BULLETIN NO. 4
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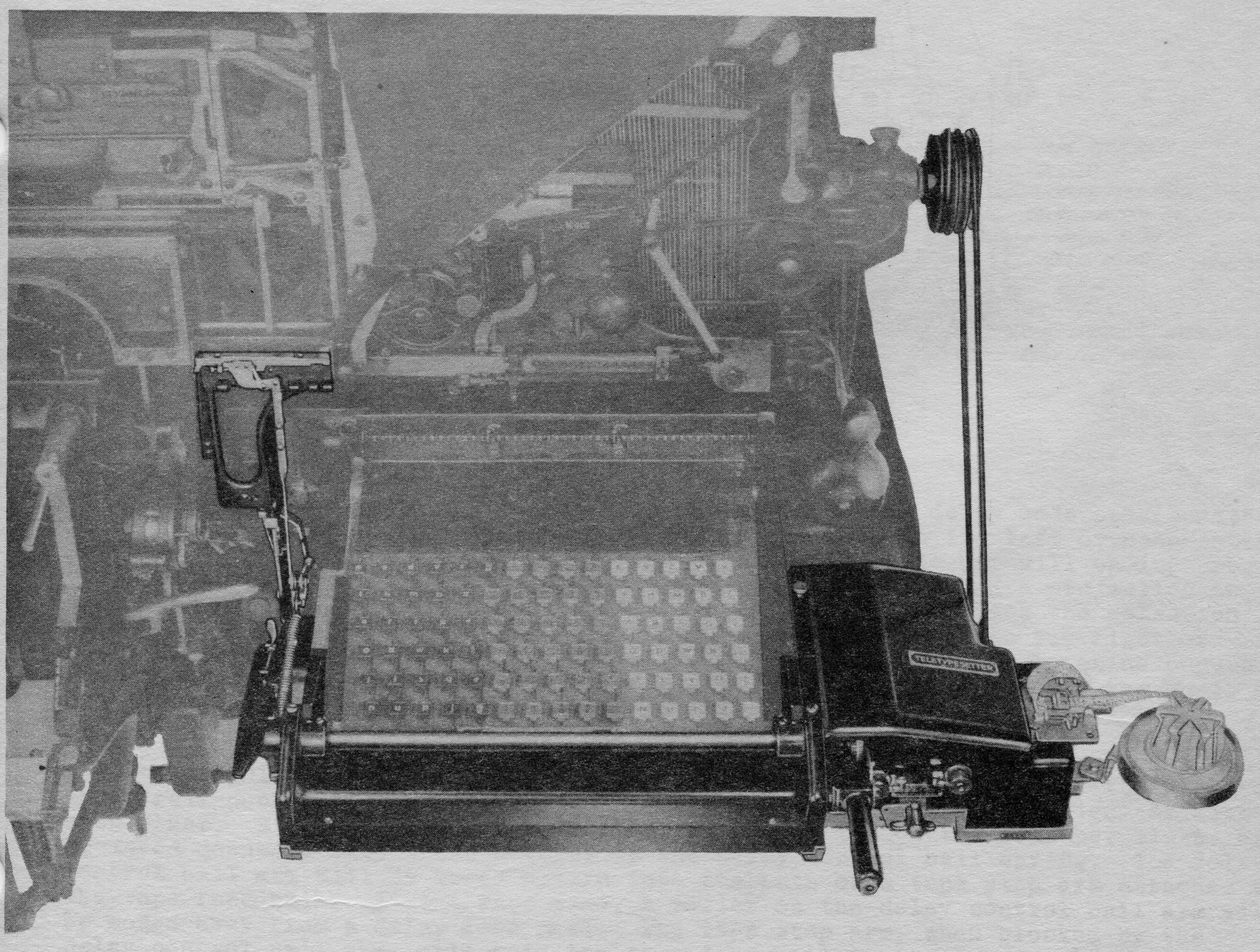
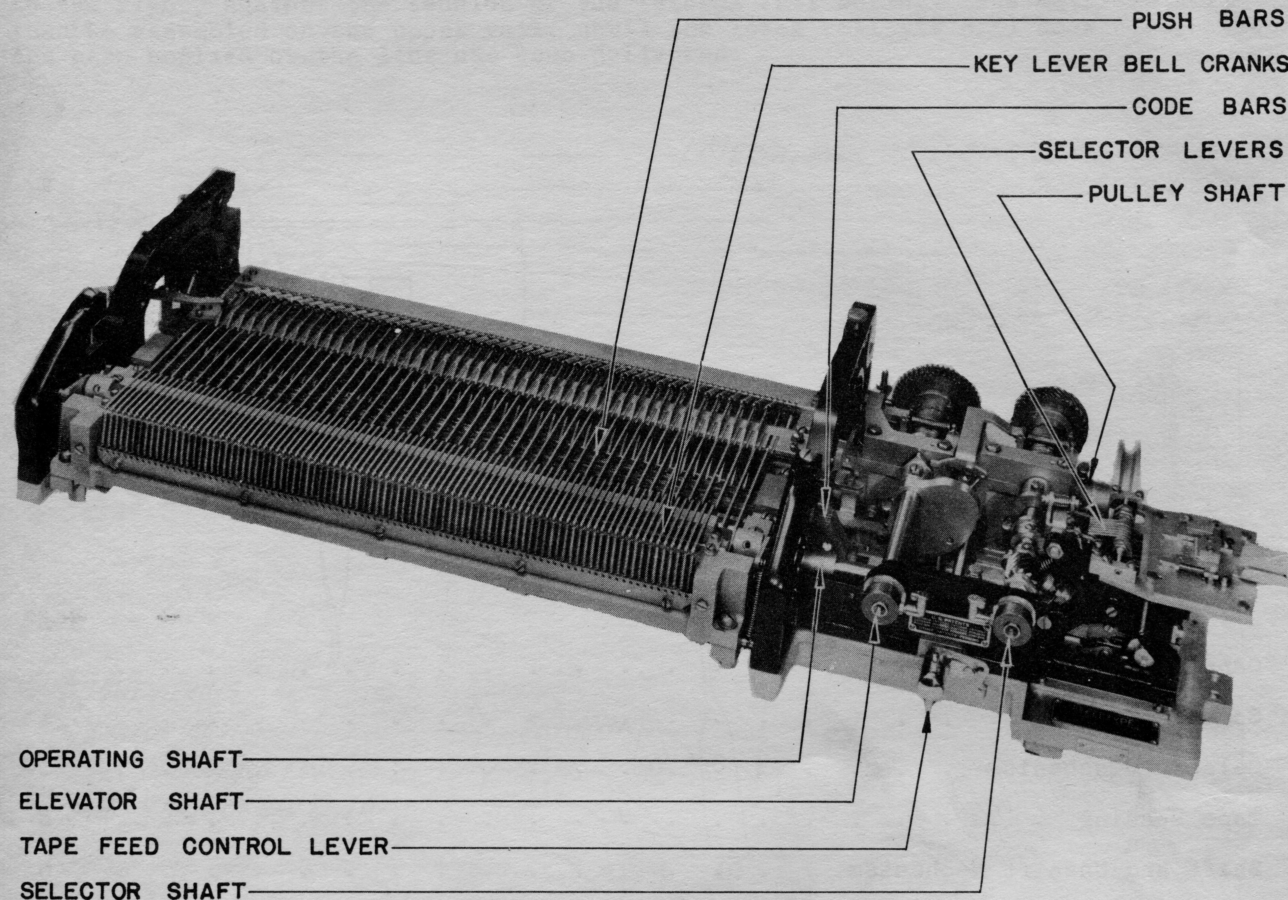

TELETYPESETTER

C O N T E N T S



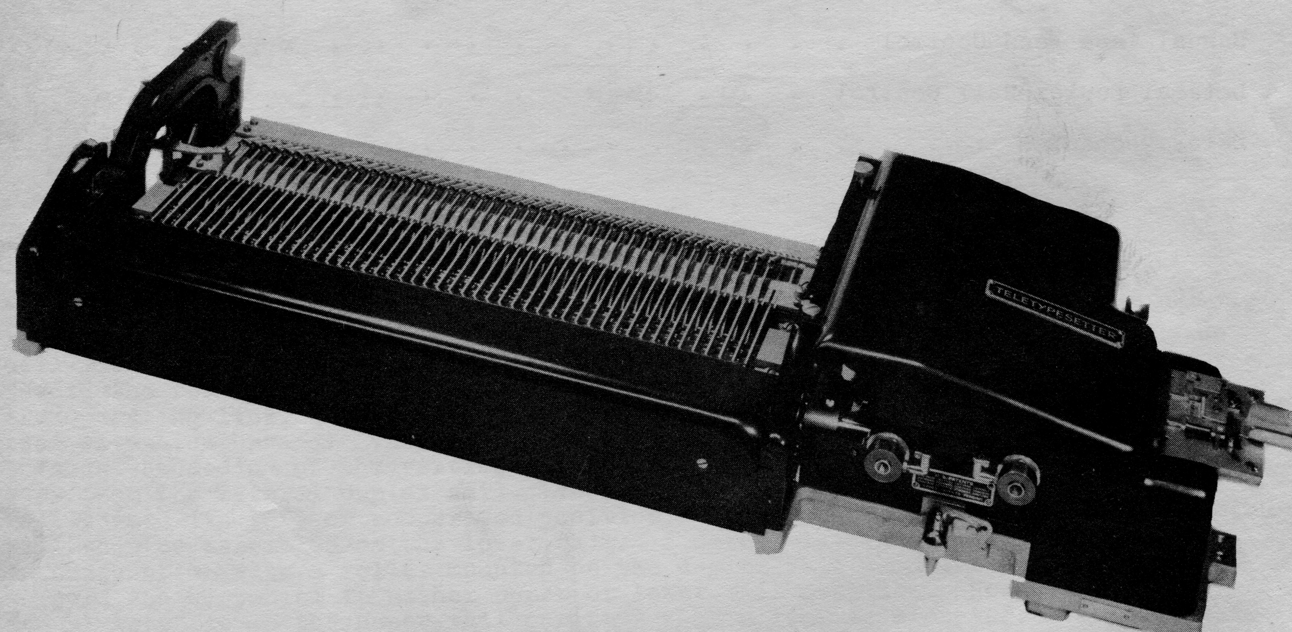


ILLUSTRATION A

DESCRIPTION OF THE TELETYPESETTER OPERATING UNIT

GENERAL

The Teletypesetter operating unit is a mechanical device designed for mounting on a slug linecasting machine to provide automatic operation of the linecasting machine when it is equipped with Teletypesetter accessories. A paper tape, prepared on a Teletypesetter keyboard tape perforator, is the medium of control for the Teletypesetter operating unit. When the tape feed control lever of the operating unit (Illustration A) is in its vertical position, the linecasting machine may be manually operated from its keyboard.

The operating unit consists primarily of a tape feeding and selecting mechanism, transfer mechanism, code bars, push bars, key lever bell cranks, selector shaft, elevator shaft and a driving or pulley shaft. A special pulley installed on the linecasting machine, and a belt, operate the operating unit pulley shaft.

Selection Code

The selection code used to select characters and functions is known as the Teletypesetter six-unit code. Figure 1 shows a typical code which is used with American newspaper Teletypesetter installations.

With the six-unit code, a total of sixty-four combinations are possible. Two of the sixty-four combinations are used for shifting and unshifting to upper and lower case characters respectively. The remaining sixty-two combinations, preceded by either the shift or unshift combination, can be made to provide a total of one hundred and twenty-four selections which can be used to control the operation of the linecasting machine.

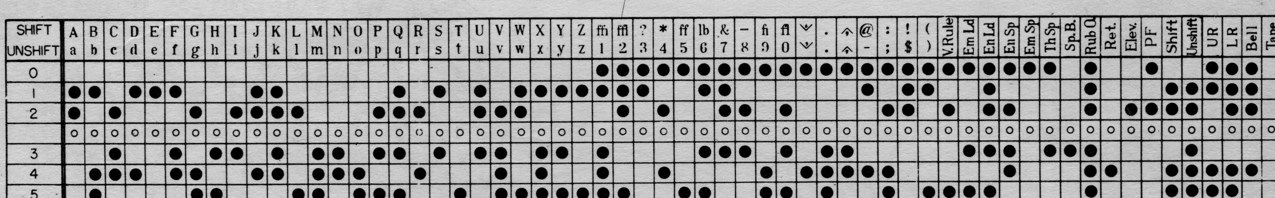


FIGURE 1

These code combinations are obtained by perforating a maximum of six holes in the tape in predetermined locations for each character or function. For each of the six locations on the tape in which a hole may be punched, there is a corresponding code bar in the Teletypesetter operating unit. This unit is arranged so that perforations in the tape will cause the corresponding code bars to be positioned to the left. Referring to Figure 1, the top horizontal row is the zero location; the next horizontal row, the #1 location; and the next horizontal row, the #2 location. The small holes beneath the #2 location are feed holes for the purpose of advancing the tape through the operating unit. The remaining three horizontal rows are for the #3, 4, and 5 locations. Each vertical row represents the six locations of a complete character or function.

Selector Mechanism

The selector shaft (Figure 2), which actuates the selector mechanism, derives its motive force from the pulley shaft through the medium of gears and a jaw clutch (Illustration A). Mounted on the selector shaft are three cams known as the tape feed cam, selector lever bail cam and the transfer cam. A roller arm rides the selector lever bail cam and imparts motion to a selector lever bail which pivots on a shaft with the roller arm. This motion is transmitted to six selector levers positioned vertically in the selector assembly. The selector levers pivot on a shaft through their upper sections and have extensions to the right and left and

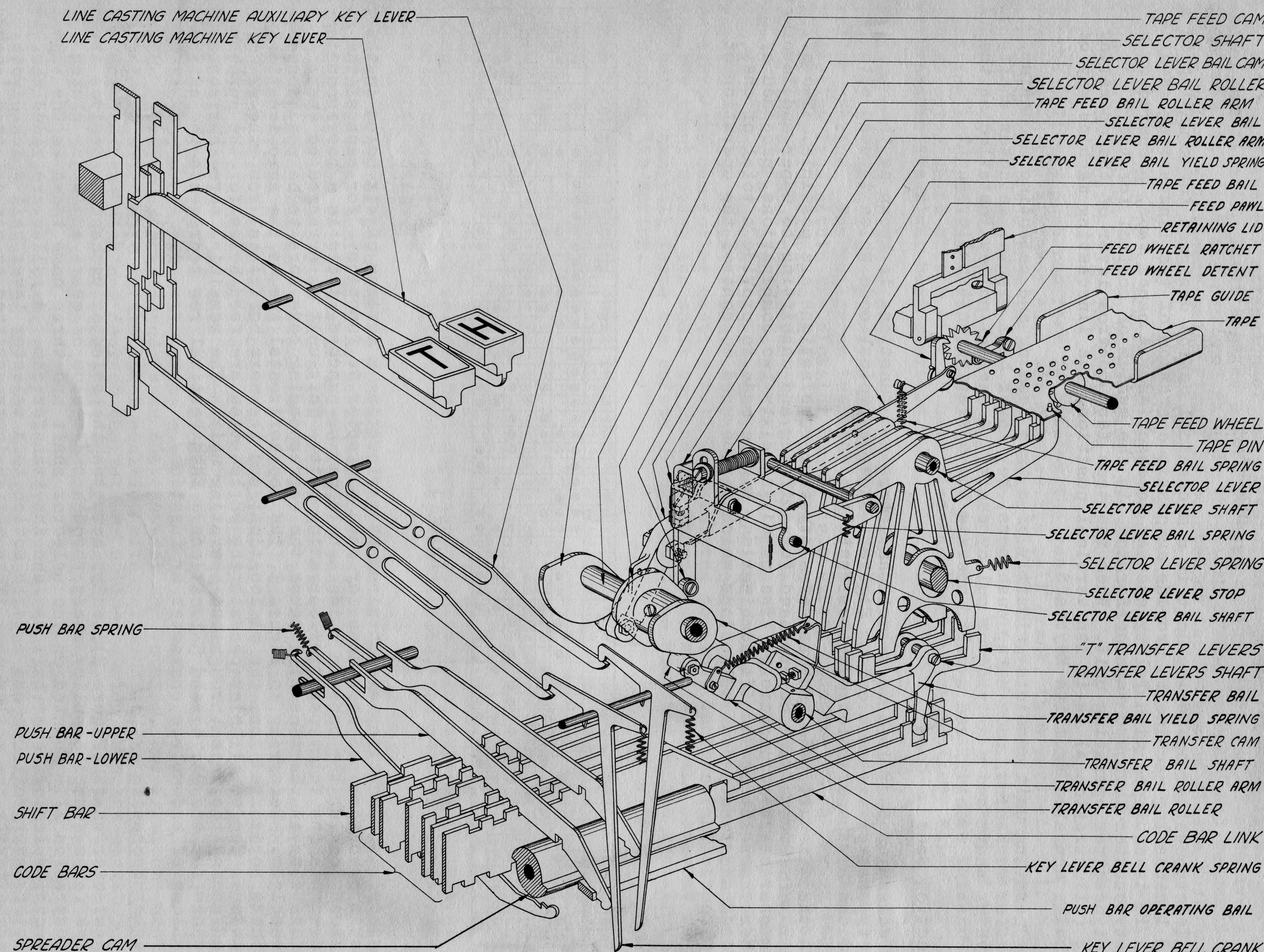

LINE CASTING MACHINE AUXILIARY KEY LEVER
LINE CASTING MACHINE KEY LEVER
PUSH BAR SPRING
PUSH BAR-UPPER
PUSH BAR-LOWER
SHIFT BAR
CODE BARS
SPREADER CAM
TAPE FEED CAM
SELECTOR SHAFT
SELECTOR LEVER BAIL CAM
SELECTOR LEVER BAIL ROLLER
TAPE FEED BAIL ROLLER ARM
SELECTOR LEVER BAIL
SELECTOR LEVER BAIL ROLLER ARM
SELECTOR LEVER BAIL YIELD SPRING
TAPE FEED BAIL
FEED PAWL
RETAINING LID
FEED WHEEL RATCHET
FEED WHEEL DETENT
TAPE GUIDE
TAPE
TAPE FEED WHEEL
TAPE PIN
TAPE FEED BAIL SPRING
SELECTOR LEVER
SELECTOR LEVER SHAFT
SELECTOR LEVER BAIL SPRING
SELECTOR LEVER SPRING
SELECTOR LEVER STOP
SELECTOR LEVER BAIL SHAFT
"T" TRANSFER LEVERS
TRANSFER LEVERS SHAFT
TRANSFER BAIL
TRANSFER BAIL YIELD SPRING
TRANSFER CAM
TRANSFER BAIL SHAFT
TRANSFER BAIL ROLLER ARM
TRANSFER BAIL ROLLER
CODE BAR LINK
KEY LEVER BELL CRANK SPRING
PUSH BAR OPERATING BAIL
KEY LEVER BELL CRANK

FIGURE 2

downward. The right extensions project upward at their ends and have tape pins imbedded in them. An opening is provided in a tape guide, located above the right extensions of the selector levers, to permit the tape pins to enter the perforated holes in the tape. Located below and in line with each selector lever is a "T" transfer lever. These "T" transfer levers are mounted on a shaft at the right end of a transfer bail. The transfer bail pivots on a shaft on which is also mounted a transfer bail roller arm. The roller of this arm rides the transfer cam. The motion of the roller arm is transmitted to the transfer bail through a yield spring.

When the selector shaft clutch is held disengaged by its throwout lever, (Figure 5), the selector lever bail roller arm rests on the high part of its cam. A yield spring connected between the roller arm and the selector lever bail (Figure 2) holds the bail in its highest position. In this position, the selector lever bail holds the selector levers rotated clockwise against their stop. The tape pins will then be in their lowest position so as to clear the tape. With the selector shaft in its stopped position, the transfer bail roller arm will rest on the low part of its cam, allowing the transfer bail spring to hold the "T" transfer levers clear of the lower extensions of the selector levers. When the selector shaft clutch is engaged and the selector shaft starts to rotate, the selector lever bail roller arm will start to ride to the low part of its cam, permitting the selector lever bail to be moved downward by its spring. The selector levers will then respond to the action of their springs, attached to the right side of their lower extensions, which tend to rotate them counterclockwise. If tape, perforated with code combinations, is in the tape guide at this time, the selector levers opposite these perforations will project their pins through the holes in the tape and rotate counterclockwise against their stop, while the other selector levers will be held in their clockwise position, as their pins strike the unperforated portions of the tape. The transfer bail roller arm will then ride to the high part of its cam, moving the "T" transfer levers upward against the selector levers. The operated selector levers (those which will have tape pins through perforations in the tape) will have their lower right extensions in line with the right arm of their respective "T" transfer levers. The unoperated selector levers (those which will have tape pins against the tape) will have their lower left extensions in line with the left arms of their respective "T" transfer levers. Those "T" transfer levers engaging the operated selector levers, will be rotated clockwise, whereas, those "T" transfer levers engaging the unoperated selector levers will be rotated counterclockwise.

The lower extension of each "T" transfer lever engages the right end of a code bar link. At the left end of each code bar link is a vertical projection that engages a code bar. Each "T" transfer lever that is rotated clockwise will move a code bar link and its associated code bar from right to left and each "T" transfer lever that is rotated counterclockwise will move a code bar link and its associated code bar from left to right.

It should be noted that if one or more code bars do not require a change in position from the previous selection, there will be no engagement between the corresponding selector levers and their associated "T" transfer levers.

The code bars extend the width of the linecasting machine keyboard (Figure 2). The upper and lower edges of the code bars are notched according to the requirements of the Teletypesetter six unit code. A shift bar, located to the rear of the code bars, controls the selection of upper or lower case characters. Located at right angles to the code bars, above and below, are ninety-six push bars. Placed between the upper and lower sets of push bars, just in front of the code bars, is a spreader cam. The spreader cam forms a part of the operating shaft and is rotated, through the medium of gears, by the selector shaft. During the time that the code bars are being positioned, the high portions of the spreader cam hold the upper and lower push bars away from the notched edges of the code bars. After the code bars respond to a code selection, the spreader cam will rotate so as to clear the push bars, thus permitting all push bars to be moved against the code bars by springs attached to the rear ends of the push bars.

Where notches have been aligned in the code bars and shift bar, the corresponding push bar will move into this row of notches (Figure 2). A push bar operating bail is located between the upper and lower sets of push bars in front of the spreader cam. Pivoted above each end of the push bar operating bail, and engaging rollers on the ends of this bail, are operating bail levers (Figure 4). Springs attached to these levers cause them to ride their respective cams, located at each end of

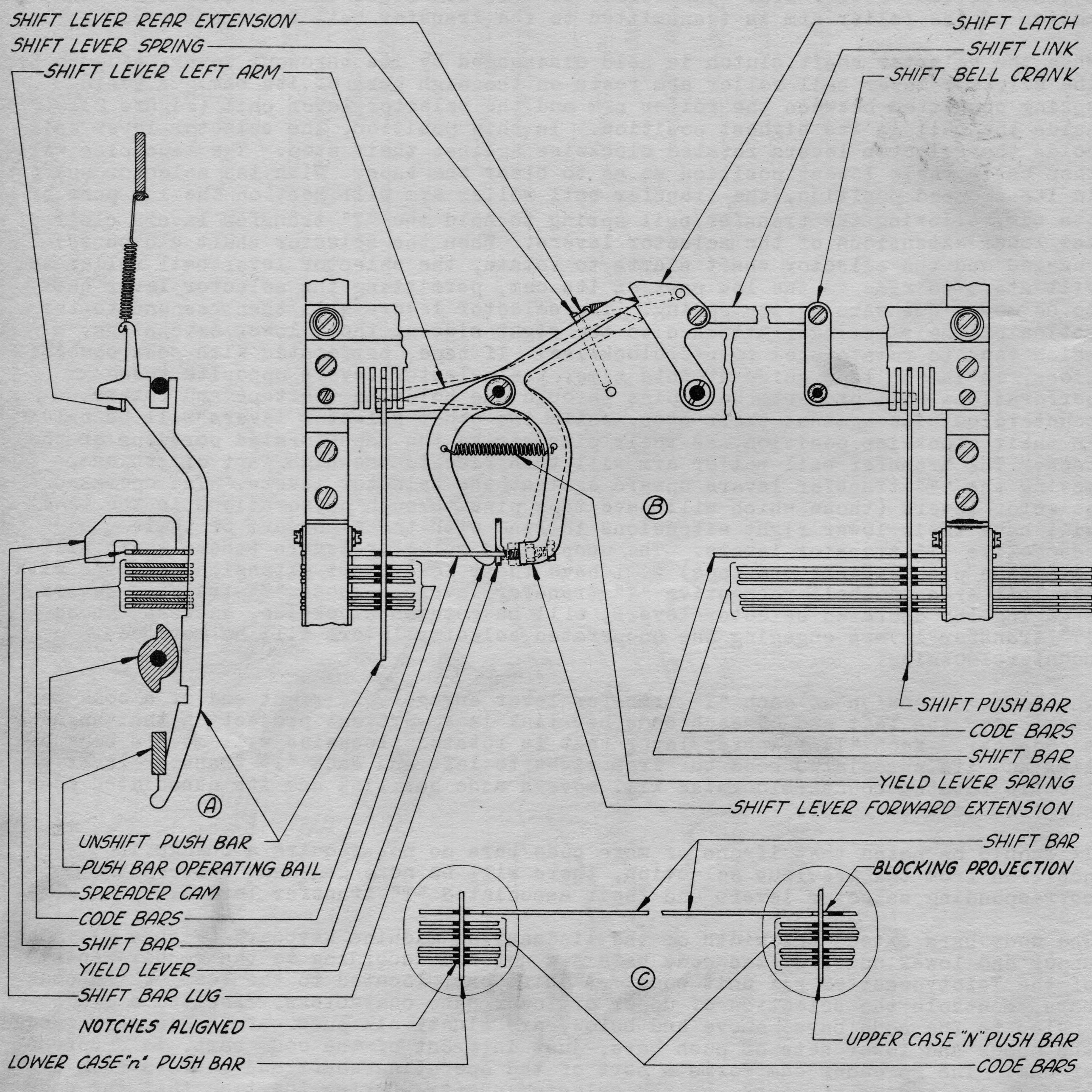

SHIFT LEVER REAR EXTENSION
SHIFT LEVER SPRING
SHIFT LEVER LEFT ARM
SHIFT LATCH
SHIFT LINK
SHIFT BELL CRANK
A
B
C
SHIFT PUSH BAR
CODE BARS
SHIFT BAR
YIELD LEVER SPRING
SHIFT LEVER FORWARD EXTENSION
UNSHIFT PUSH BAR
PUSH BAR OPERATING BAIL
SPREADER CAM
CODE BARS
SHIFT BAR
YIELD LEVER
SHIFT BAR LUG
NOTCHES ALIGNED
LOWER CASE "n" PUSH BAR
SHIFT BAR
BLOCKING PROJECTION
UPPER CASE "N" PUSH BAR
CODE BARS

FIGURE 3

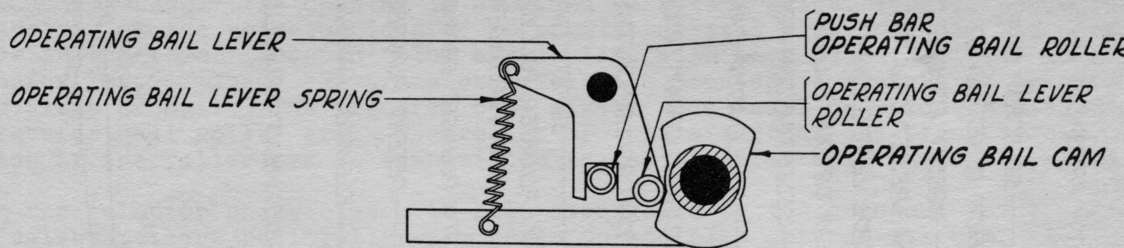


FIGURE 4

the spreader cam, and to impart a horizontal forward and backward motion to the push bar operating bail. The front end of each push bar is formed so as to permit its engagement with the push bar operating bail, when selected (Figure 2). When the rotation of the spreader cam permits the selected push bar to move into the code bar notches, the push bar operating bail will engage the front end of the selected push bar and move it forward. The unselected push bars will rest on the edges of the code bars and will not engage the push bar operating bail. Located at the extreme forward end of the push bars are key lever bell cranks (Figure 2). The upper arm of each key lever bell crank projects directly over a key lever extension or an auxiliary key lever on the linecasting machine. When the selected push bar is moved forward by the push bar operating bail, it strikes the lower arm of the corresponding bell crank, causing the bell crank to rotate on its pivot. The upper arm of the bell crank depresses the corresponding key lever extension or auxiliary key lever on the linecasting machine.

As the operating shaft continues to rotate, the spreader cam disengages the selected push bar from the push bar operating bail and also spreads the unselected push bars so that they clear the code bars. The selected key lever bell crank, in the meantime, will return to its unoperated position. Immediately thereafter, the springs attached to the push bar operating bail levers return the push bar operating bail to its rear position.

Tape Feeding

While the selected push bar is being moved forward by the operating bail, the tape pins are withdrawn below the top surface of the tape guide, and the tape is advanced the distance required to bring the succeeding code combination directly over the tape pins.

Mounted on the tape guide, to the right of the tape pins, is a combined tape feed wheel and ratchet (Figure 2). Small tape pins on the periphery of the tape feed wheel project through an opening in the tape guide and mesh with the feed holes in the tape. Mounted on the right end of the tape feed bail is a feed pawl which engages the feed wheel ratchet. The tape feed bail pivots on a shaft near its left end and connects with a roller arm which rides the feed bail cam. A spring extending downward from the feed bail causes the roller arm to follow the cam when the selector shaft is rotated. In following the cam, the roller arm will impart an upward and downward motion to the feed pawl, thereby rotating the feed wheel ratchet. With each downward motion of the feed pawl, the tape will be advanced from right to left the distance required to bring the succeeding code combination over the tape pins. A feed wheel detent is provided to insure alignment of the code perforations with the tape pins.

Shift and Unshift Mechanism

When a character is being selected, the code bar notches are so aligned as to provide paths opposite both an upper and a lower case push bar. Whether the upper or lower case push bar will be selected depends on the predetermined position of the shift bar which is located to the rear of the code bars (Figures 3A and 3B). The shift bar is moved either to the left or right in response to the shift or unshift combination and permits one of the two character push bars to enter the path in the code bars. When upper case characters are to be selected, code combinations for these characters are preceded by a shift combination, after which

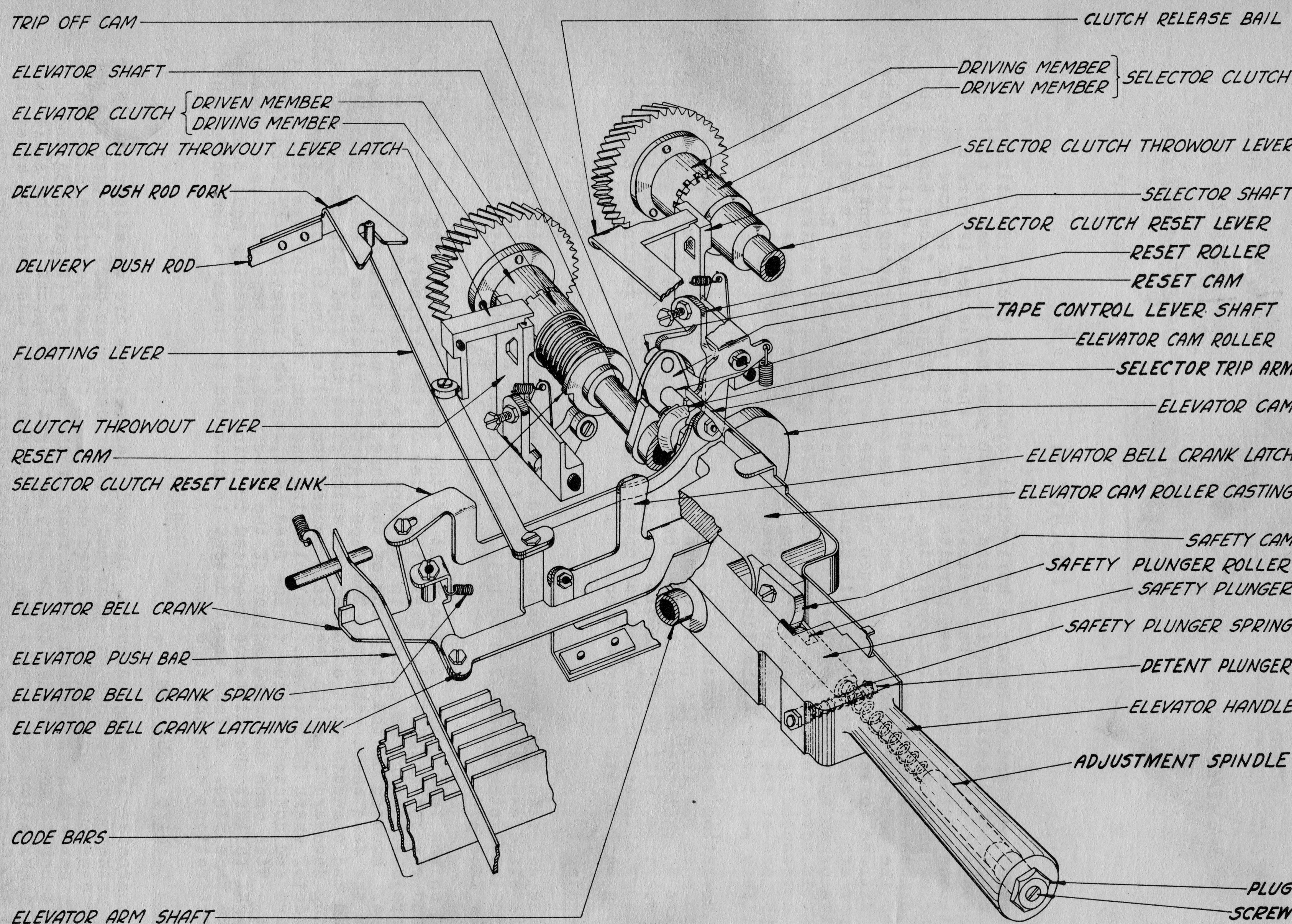

TRIP OFF CAM
ELEVATOR SHAFT
ELEVATOR CLUTCH { DRIVEN MEMBER
DRIVING MEMBER
ELEVATOR CLUTCH THROWOUT LEVER LATCH
DELIVERY PUSH ROD FORK
DELIVERY PUSH ROD
FLOATING LEVER
CLUTCH THROWOUT LEVER
RESET CAM
SELECTOR CLUTCH RESET LEVER LINK
ELEVATOR BELL CRANK
ELEVATOR PUSH BAR
ELEVATOR BELL CRANK SPRING
ELEVATOR BELL CRANK LATCHING LINK
CODE BARS
ELEVATOR ARM SHAFT
CLUTCH RELEASE BAIL
DRIVING MEMBER
DRIVEN MEMBER } SELECTOR CLUTCH
SELECTOR CLUTCH THROWOUT LEVER
SELECTOR SHAFT
SELECTOR CLUTCH RESET LEVER
RESET ROLLER
RESET CAM
TAPE CONTROL LEVER SHAFT
ELEVATOR CAM ROLLER
SELECTOR TRIP ARM
ELEVATOR CAM
ELEVATOR BELL CRANK LATCH
ELEVATOR CAM ROLLER CASTING
SAFETY CAM
SAFETY PLUNGER ROLLER
SAFETY PLUNGER
SAFETY PLUNGER SPRING
DETENT PLUNGER
ELEVATOR HANDLE
ADJUSTMENT SPINDLE
PLUG
SCREW

FIGURE 5

upper case characters will continue to be selected until an unshift combination is introduced. Likewise, lower case characters will continue to follow the unshift combination until the shift combination is introduced.

Mounted on a plate below the lower set of push bars are the yield lever, shift lever, shift latch, and shift bell crank (Figure 3). Attached to the shift bar near its left end and extending downward between the front ends of the shift and yield levers is a shift bar lug.

When the unshift push bar is moved forward, the rear extension of the push bar engages the left arm of the shift lever. The shift lever is thereby rotated until its rear extension is latched in the notch of the shift latch thereby withdrawing the forward extension of the shift lever from the shift bar lug and causing the yield lever to exert pressure on the opposite side of the lug. When the push bars are spread away from the shift bar, it will move to the right in response to the tension exerted by the yield lever spring. During the time that the shift bar remains in this position all the selections will be in the lower case.

When the shift push bar is moved forward, its rear extension will engage the shift bell crank. The shift bell crank is connected to the shift latch by means of the shift link, so that when the shift push bar moves the bell crank, the shift latch will be disengaged from the shift lever, allowing the shift lever to exert pressure on the shift bar lug. When the push bars are spread away from the shift bar, it will move to the left (upper case position) in response to the tension exerted by the shift lever spring.

Assuming that the shift bar has been moved to its right-hand position (lower case) and the code bars have been set for the "N" combination, notches in the code bars and shift bar will be aligned as shown in (Figure 3C). A path will be set up for the lower case "n" push bar, whereas, the path for the upper case "N" push bar will be blocked by the unnotched portion of the shift bar. The lower case "n" push bar will then move into the path set up for it and the corresponding key lever bell crank and key lever will be operated.

<u>Elevator Operation</u>

The elevator (ELEV.) combination appears in the tape at the end of each complete line of character and space combinations. After the required number of matrices and space bands have been assembled in a line, the elevator combination will cause the feeding of the tape to be stopped and the elevator to be operated. After the elevator operation has been completed, the feeding of the tape will be resumed automatically.

The elevator code combination will cause the extreme right-hand push bar (Figure 5) to be selected. The elevator bell crank (located near the rear end of the elevator push bar) is a "T" shaped lever which has its left extension projecting upward at the end into the path of an extension on the elevator push bar. When the elevator push bar is operated, it will strike the left extension of the bell crank and rotate it counterclockwise on its pivot. The rear arm of the bell crank will move toward the left and the front arm will move toward the right. The bell crank latching link (which is attached to the front arm of the bell crank) will move toward the right in its guide and engage the elevator bell crank latch, thus holding the bell crank in its operated position. At the same time, the selector clutch reset lever link (attached to the rear end of the bell crank) will move to the left. The selector clutch reset lever, which is connected to the right end of the selector clutch reset lever link will rotate on its pivot so as to bring a notch in the clutch throwout lever into the path of the projection on the driven member of the selector clutch, causing the clutch to disengage and the selector shaft to come to rest.

The elevator shaft is located to the left of the selector shaft and is driven by the pulley shaft through the medium of gears and a jaw clutch. Located on the elevator shaft is an elevator cam for raising the elevator, a trip-off cam for releasing the elevator bell crank and a reset cam for resetting the elevator clutch throwout lever. The control of the elevator and selector clutches is so interlocked that while the selector shaft is rotating, the elevator shaft must remain stationary and while the elevator shaft is rotating, the selector shaft must remain stationary, the clutch of each shaft being controlled by a throwout lever and latch.

A floating lever (Figure 5), so controlled as to permit the operation of the elevator only after the delivery slide has returned to its right-hand position, is pivoted on a vertical extension of the elevator bell crank latching link. The rear end of the floating lever engages a fork mounted on the right end of a delivery push rod. The delivery push rod extends the width of the keyboard and connects with a delivery follower bail (Figure 6) mounted on the left side of the keyboard. The delivery follower bail is controlled by a roller arm which rides on the delivery lever. By this arrangement, the rear end of the floating lever moves to the right or left in response to the movement of the delivery slide and will cause an assembled line to be elevated only when the delivery slide is in position to receive it. The action is as follows:

If the delivery push rod fork is holding the rear end of the floating lever to the right, when the elevator push bar rotates its bell crank, this movement will disengage the latch from the elevator shaft clutch throwout lever, permitting the clutch to engage and the elevator shaft to rotate. If, however, the elevator bell crank is rotated when the delivery push rod fork is holding the rear end of the floating lever to the left, the bell crank will be held operated by its latch and the selector shaft clutch will be held disengaged until the delivery slide has returned to its right-hand position.

Rigidly mounted on the elevator arm shaft is an elevator handle (Figure 5). To the right of the handle and pivoting on the elevator arm shaft is an elevator cam roller casting. The roller on the rear end of this casting rides the elevator cam. Projecting from within the elevator handle is a safety plunger. A roller on the end of this plunger rides on the low portion of a safety cam mounted on the front end of the elevator cam roller casting. Pressure exerted by a compression spring against the safety plunger is sufficient to cause the cam roller casting and the elevator handle to operate as a unit, when the cam roller casting responds to the rotation of the elevator cam. If the upward movement of the elevator is obstructed, however, the cam roller casting will be permitted to pivot on the elevator arm shaft without moving the shaft or handle. Under this condition the movement of the safety cam will force the safety plunger into the elevator handle against the tension of its spring.

Mounted on the selector shaft rear bearing bracket, is a clutch release bail (Figure 5). This clutch release bail is controlled by a selector trip arm mounted to the right of the cam roller casting on the elevator arm shaft. The front end of the trip arm is held in either of two positions by a detent plunger in the elevator handle. In order for the selector mechanism to operate, the front end of the trip arm must be in its highest position and the rear end must be in its lowest. Thus with the elevator clutch disengaged, the bell crank latching link released from its latch, the rear end of the trip arm will hold the left extension of the clutch release bail depressed and the right extension clear of the selector clutch throwout lever. Under these conditions, the selector shaft will continue to rotate.

When the elevator push bar is operated, the selector shaft will be held stationary and the elevator shaft will be permitted to rotate as heretofore described. As the elevator cam roller starts to rise on the elevator cam, the rear end of the trip lever will also rise and allow the clutch release bail to engage the upper end of the selector clutch throwout lever. During the rotation of the elevator shaft, the trip-off cam will depress the elevator bell crank latch, thus releasing the bell crank, but the release bail will continue to hold the selector clutch throwout lever in contact with its clutch until the elevator cam roller rides to the low portion of its cam, thus permitting the elevator to return to its assembling position. The trip arm will then depress the extension of the release bail and the selector mechanism will resume operation. If, however, the upward movement of the elevator is obstructed, when the elevator cam rotates, the front end of the trip lever will shift to its lower position with relation to the elevator handle and the rear end will not depress the release bail extension when the elevating cycle is completed. Selector shaft operation will not be resumed until the trip arm has been manually raised to its highest position on the elevator handle.

Near the end of the revolution of the elevator shaft, the elevator clutch throwout lever reset cam causes the throwout lever to engage its latch. In this position the throwout lever will hold the elevator clutch disengaged and the elevator shaft stationary.

Mounted on the delivery follower bail shaft is an elevator blocking lever (Figure 6). In case the elevator fails to release the delivery slide, when rising, the elevator will be prevented from fully descending to the assembling position by the action of the elevator blocking lever, which will then engage a bumper mounted on the elevator link. Under this condition, the elevator handle will hold the selector trip arm clear of the release bail and operation of the selector mechanism will not be resumed until the line has been delivered manually and the elevator restored to its assembling position. With normal operation of the delivery slide, the elevator blocking lever will be moved so as to clear the bumper on the elevator link.

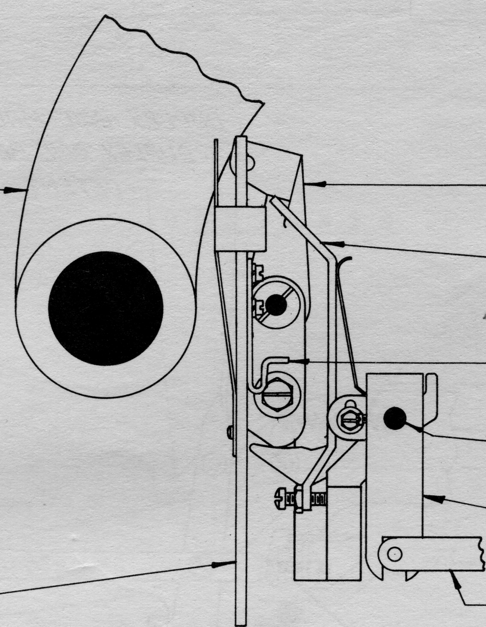


FIGURE 6

Manual Tape Feed Control

A tape feed control lever mounted on a shaft, located between the elevator shaft and the selector shaft (Illustration A), is used for manually starting and stopping the feeding of tape. Attached to the rear end of the tape control lever shaft is a reset cam and roller (Figure 5) which will cause the reset lever to move the selector clutch throwout lever into engagement with the selector clutch, when the tape control lever is turned counterclockwise to a vertical position. The selector clutch will be held disengaged and the feeding of the tape will be stopped.

Lateral Duplex Rail Control

The duplex rail mechanism (Figure 7) is used to control the assembling of matrices, so that one or more matrices may be assembled on either the upper or the lower rail in any portion of a line. When matrices are to be assembled on the upper rail, the upper rail ("U.R.") code combination must be applied to the operating unit. This code combination will cause the upper rail push bar, second from the left, to move forward. The extension of this push bar will strike the right end of the upper rail push bar lever, rotating it. The left end of the upper rail push bar lever will, in turn, move the upper operating link toward the rear. The duplex rail bell crank, which connects with the rear end of the operating link, will rotate clockwise on its pivot so as to move its rear extension downward. The vertical link which is attached to the rear extension of the bell crank, will also be moved downward through the medium of the link spring. The lateral rail actuating lever, which connects with the vertical link, will rotate on its pivot so its upper extension will push the lateral rail (located beneath the assembling elevator duplex rail cap) to to the right, against the tension of the lateral rail spring. The matrices will then be assembled on the upper rail, until the lower rail ("L.R.") code combination has been applied or the line has been delivered.

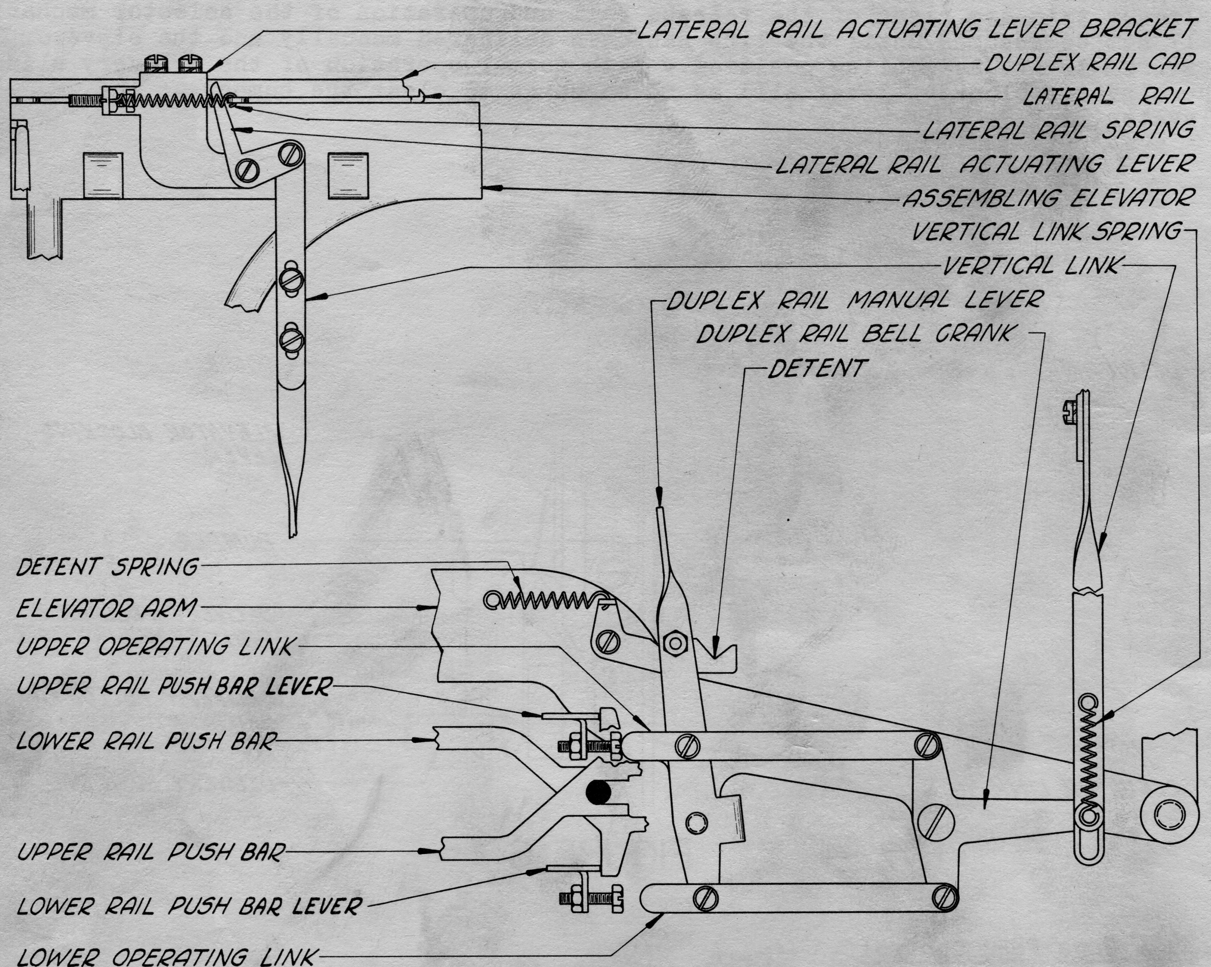


FIGURE 7

The lower rail code combination will cause the lower rail push bar (first from the left) to be selected. When the lower rail push bar moves forward, its extension will move against the lower rail push bar lever, moving the lower operating link toward the rear. The duplex rail bell crank, which connects with the rear end of the operating link, will rotate counterclockwise on its pivot so as to move its rear extension upward. The lateral duplex rail actuating lever will be rotated through the medium of the vertical link and its upper extension will be moved away from the lateral duplex rail. The lateral rail spring will then return the rail toward its left or unoperated position, so that matrices subsequently selected will then be assembled on the lower rail. A detent lever and spring, operating in conjunction with a roller mounted on the duplex rail manual lever, is provided to hold the mechanism in either upper or lower rail position. However, if the manual lever is in the upper rail position when a line is elevated, the increased tension exerted by the vertical link spring on the bell crank, will cause the manual lever to shift to the lower rail position.

An extension on the upper end of the duplex rail manual lever is provided for manual control of the duplex rail mechanism.

Delay Mechanism

The delay mechanism (Figure 8), is used in conjunction with the lateral duplex rail operation, mixer control operation, or any other function of the linecasting machine requiring a time interval prior to the operation of such a function. The delay mechanism operates in the following manner when applied to the lateral duplex rail.

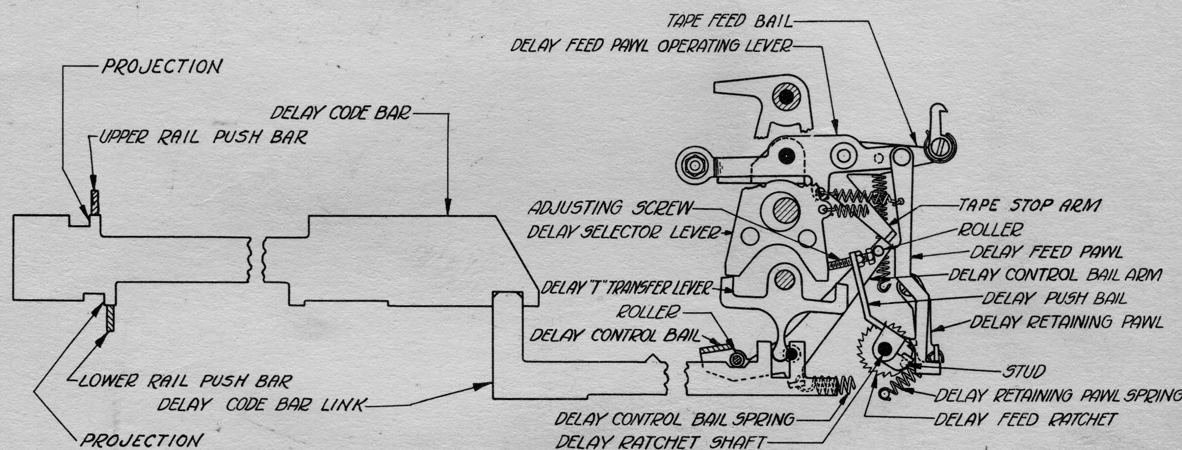


FIGURE 8

Until the upper or lower rail combination is applied, the delay code bar (located between the third and fourth regular code bars) remains in its left or unoperated position. A projection on the upper edge of the delay code bar will be in position to block the selection of the upper rail push bar, and a projection on the lower edge of the delay code bar will be in position to block the selection of the lower rail push bar. The delay code bar will be moved to its right or operated position only after the elapse of the delay time interval, which occurs when the regular code bars are positioned for the selection of either the upper or the lower rail push bar.

On the upper edges of the code bar links, near their right ends, are notches. When the regular code bars are positioned for the selection of either the upper or lower rail push bar, the notches in the code bar links will be in alignment with each other. A delay control bail roller, riding on top of the code bar links, will be moved downward into these notches by the delay control bail spring. The delay control bail arm will be moved upward into the path of a tape stop arm attached to the tape feed bail. At the same time, a roller on the delay control bail arm will be moved away from a delay feed pawl. The tape stop arm, when blocked by the delay control bail arm, will hold the tape feed bail in its upward position, thus stopping the feeding of tape. The delay feed pawl and a delay retaining pawl will be moved into engagement with their respective ratchets.

Although the tape feed bail will be held inoperative, the delay feed pawl operating lever, which is connected to the tape feed bail roller arm, will continue to operate. As the tape feed bail roller arm rides to the high part of the tape feed cam, the delay feed pawl, which is attached to the right end of the delay feed pawl operating lever, will be moved upward, thus rotating the delay ratchet shaft one tooth. The delay retaining pawl will hold the delay ratchet shaft in this position until the delay feed pawl is again moved upward. The delay feed pawl will continue to rotate the delay feed ratchet until a stud on the delay feed ratchet moves against the lower arm of a delay push bail mounted on the ratchet shaft. An adjusting screw in the upper end of the delay push bail will rotate a delay selector lever clockwise, thereby causing a delay "T" transfer lever to move a delay code bar link and its associated code bar to the right or operated position. One of the two extreme left end push bars will then move into the code bar notches.

The delay code bar link, in moving to the right will raise the delay control bail roller. The delay control bail arm will be moved downward, out of engagement with the tape stop arm. The roller on the delay control bail arm will then move against the delay feed pawl, disengaging the delay feed pawl and the delay retaining pawl from their ratchets. The delay push bail and the delay selector lever will return to their unoperated positions and the tape feed lever will resume the feeding of tape.