centering—Follow exactly the same instructions as outlined for right-hand quadding. Shift the selector handle to the position marked "Cent.", as shown at *12*, Fig. 2-32.

Operating as a Regular Linotype Machine—To use the machine normally, as a Linotype not equipped with the Self-Quadder, shift the selector handle to the position marked "Reg. and R.H. Quad.", as shown at *10*, Fig. 2-32. Push in the lever *2*, Fig. 1-32, as shown at *9*, Fig. 2-32. Make all settings that would be necessary on a regular machine before assembling a line and casting a slug.

To Cast Blank Slugs—Blank slugs can be cast with the selector handle in any of the positions described, but the shifting lever *2*, Fig. 1-32, must be pulled out when selector handle is at position marked "Reg. and R.H. Quad.". It is merely necessary to pull the starting handle to permit the cams to revolve and bring the vise jaws together in position for casting blank slugs.

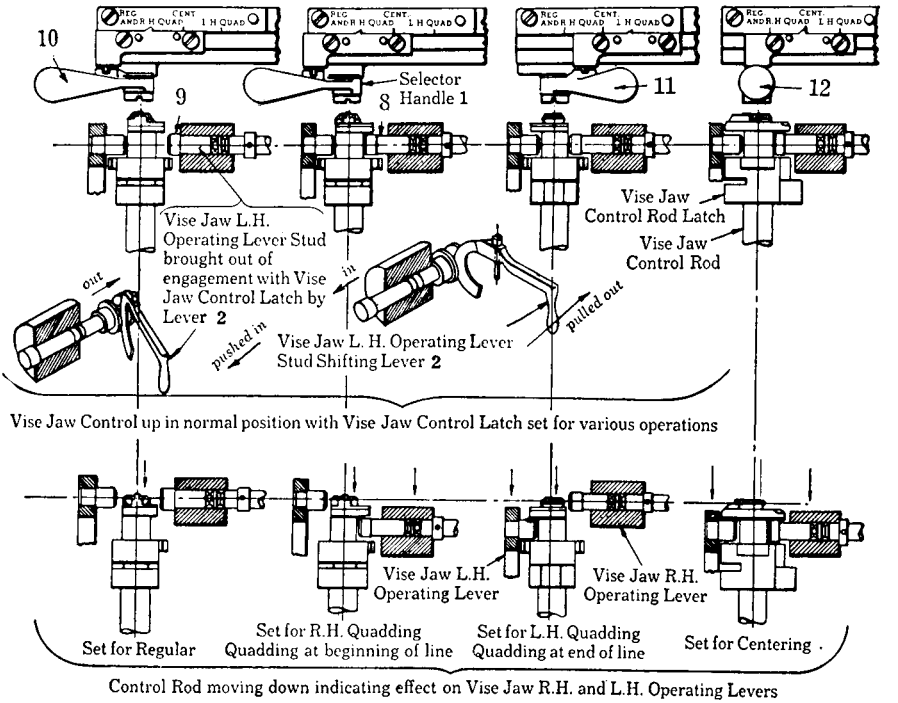


FIG. 2-32. View showing position of the vise jaw control rod latch with respect to position of selector handle.

ADJUSTMENTS, CARE AND MAINTENANCE

The following pages of adjustments, operation and maintenance of the Linotype Self-Quadder are for the purpose of giving the machinist and operator the necessary instructions for operating the Self-Quadder and maintaining it at its highest efficiency.

The adjustments following are for Linotypes with Self-Quadders having the type of mechanism shown in Fig. 12-32. Linotype machines No. 53640 and over have this type of final locking action. For adjustments of Self-Quadders below No. 53640, the individual instruction manual sent with each machine should be consulted.

Operators and machinists should read these instructions carefully, particularly those regarding adjustments.

All settings are carefully made at the factory, and if changed later, care should be exercised. If, when consulting diagrams, you are in doubt regarding the parts referred to, consult parts catalog of the "Linotype Self-Quadder," where will be

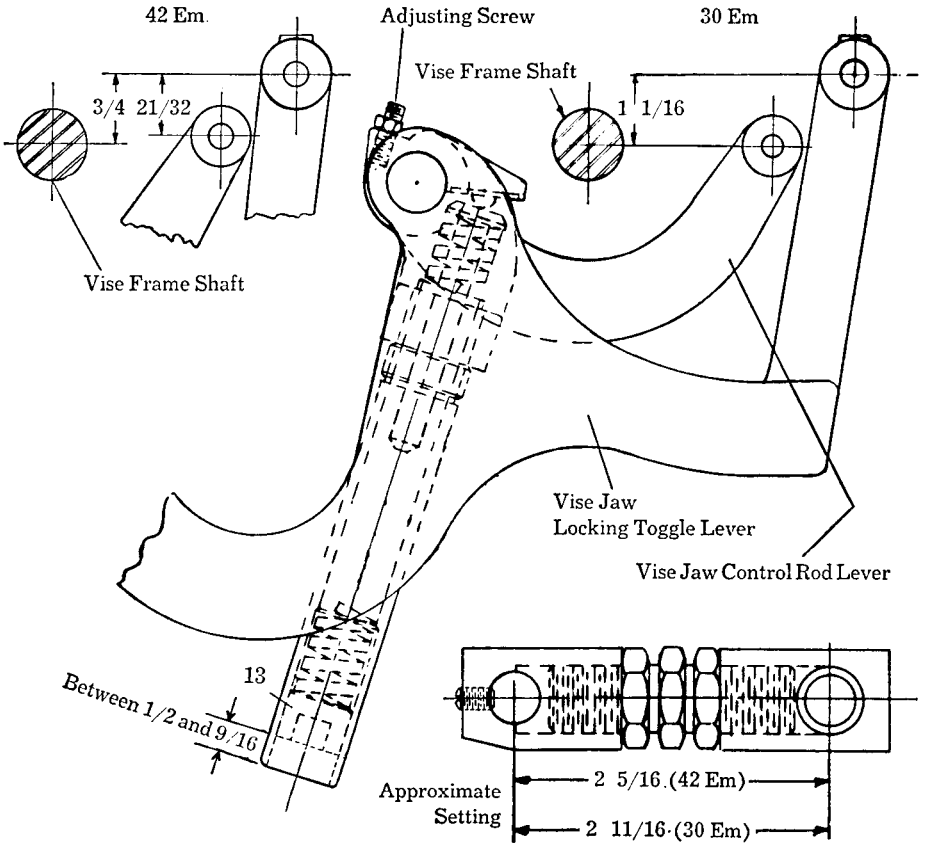


FIG. 3-32. View showing standard dimensions of vise jaw locking toggle, vise jaw control rod lever and locking toggle slide connecting block.

found photographs with letter and part number. Under "Index to Parts" will be found the letter and part number of all parts referred to in the drawings of this book. Turn to the page or pages indicated, and by photographs identify the part desired and note the name on the opposite page.

Toggle Lever and Connecting Block—The distance between centers of studs on vise jaw control rod lever and vise jaw locking toggle lever must be set as indicated in Fig. 3-32, and this distance is obtained by the adjusting screw. The spring nut *13*, should be adjusted as indicated.

Vise Jaw Control—The control rod *3*, Fig. 1-32, is properly adjusted at the factory for correct height. If this control rod is set too high, the selector handle will not shift back and forth easily, and the right-hand vise jaw will not have sufficient end play. If the control rod is set too low, the selector handle will not operate the control rod latch, Fig. 2-32.

To test for proper height of control rod, set selector handle at left-hand quad. and move the right-hand jaw back and forth. The end play should be about .010 of an inch. To adjust the control rod to obtain this end motion, readjust the screw *16*, Fig, 4-32, located on top of the air cushion cylinder bracket.

If the vise jaws do not return to their normal positions it is an indication that

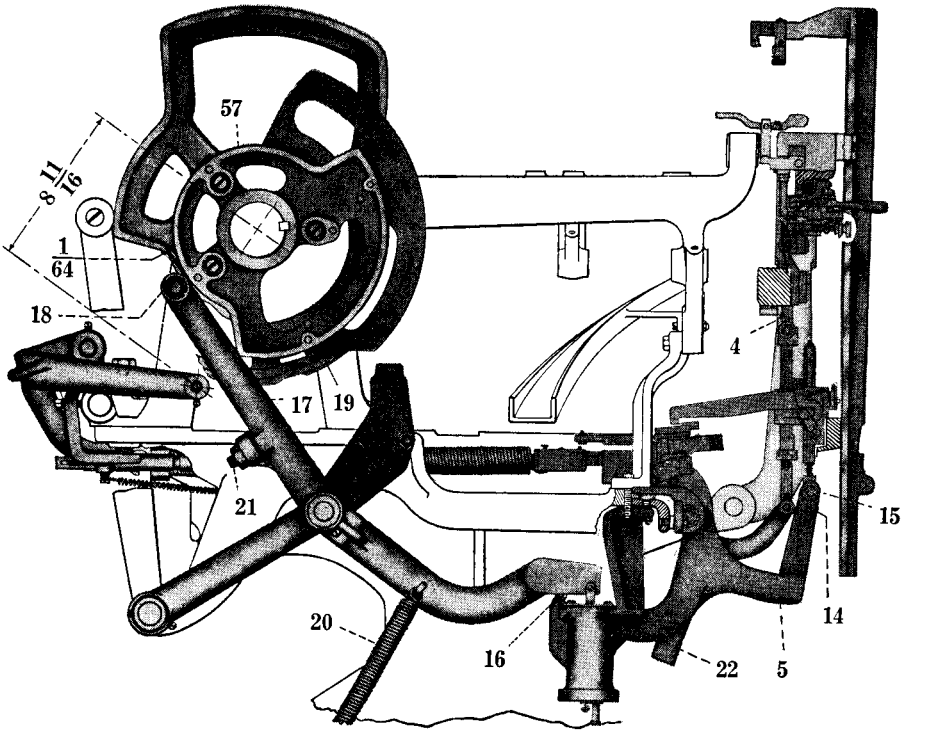


FIG. 4-32. Side view of the Self-Quadder mechanism.

control rod is not raising high enough. This may be due to the $1\frac{1}{16}$" dimension between centers of studs of vise jaw locking toggle lever and vise jaw control rod lever, being off. This can be corrected by adjusting screw as shown in Fig. 3-32.

With the machine in normal position, turn screw *21*, Fig. 4-32, until the cam roll *18* is about $\frac{1}{64}$ of an inch from the cam. Also adjust screw *4* until it just clears the cross member of the vise frame.

Selector Handle—Shifting selector handle at any time before vise jaws have returned to normal position will cause jaws to be out of time with indicator.

If the movement of the vise jaws does not coincide with the reading on the

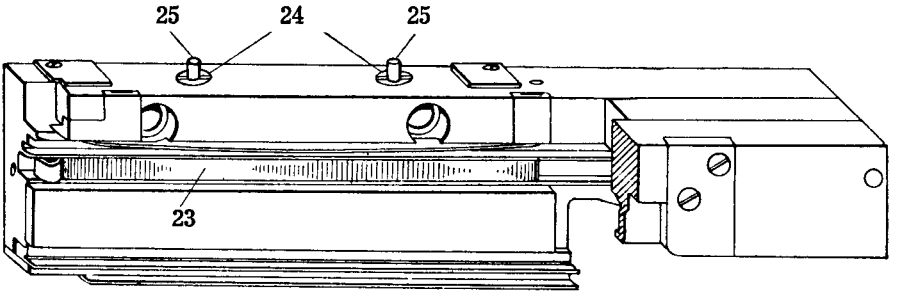


FIG. 5-32. View of the first elevator front jaw with the matrix detent in position to steady the last matrix of the line.

selector handle plate, it indicates that the selector handle has been shifted out of time.

To position the selector handle to coincide with the movement of the jaws, depress the lever 5, Fig. 4-32, which is below the left-hand galley bracket. This causes the control rod to travel downward. Observe the movement of the vise jaws as the control rod travels downward. Shift the selector handle so that the indicator plate reading coincides with the movement of the jaws. Then allow control rod to return to normal position.

Left-Hand Vise Jaw Operating Lever—The lever 6, Fig. 1-32, is in two sections, and has an adjusting screw and lock nut. This adjustment permits the moving of the left-hand vise jaw so that an exact center can be accomplished.

To adjust, proceed as follows:

Set the margins on both ends of a 30-em slug.

Cast a single character (space rule preferred) on a slug with the selector handle set at center. This will determine which way the jaw should be moved to position the single character in the exact center of the slug.

Loosen the plate screws holding the two sections of lever 6, Fig. 1-32. They will be found (by opening the vise) down under left-hand jaw. These screws require a special formed wrench, which comes with the Self-Quadder.

After loosening the plate screws slightly, turn the screw 7, Fig. 1-32, turning clockwise to move the jaw forward, or counter-clockwise to move the jaw backward. After this adjustment is made, tighten the plate screws, making sure that the jaw is held to the left.

Matrix Detent—The first elevator jaw is equipped with a matrix detent 23, Fig. 5-32. Its purpose is to steady the last matrix of each line delivered into the jaw. It will be observed that when quadding left or centering, the last matrix is moved away from the jaw spring pawls. In this position, the detent comes in contact with the last matrix and prevents it from turning and falling out of the jaw as the first elevator rises after casting. Its action is equally effective in recasting. This detent should be kept clean and in good operating condition at all times.

The matrix detent is depressed by the action of the line stop to allow the line of matrices to enter the first elevator jaw. As the matrices enter the jaw, the line

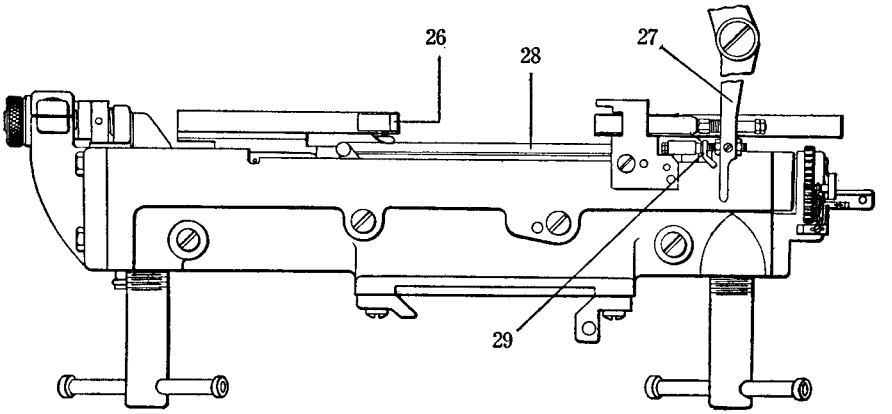


FIG. 6-32. View of the vise cap and vise jaws showing the vise jaw left-hand safety detent and the pump stop lever operating lever.

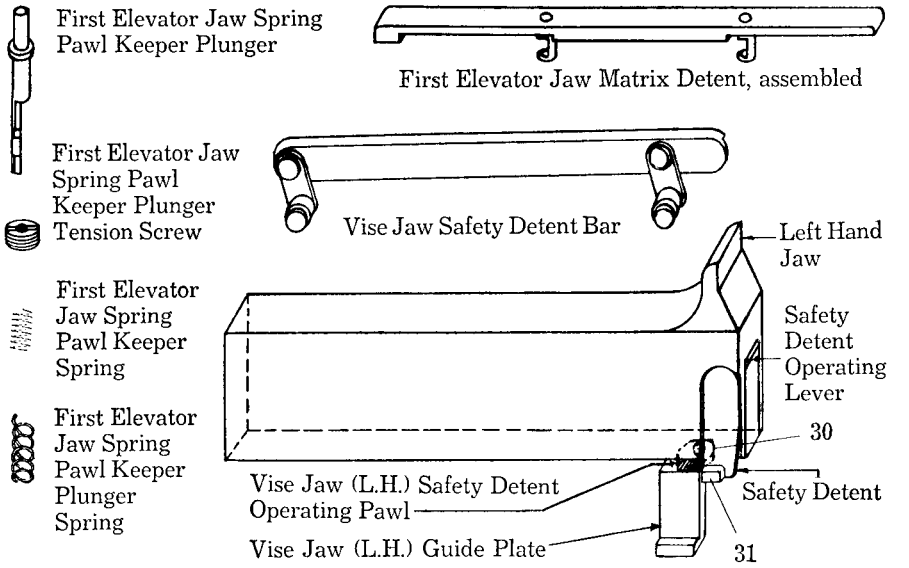


FIG. 7-32. View showing details of the vise jaw left-hand safety detent and first elevator jaw matrix detent.

stop is forced outward allowing the detent to hold the matrices in position. When the line of matrices is being transferred to the second elevator bar, the transfer rod attached to the transfer slide carries the line stop fully into the first elevator jaw. At the transfer position the plungers *25*, Fig. 5-32, are depressed, which action withdraws the matrix detent so that there is no tension against the matrices at this position. It is important that the transfer rod should carry the line stop fully into the first elevator jaw to be in position for the next line of matrices to enter.

Left-Hand Vise Jaw Detent Operating Lever—This operating lever *26*, Figs. 6 and 7-32, and associated parts contained in the left-hand vise jaw should be kept clean and free from small particles of metal, which may prevent free operation. It is the pressure of the matrices against the lever *26* that operates the pump stop lever operating lever *27*, Fig. 6-32, through the movement of the safety detent bar *28*, Fig. 6-32.

The safety detent operating lever should always extend beyond the face of the vise jaw after the matrices have risen from between the vise jaws. If this lever remains flush with the face of the vise jaw or remains depressed, the pump stop lever will be open, which would allow machine to cast with a short line or with the jaws open. The detent bar *28*, Fig. 6-32, must be parallel with the vise cap. If this bar becomes bent or damaged, it should be straightened or replaced with a new one otherwise the pump stop lever operating lever will not function properly.

Pump Stop Lever—The operating lever *27*, Fig. 8-32, is set in the factory so that the stop lever *32* will clear the catch block on the pump lever, by $\frac{1}{64}$ of an inch or less when the plunger descends. *This is a very important adjustment and should be checked often.* Adjustment is made by screw *29*, with a full line of matrices and spacebands between the vise jaws.

Air Cushion Cylinder—Air cushion cylinder *22*, Figs. 4 and 9-32, which is

located below the waste metal pan controls the action of the vise jaws as they return to normal position. There is a regulating valve *34*, Fig. 9-32, below the cylinder which regulates the action of the jaws.

If the jaws snap back too fast, loosen lock nut and turn adjusting screw up into cylinder which will restrict the flow of air and slow down movement of the jaws. After adjusting the screw, the lock nut should be tightened to maintain the adjustment.

If the jaws do not move back to normal fast enough, adjust screw out or down, which will allow air in cylinder to escape and the jaws will return to normal quickly. This action is very similar to that which controls the delivery of matrices into the elevator jaws, an air cylinder being used in each instance to properly regulate the speed of the movement.

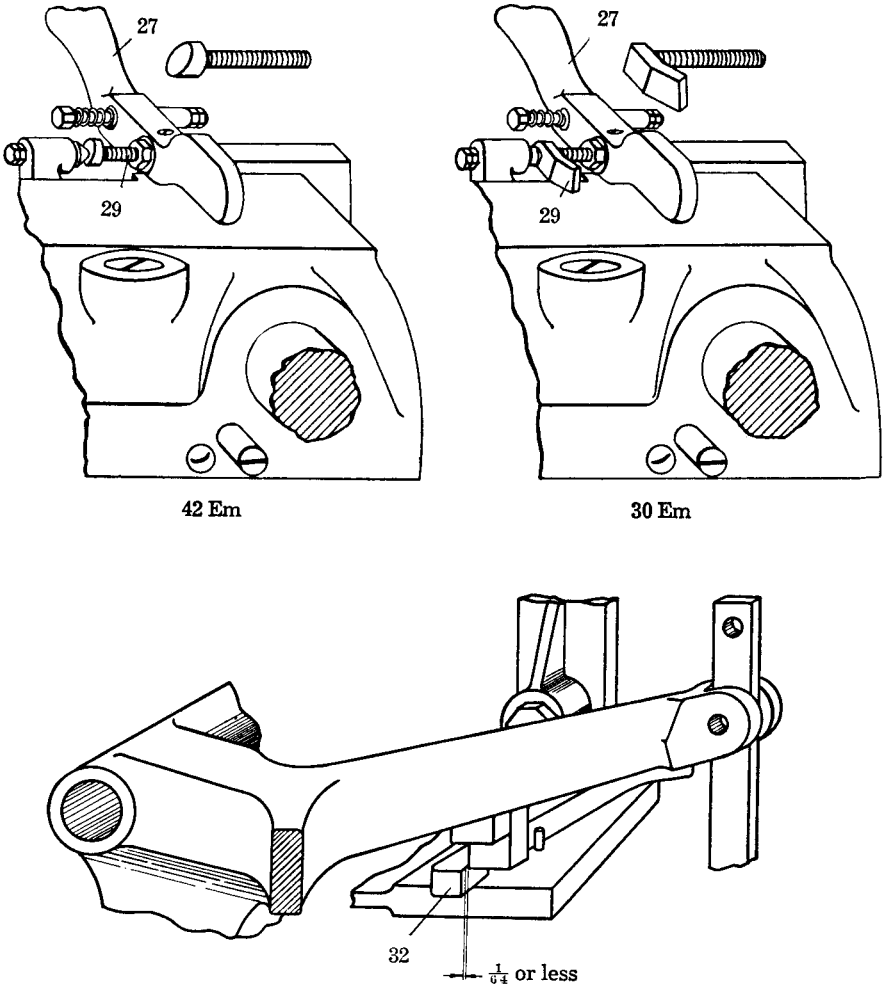


FIG. 8-32. View of the pot pump operating lever.

Toggle Lock

Its Purpose—When justification takes place, this mechanism prevents the vise jaws from moving back when they have quadded or centered a line of matrices and spacebands. It also permits the exerted pressure of the vise jaws against the line of matrices to be released after the cast, by allowing the jaws to move back approximately $\frac{1}{32}$ of an inch. This permits the first elevator jaw with the line of matrices to rise freely and yet have the vise jaws as a guide until the first elevator jaw has risen above the vise jaws. At this point the toggle lock is released allowing the vise jaw or jaws to move back to their normal position.

Its Function—After the first elevator jaw has descended to the vise cap, the control rod *3*, Fig. 10-32, and control rod locking toggle sleeve *36*, start down causing either or both the vise jaws to close against the line of matrices. When the vise jaw or jaws reach the line of matrices, their inward motion is halted. The sleeve also halts its downward motion. The distance the sleeve travels is governed by the length of line assembled into the first elevator jaw.

The slide *37*, Fig. 10-32, continues to travel downward until adjusting screw *38* in the slide contacts roll *39*, pushing it slightly below a horizontal position or below center, as shown in Fig. 11-32. This causes the front shoe *47*, Fig. 11-32, to slide back until it banks against adjusting screw *40*, which then forces the back shoe *48*, which has serrations on it, to engage with sleeve *36*, which also has similar serrations.

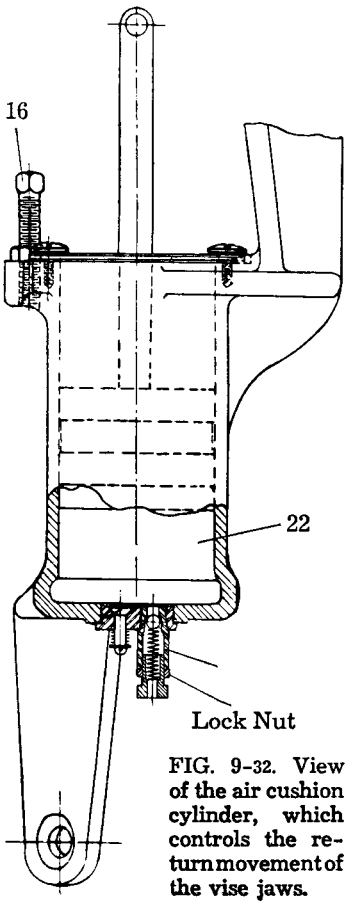


FIG. 9-32. View of the air cushion cylinder, which controls the return movement of the vise jaws.

At this point adjustable shoe *50*, Fig. 12-32, engages hook end of link *52*, and by action of the auxiliary cam *58*, Fig. 13-32, through associated mechanism and spring *63*, forces cam *53*, Fig. 12-32, to contact fixed roller *54*, resulting in a downward motion of shoe guide *55*. This action causes serrated block *48*, Fig. 11-32, which is engaged with sleeve *36*, to be forced down thus applying extra pressure of the vise jaws against the line of matrices. This assures a tight line.

The Unlocking Action—Shortly after the cast, the cam roll *18*, Fig. 13-32, leaves the cam *57* and the auxiliary roll *64* also leaves the auxiliary cam *58*.

This combined action permits the lever *5*, Fig. 4-32, to rise until adjusting screw, Fig. 3-32, comes in contact with the vise jaw control rod lever allowing toggle slide *37*, Fig. 11-32, and shoe *48* to rise since the pressure has been relieved.

Since the serrated shoe *48* is still engaged in sleeve *36*, it has caused this sleeve to also rise slightly.

The spring *20*, Fig. 4-32, aids in raising control rod and serrated shoe *48*, Fig. 11-32.

The upward movement of the control rod is to allow the vise jaws to move back slightly so that the line of matrices in first elevator jaw may rise freely without any pressure against matrices, and also to keep the line of matrices intact until after they have left the vise jaws.

This position of the locking mechanism is maintained until the first elevator jaw has lifted clear of the vise jaws at which time the releasing latch *64*, Fig. 14-32, which is attached to the first elevator slide, contacts releasing lever *73*, Fig. 14-32, which revolves cam *41*, Fig. 11-32, to its lowest position. This relieves the pressure on front shoe *47*, thus permitting the arm *42* to snap up. This in turn withdraws the back shoe *48* from the sleeve *36*. The control rod is then free to move upward and return vise jaws to normal position.

To Adjust Collar and Nuts on Locking Toggle Sleeve—If due to wear or other reasons, there exists a space between collar *46*, Fig. 10-32, and sleeve *36*:

Adjust collar *46* by means of nut, just below, until the collar comes in contact with sleeve *36*, and then lock in this position with lock nut.

CAUTION: When adjustment is completed, collar *46* should be such that it can just be turned with the fingers and still have no play. It should not be tight. Care should be taken to see that the nut is securely held by lock nut.

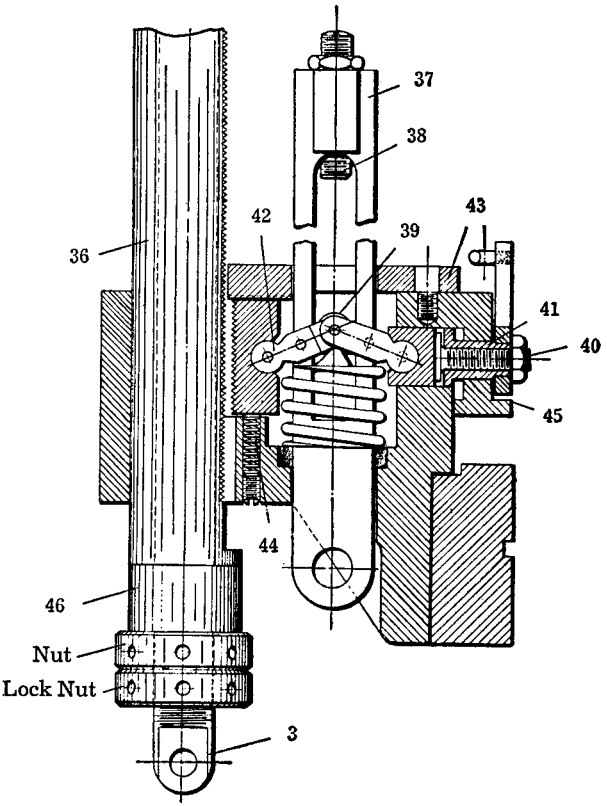


FIG. 10-32. View of the toggle lock mechanism in the unlocked position.

To adjust Shoe 50, Fig. 12-32—Adjust screw *61*, Fig. 13-32, until the center of shaft for roller *64* is $8\frac{11}{16}$ inches from the center of the main camshaft. This is shown in Fig. 4-32. Then adjust shoe *50*, Fig. 12-32, so that there is approximately $\frac{1}{8}$ to $\frac{3}{16}$ inch between lever *52* and shoe *50*, as shown at *56*.

Adjust nut *62*, Fig. 13-32, so that the slack in spring *63* is removed. Spring *63* should not be under tension.

To adjust Toggle Lock—Take off first elevator slide stop from bottom of first elevator slide. Remove slug adjuster lever cam and remove hinge pin *65*, Fig. 14-32, from first elevator link and draw first elevator slide up and out of gibs, without disturbing setting of gibs.

Before attempting to adjust toggle lock make certain that adjustment

between control rod lever and locking toggle lever, shown in Fig. 3-32, is correct.

With selector handle set for "L.H. Quad." allow machine to revolve until cam roll *18*, Fig. 13-32, rests on point of cam *57* at *59*, and stop machine at this point. Remove slide guide *43*, Fig. 10-32. Back off adjusting screw *38*, Fig. 10-32, until it clears roll *39*. Back off screw *40* about a full turn.

Adjust screw *38*, Fig. 10-32, until it pushes roll *39* to its lowest position. This can be done by either pushing roll *39* down and holding it there until adjusting screw *38* is turned down to contact roll to hold it there, or by slowly turning the adjusting screw down until slide *37* begins to rise. This indicates toggle arm roll is in lowest position, or below center. When this point has been reached, using either method, adjusting screw *38* should be turned down another half or full turn. *This setting is very important. Do not exceed a full turn.*

Next, turn adjusting screw *40*, Fig. 11-32, in clockwise manner as far as it will go. This will cause shoe *48*, Fig. 11-32, to engage in serrations in control rod sleeve. Replace slide guide *43*, Fig. 10-32. See that all lock nuts are tightened. Back the cams up until machine is in normal position. Release the latch *73*, Fig. 16-32, to allow control rod to return to normal position.

Restore the first elevator slide to its original position on the machine, and adjust the release lever *64*, Fig. 14-32, by means of the adjusting screw so that it clears the cross rib of the vise frame by $\frac{1}{64}$ of an inch. *This is an important adjustment.*

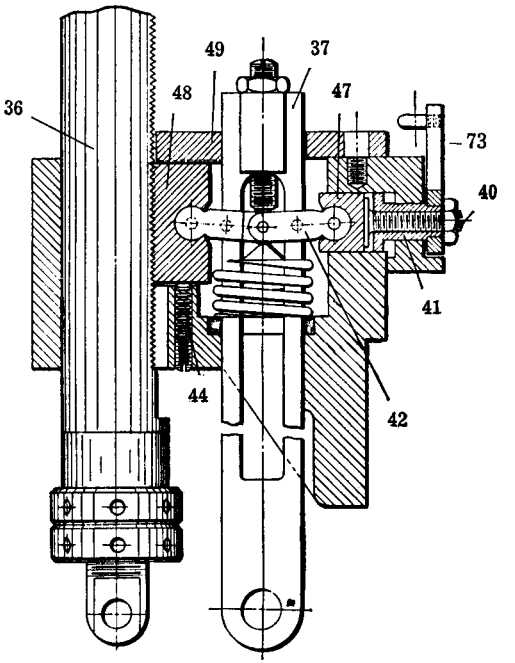


FIG. 11-32. View of toggle lock mechanism in the locked position.

CAUTION: The vise should never be opened when the cam roll *18*, Fig. 13-32, is on the point of the locking toggle cam *57* as shown at *59*, unless the toggle locking mechanism is released by manually operating the release lever *73*, Fig. 16-32. When the cam roll *18* is at point *59*, the toggle lock is engaged and any attempt to open the vise without releasing the toggle lock may result in serious damage to the mechanism.

Cleaning or Repairing Toggle Lock

To properly clean the toggle lock or to make any repairs it is necessary to remove it from machine. The adjusting screw block *45*, Fig. 10-32, should be taken off by removing the two holding screws.

Remove slide guide *43*, Fig. 10-32, and slide guide *49*, Fig. 11-32.

Toggle slide stud and toggle mechanism with slide *37*, Fig. 10-32, can then be removed and cleaned.

By carefully removing these parts, no adjustments will be disturbed if parts are reassembled properly.

CAUTION: If for any reason metal becomes lodged between first elevator jaw and vise jaws, when first elevator is in casting position—*Do not attempt* to open vise frame until the hinge pin *65*, Fig. 14-32, has been removed. This can be done quickly by releasing the knurled head screw and withdrawing the hinge pin.

Be sure the line stop in first elevator jaw is fully in before starting machine.

To back up machine, if roll *18*, Fig. 13-32, is in pocket of cam *57*, hold lever *17* toward rear of machine so that roll is free from cam.

Cleaning or Repairing Vise Jaw Control Rod Latch

If metal or dirt should accumulate beneath the bevel pinion *72*, Fig. 15-32, in control rod latch and it becomes necessary to remove this part for cleaning or repairing:

Remove screw *66*, spring *67* and ball *68* from latch.

Remove screw *69*, holding key *70* from latch, and latch can be withdrawn from control rod, being careful not to lose spring *71*, which presses up against bevel pinion and holds pinion in mesh with rack pinion when control rod is in highest position.

Clean all metal or dirt from these parts and reassemble. Be sure spring *71* contacts bevel pinion and works freely.

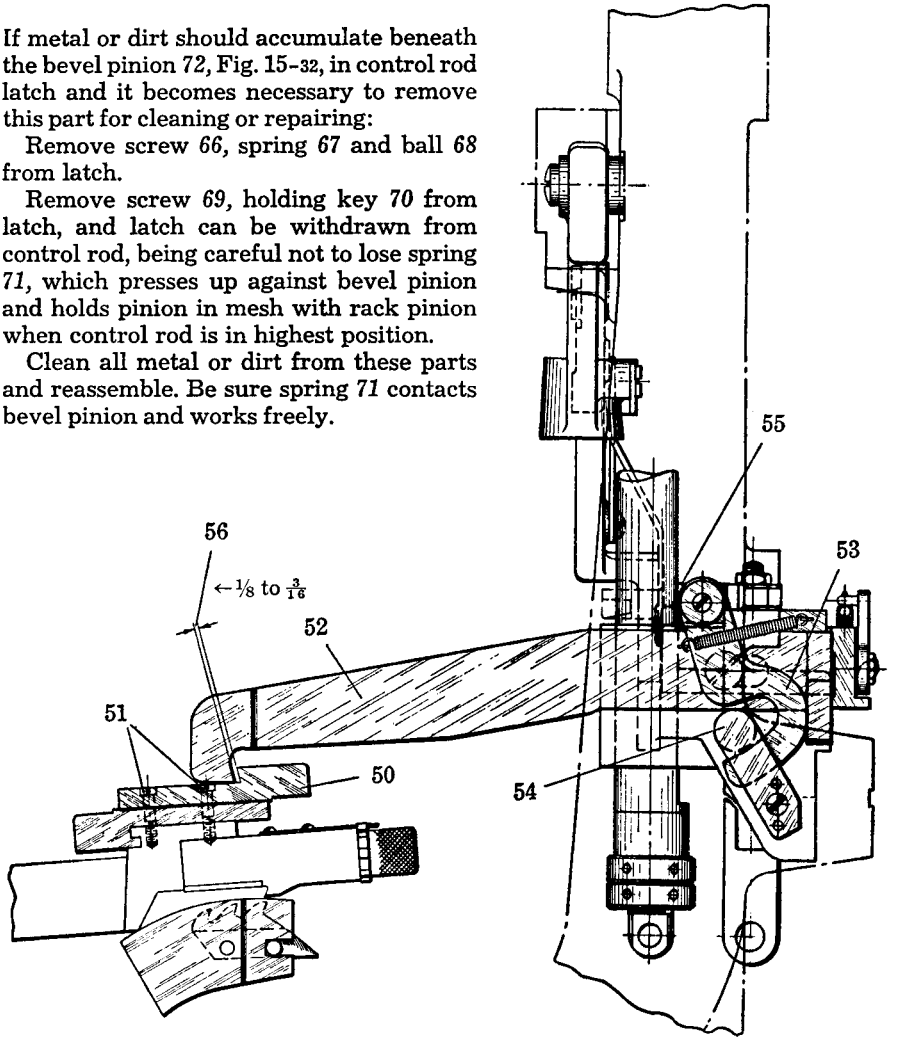


FIG. 12-32. View showing the mechanism for applying the extra pressure to the vise jaws after the toggle lock is in the locked position. This extra pressure against the line of matrices assures a tight line.

Cleaning or Repairing First Elevator Jaw

Remove the two first elevator jaw binding screws. Remove line stop from jaws and then first elevator back jaw can be taken off.

To remove matrix detent *23*, Fig. 5-32, from front jaw, remove screws *24* and pull out plungers and springs *25*. Removal of these parts will allow detent to come out of jaw. Recessed in the jaw you will find two springs which press against the detent shoes that are attached to detent *23*. As all parts are now removed, the front jaw can be cleaned.

Reassembling these parts, you first place springs back in recesses, then push detent *23* back against these springs. Then return plungers and springs *25* to their place and test detent. The detent must work freely.

Vise Jaws and Vise Cap

The right- and left-hand vise jaws should be cleaned every day and should move freely. To lubricate the track in which the vise jaw blocks slide, use a clean cloth dampened with a good grade of light oil.

Apply a drop of oil between stud on safety detent *31*, Fig. 7-32, and operating pawl *30*.

It is important that these parts be lubricated daily.

To remove vise cap for repairs or cleaning, remove first elevator from vise, vise jaw wedge bracket, knife block; remove supporting plate under right-hand vise jaw; remove four screws from vise cap and cap can be lifted up and off vise. However, if the track on which the vise jaw blocks slide has received daily attention, and the jaws move freely, it will not be necessary to remove the vise cap for cleaning.

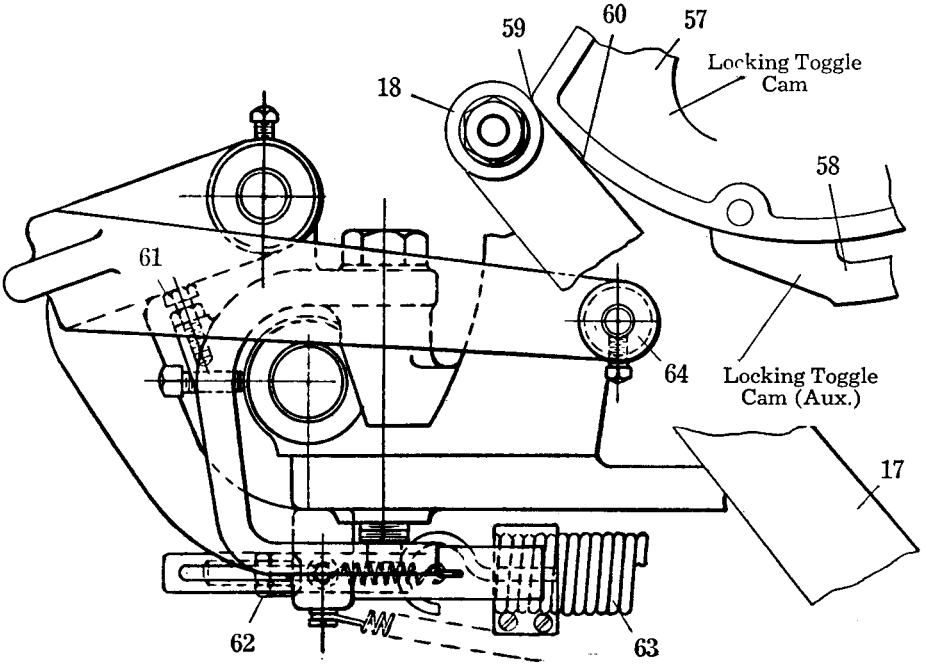
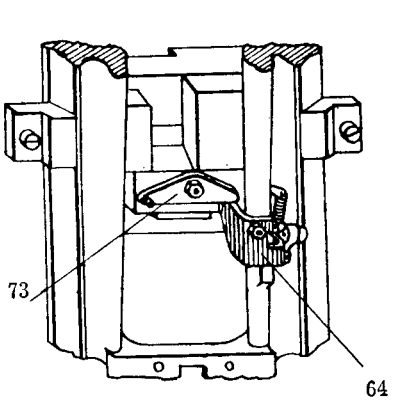


FIG. 13-32. View of the locking toggle and auxiliary locking toggle cams and levers.

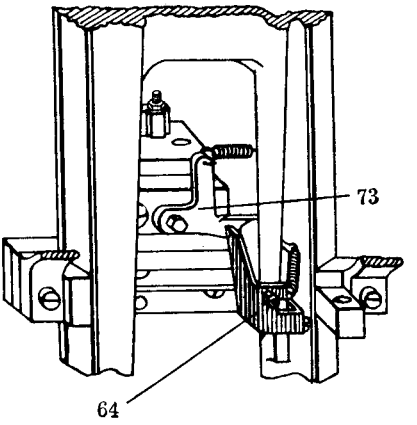
After cleaning or repairing, replace vise cap and replace the four screws but do not tighten down these screws until vise jaw wedge bracket has been applied and the screws holding the wedge bracket tightened. Then tighten the four screws in vise cap. Replace support plate under right-hand vise jaw and replace knife block and first elevator slide.

Lowering Vise to Second Position to Remove Mold Disk from Machine—Advance machine to let first elevator down on vise cap. Then loosen screws in levers *14* and *15*, Fig. 4-32, and remove studs. The vise can now be lowered into second position to remove mold disk and slide. In replacing be sure that screws in the levers are tightened down on the studs. It is important that these levers be disconnected when lowering vise to second position to prevent breakage and change of adjustment.

This condition is particularly emphasized, since many caring for machines attempt to lower the vise to the second position during the cleaning operation, a practice which should not be necessary.



42 Em



30 Em

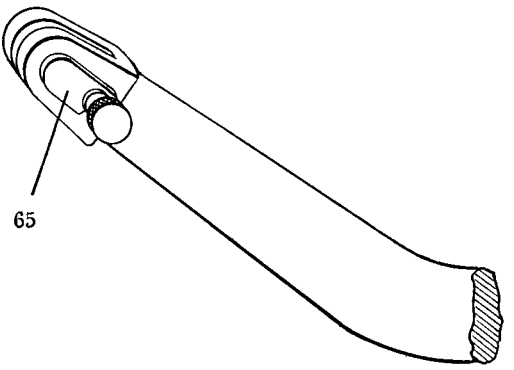


FIG. 14-32. View showing the toggle lock releasing mechanism and the first elevator lever link hinge pin. The releasing latch *64*, which is attached to the first elevator slide contacts the locking toggle release lever *73* to release the toggle lock, thus allowing vise jaws to return to normal position.

Control of Spaceband Driver

This arrangement, Fig. 16-32, consists of two justification stops *74* and *75*, which, through the medium of levers *81* and *78* and eccentric stud *76*, permit the spaceband driver to rise when machine is being used as "Regular" and prevents spaceband driver from rising when machine is being operated for right-hand or left-hand quadding and centering.

The purpose of preventing the spaceband driver rising when machine is set for right-hand or left-hand quadding and centering is to limit the upward drive of the spacebands to equalize the spacing.

The downward travel of the control rod is greater when machine is operated as "Regular" than when "Quadding" or "Centering," therefore the extra motion of control rod by means of contact between bottom surface of support *77* and link *78* forces this link downward, and through associated linkage causes levers *74* and *75* to move out of path of justification collar *80* and sleeve *79*, thereby permitting spaceband driver to rise normally.

A special shoe *19*, Fig. 4-32, has been applied to the justification cam to overcome tendency of the first justification lever to move upward slightly when cams return to normal position. This insures the stop lever *75*, Fig. 16-32, swinging freely into the slot of the justification collar *80* at all times.

Adjustment of Justification Stop Levers

With selector handle set for "L.H. Quad." allow cams to revolve until cam roll *18*, Fig. 13-32, reaches point of cam *57*. This is at point *59*. Stop cams at this point.

By means of eccentric stud *76*, Fig. 17-32, adjust the lever *78* until portion of control rod *77* just clears the lever about .005″ as is indicated at *82*. After this adjustment, the machine should be checked when set for "Regular" to see that the spaceband driver is permitted to rise.

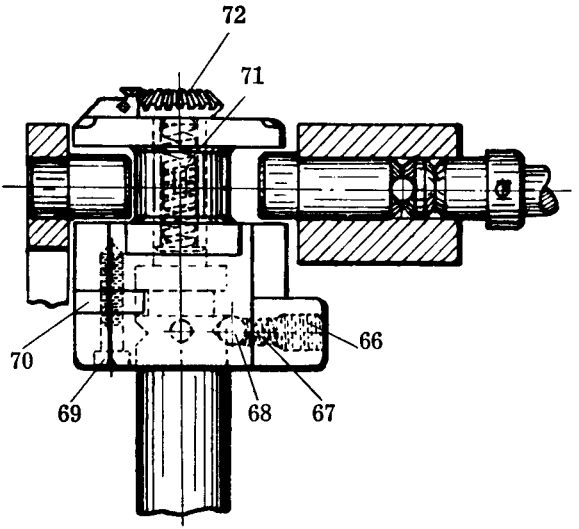


FIG. 15-32—Construction of vise jaw control rod latch with the operating studs engaged.

Adjustment of Mold Cam Lever Eccentric Pin

To adjust mold slide so that there is proper clearance between the face of the mold and matrices when justification takes place, the mold cam eccentric pin *92*, Fig. 18-32, must be adjusted when cam roll *91* is on the section of mold slide cam marked *83*, which is the highest point of cam. When cam roll is on *83* and when eccentric pin is properly adjusted, the space

between the face of the mold and the vise jaws or matrices should not be less than .003″ or more than .005″. This must be determined by using a thickness gauge.

Before making the adjustment of eccentric pin, it will be necessary to release the pressure of the pot lever spring. This is done by removing lock nuts *84* and *85*, wing pin *86* and eyebolt *87*, as shown. Lock nuts *89* and *90* must not be disturbed.

When the adjustment is made, restore parts *84*, *85*, *86* and *87* to original position, taking care that space *88* is approximately $\frac{3}{16}$ of an inch when pot is in casting position.

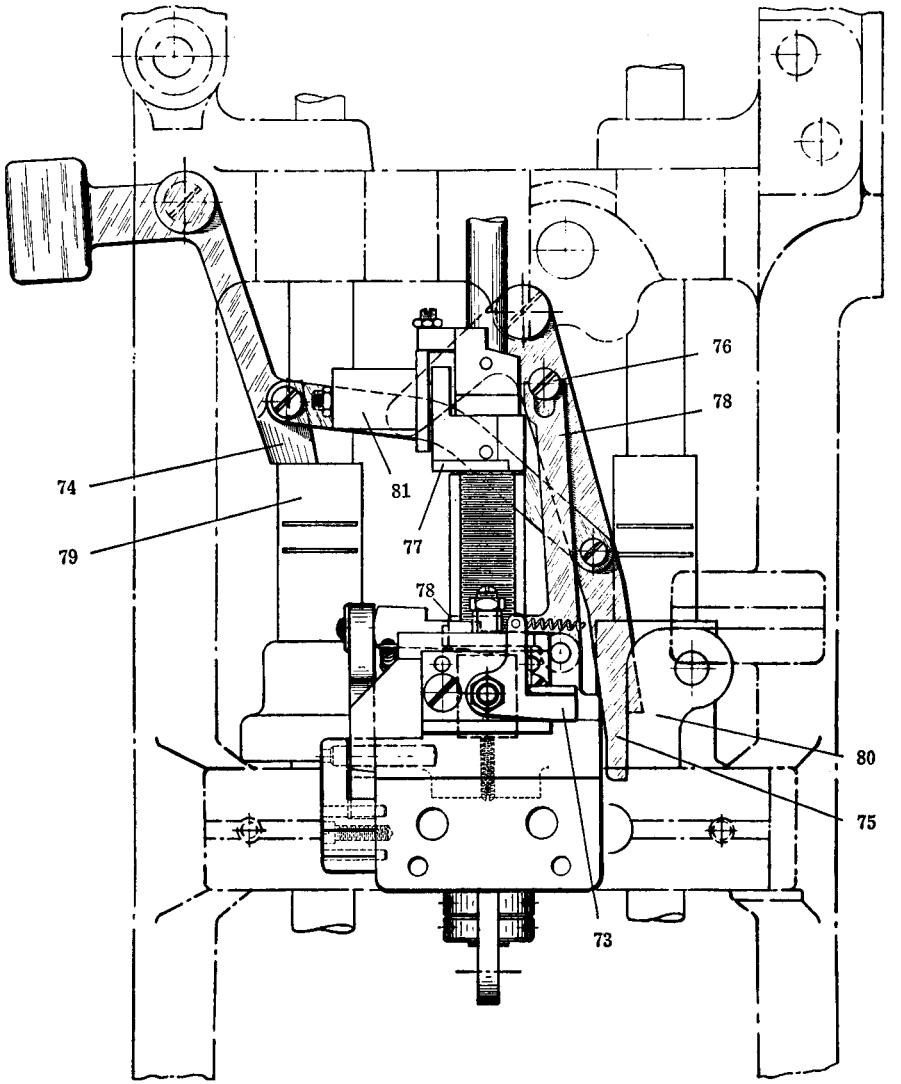


FIG. 16-32. View of the mechanism for controlling justification. The justification stops permit the spaceband driver to rise when machine is being used as "Regular" and prevents it from rising when Self-Quadder is in use.

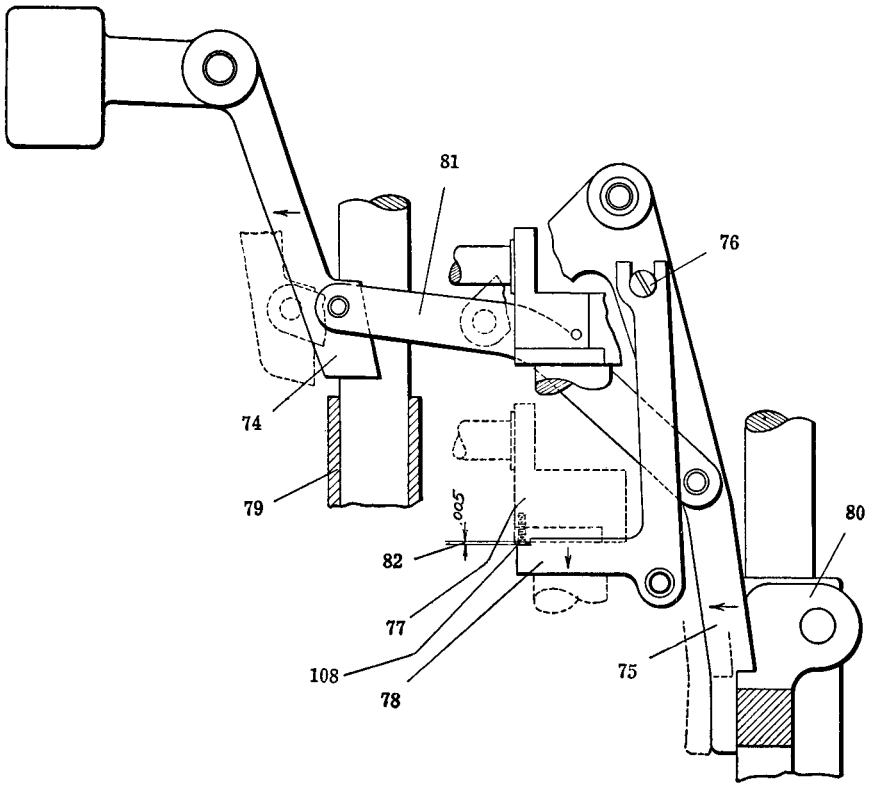


FIG. 17-32. Mechanism for controlling justification. This view shows the .005" clearance between the control rod *77* and the lever *78*. It also shows the position the levers assume when the machine is being operated on quadding or centering and when the spaceband driver is prevented from rising.

Adjustment of "Resilient" Mold Cam Lever

For machines having the resilient mold cam lever, Fig. 19-32, instead of the solid cam lever, the screw *100* is used to adjust the mold slide so that there is proper clearance between the face of the mold and matrices when justification takes place. This adjustment is made when cam roll *91* is on section of mold slide cam marked *83*. When screw *100* is properly adjusted, the space between the face of the mold and the vise jaws or matrices should be not less than .003" or more than .005". This must be determined by using a thickness gauge. Lock nut *101* should be tightened securely after adjustment. Make certain that screw *100* does not turn while lock nut *101* is being tightened.

It will be necessary to release pressure of the pot lever spring before adjusting screw *100*. Remove lock nuts *84* and *85*, Fig. 18-32, wing pin *86* and eyebolt *87*. Lock nuts *89* and *90* must not be disturbed.

When the adjustment has been made, restore the nuts *84* and *85*, eyebolt *87* and wing pin *86* to their original positions. The space *88* should be approximately $\frac{3}{16}$ of an inch with the pot in casting position.

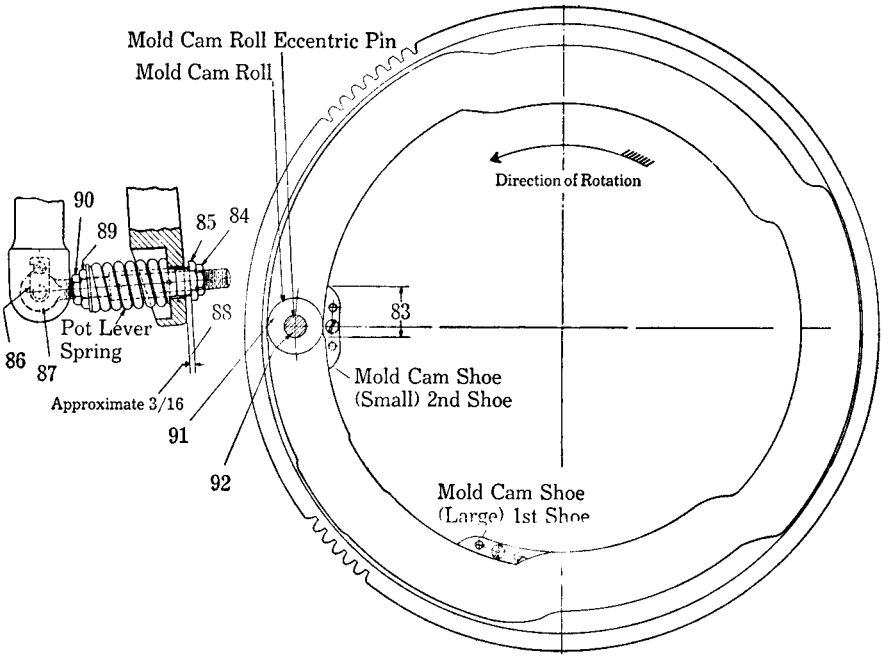


FIG. 18-32. View of the mold cam and driving gear when standing at right-hand side of machine, showing the mold cam roll and eccentric pin. The eccentric pin and roll are part of the solid type of mold cam lever and the eccentric pin is used to make the adjustment for the proper clearance between face of mold and matrices when justification takes place.

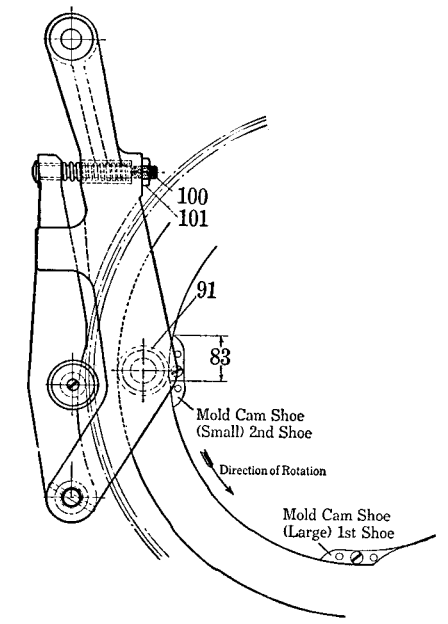


FIG. 19-32. View of the mold cam and driving gear when standing at right-hand side of machine, showing the resilient mold cam lever in position. For machines having this type of cam lever, adjustment for the proper clearance between face of mold and matrices when justification takes place is made by screw *100*.

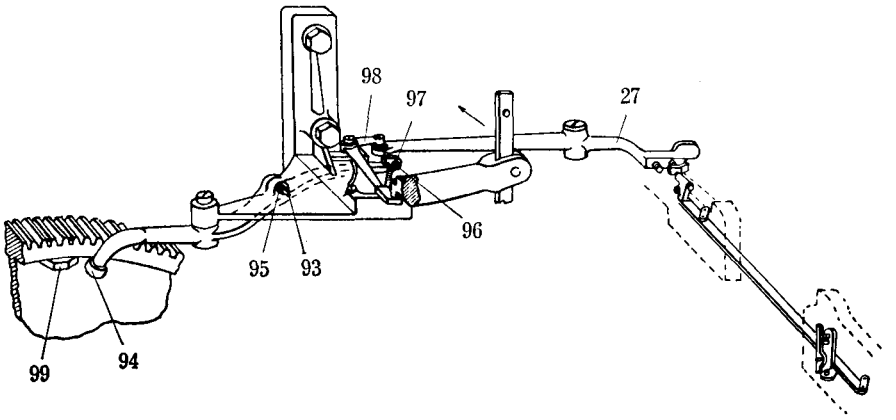


FIG. 20-32. View of the vise jaw safety mechanism.

Adjustment of Vise Jaw Left-Hand Safety Detent

Adjust stop screw *93*, Fig. 20-32, until roll *94* comes into operating contact with bevel of actuating cam *99* and secure in position with lock nut *95*.

Manually move operating lever *27* to limit of travel in direction of arrow, at which time lever *98* is against its stop pin. Adjust screw *96* until it just contacts lever *27* when roll *94* is on highest surface of actuating cam *99* (30-em models), or contacts the short arm of stop lever *98* (42-em models) securing it with lock nut *97*.