

28 TYPING UNIT

LUBRICATION

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1. GENERAL

1.01 This section is issued to define the lubrication requirements for the 28 typing unit.

1.02 The specific lubrication instructions are divided into basic units and variable features. The basic units consist of the friction feed and sprocket feed typing units. Mechanisms which are added to a basic unit and are of an optional nature appear under variable features.

1.03 The typing unit should be lubricated as directed in this section. The points to be lubricated and the kind and quantity of lubricant to be used are indicated in the figures. Lubricate the typing unit just before placing it in service. After a few weeks of service, re-lubricate the unit to make sure that all points have received lubrication. Thereafter, the following schedule should be followed:

<u>Operating Speed (WPM)</u>	<u>Lubrication Interval</u>
60	3000 hr or 1 yr*
75	2400 hr or 9 mo*
100	1500 hr or 6 mo*

*Whichever occurs first.

1.04 Use KS-7470 oil at all locations where the use of oil is indicated. Use KS-7471 grease on all surfaces where grease is indicated.

1.05 All spring wicks and felt oilers should be saturated. The friction surfaces of all moving parts should be thoroughly lubricated. However, overlubrication, which will permit oil or grease to drip or be thrown on other parts, should be avoided.

CAUTION: SPECIAL CARE MUST BE TAKEN TO PREVENT ANY OIL OR GREASE FROM GETTING BETWEEN THE SELECTOR ARMATURE AND ITS MAGNET POLE FACES. KEEP ALL ELECTRICAL CONTACTS FREE OF OIL AND GREASE.

1.06 Apply a thick film of grease to all gears and the spacing clutch reset cam plate.

1.07 Apply oil to all cams, including the camming surfaces of each clutch disc.

1.08 The photographs show the paragraph numbers referring to particular line drawings of mechanisms and where these mechanisms are located on the unit. Parts in the line drawings are shown in an upright position unless otherwise specified.

Note: References made to left or right, top or bottom, and front or rear apply to the typing unit in its normal operating position as viewed by the operator facing the unit.

1.09 The following list of symbols apply to the specific lubrication instructions given in each paragraph.

O Apply 1 drop of oil.
 O2 Apply 2 drops of oil.
 O3 Apply 3 drops of oil, etc.
 G Apply thin film of grease.
 SAT Saturate (felt oilers, washers, wicks) with oil.

1.10 During each lubrication period, check the following items. Requirements and adjustments are given in Section 573-115-700.

(1) Printing Carriage Position

(2) Printing Hammer Bearing Stud

(3) Printing Track

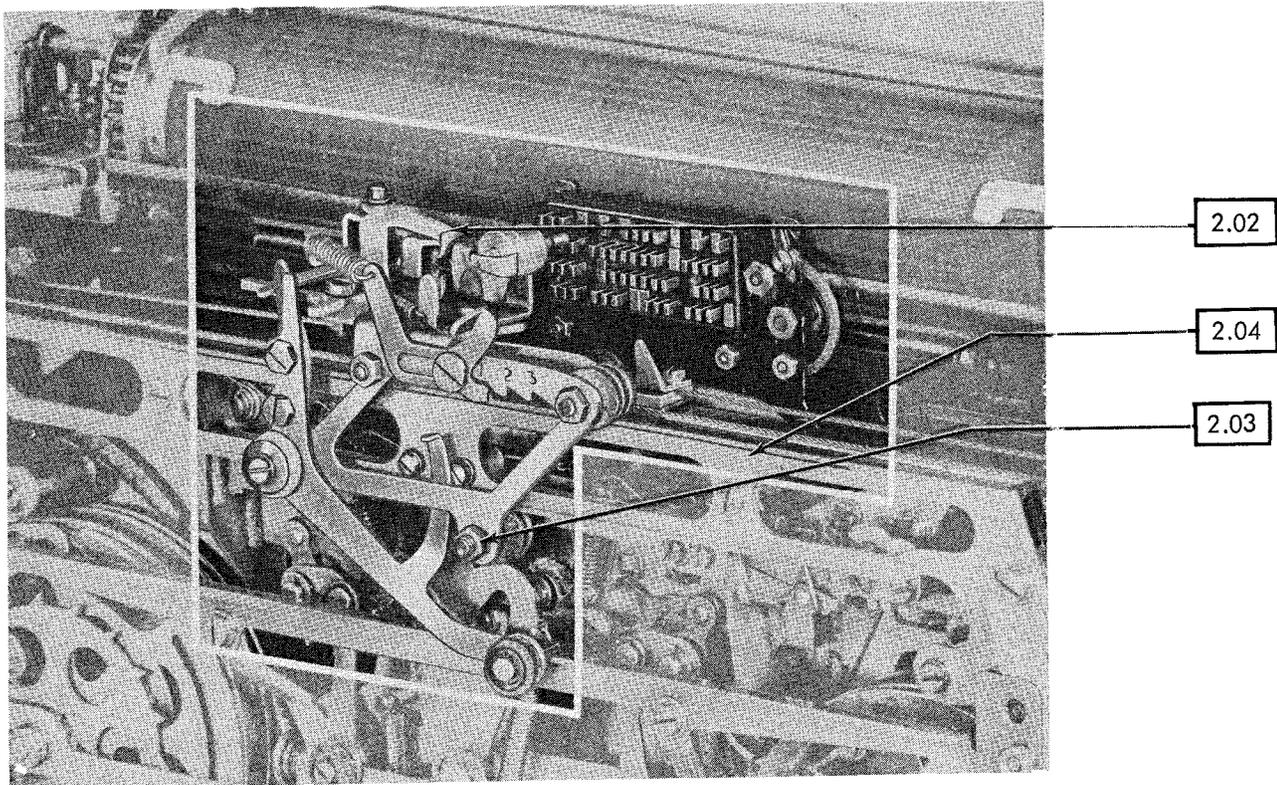
(4) Printing Hammer Stop Bracket (Also see Note 2, Par. 2.48, 573-115-700 which refers to Printing Hammer Operating Bail Spring Bracket Position.)

(5) Carriage Draw Wire Rope

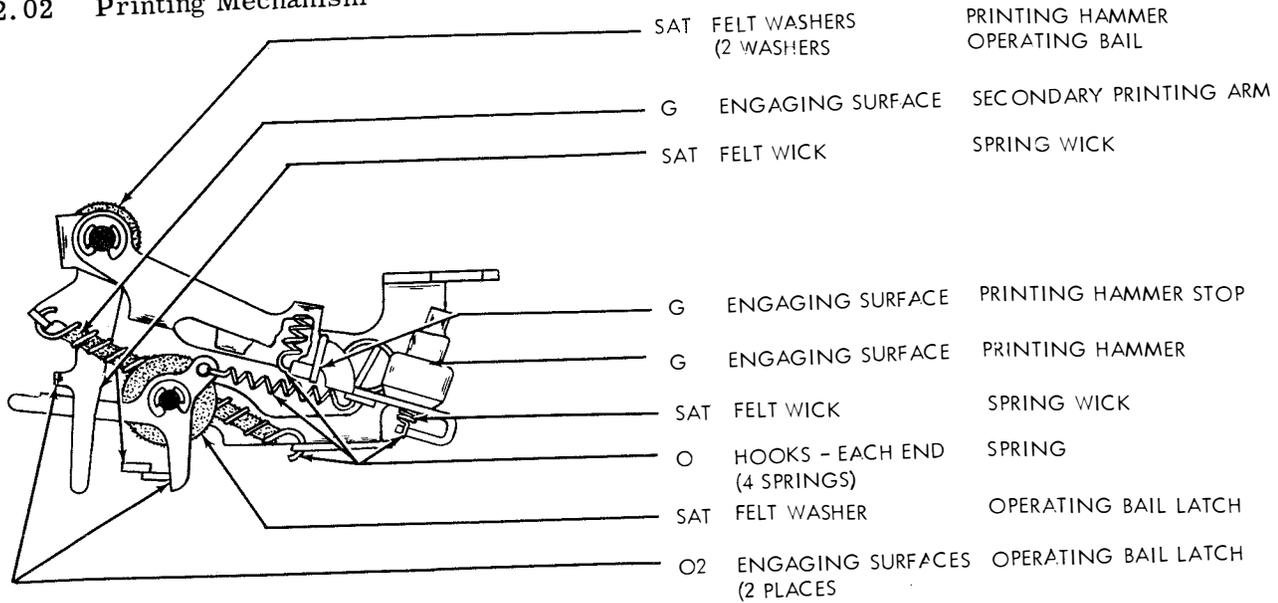
(6) Dashpot Vent Screw (Check dashpot transfer slide for freeness.)

2. BASIC UNITS

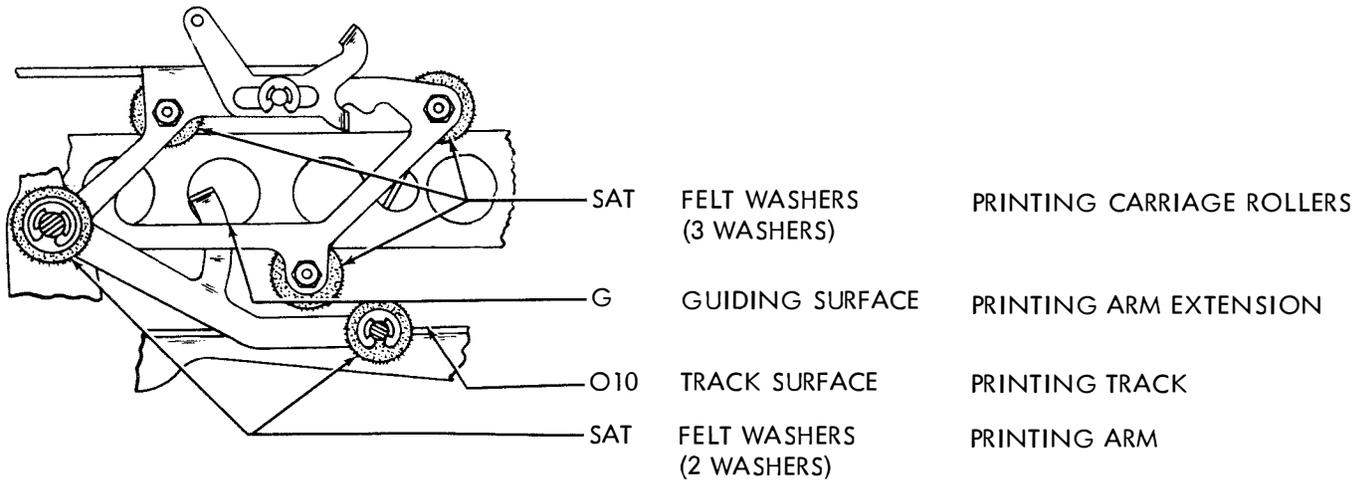
2.01 Typing Unit - Front View



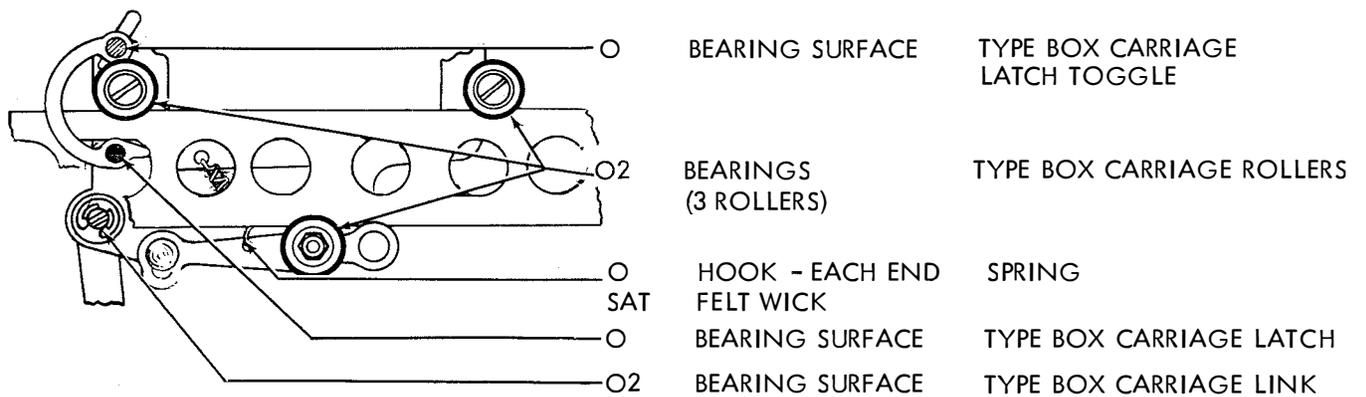
2.02 Printing Mechanism



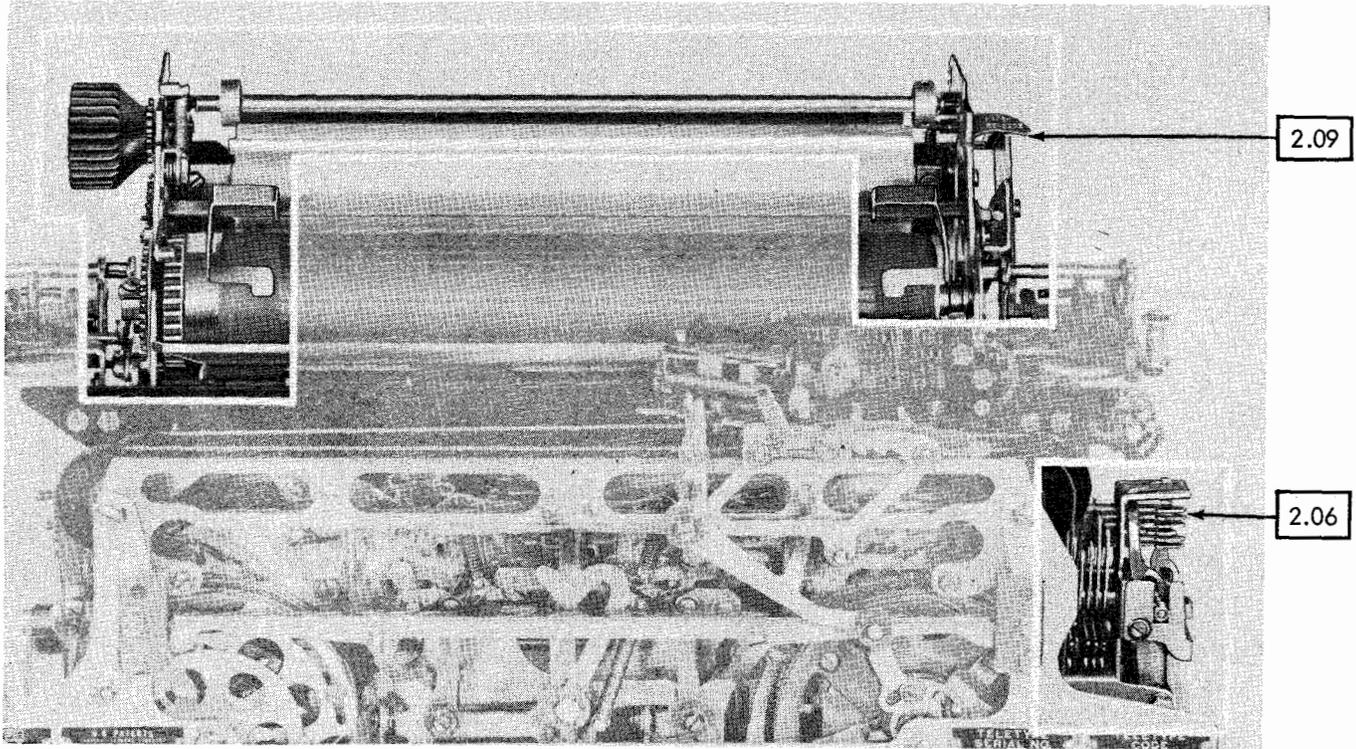
2.03 Printing Mechanism (Cont'd)



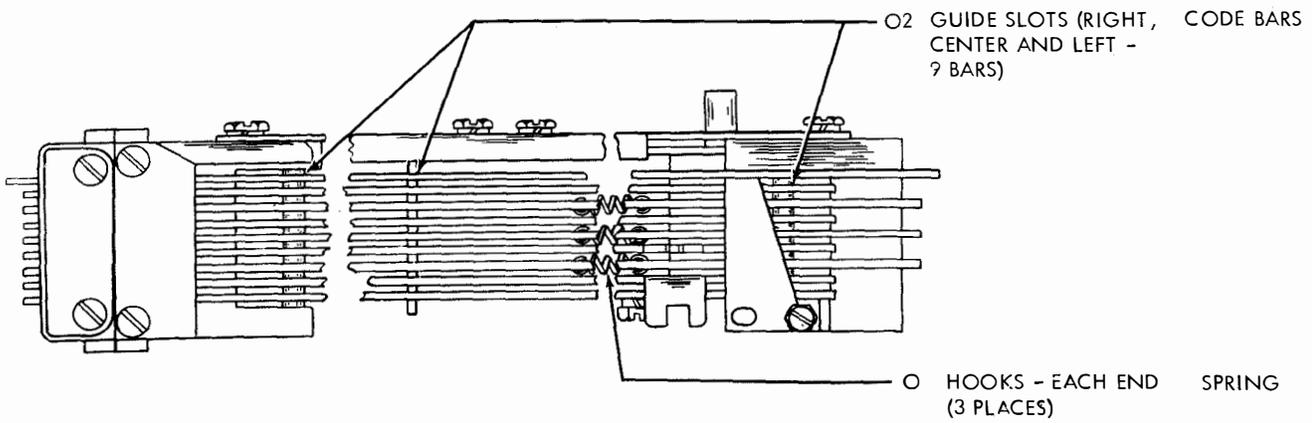
2.04 Type Box Carriage Mechanism



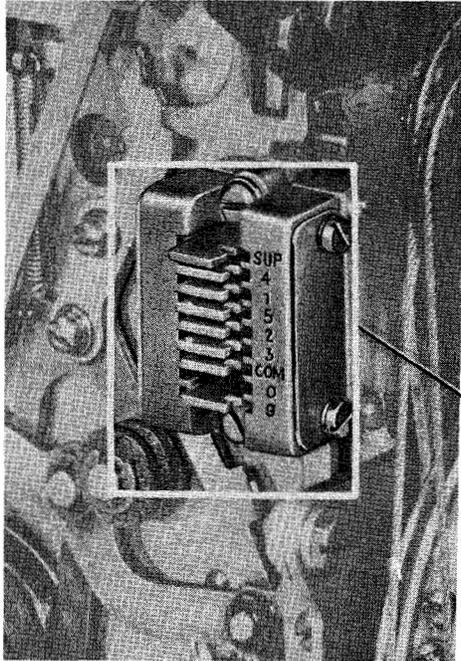
2.05 Typing Unit - Front View



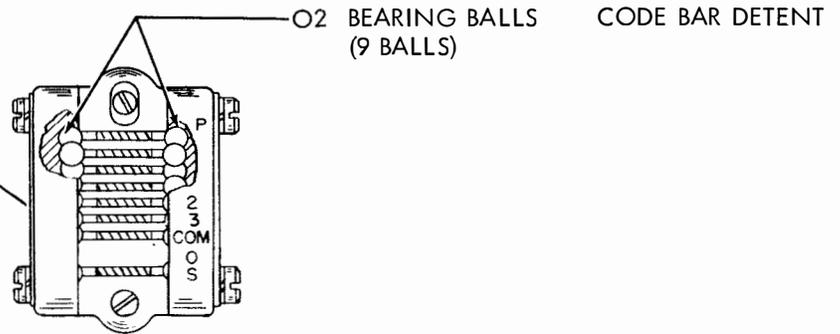
2.06 Codebar Mechanism



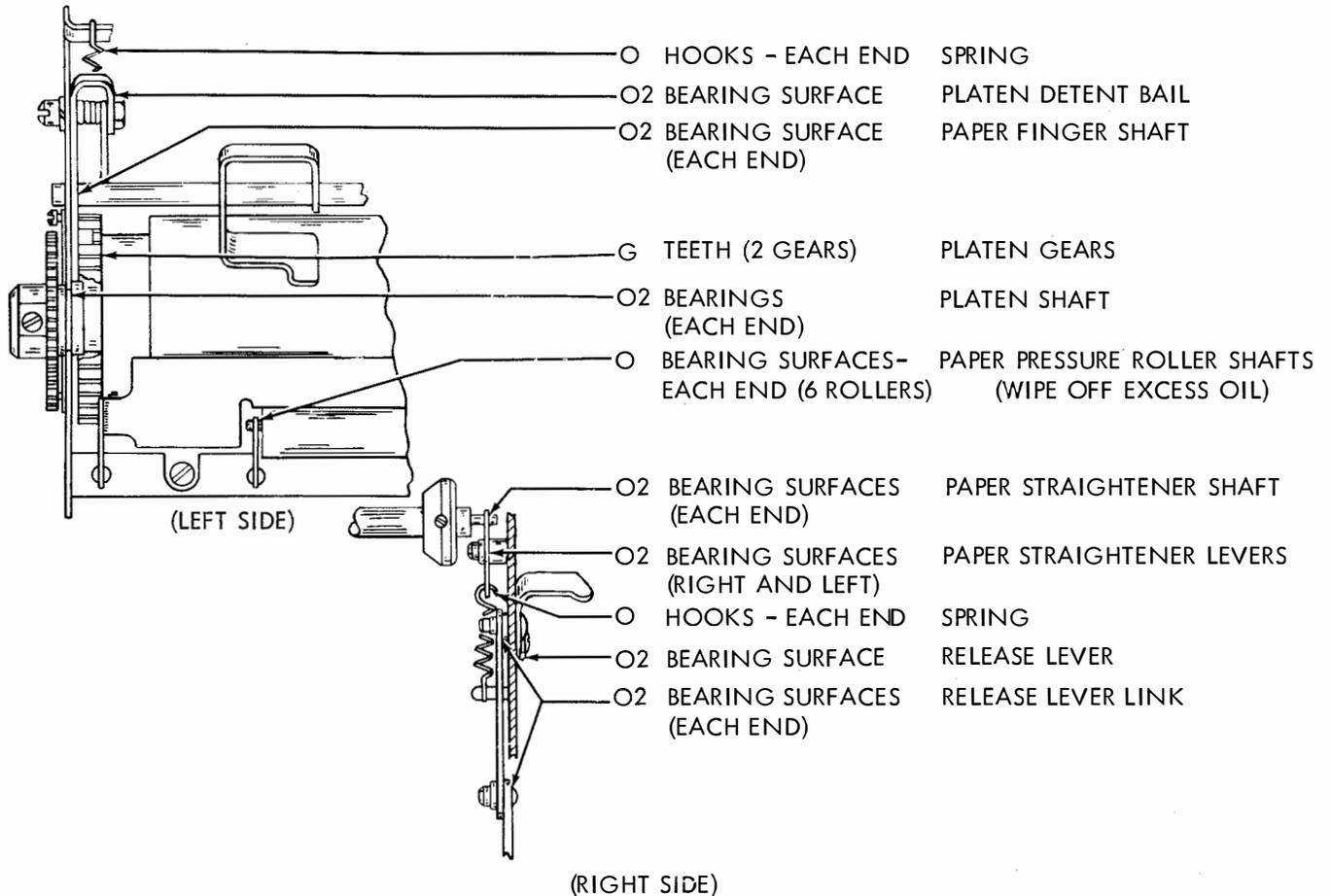
2.07 Typing Unit - Left Front View



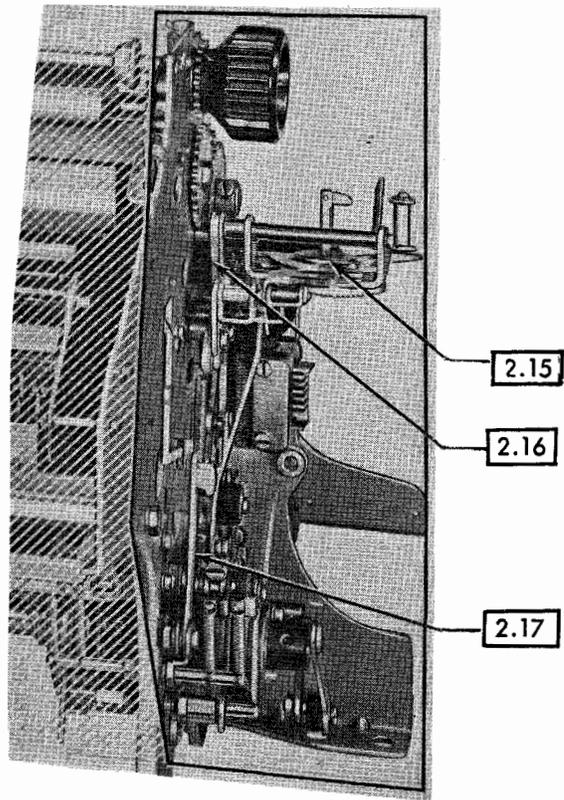
2.08 Codebar Detents



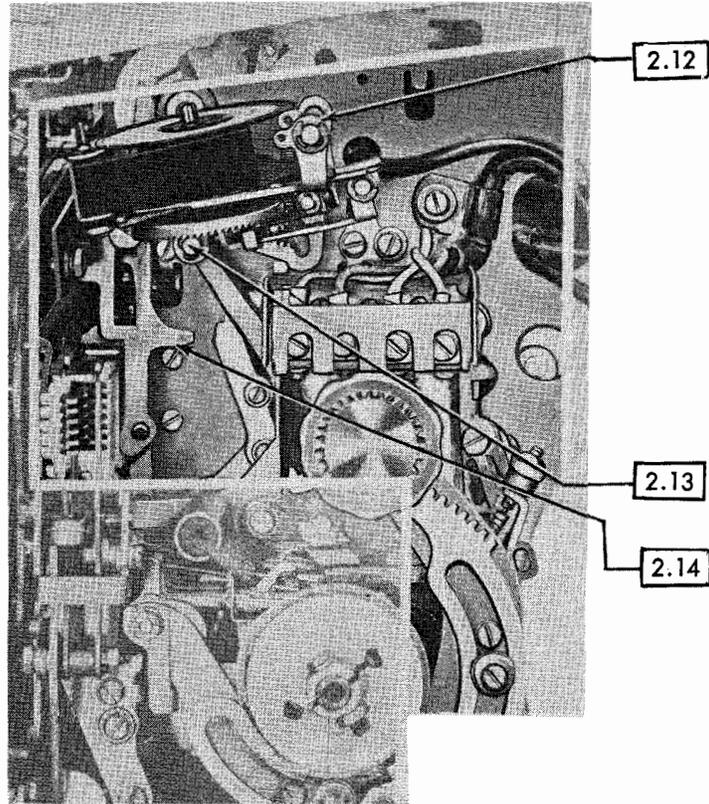
2.09 Paper Feed Mechanism - Front View



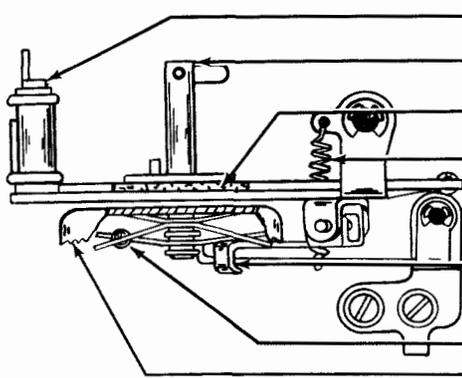
2.10 Typing Unit - Rear Left End View



2.11 Typing Unit - Right End View

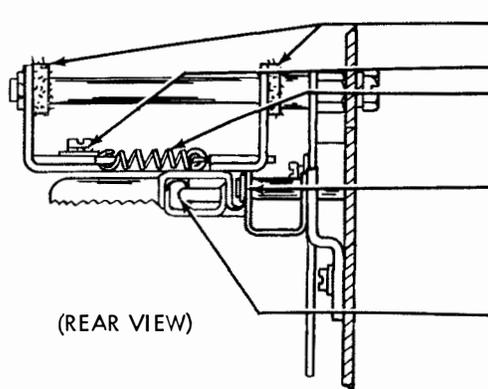


2.12 Ribbon Feed Mechanism - Right Side



(RIGHT SIDE VIEW)

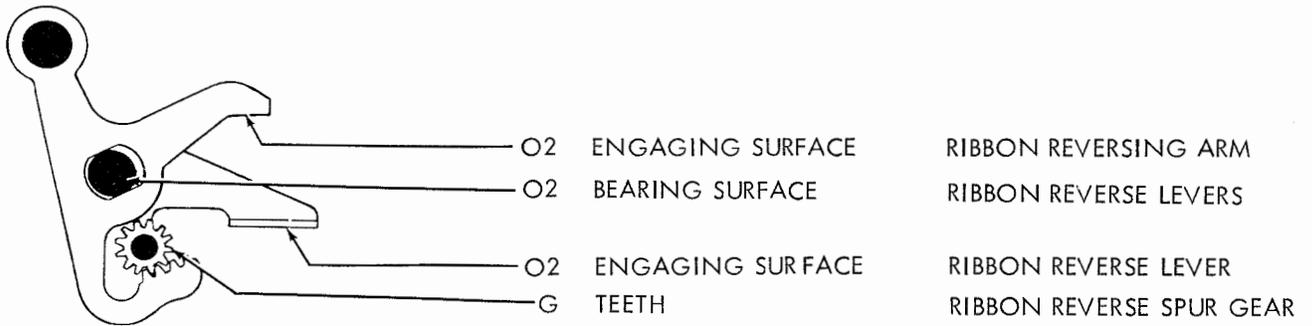
- | | | |
|-----|------------------|-----------------------------|
| 02 | BEARING SURFACE | RIBBON ROLLER SHAFT |
| 02 | BEARING SURFACE | RIBBON SPOOL TOGGLE |
| SAT | FELT WASHER | RIBBON SPOOL SHAFT |
| 0 | HOOKS-EACH END | RIBBON FEED LEVER SPRING |
| 02 | ENGAGING SURFACE | RIBBON DETENT LEVER |
| 0 | HOOKS-EACH END | RIBBON RATCHET WHEEL SPRING |
| G | TEETH | RIBBON RATCHET WHEEL |



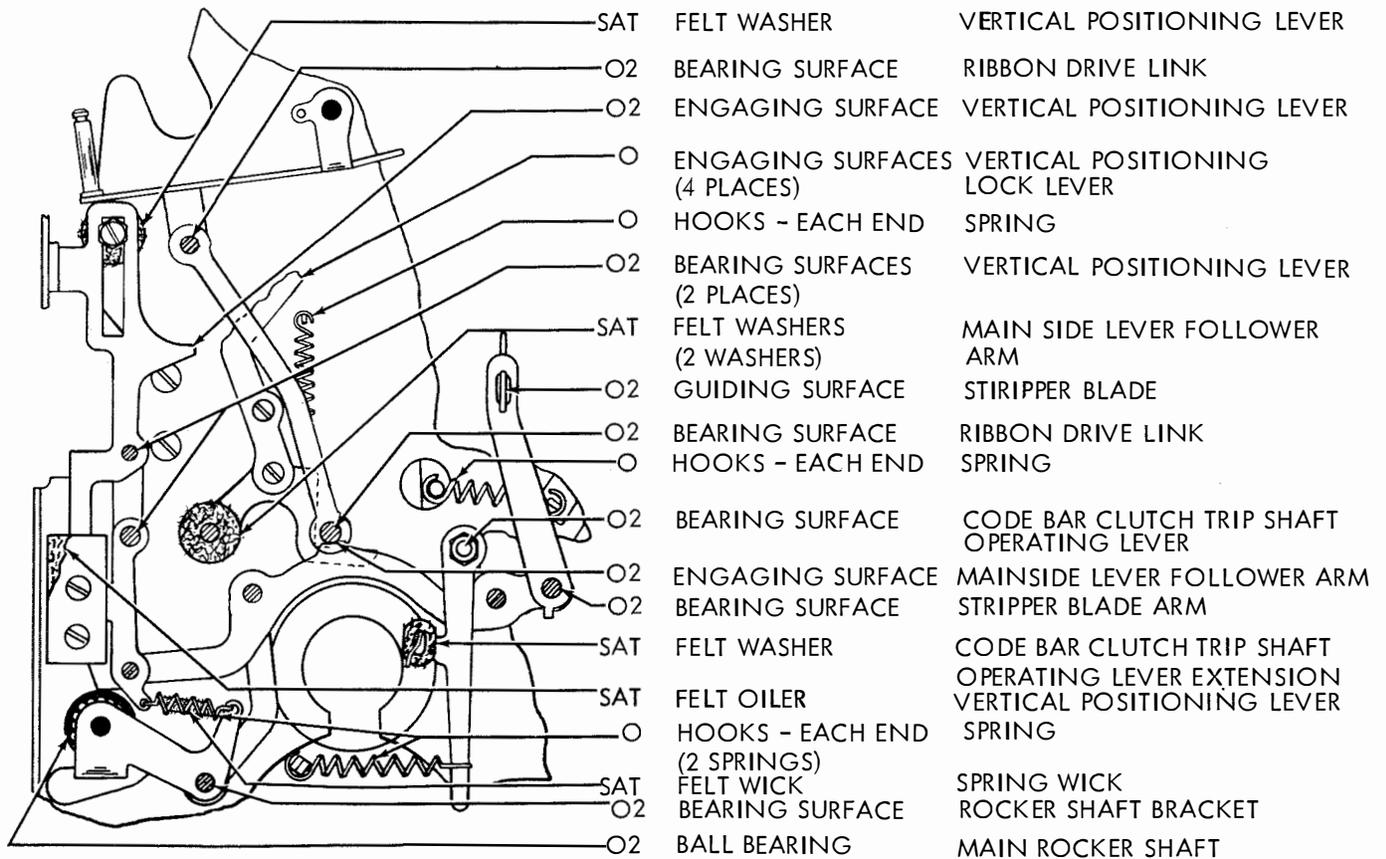
(REAR VIEW)

- | | | |
|-----|-------------------------------|------------------------------|
| SAT | FELT WASHERS
(2 WASHERS) | RIBBON FEED LEVER BAIL |
| 02 | BEARING SURFACE | RIBBON LEVER |
| 0 | HOOKS-EACH END | SPRING |
| 02 | BEARING SURFACES | RATCHET FEED LEVER
SHAFT |
| 02 | BEARING SURFACE
(2 PLACES) | RIBBON DETENT LEVER
SHAFT |

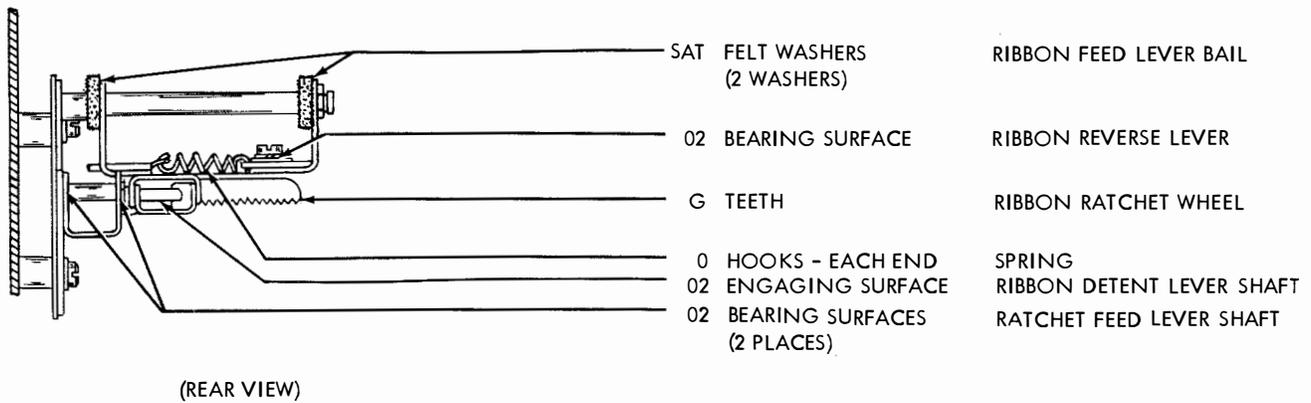
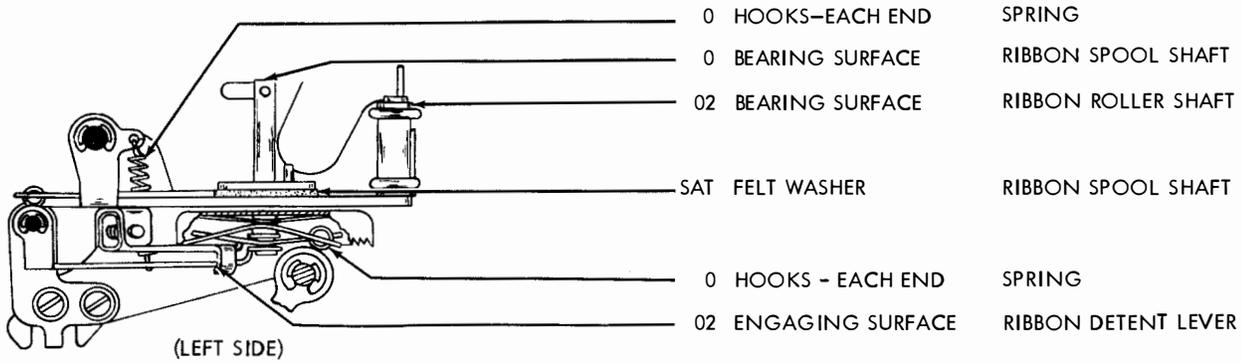
2.13 Ribbon Feed Mechanism - Right Side (Cont'd)



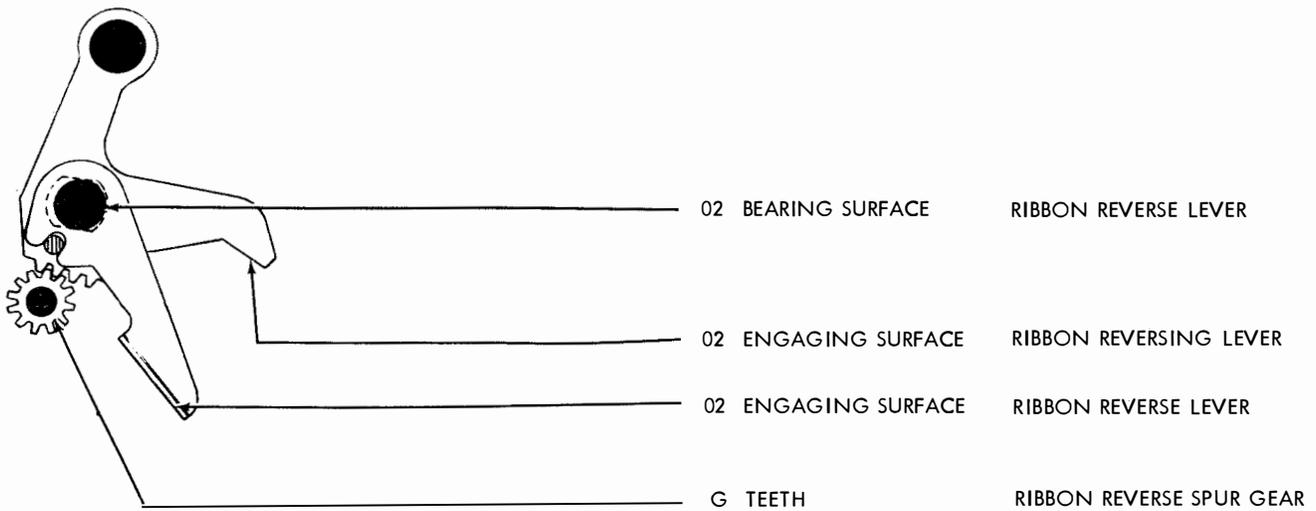
2.14 Vertical Positioning Mechanism - Right Side



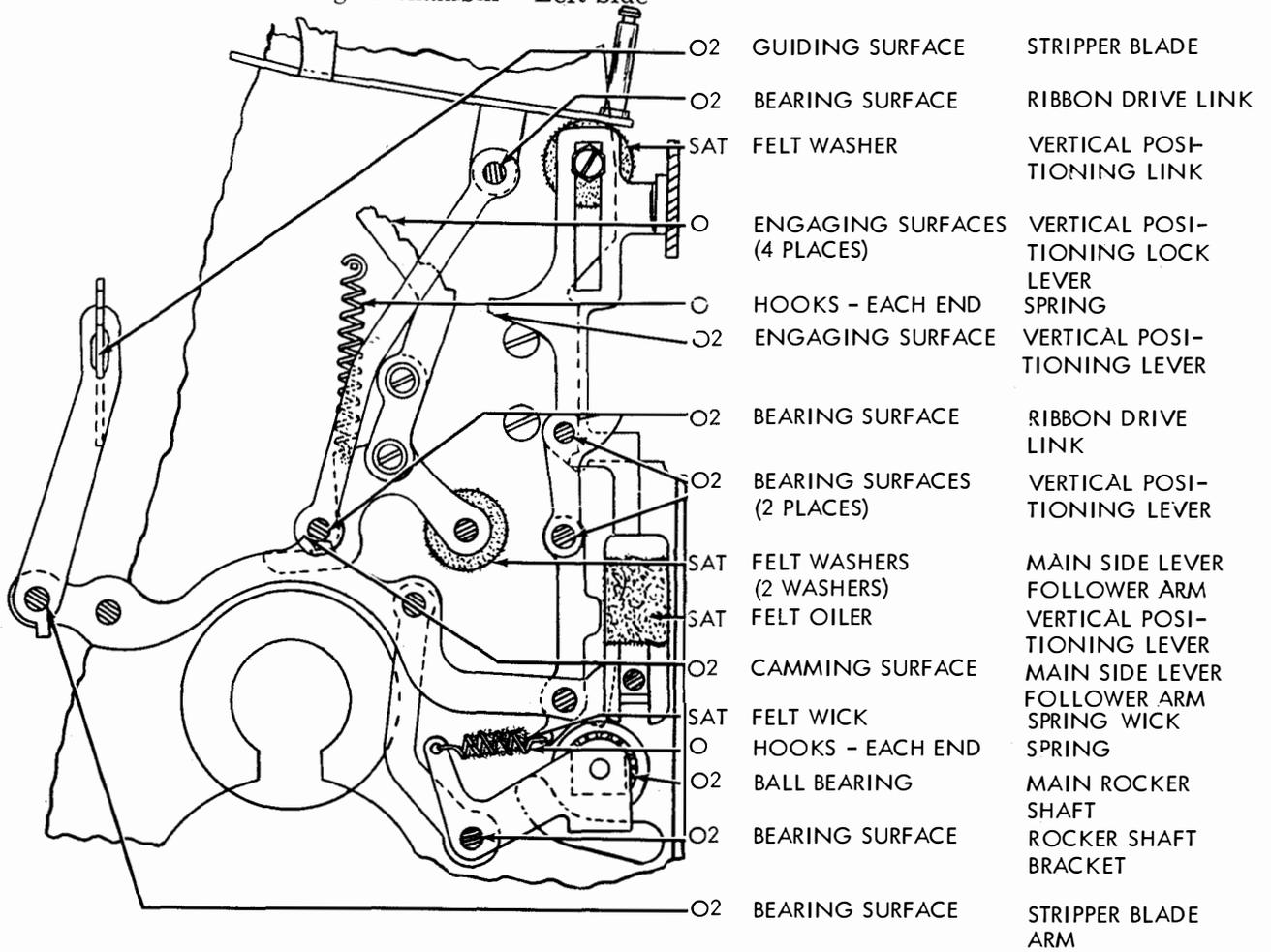
2.15 Ribbon Feed Mechanism - Left Side



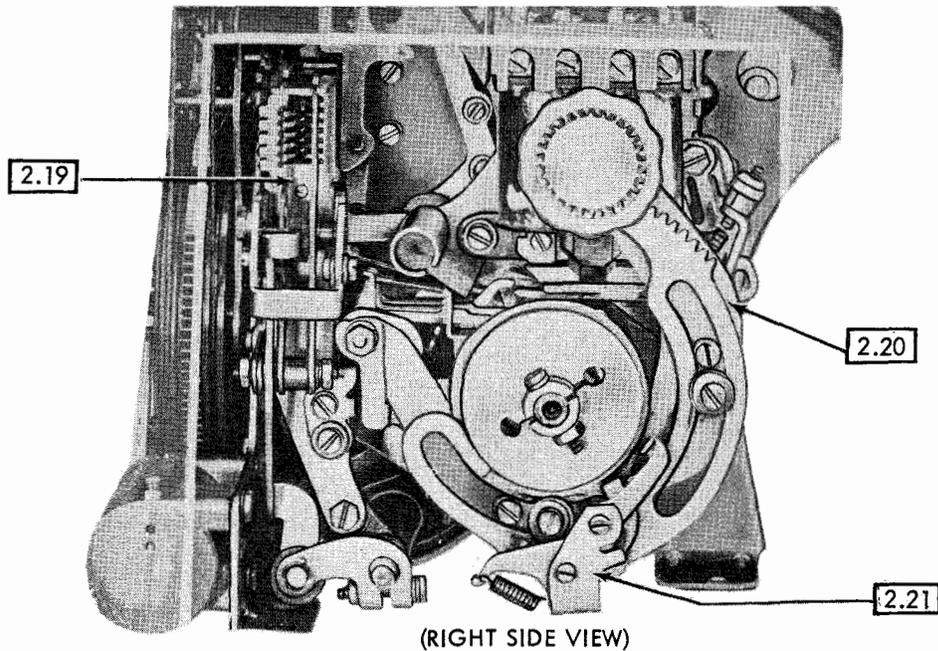
2.16 Ribbon Feed Mechanism - Left Side (Cont'd)



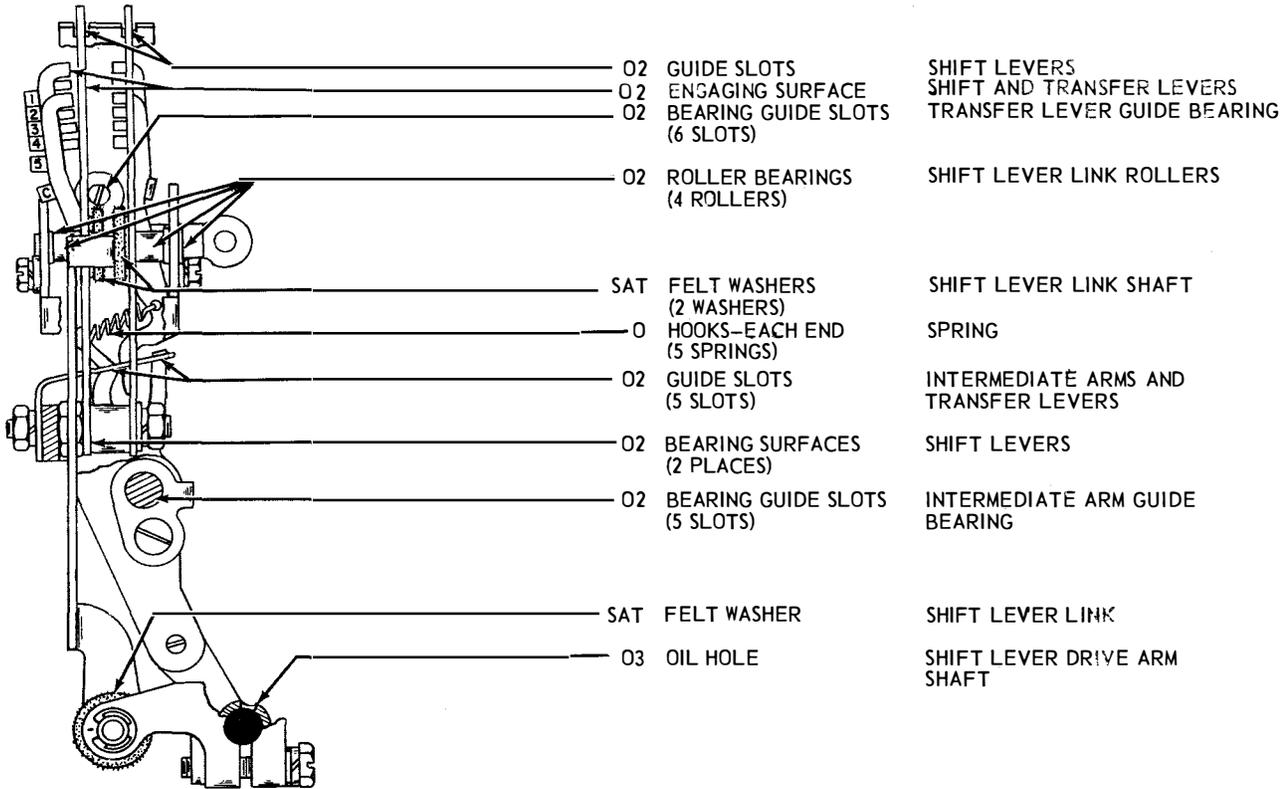
2.17 Vertical Positioning Mechanism - Left Side



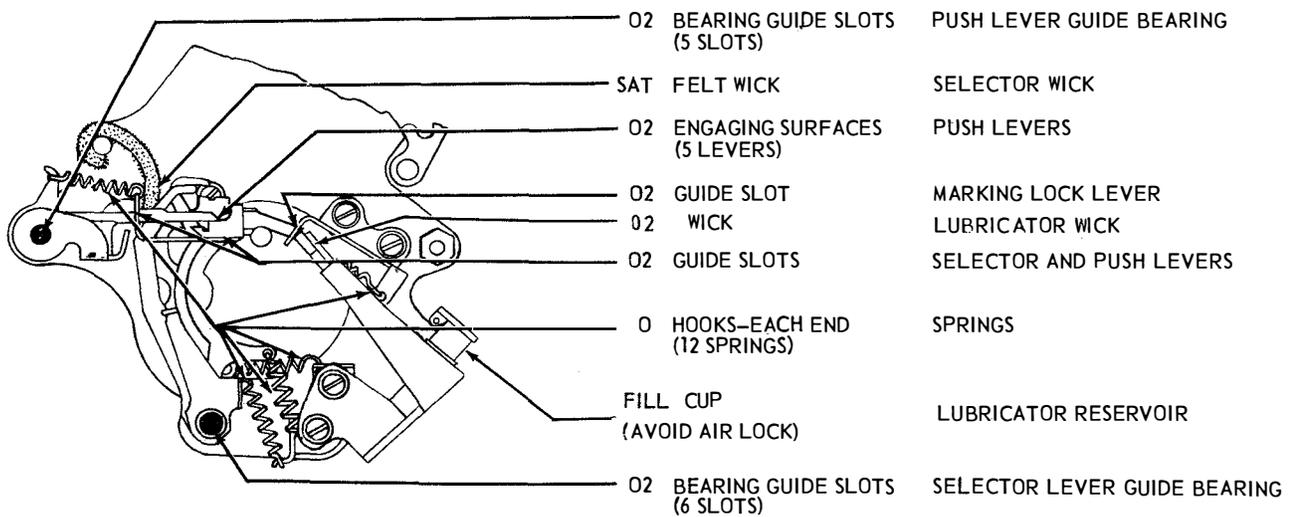
2.18 Typing Unit - Right End View



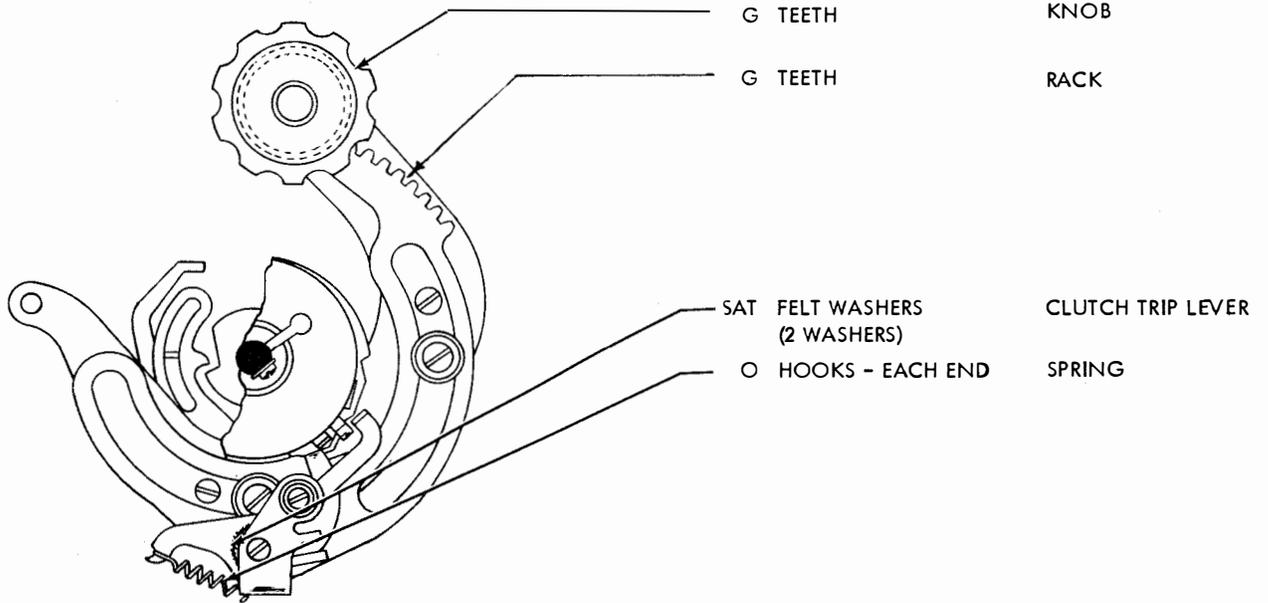
2.19 Codebar Mechanism



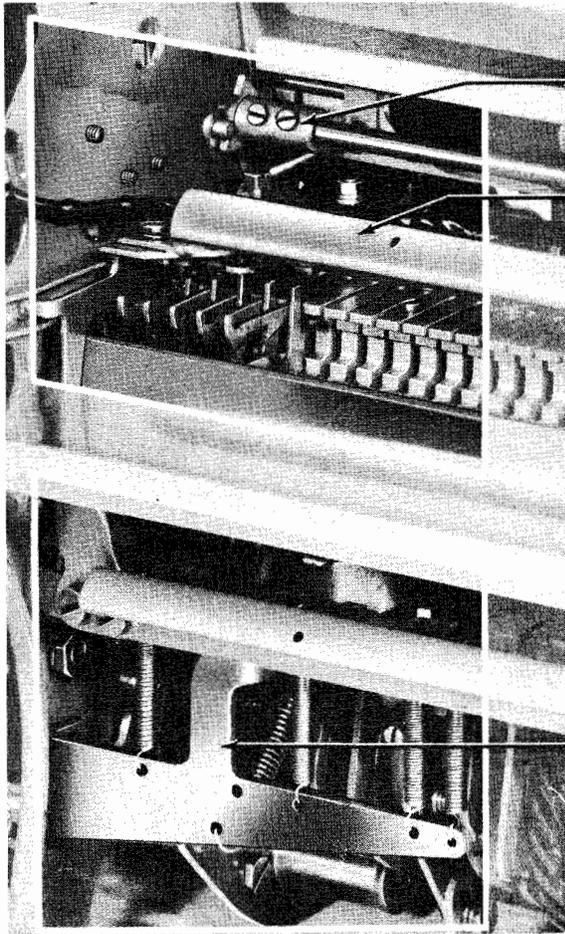
2.20 Selector Mechanism



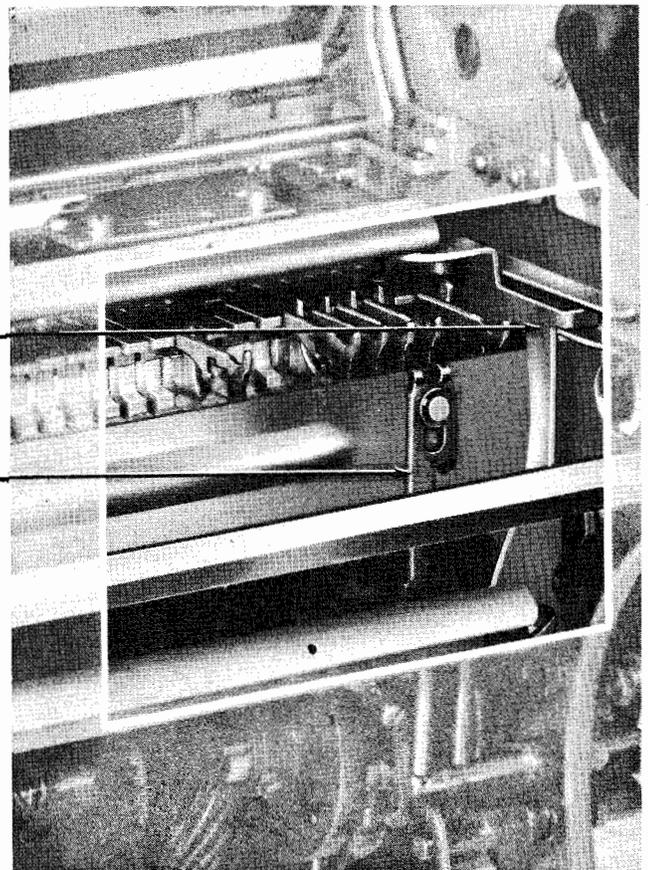
2.21 Selector Mechanism (Cont'd)



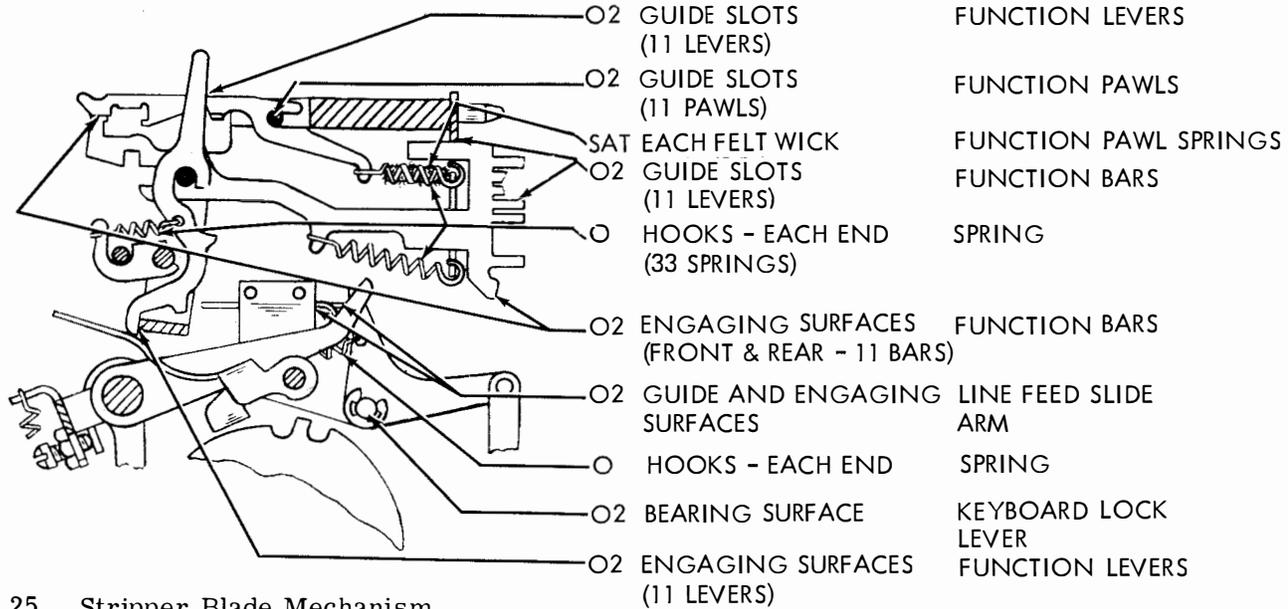
2.22 Typing Unit - Rear View



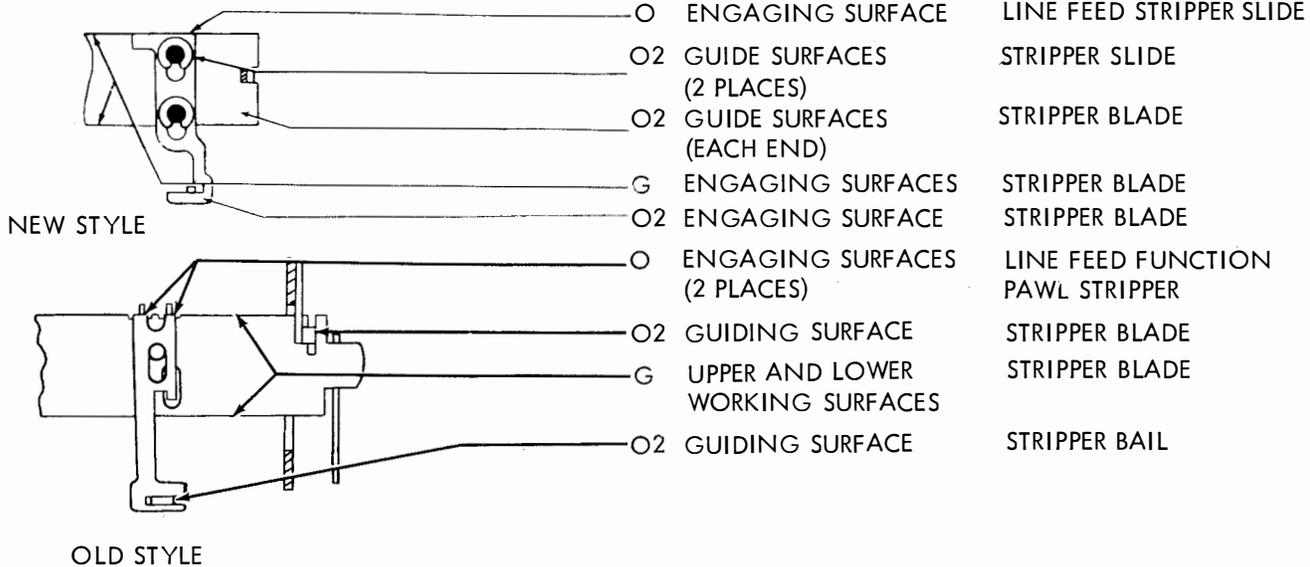
2.23 Typing Unit - Rear View



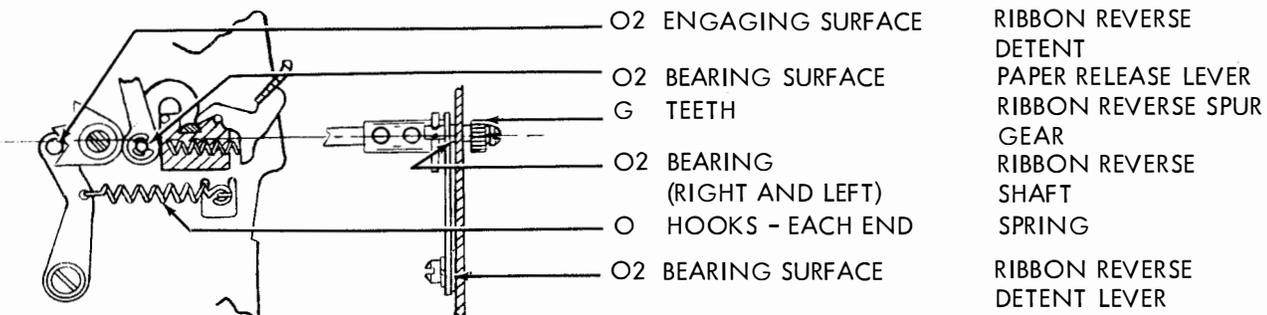
2.24 Stunt Box Mechanism



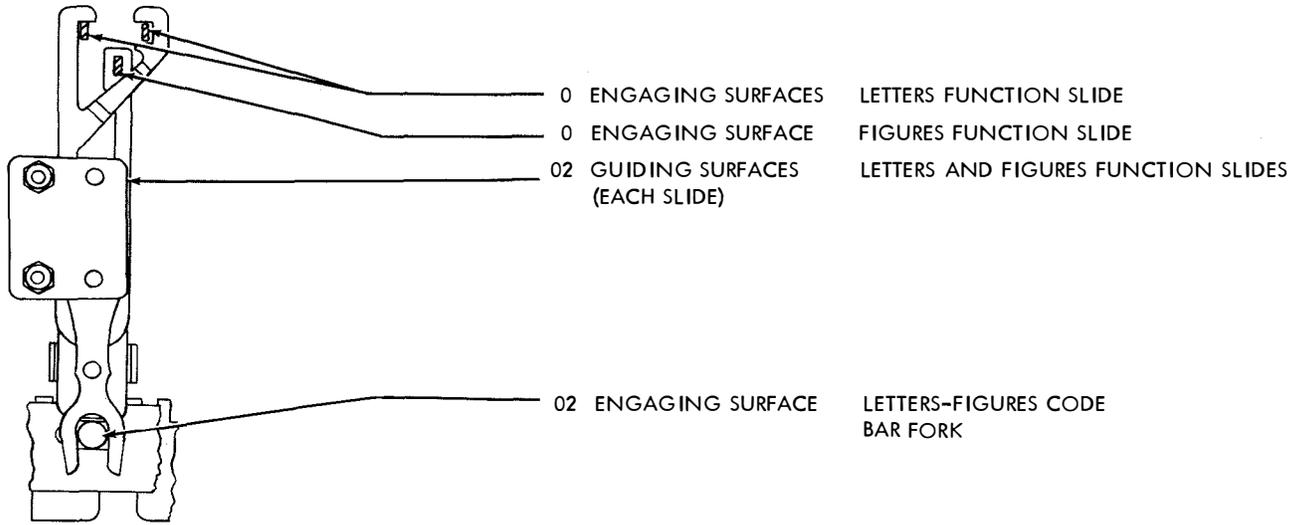
2.25 Stripper Blade Mechanism



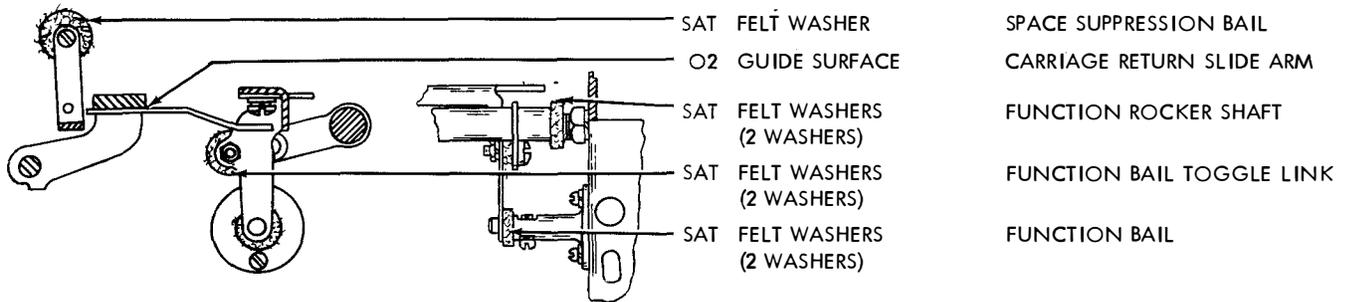
2.26 Ribbon Reverse Mechanism



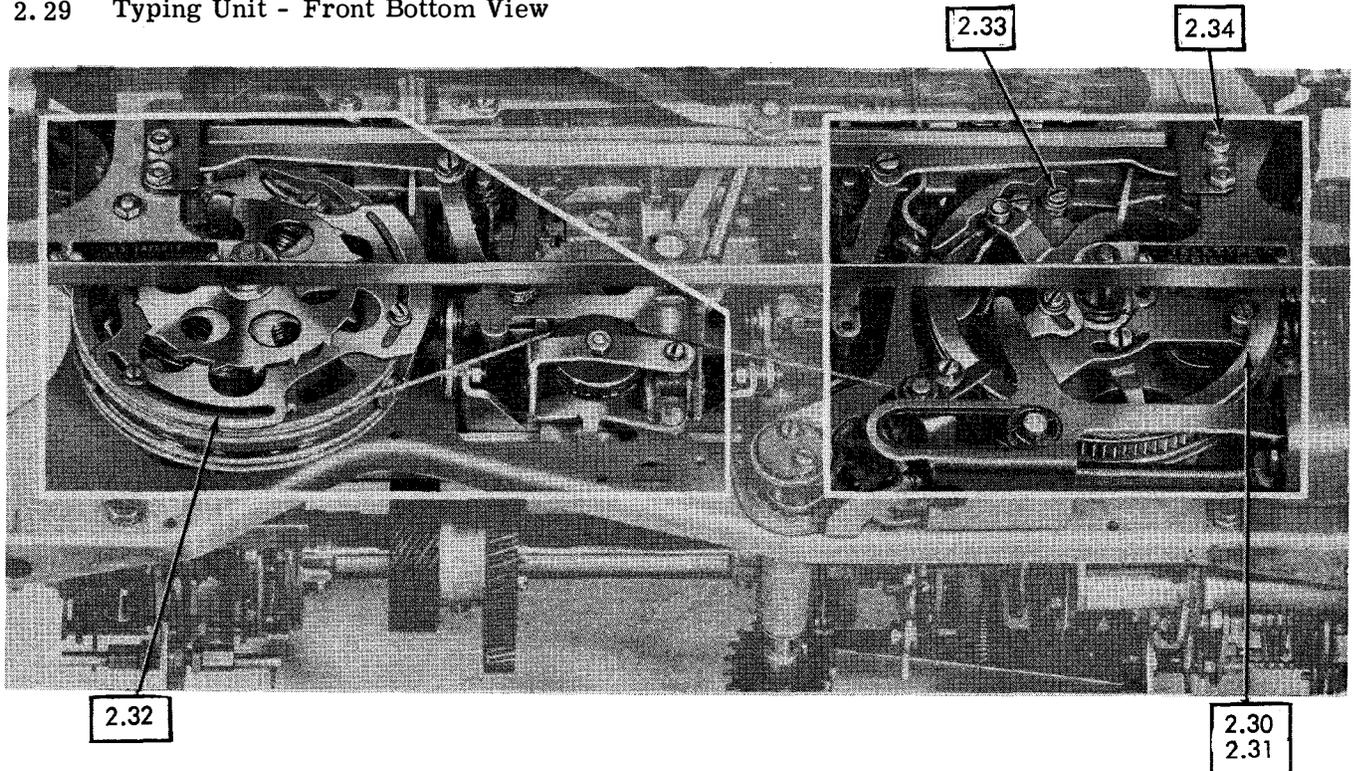
2.27 Shift Mechanism



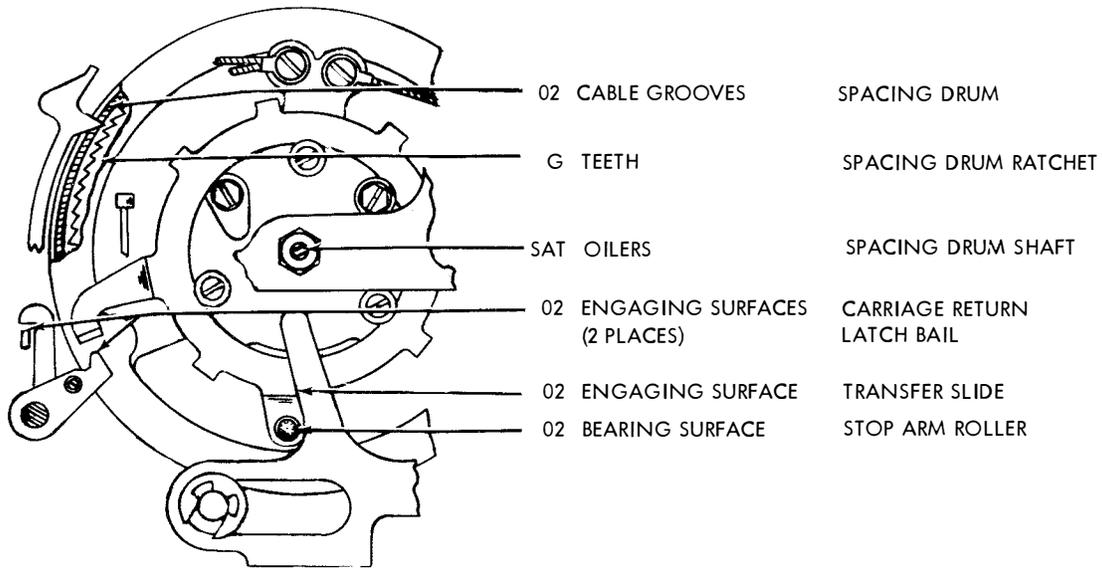
2.28 Function Rocker Shaft Mechanism



2.29 Typing Unit - Front Bottom View

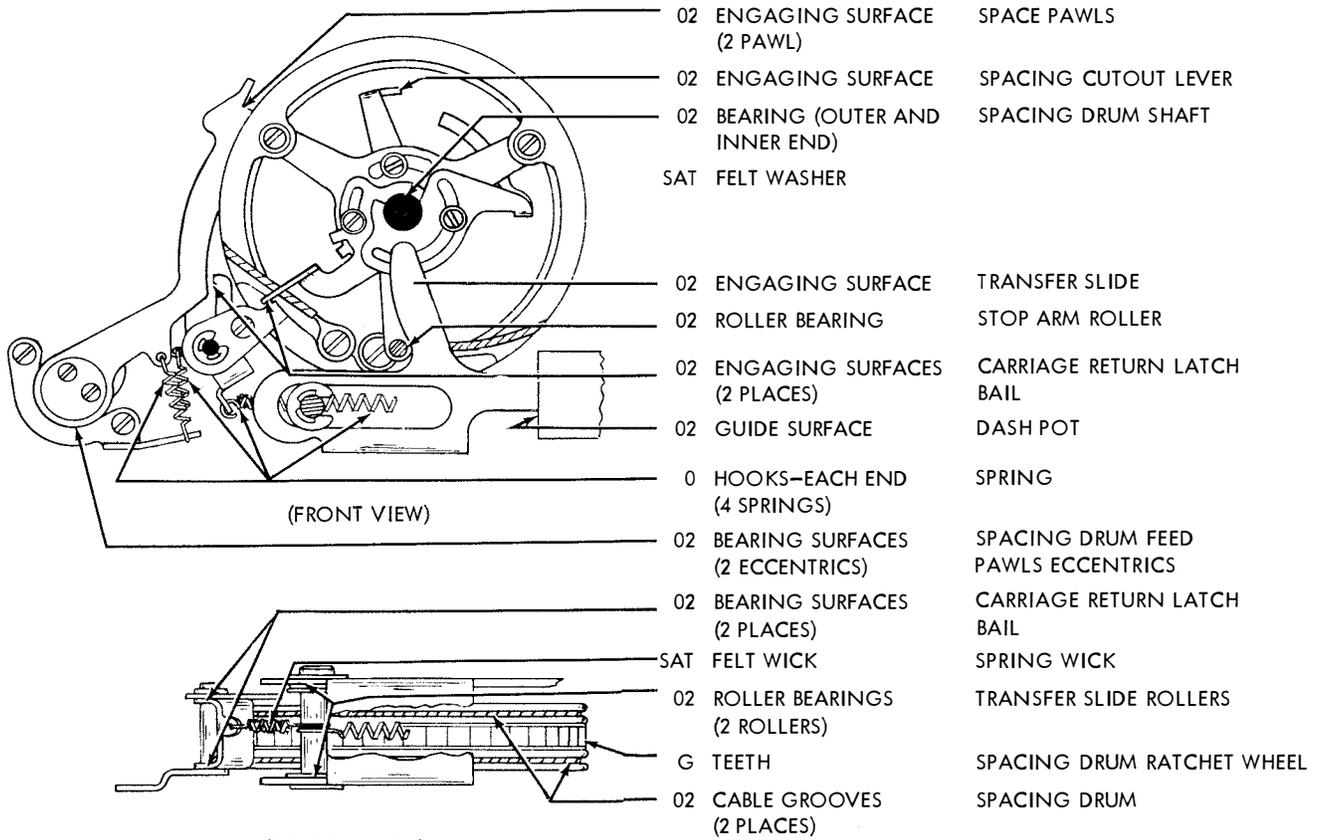


2.30 Spacing Drum Drive Mechanism - Later Design



(FRONT VIEW)

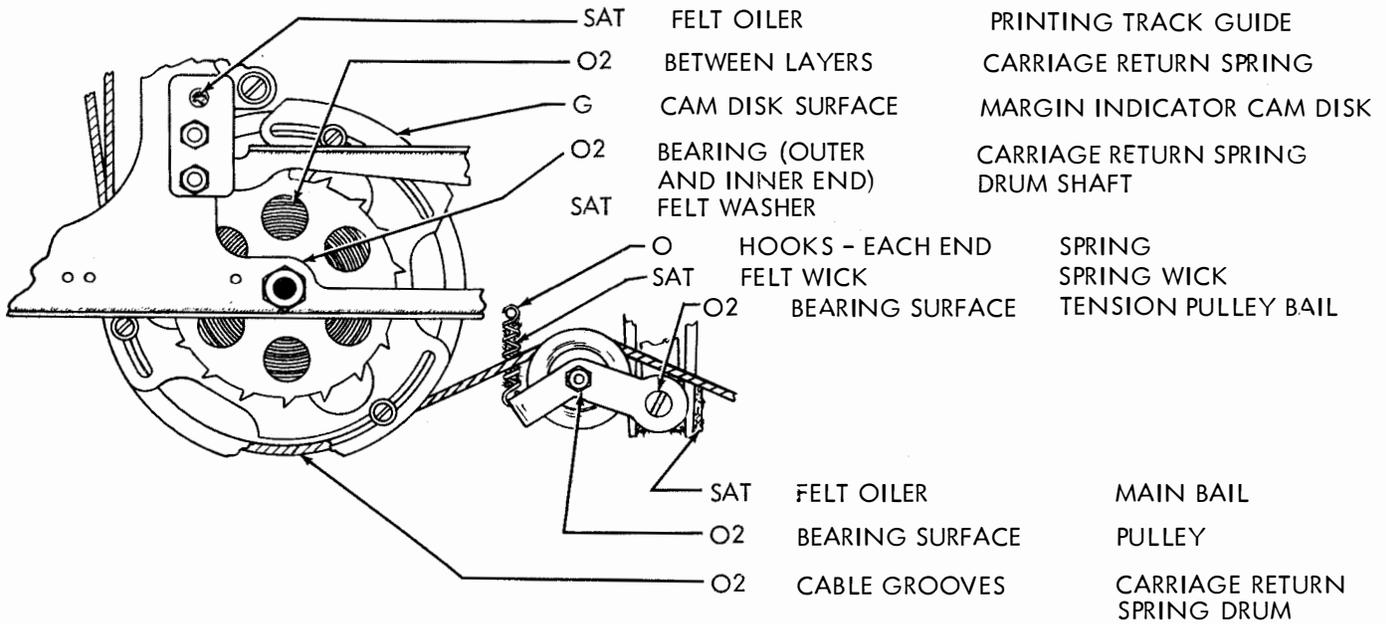
2.31 Spacing Drum Drive Mechanism - Earlier Design



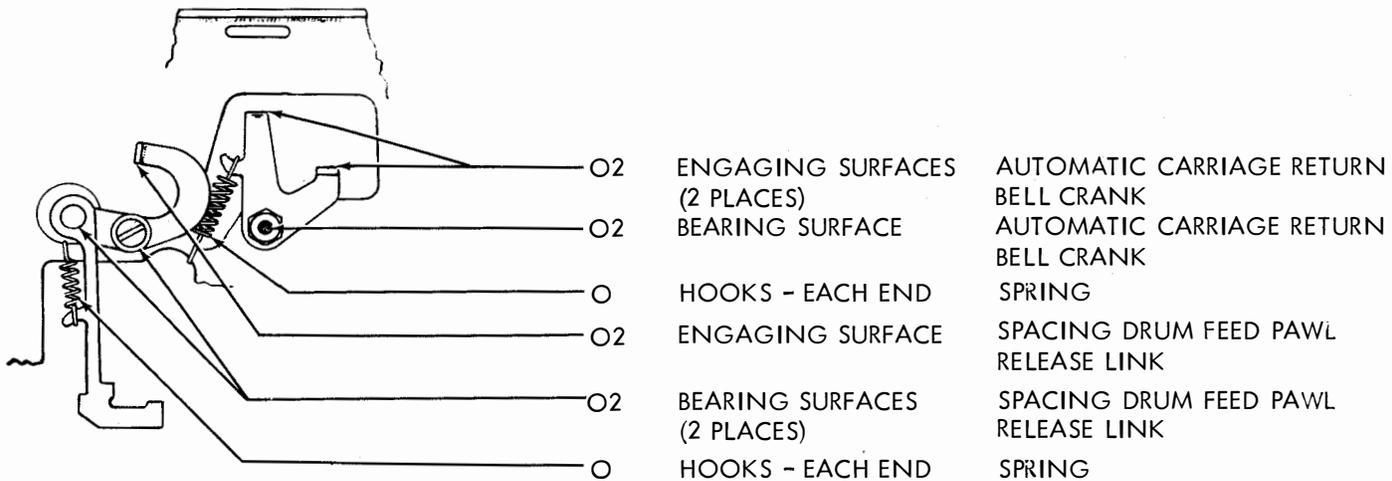
(BOTTOM VIEW)

(SEE PARAGRAPH 6.08)

2.32 Carriage Return Mechanism



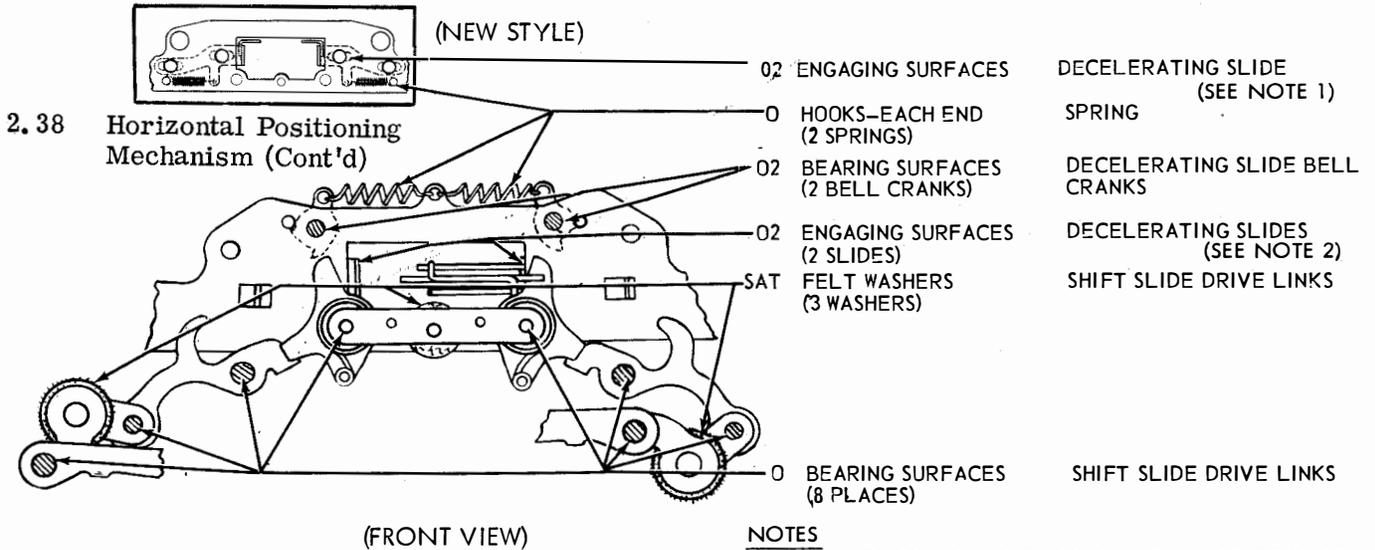
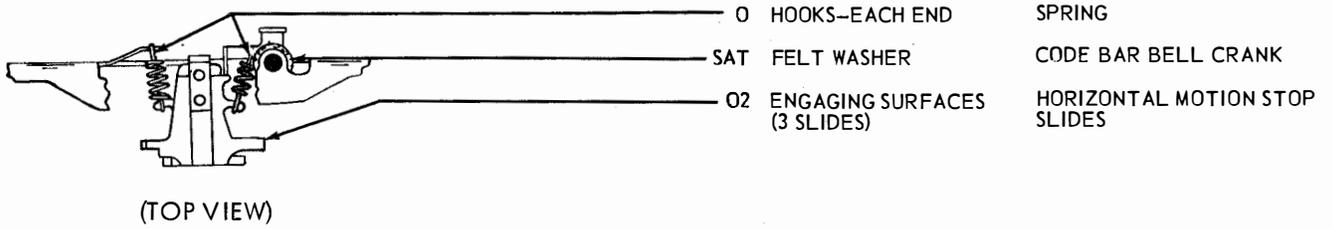
2.33 Spacing Drum Feed Mechanism



2.34 Track Guide Mechanism



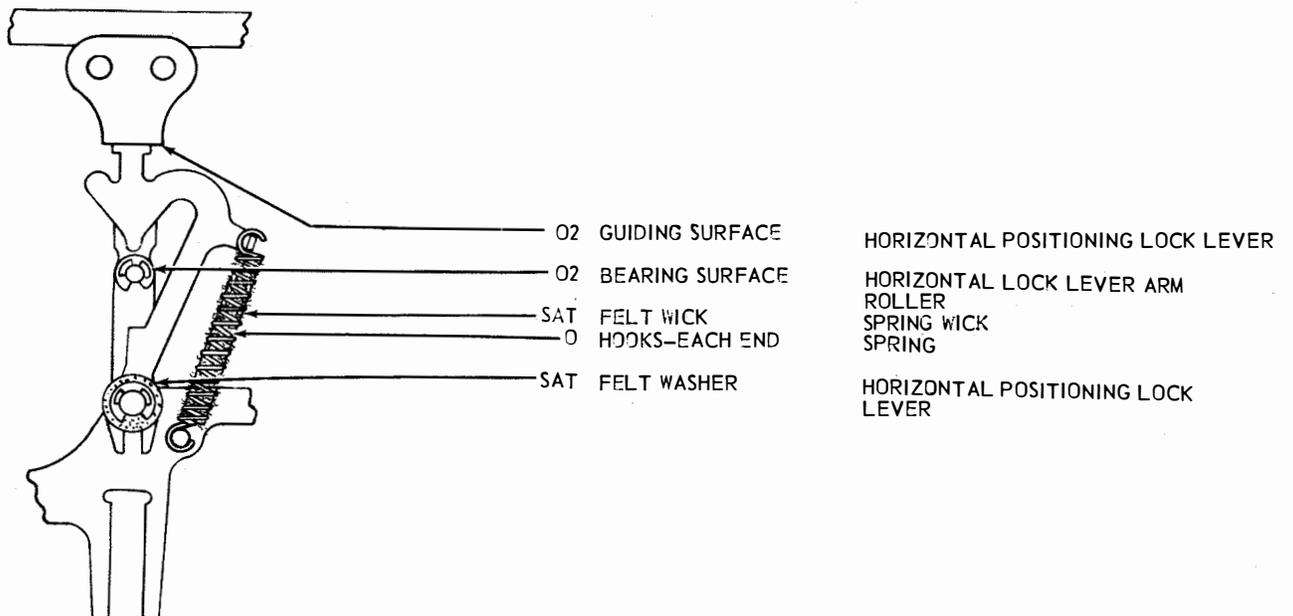
2.37 Horizontal Positioning Mechanism (Cont'd)



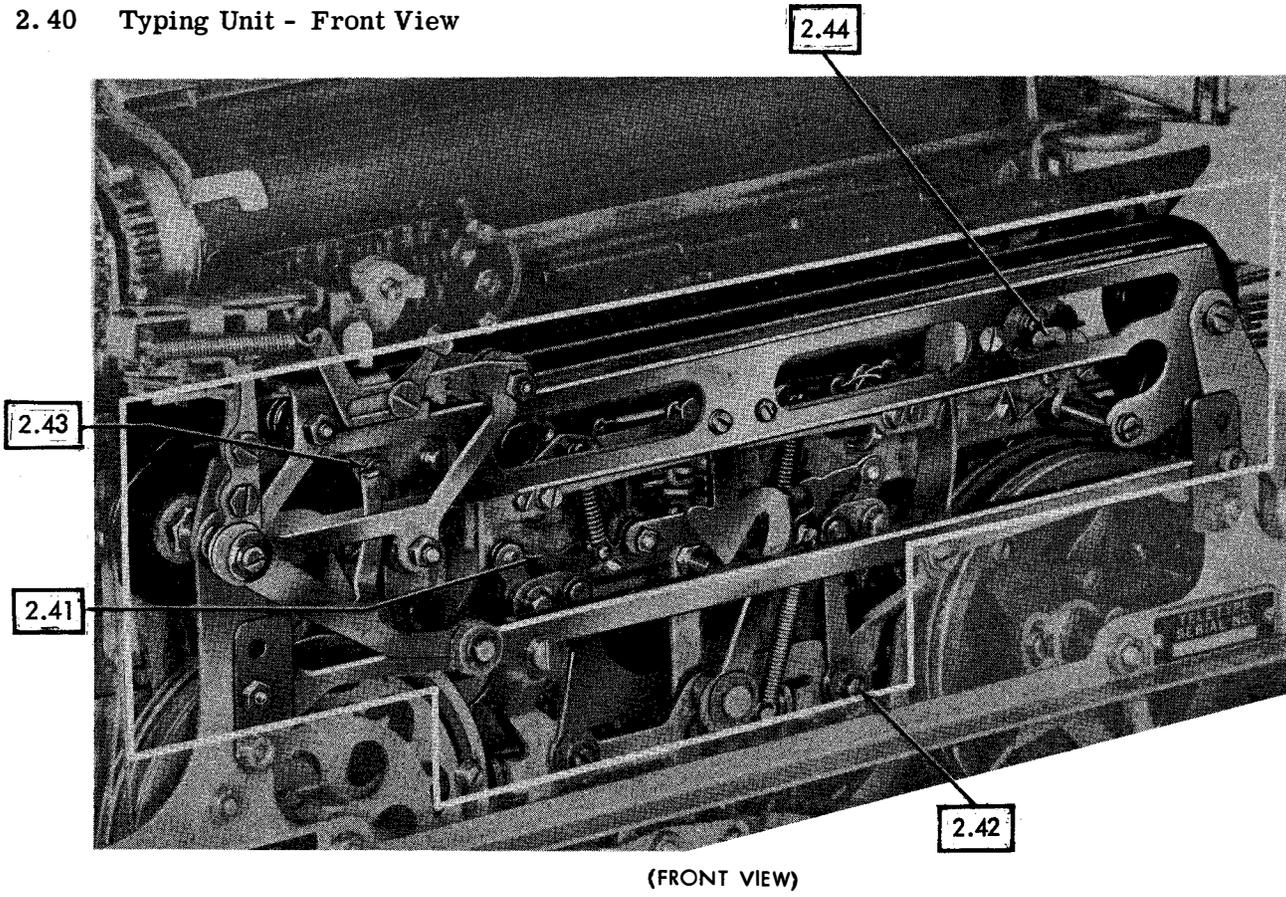
NOTES

1. WITH SPRINGS LOCATED ON REAR SIDE OF SLIDE
2. WITH SPRINGS LOCATED ABOVE THE SLIDE

2.39 Horizontal Positioning Mechanism (Cont'd)

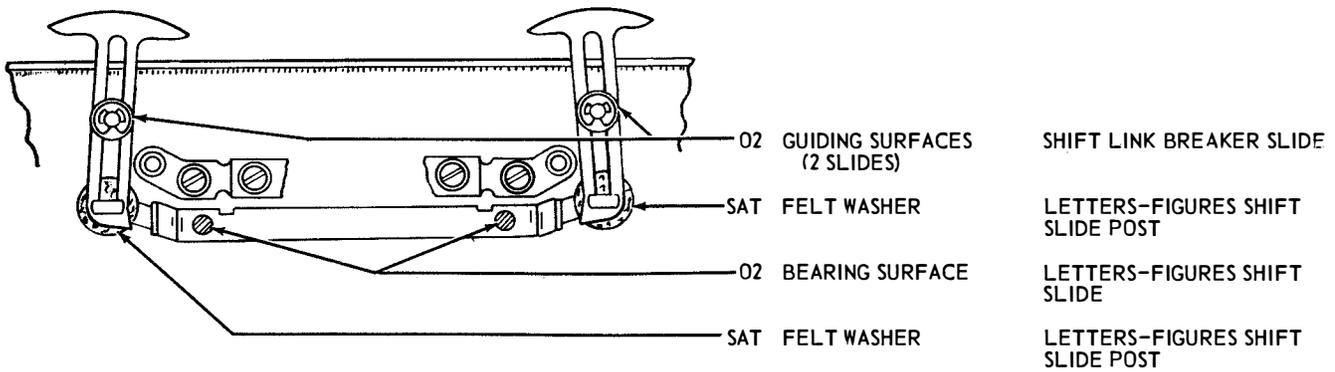


2.40 Typing Unit - Front View

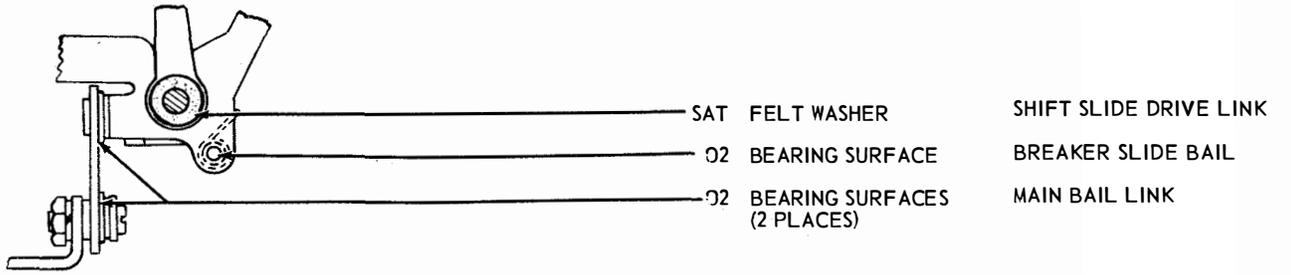


(FRONT VIEW)

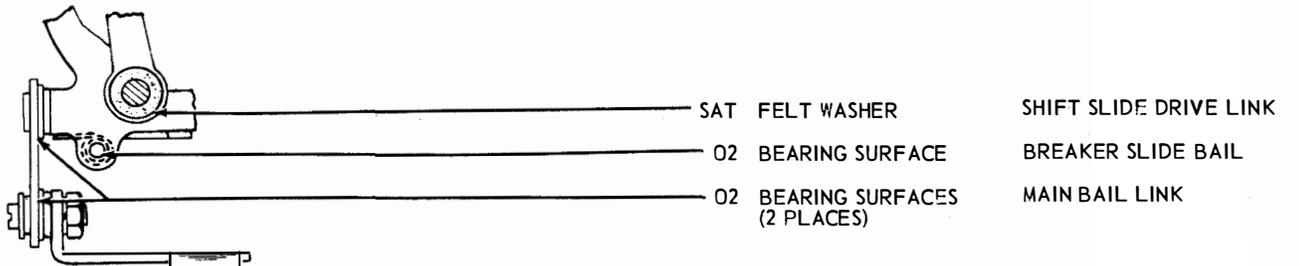
2.41 Letters - Figures Shift Mechanism



2.42 Letters - Figures Shift Mechanism (Cont'd)

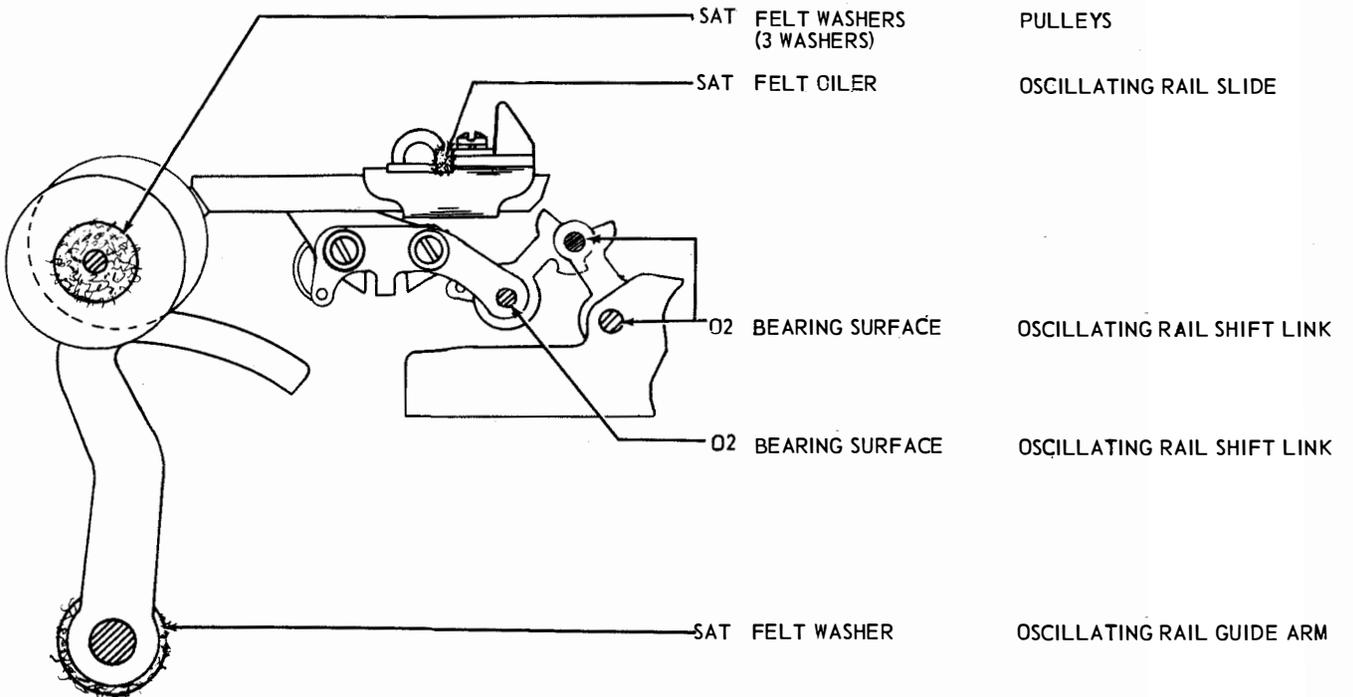


(RIGHT SIDE)

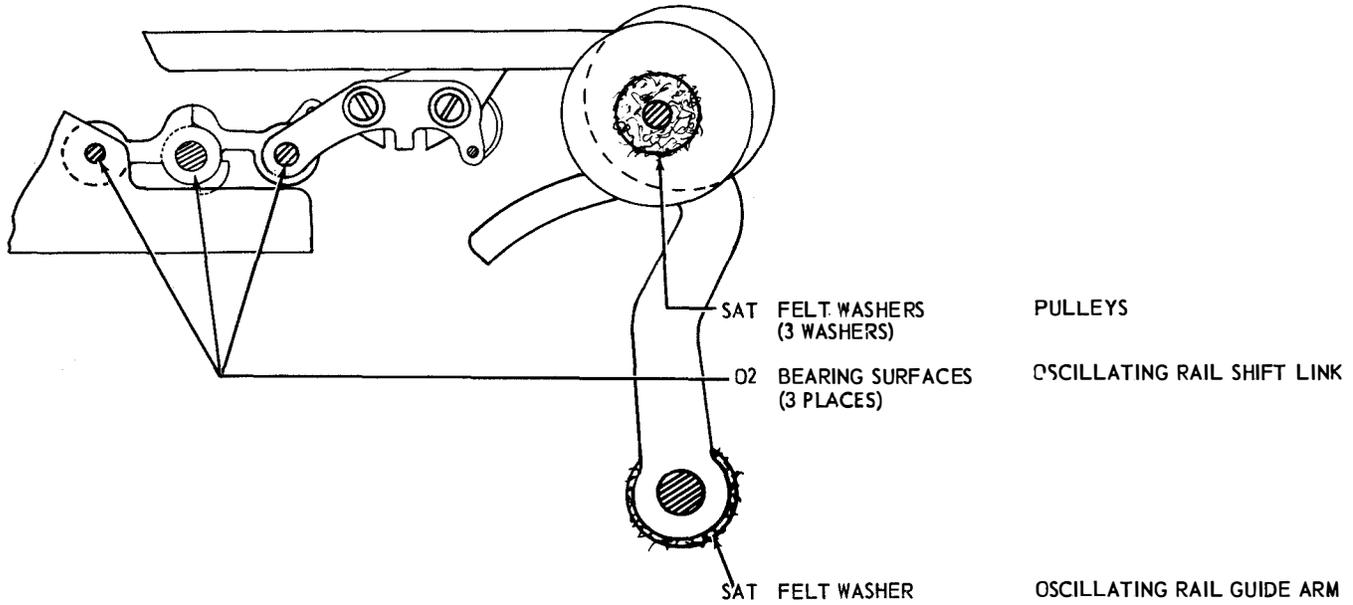


(LEFT SIDE)

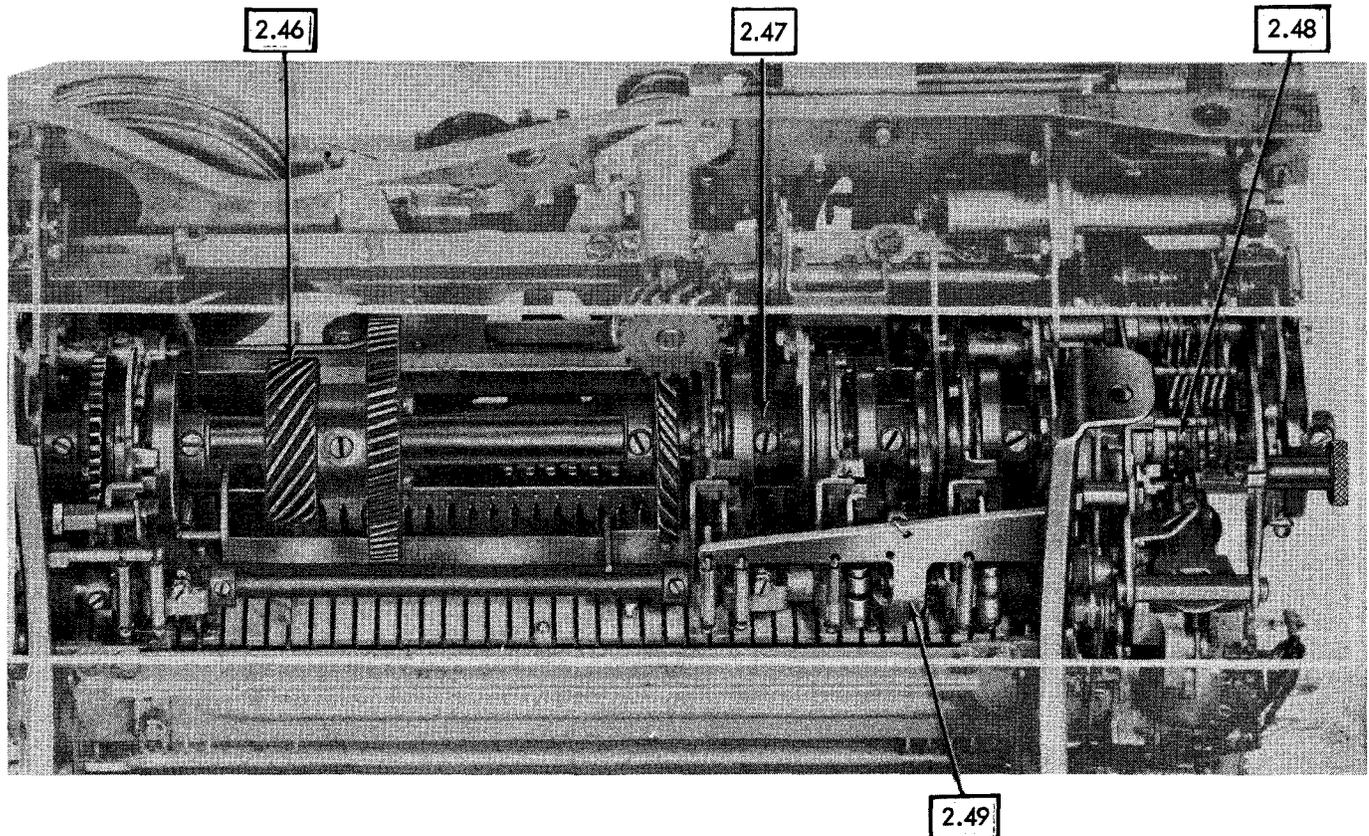
2.43 Oscillating Mechanism



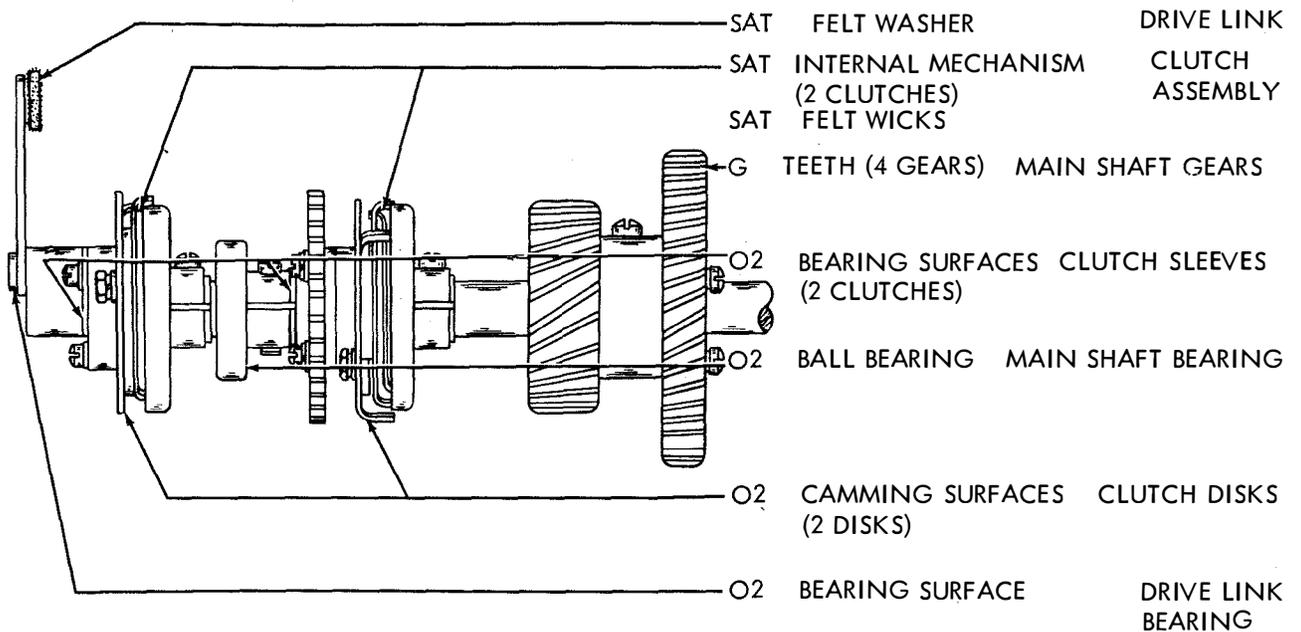
2.44 Oscillating Mechanism (Cont'd)



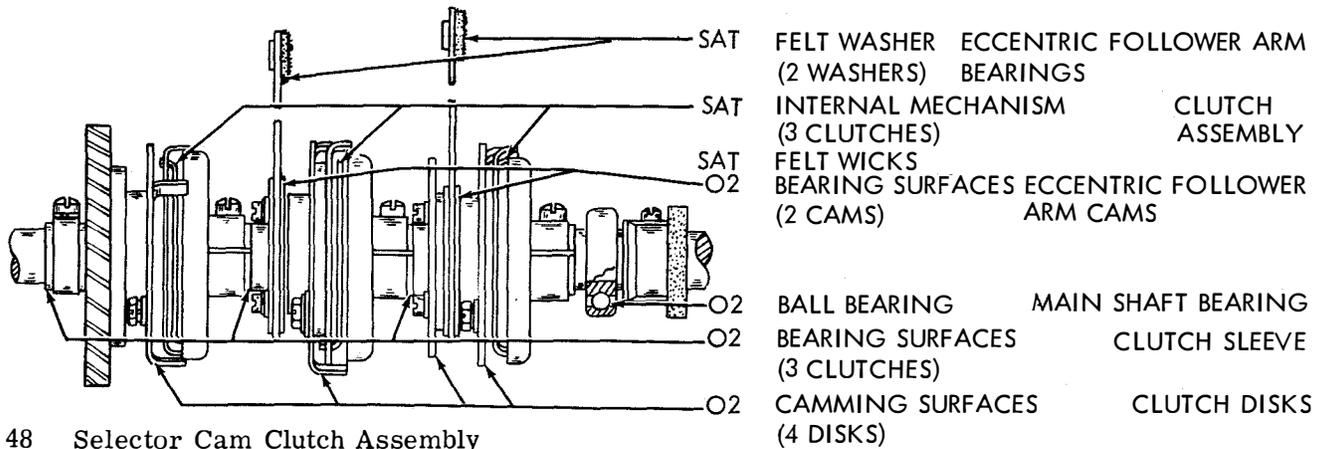
2.45 Typing Unit - Bottom View



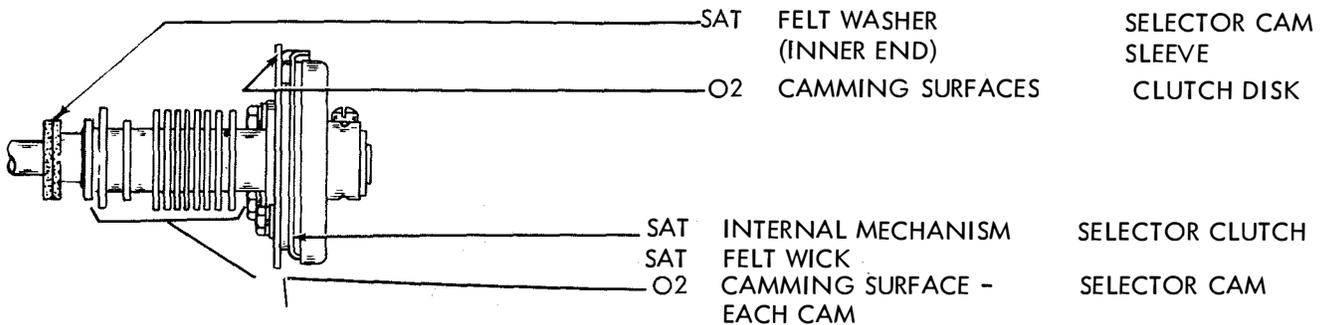
2.46 Main Shaft - Clutches, Gears, Etc.



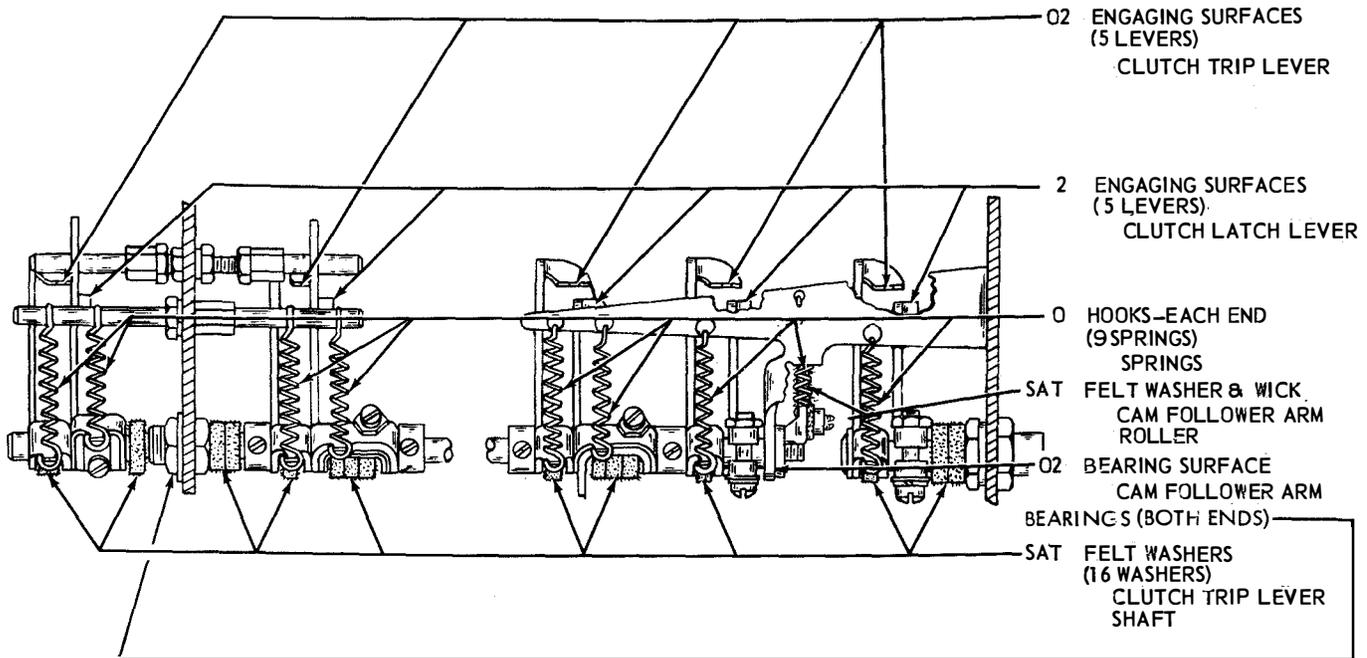
2.47 Main Shaft Mechanism



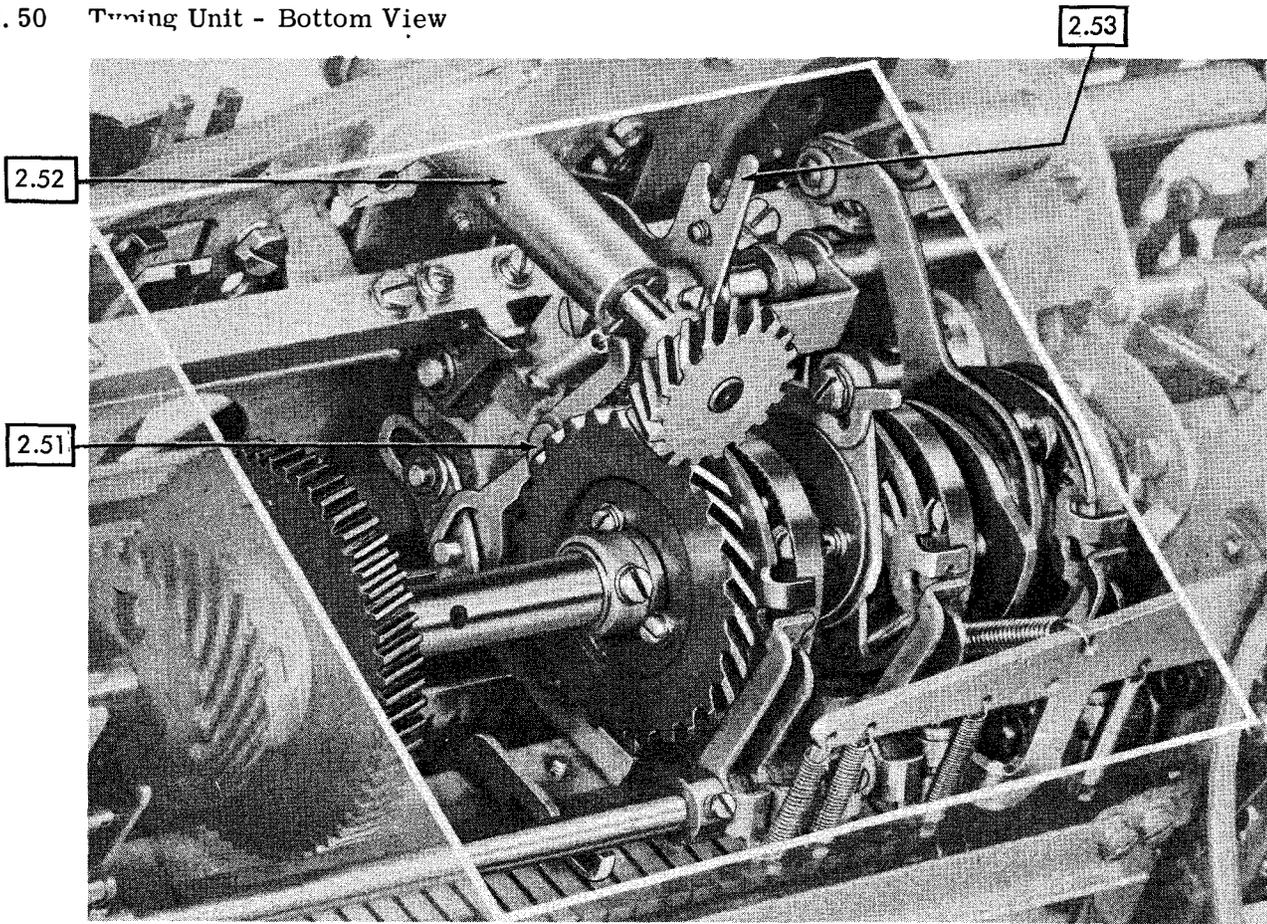
2.48 Selector Cam Clutch Assembly



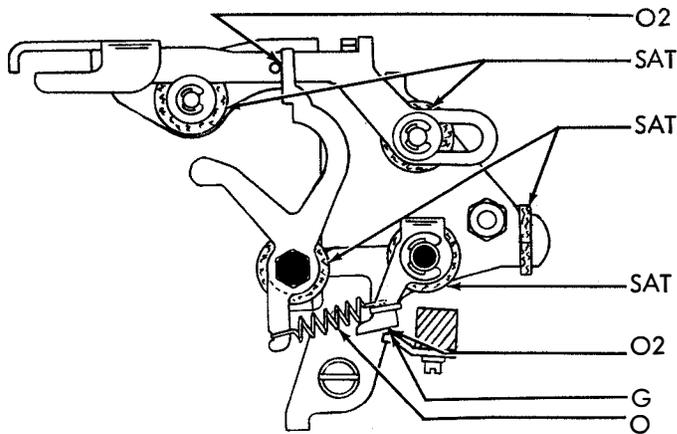
2.49 Main Shaft - Clutches, Gears, Etc. (Cont'd)



2.50 Timing Unit - Bottom View

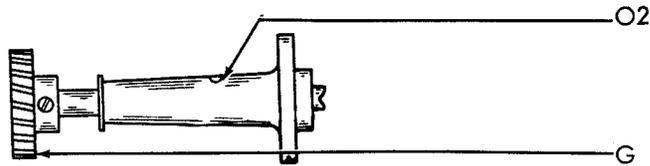


2.51 Spacing Mechanism



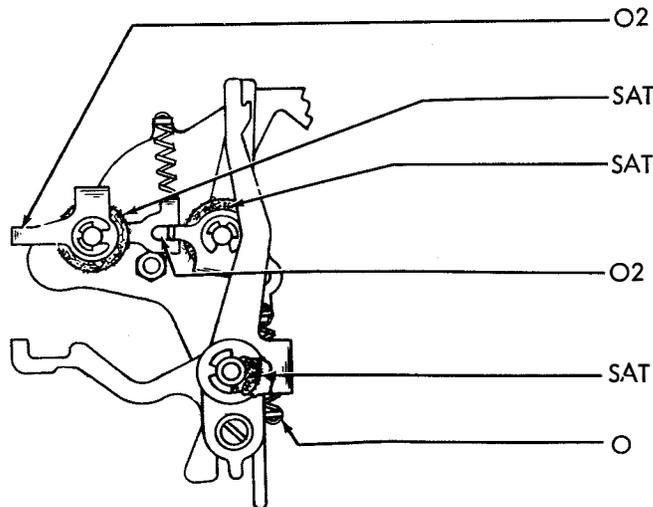
- | | | |
|-----|--------------------------------------|----------------------------------|
| O2 | ENGAGING SURFACES | SPACING TRIP LEVER |
| SAT | FELT WASHERS
(2 WASHERS) | SPACING SUPPRESSION
SLIDE |
| SAT | FELT WASHER | SPACING TRIP LEVER |
| SAT | FELT WASHER | SPACING TRIP LEVER
BAIL SHAFT |
| O2 | ENGAGING SURFACE | SPACING TRIP LEVER
BAIL |
| G | ENGAGING SURFACE
HOOKS - EACH END | TRIP RESET CAM |
| O | HOOKS - EACH END
(2 SPRINGS) | TRIP RESET CAM
SPRING PLATE |

2.52 Spacing Mechanism (Cont'd)



- | | | |
|----|----------|--------------------|
| O2 | OIL HOLE | SPACING SHAFT |
| G | TEETH | SPACING SHAFT GEAR |

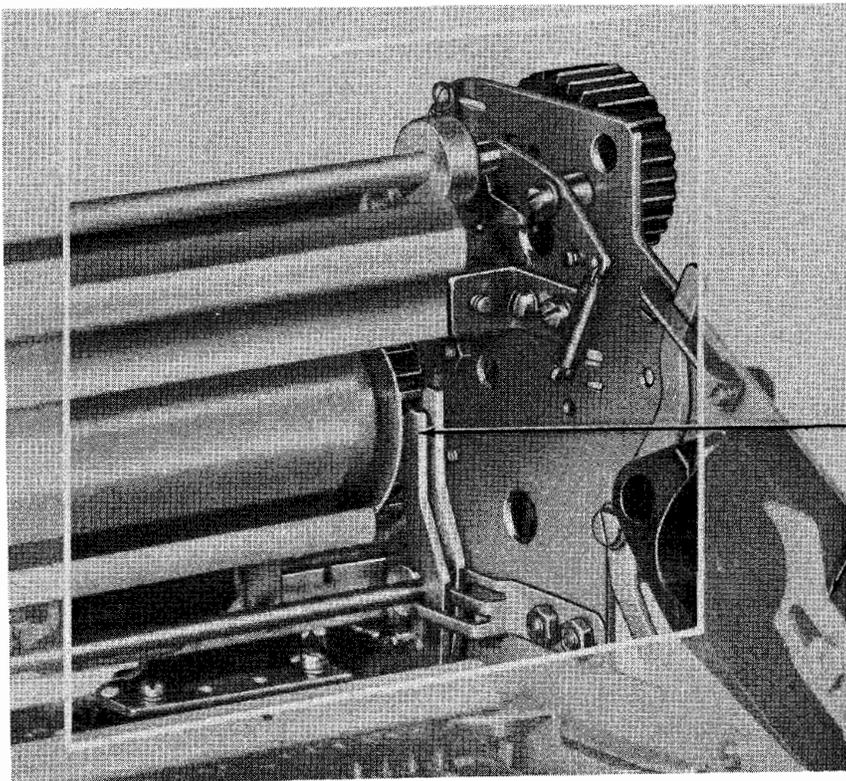
2.53 Spacing Mechanism (Cont'd)



- | | | |
|-----|-----------------------------|----------------------------------|
| O2 | ENGAGING SURFACE | SPACING CUT-OUT
TRANSFER BAIL |
| SAT | FELT WASHERS
(2 WASHERS) | SPACING CUT-OUT
TRANSFER BAIL |
| SAT | FELT WASHER | SPACING CUT-OUT
BAIL |
| O2 | ENGAGING SURFACE | SPACING CUT-OUT BAIL |
| SAT | FELT WASHERS
(2 WASHERS) | CARRIAGE RETURN BAIL
SHAFT |
| O | HOOKS - EACH END | SPRING |

2.54 Typing Unit - Rear Left View

2.55 Paper Spindle Latch Mechanism

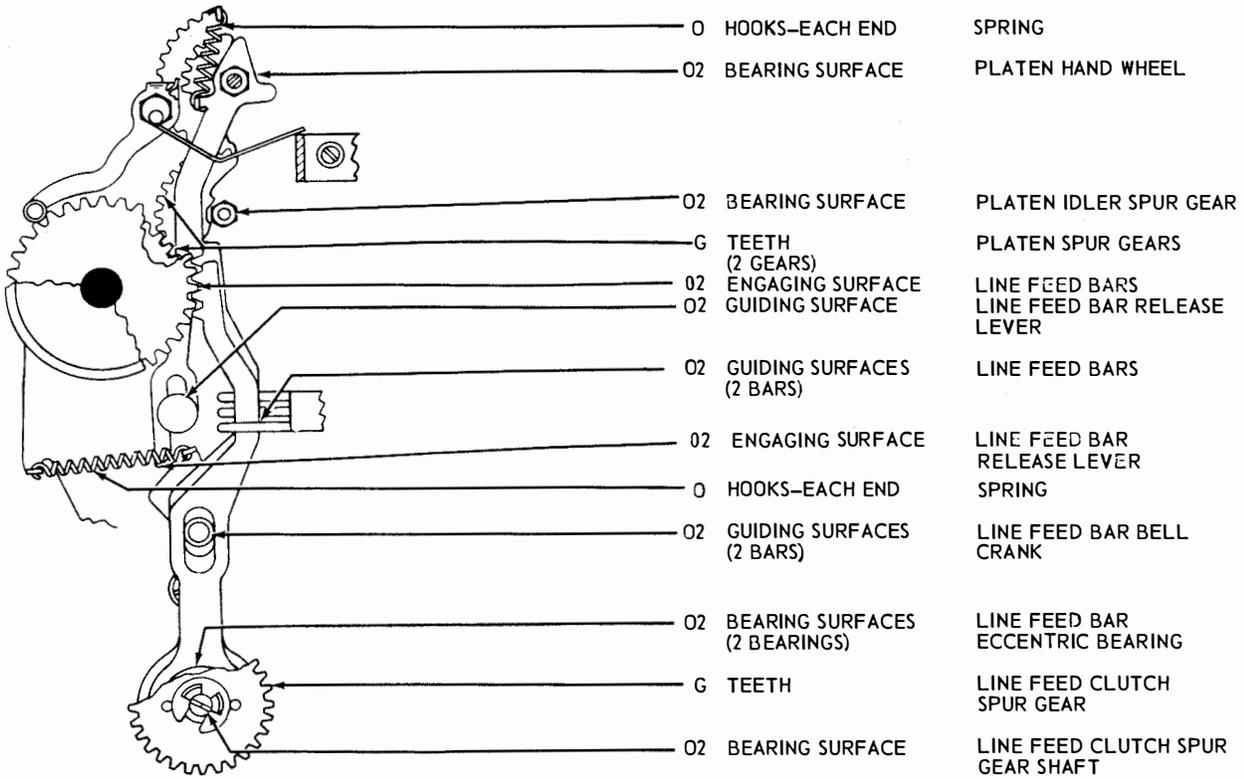


2.56

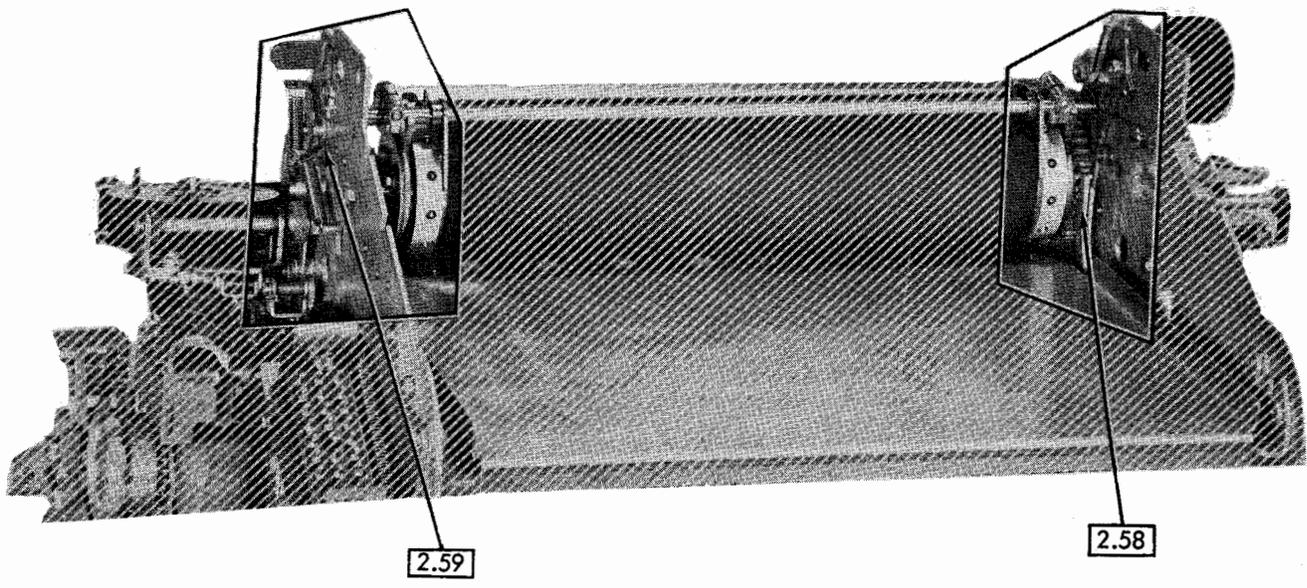
2.55

O LATCH (2 PLACES) PAPER SPINDLE LATCH

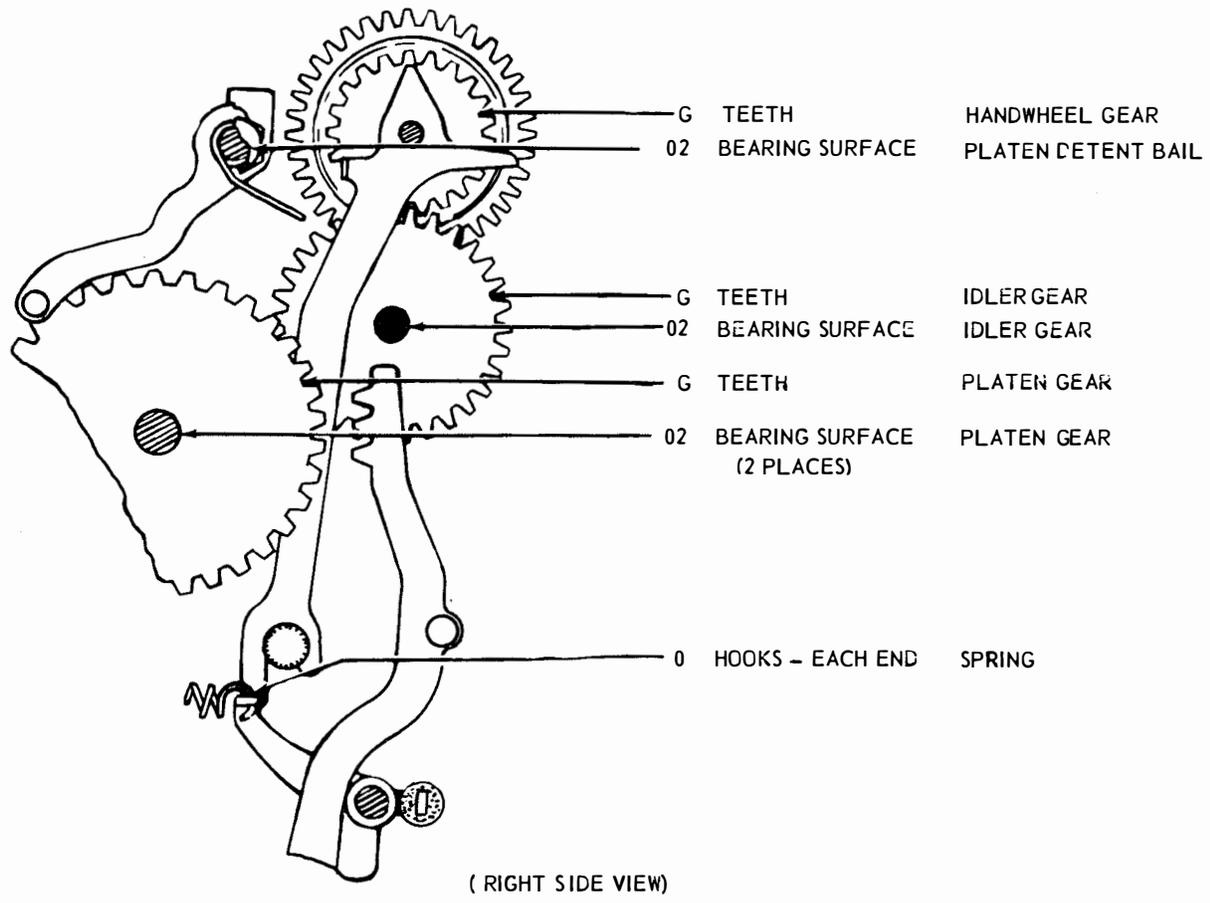
2.56 Line Feed Mechanism - Friction Feed



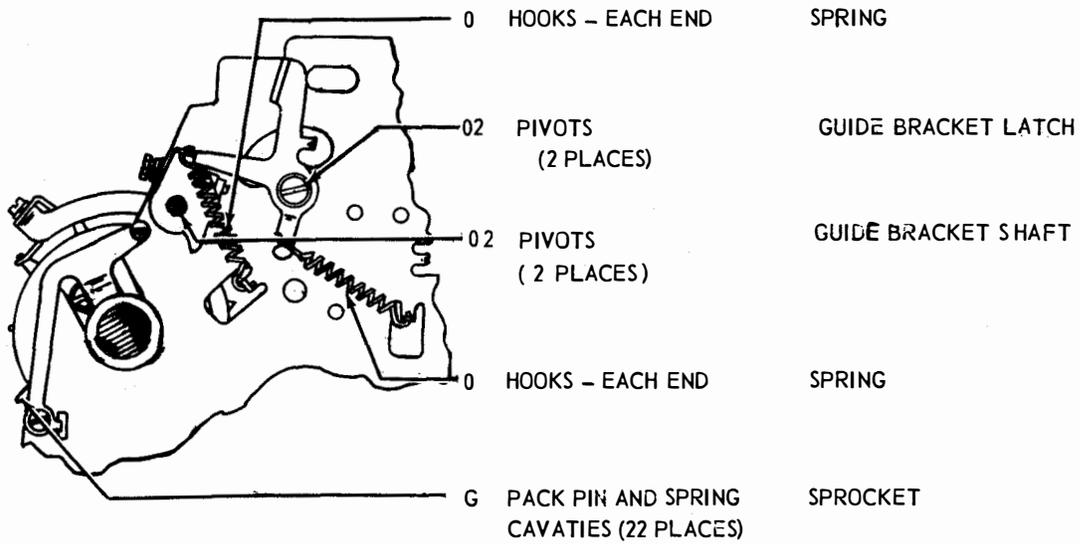
2.57 Typing Unit - Rear Top View



2.58 Line Feed Mechanism - Sprocket Feed



2.59 Paper Guide Mechanism - Sprocket Feed



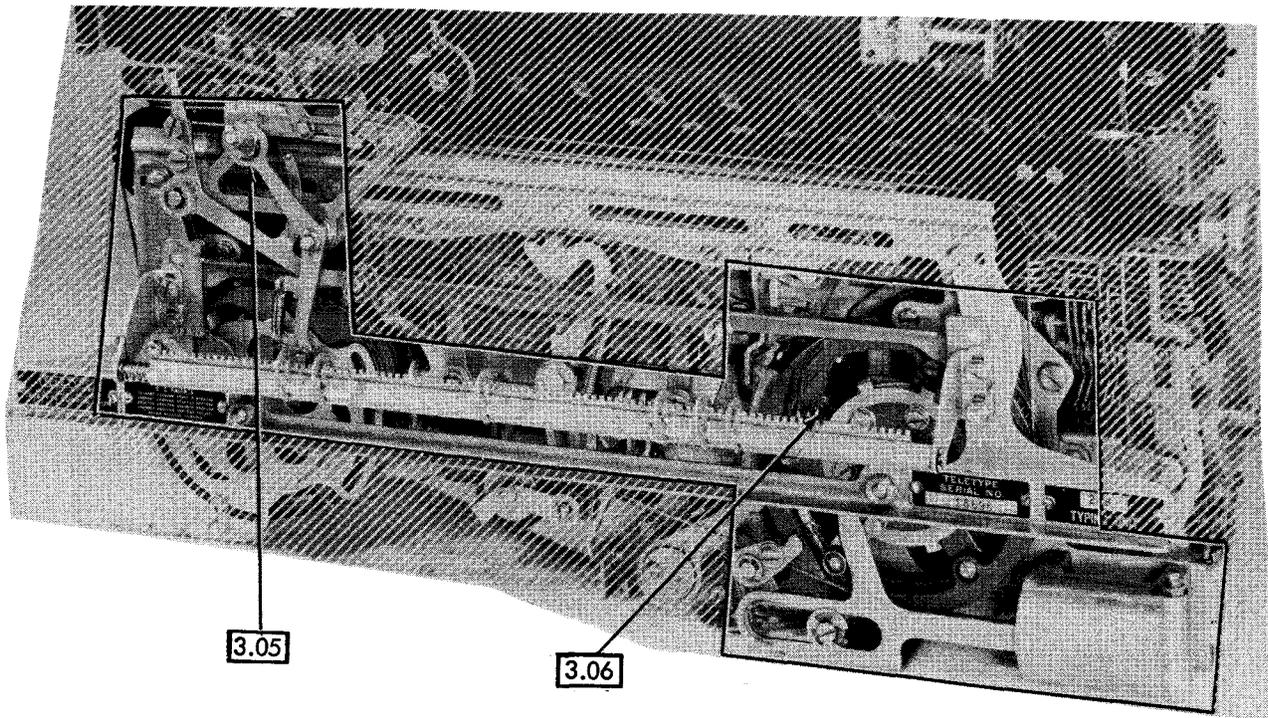
(RIGHT SIDE VIEW)

NOTE: BEFORE ATTEMPTING TO DISASSEMBLY THE 153700 PLATEN HUB, SEE DISASSEMBLY AND REASSEMBLY INSTRUCTIONS, SECTION 573-115-702.

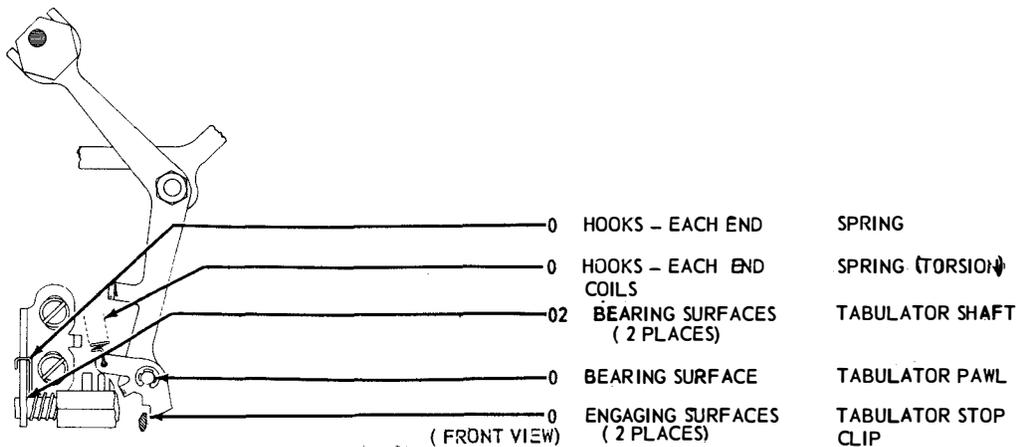
3. VARIABLE FEATURES

HORIZONTAL TABULATOR MECHANISM - EARLIER DESIGN

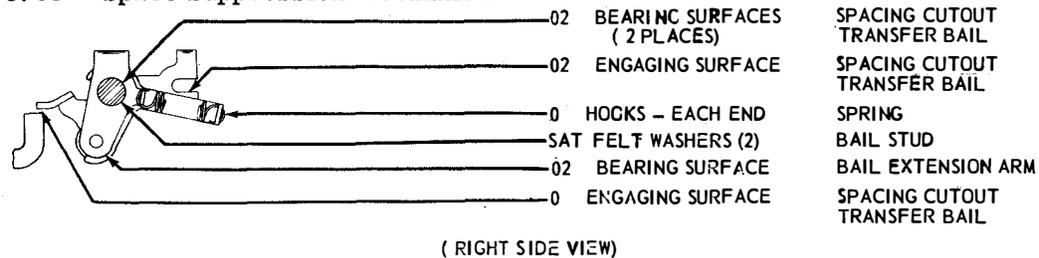
3.01 Typing Unit - Front View



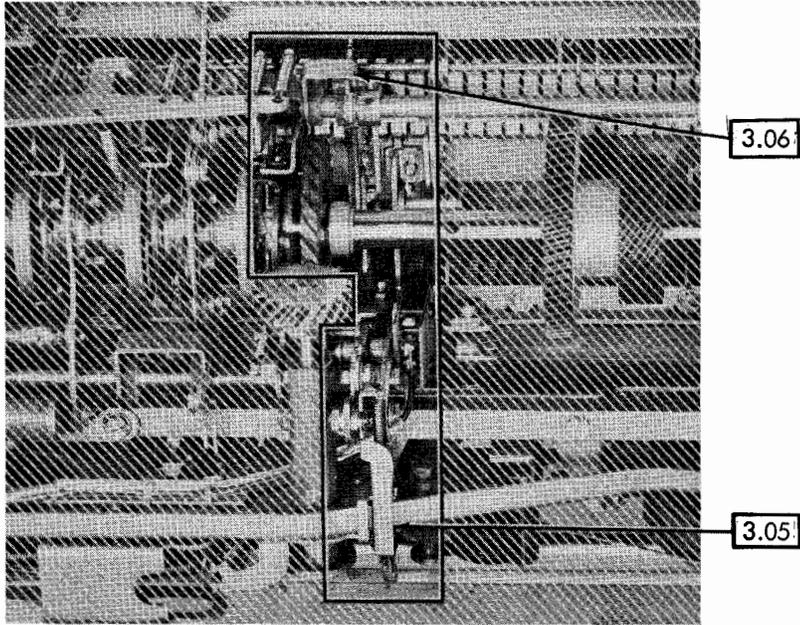
3.02 Tabulator Shaft Mechanism



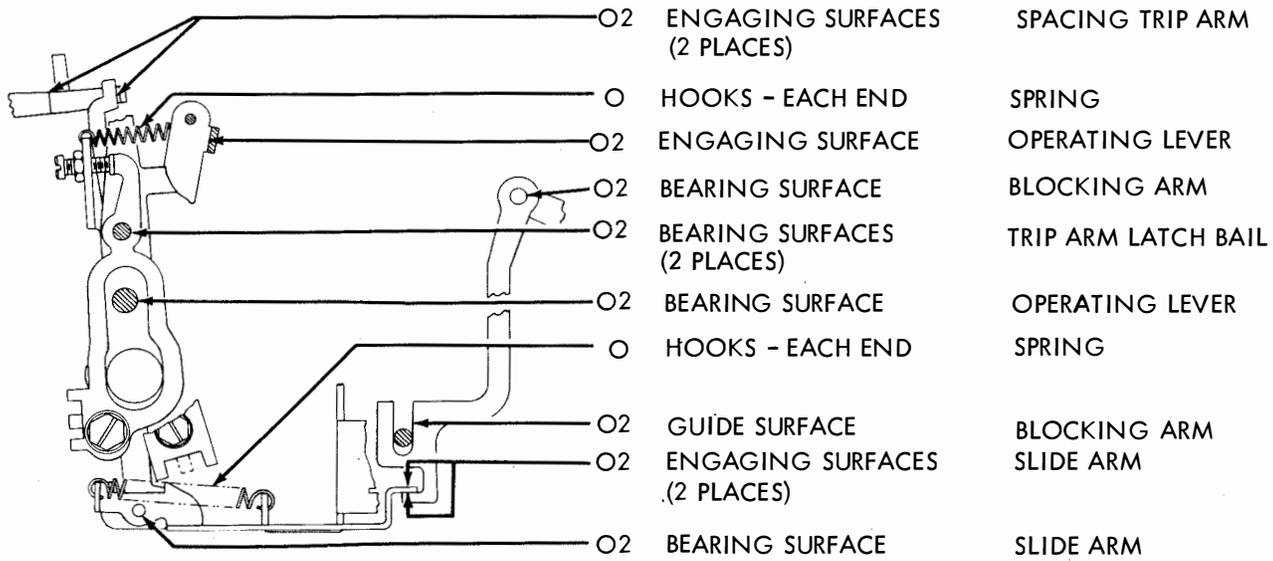
3.03 Space Suppression Mechanism



3.04 Typing Unit - Bottom View

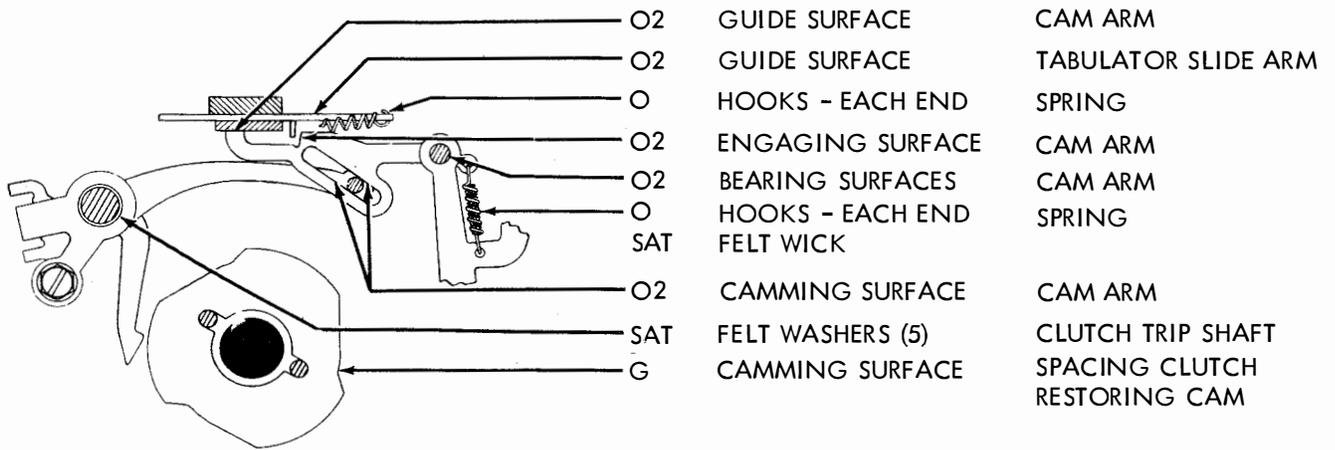


3.05 Operating Lever Mechanism



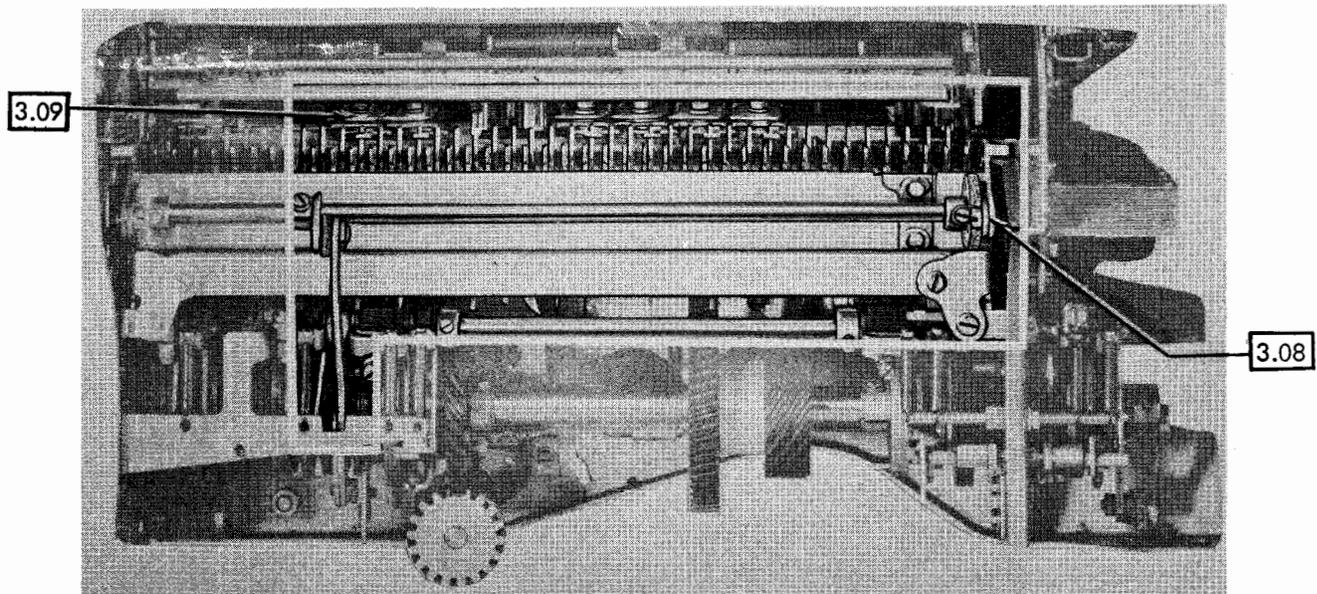
(LEFT SIDE VIEW)

3.06 Spacing Clutch Mechanism

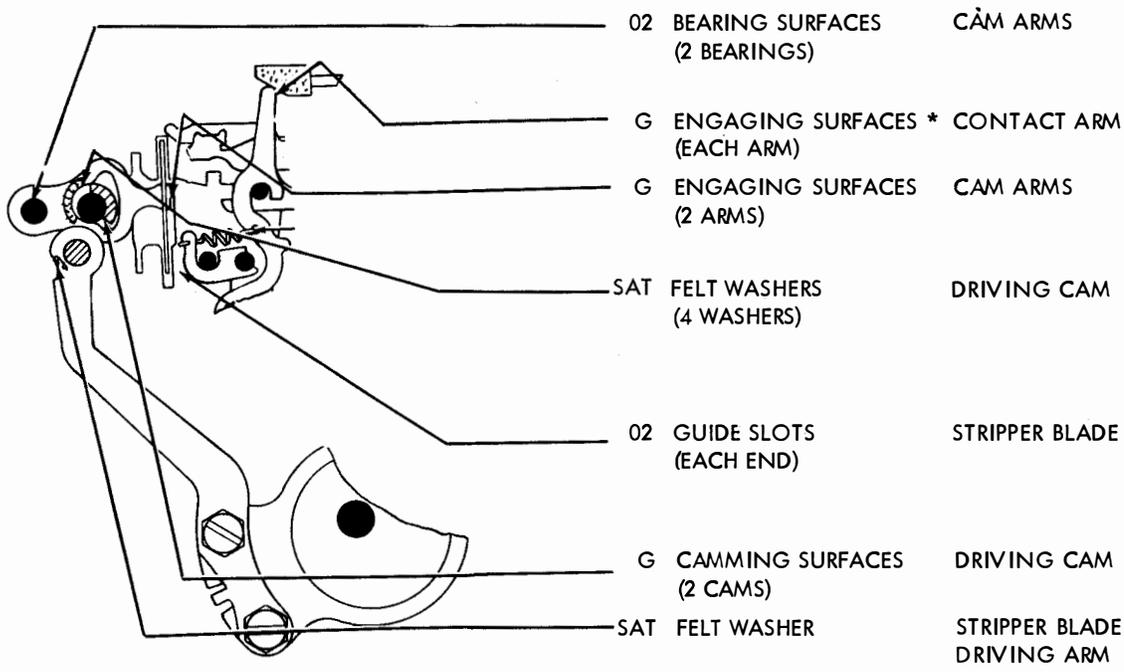


SELECTIVE CALLING MECHANISM

3.07 Typing Unit - Rear View



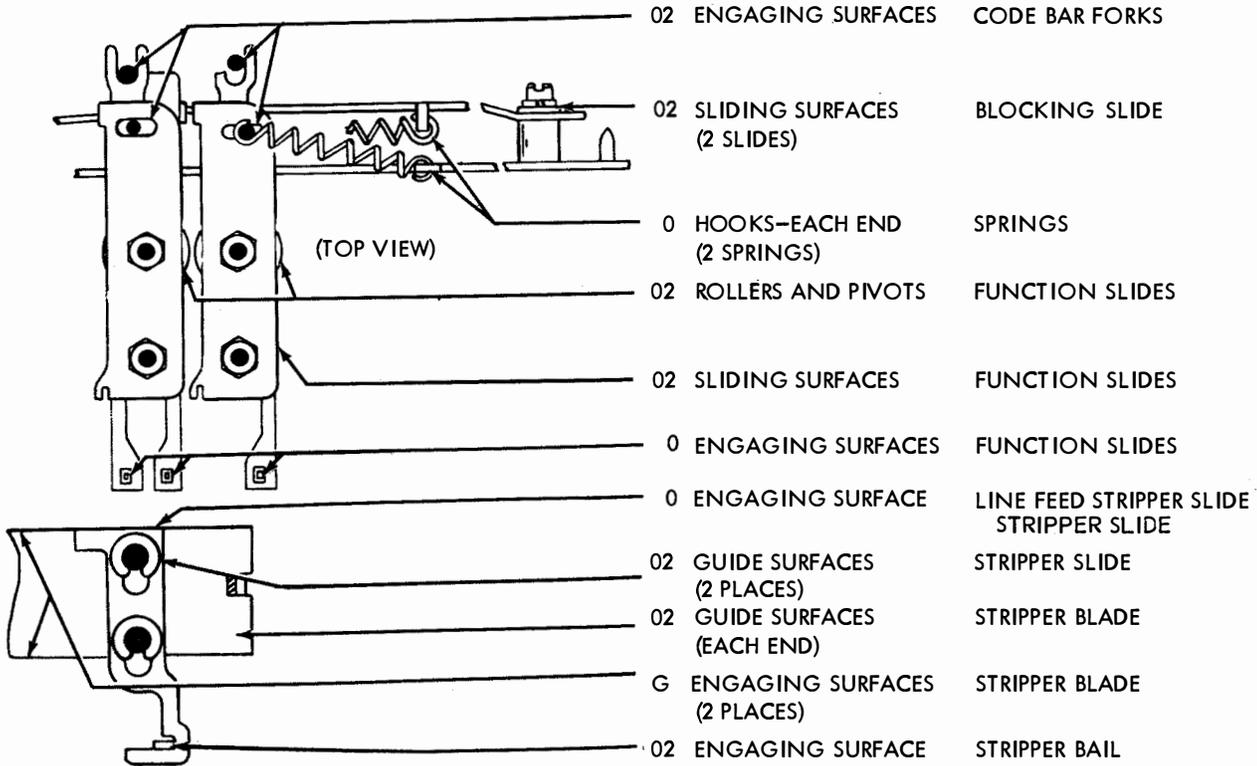
3.08 Stripper Bail Mechanism



(LEFT SIDE VIEW)

* APPLY LIGHT FILM OF GREASE AND WIPE OFF SURPLUS WITH CLOTH. LUBRICATION IS REQUIRED ON INITIAL BREAK-IN ONLY.

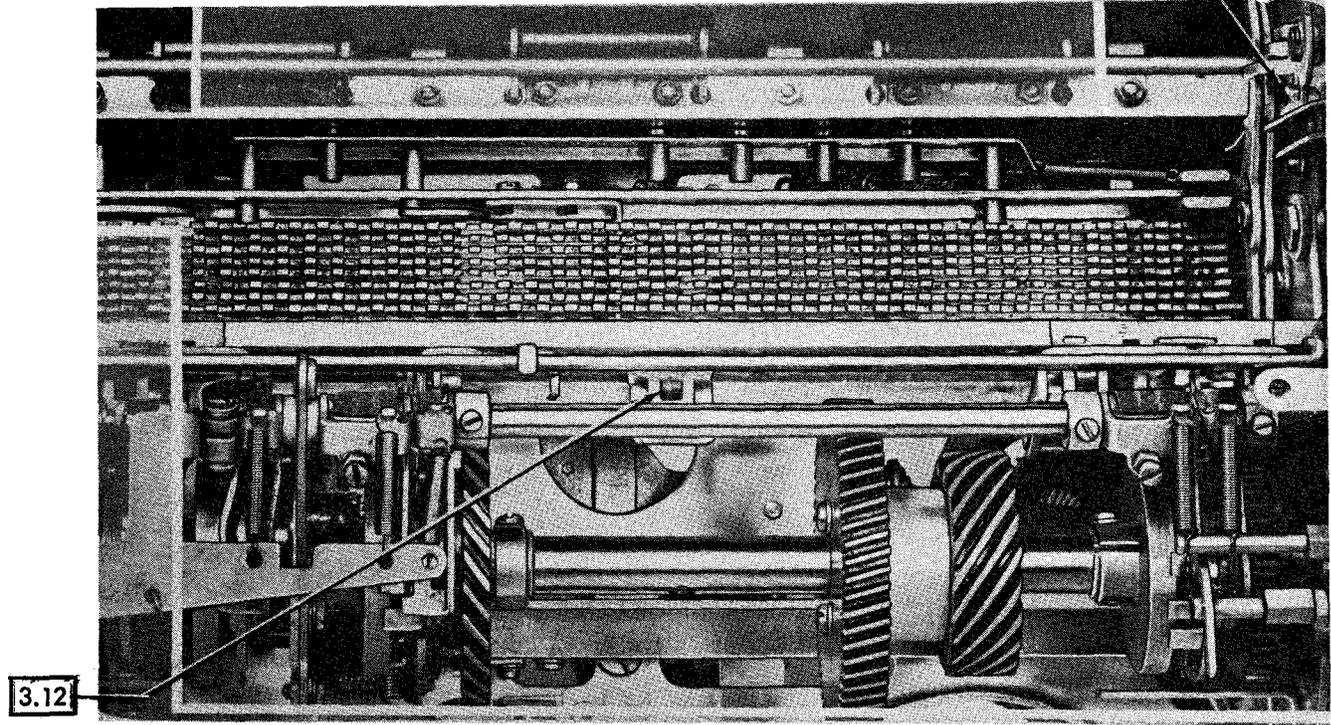
3.09 Shift and Stripper Bail Mechanisms



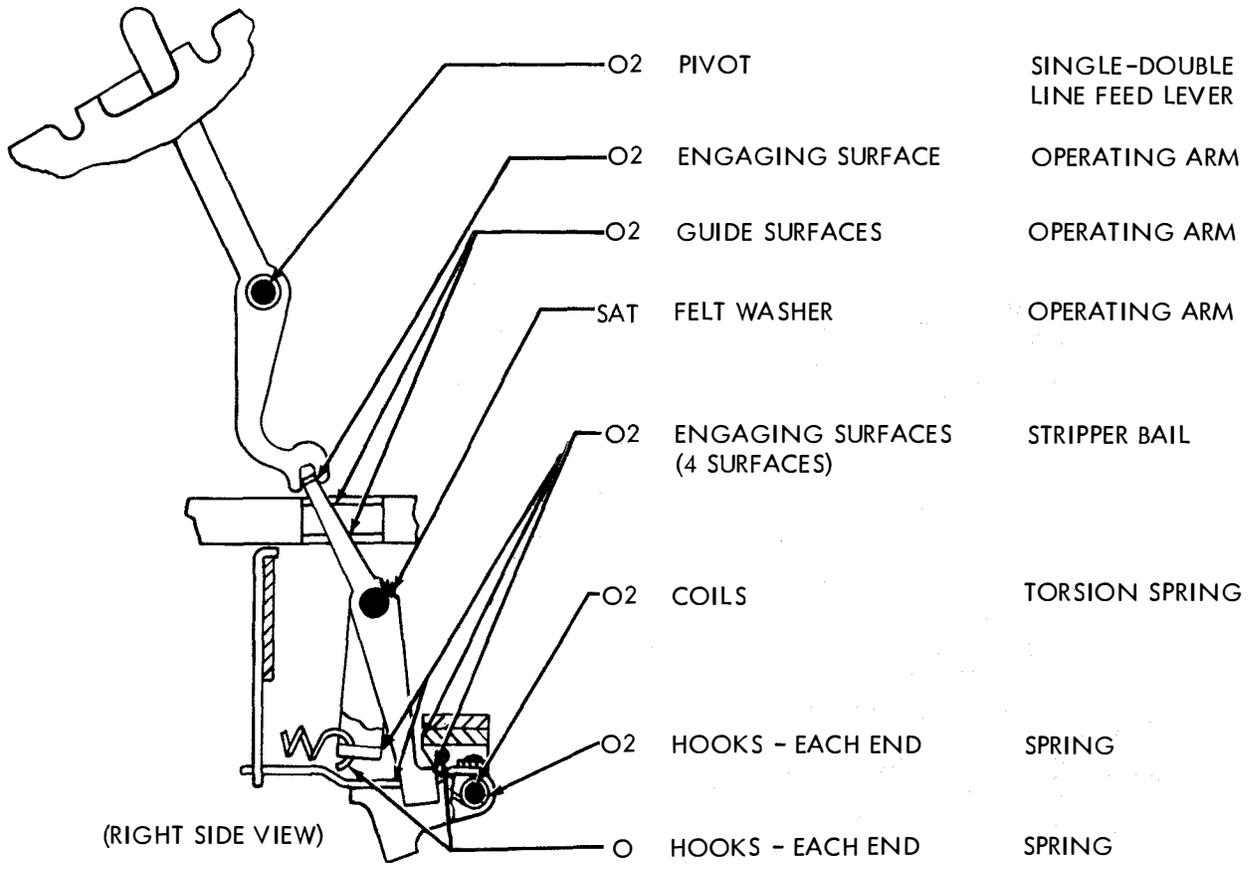
(REAR VIEW)

3.10 Typing Unit - Rear View - Stunt Box Removed

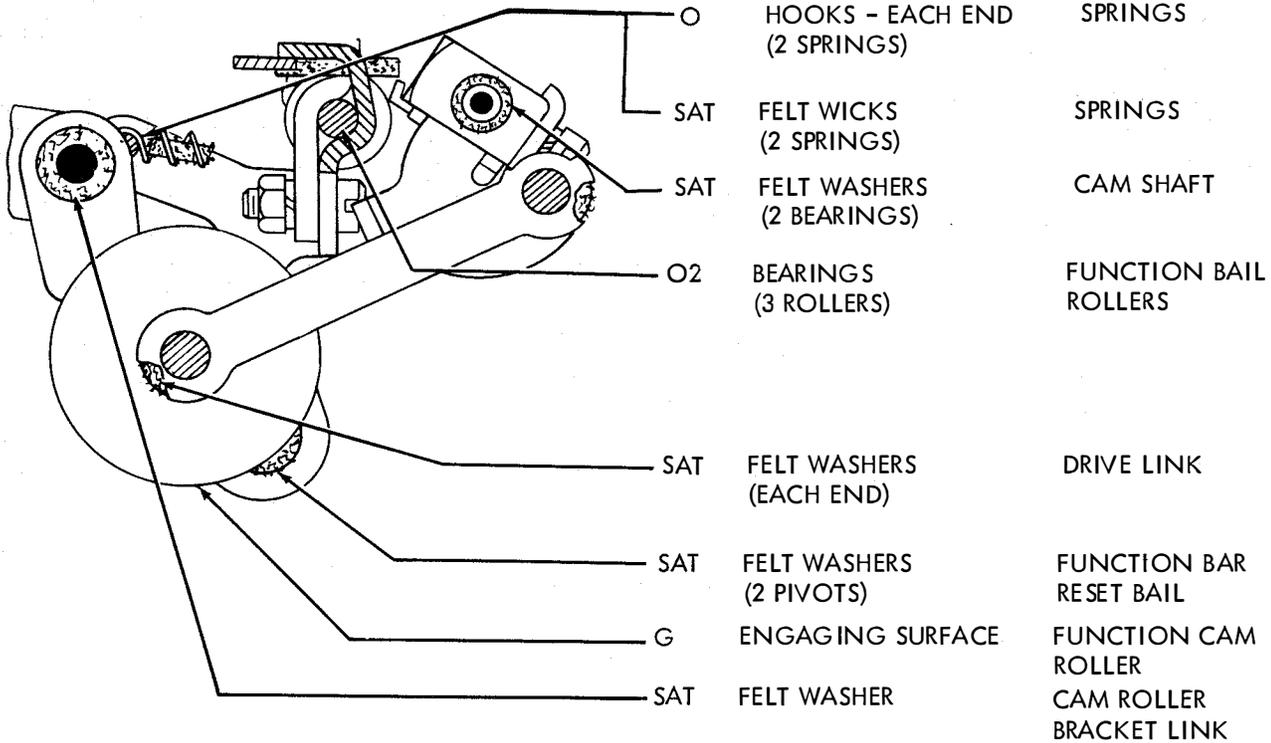
3.11



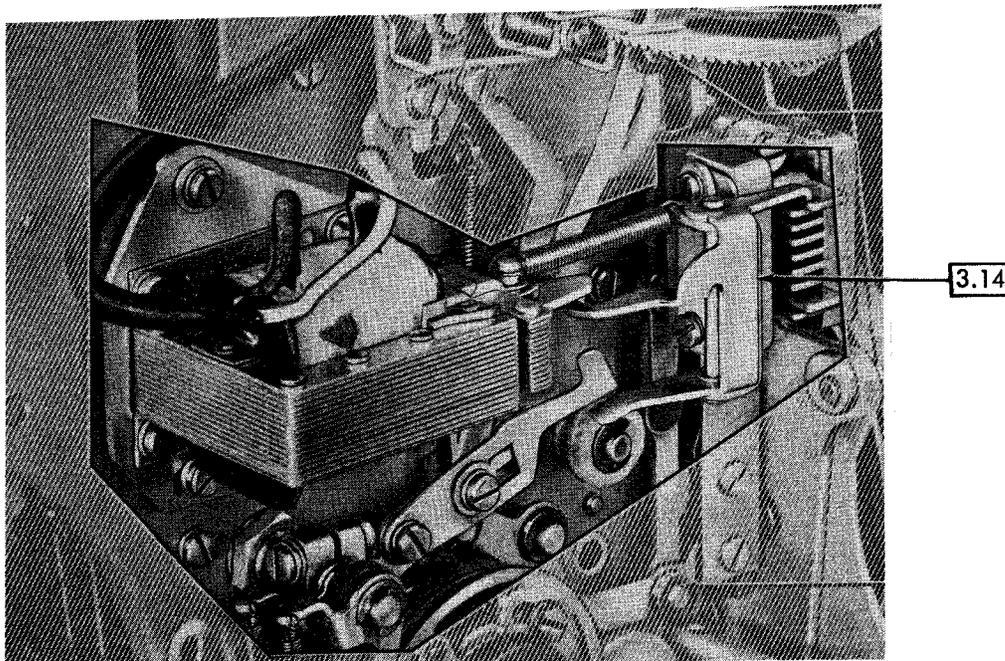
3.11 Single-Double Line Feed Mechanism



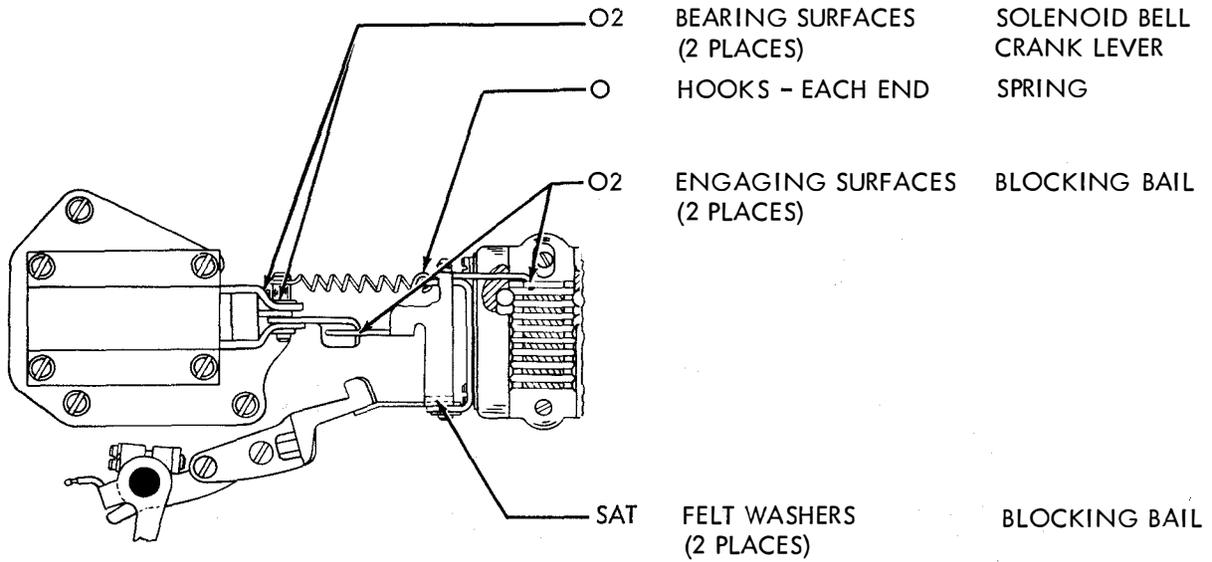
3.12 Function Reset Bail Mechanism



3.13 Typing Unit - Left End View



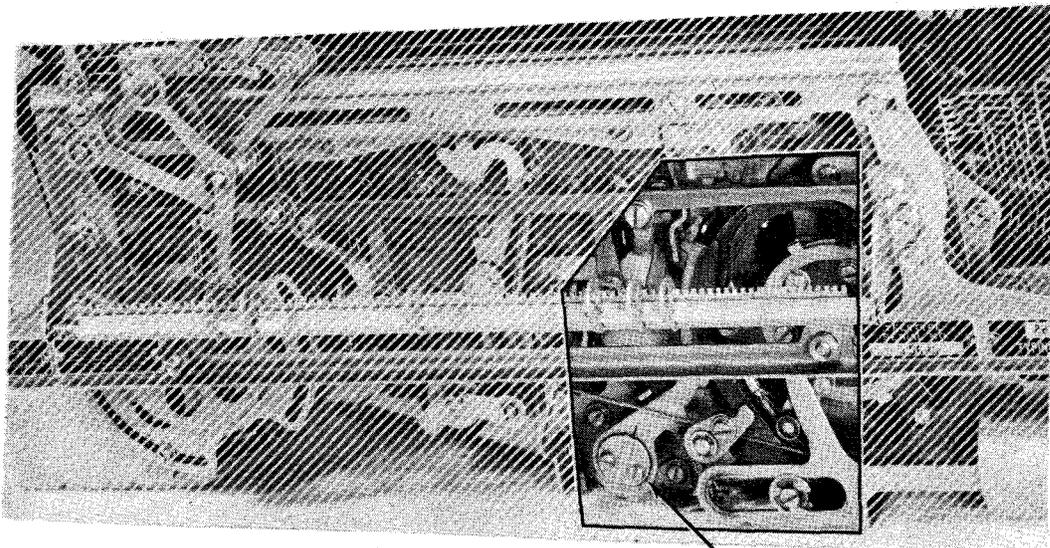
3.14 Clutch Suppression Mechanism



(LEFT SIDE VIEW)

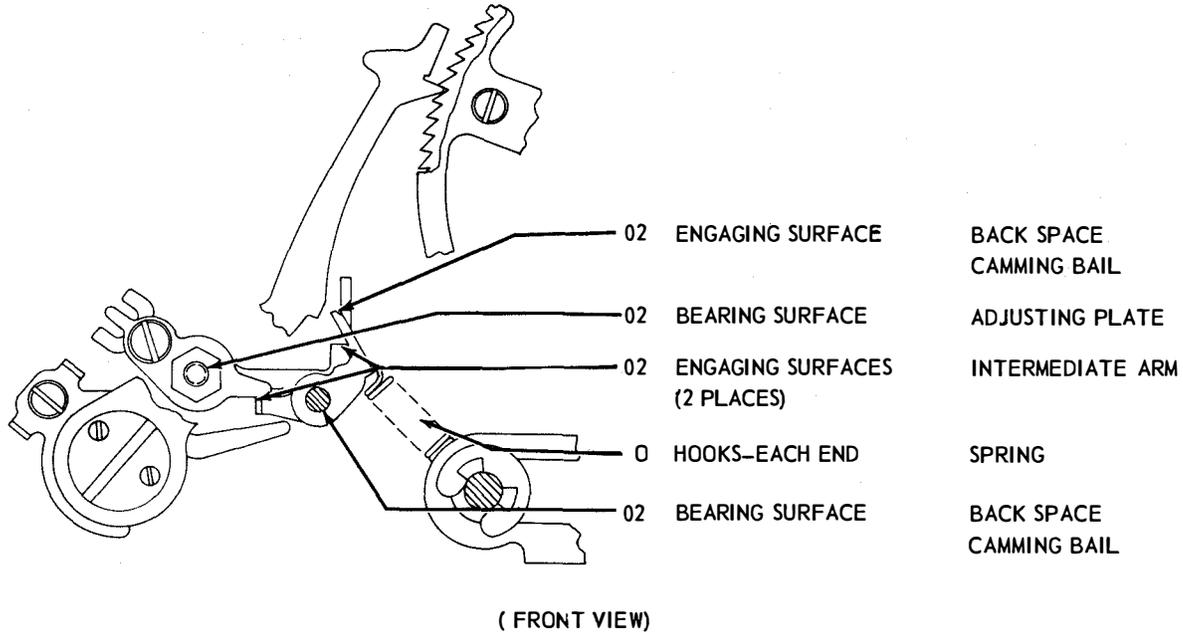
LOCAL BACKSPACE MECHANISM

3.15 Typing Unit - Front View



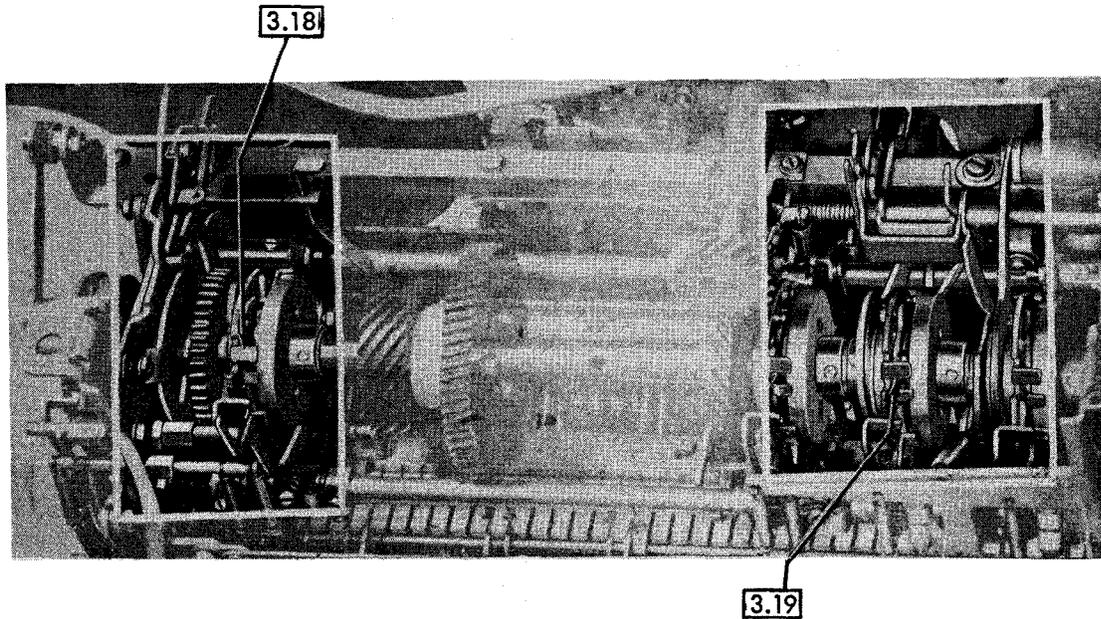
3.16

3.16 Pawl Mechanism

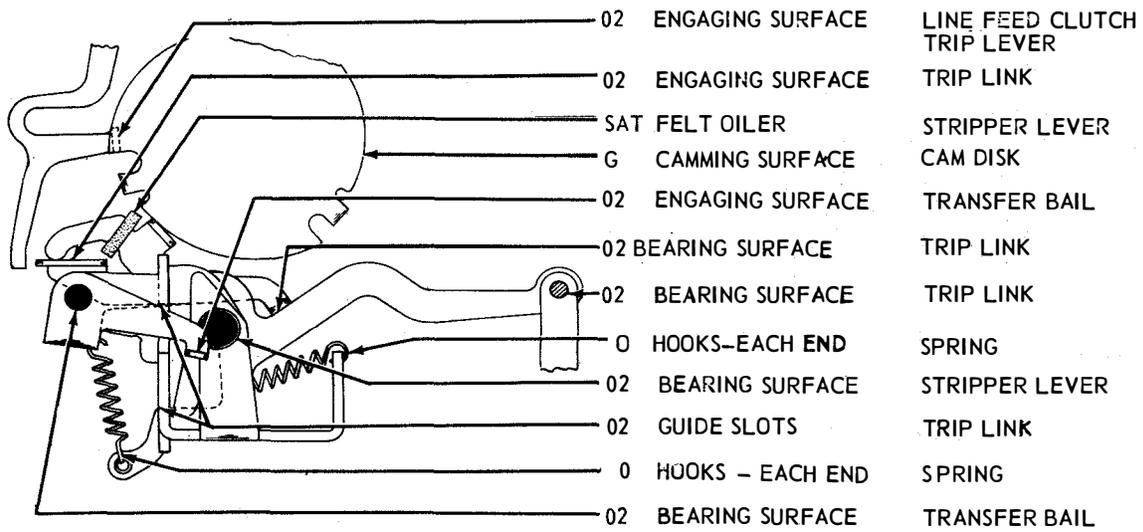


REVERSE LINE FEED MECHANISM

3.17 Typing Unit - Bottom View



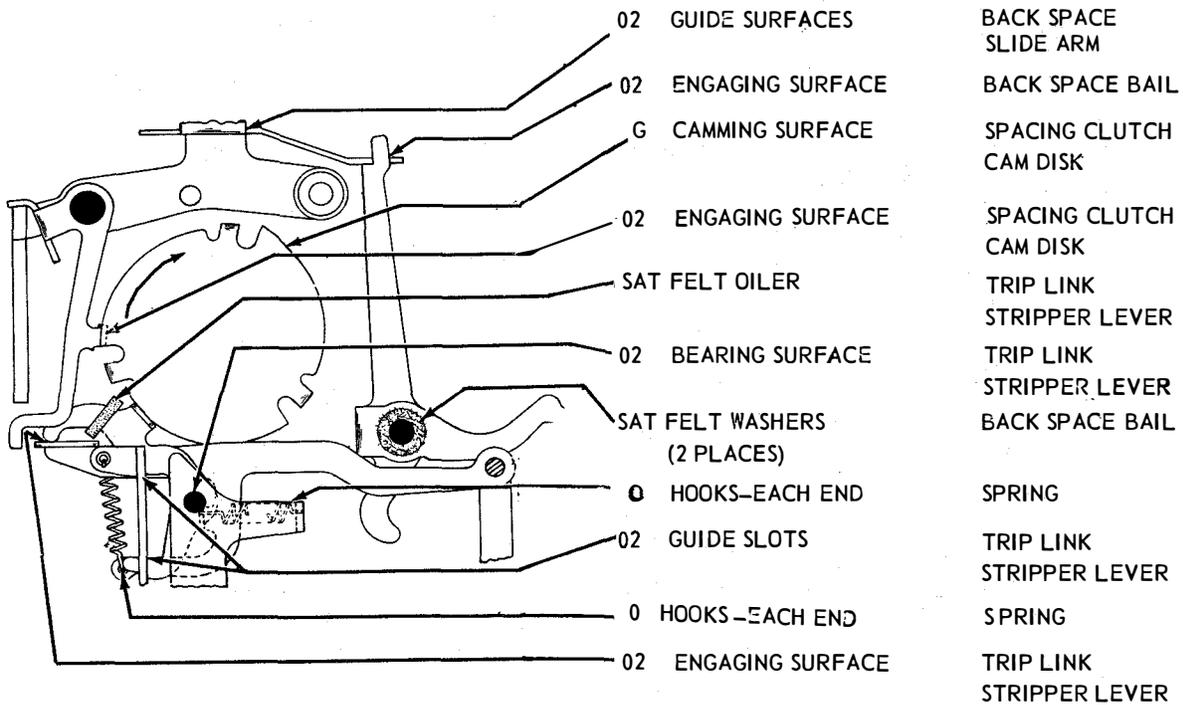
3.18 Trip Mechanism



(LEFT SIDE VIEW)

LOCAL BACKSPACE MECHANISM (Cont'd)

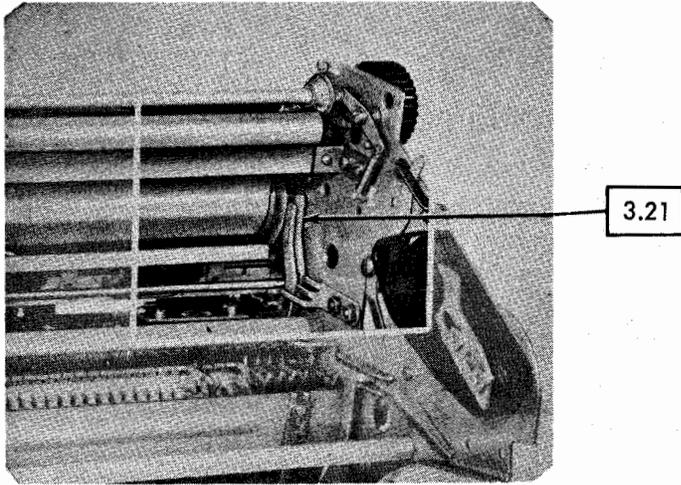
3.19 Trip Mechanism



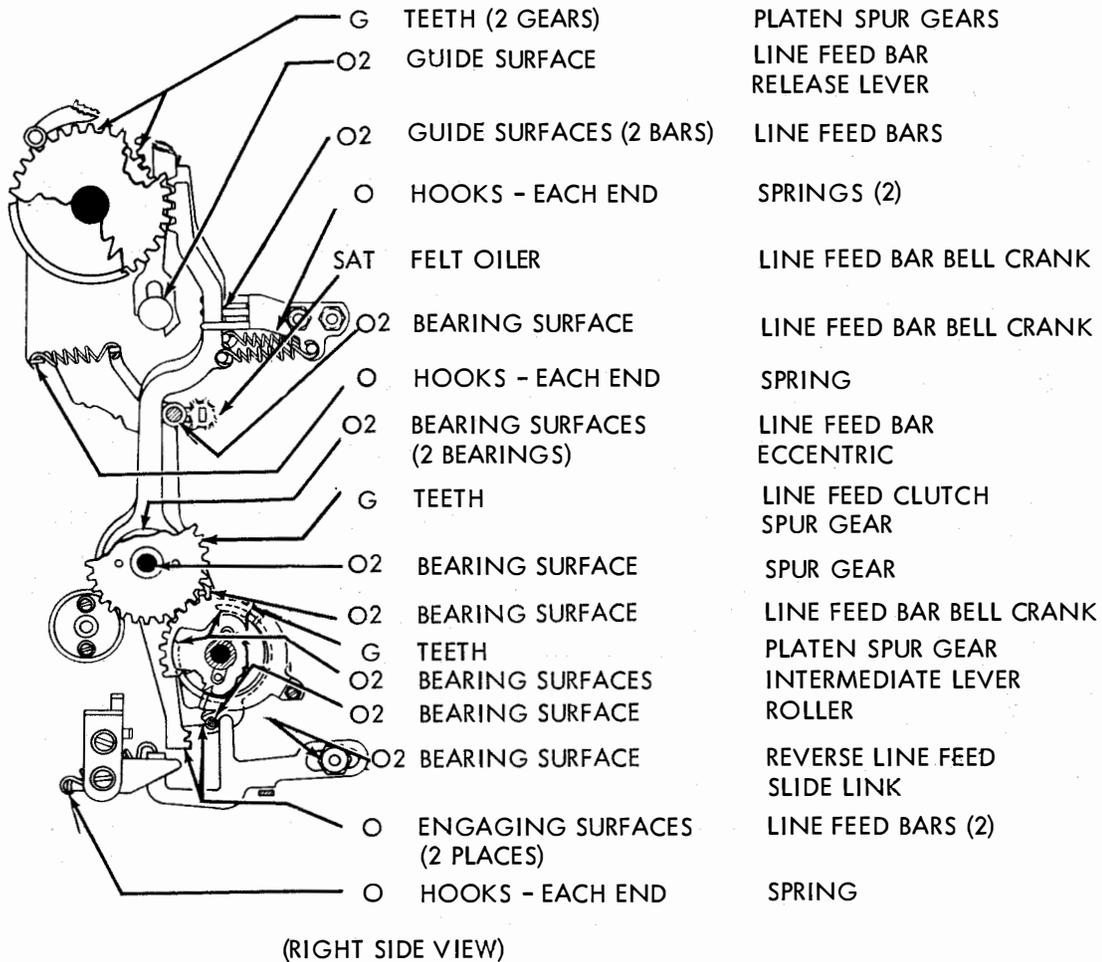
(LEFT SIDE VIEW)

REVERSE LINE FEED MECHANISM (Cont'd)

3.20 Typing Unit - Rear Left View

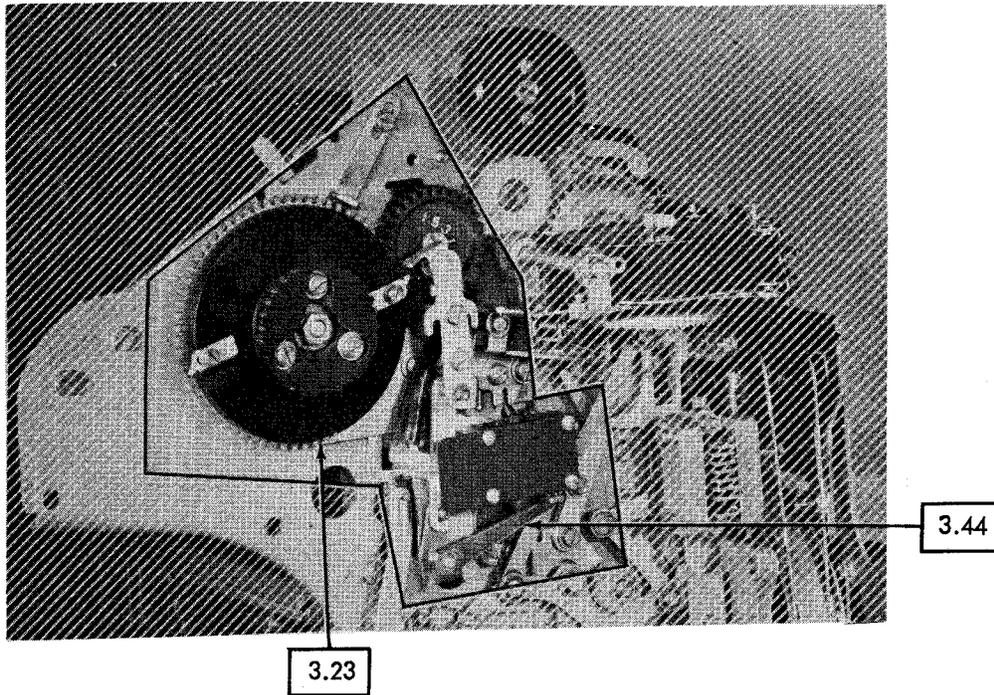


3.21 Line Feed Mechanism

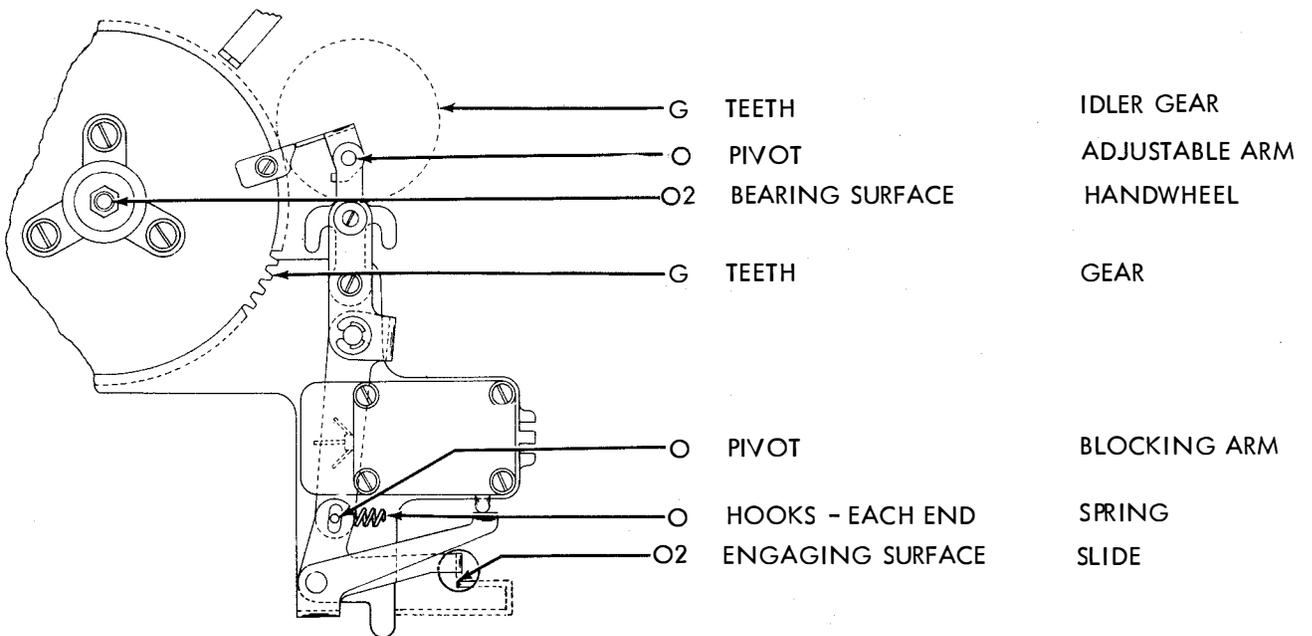


PAGE FEED-OUT MECHANISM

3.22 Typing Unit - Rear Left End View



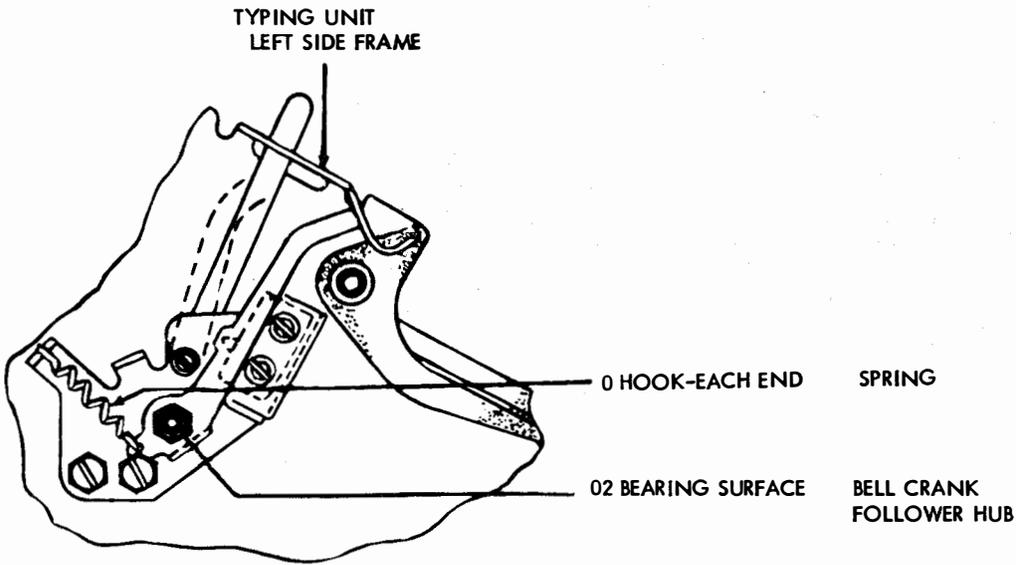
3.23 Drive Mechanism



(LEFT SIDE)

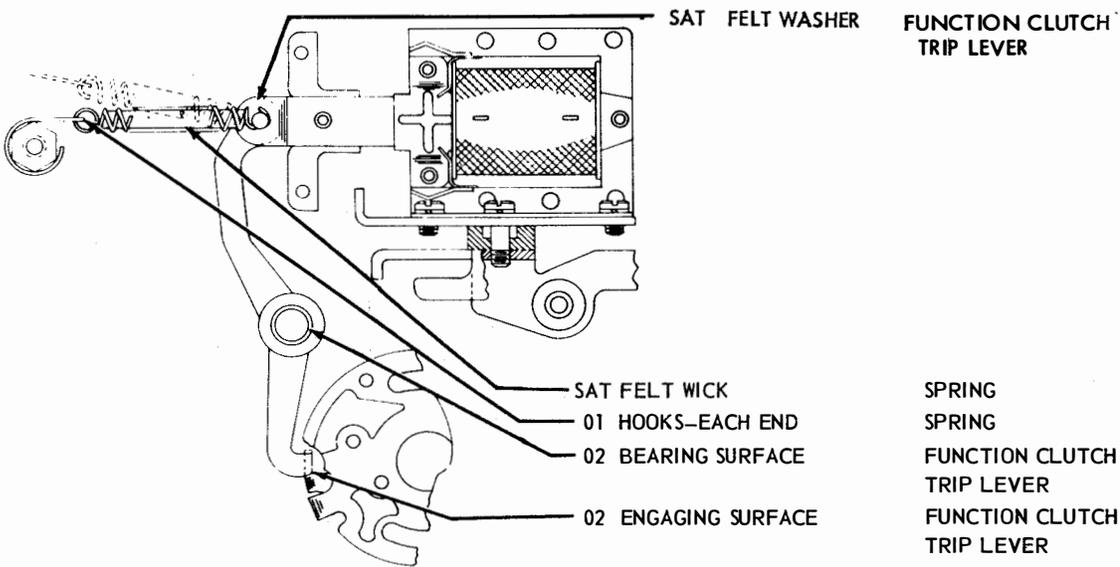
PAPER-OUT ALARM MECHANISM

3.24 Operating Mechanism

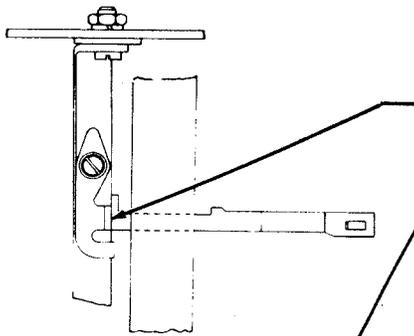


CONTINUOUS SPACING MECHANISM

3.25 Trip Mechanism



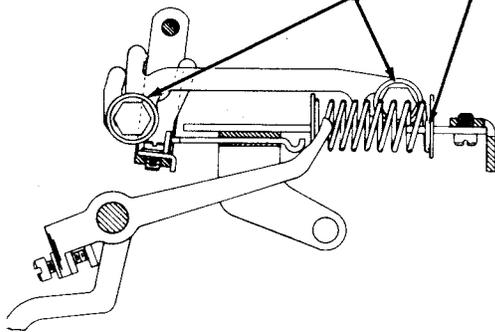
3.26 Slide Arm Bracket



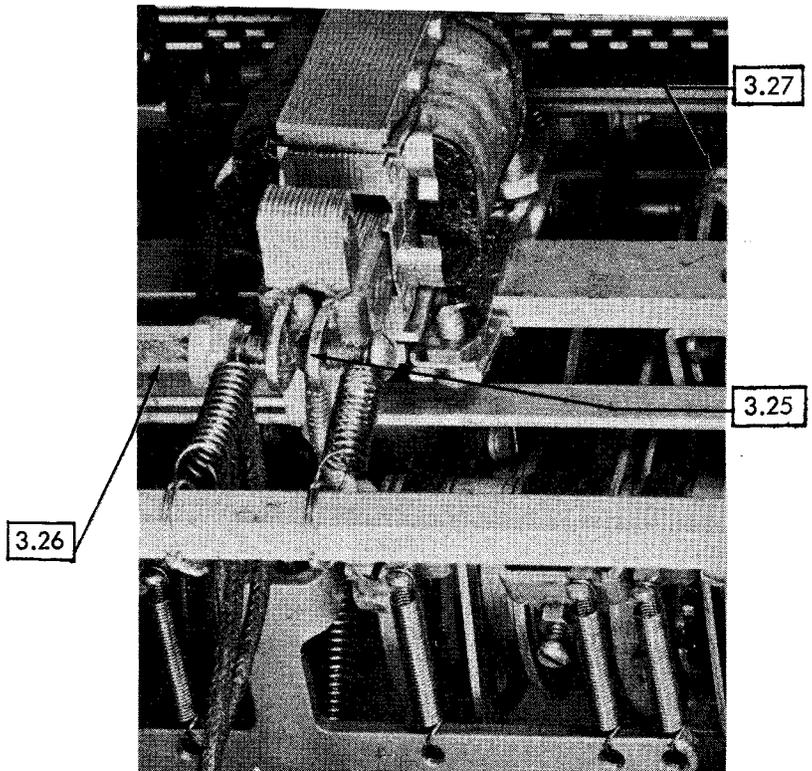
- 02 ENGAGING SURFACE (TWO BRACKETS)
- SAT FELT WASHERS (EACH END)
- 02 ENGAGING SURFACE (EACH END)

- C. R. SLIDE ARM BRACKET
- L. F. SLIDE ARM BRACKET
- CONNECTING LINK
- COMPRESSION SPRING (LP 6 & 9 ONLY)

3.27 Compression Spring



3.28 Typing Unit - Rear View



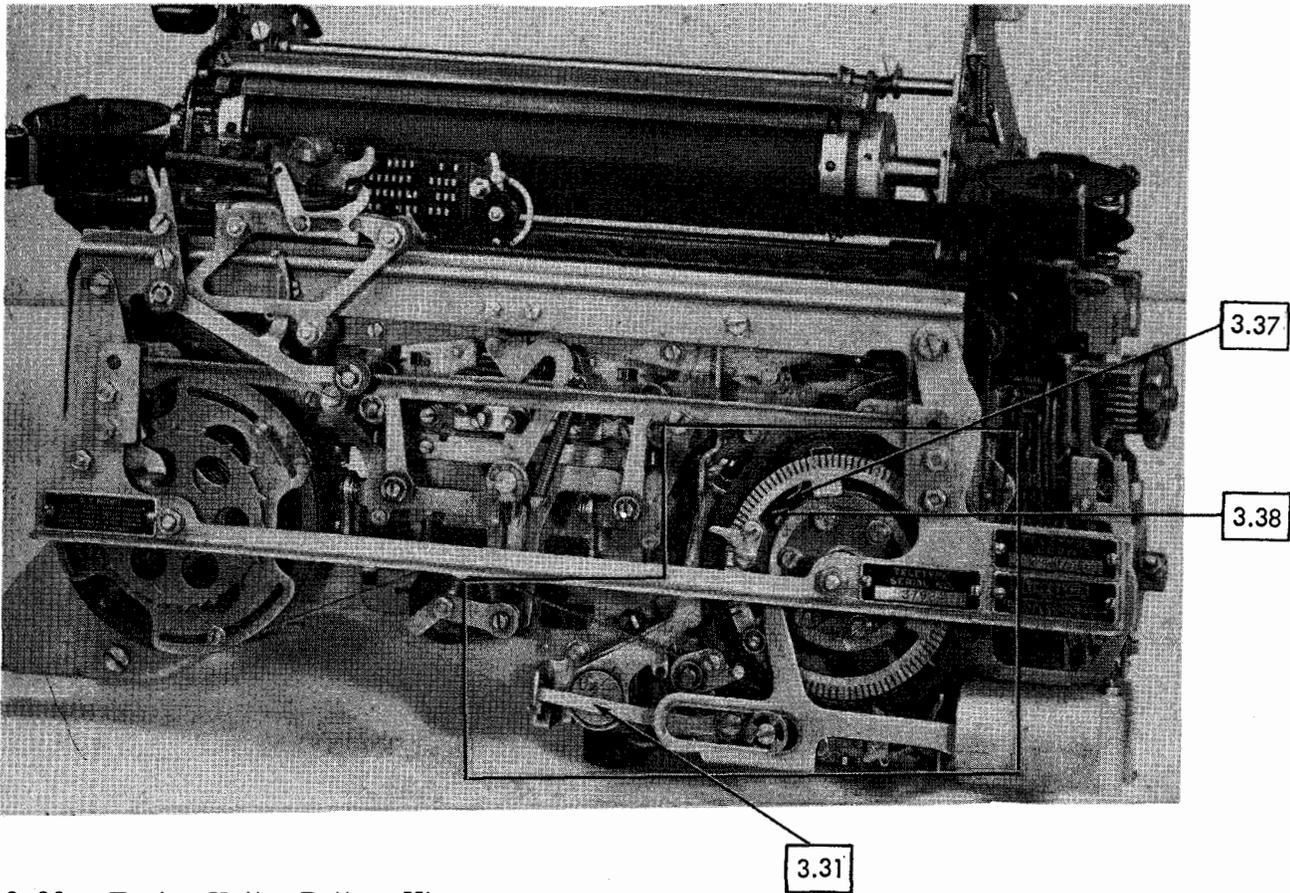
3.27

3.25

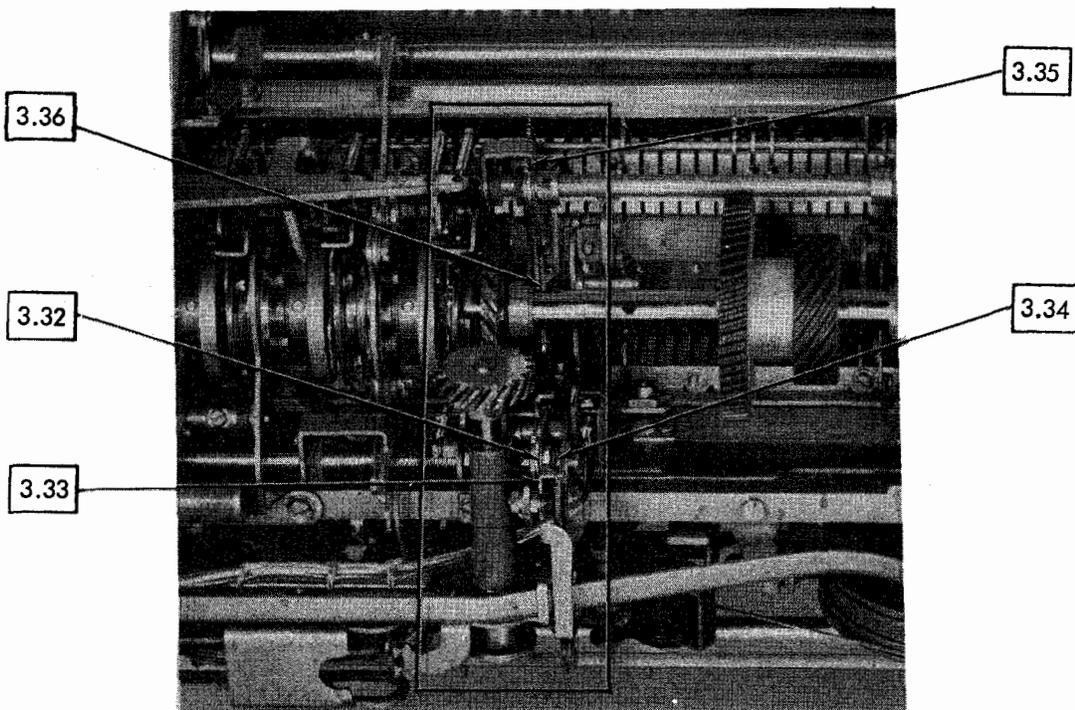
3.26

HORIZONTAL TABULATOR MECHANISM - LATER DESIGN

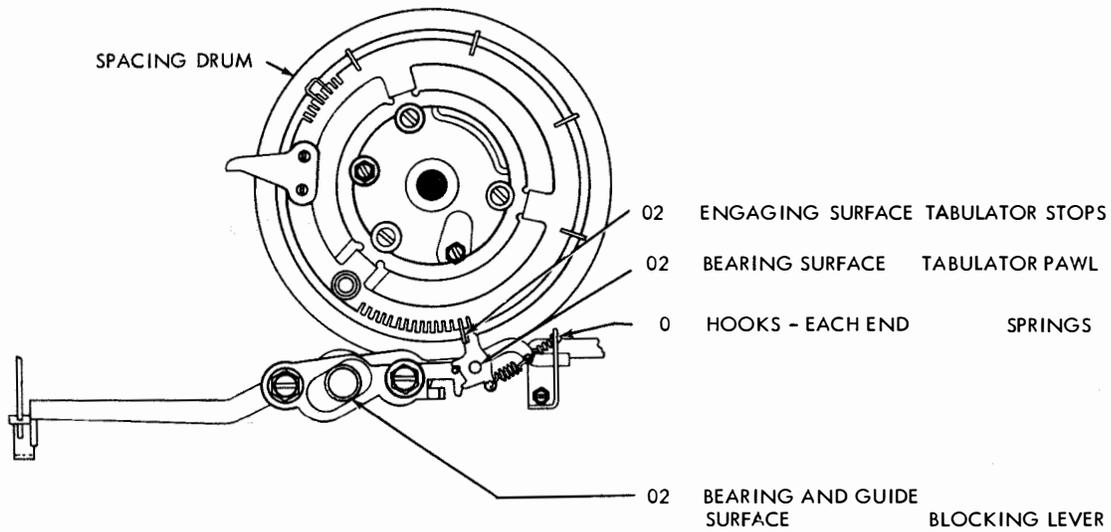
3.29 Typing Unit - Front View



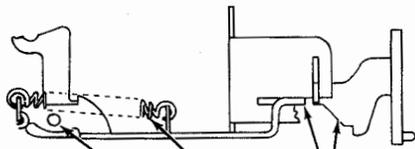
3.30 Typing Unit - Bottom View



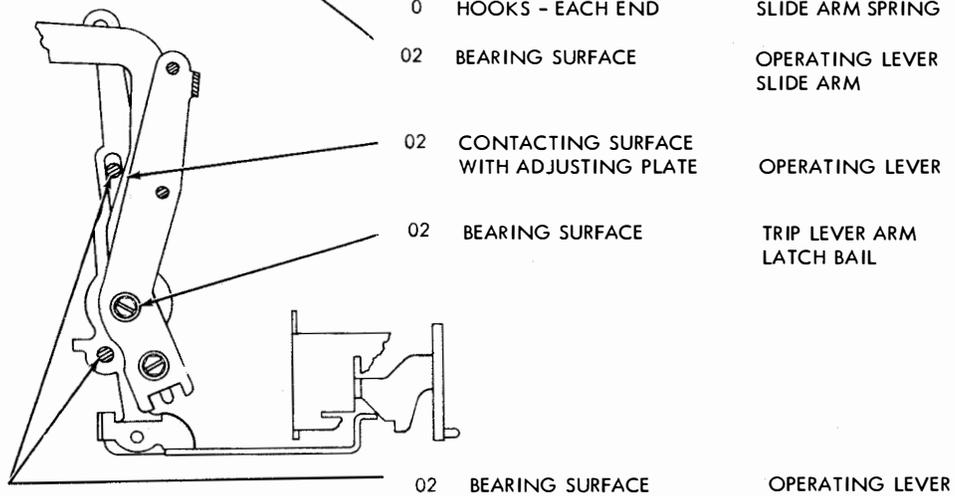
3.31 Blocking Lever



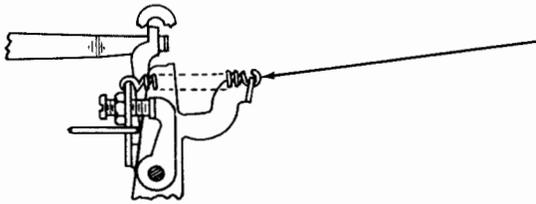
3.32 Slide Arm



3.33 Operating Lever

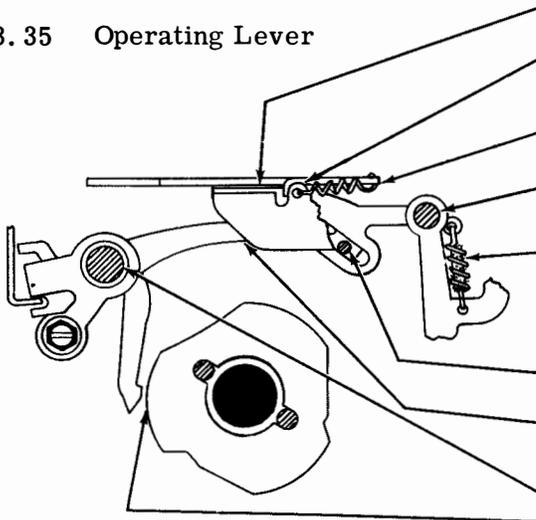


3.34 Latch Bail



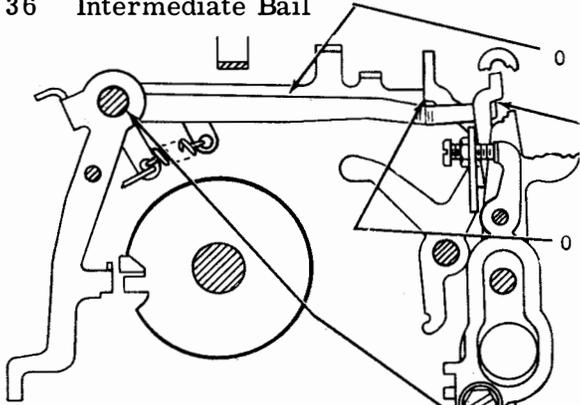
0 HOOKS - EACH END LATCH BAIL SPRING

3.35 Operating Lever



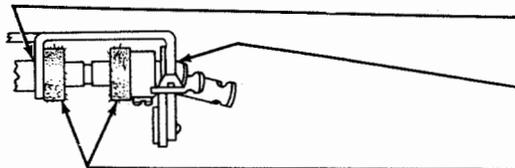
02 GUIDE SURFACES OPERATING LEVER
 02 CONTACT WITH SLIDE ARM OPERATING LEVER
 0 HOOKS - EACH END SLIDE ARM SPRING
 02 BEARING SURFACE OPERATING LEVER
 SAT FELT WICK SPRING
 02 SLOT CAMMING SURFACE OPERATING LEVER
 02 BRACKET CONTACT SURFACE OPERATING LEVER
 SAT FELT WASHERS STRIPPER BAIL SHAFT
 G CAMMING SURFACE SPACING CLUTCH RESTORING CAM

3.36 Intermediate Bail



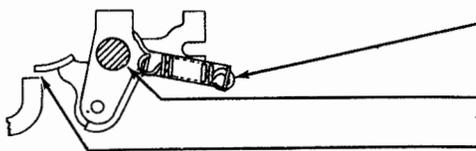
0 CONTACT SURFACE TRIP LEVER ARM INTERMEDIATE BAIL
 02 CONTACTING SURFACE SPACING TRIP LEVER ARM
 0 CONTACT SURFACE SPACING TRIP LEVER INTERMEDIATE BAIL

3.37 Spacing Cut-Out Transfer Bail



SAT FELT WASHER TRIP LEVER ARM SHAFT
 02 BEARING SURFACE SPACING CUTOUT TRANSFER BAIL
 02 BAIL CONTACTING SURFACE SPACING CUTOUT TRANSFER BAIL
 SAT FELT WASHER TRANSFER BAIL STUD

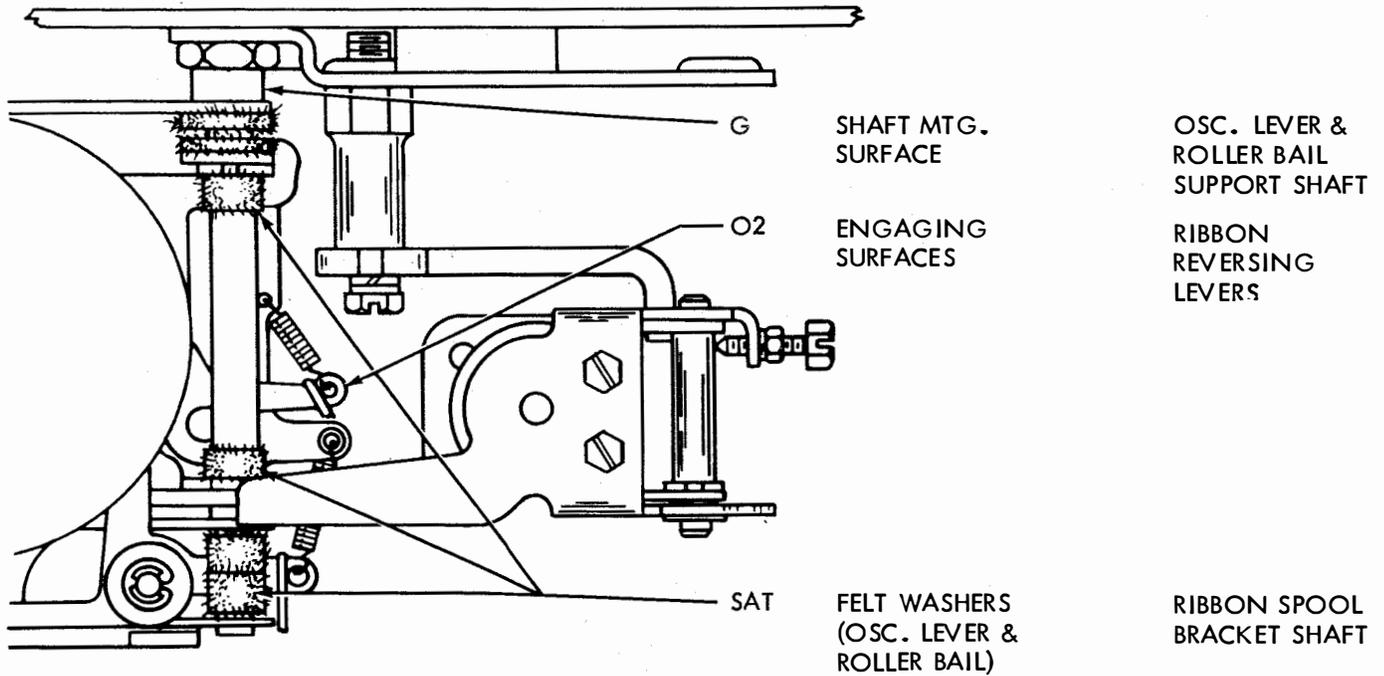
3.38 Bail Extension Arm



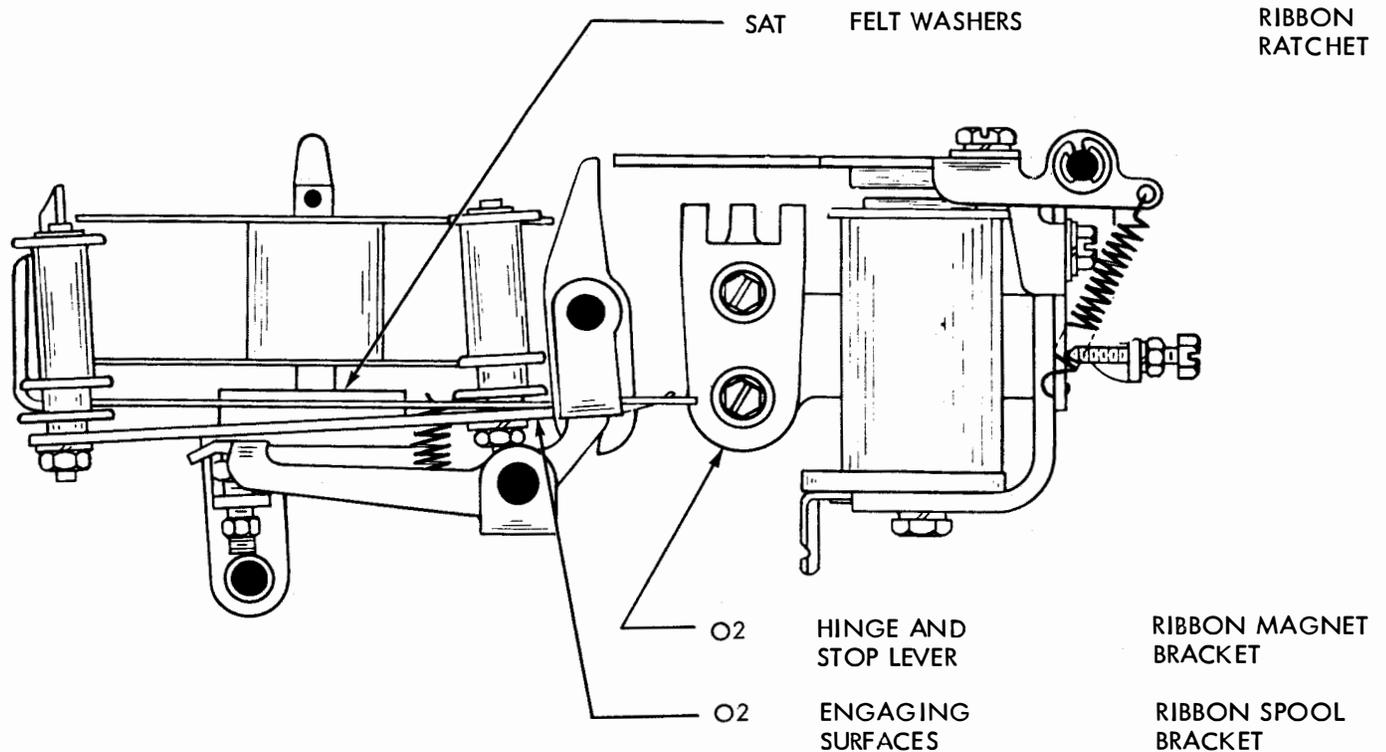
0 HOOKS - EACH END SPACE SUPPRESSION BY PASS SPRING
 02 BEARING SURFACE BAIL EXTENSION ARM
 02 CONTACT SURFACE WITH SPACING CUT-OUT LEVER BAIL EXTENSION ARM

TWO COLOR RIBBON MECHANISM

3.39 Oscillating Lever

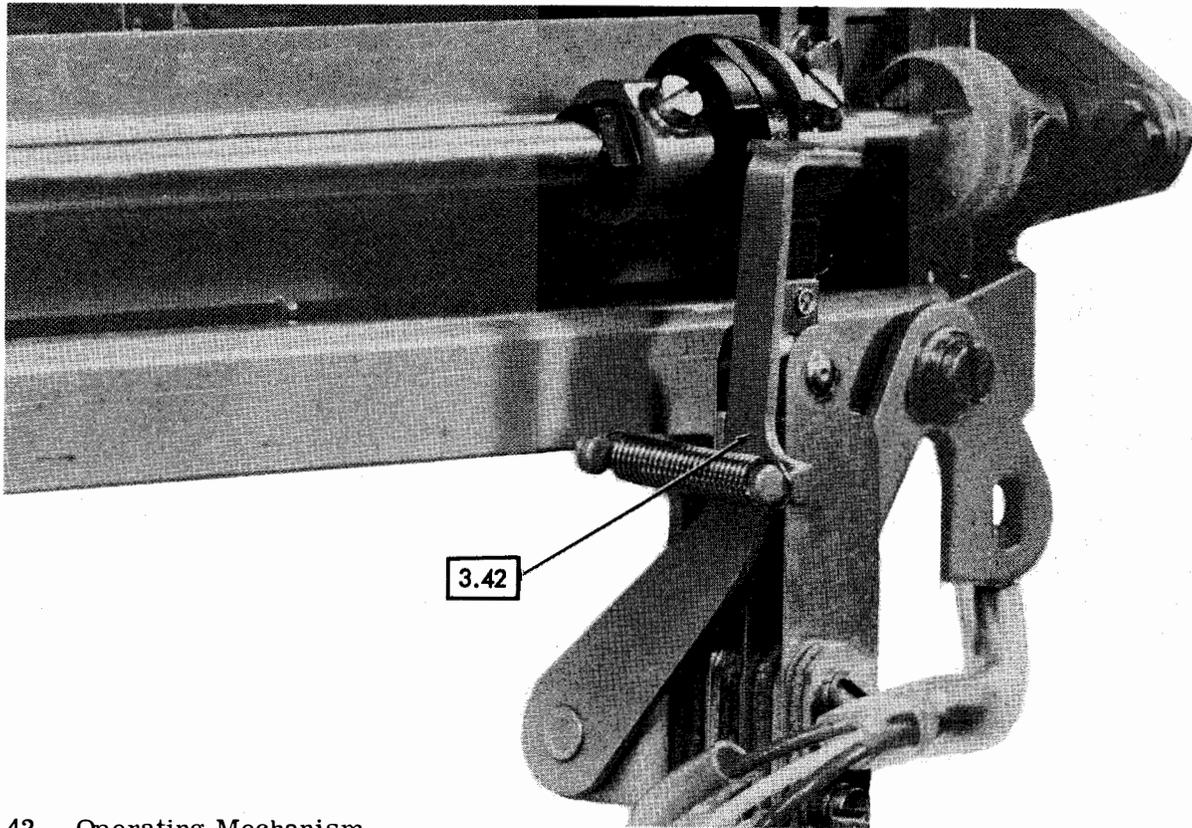


3.40 Ribbon Operating Mechanism

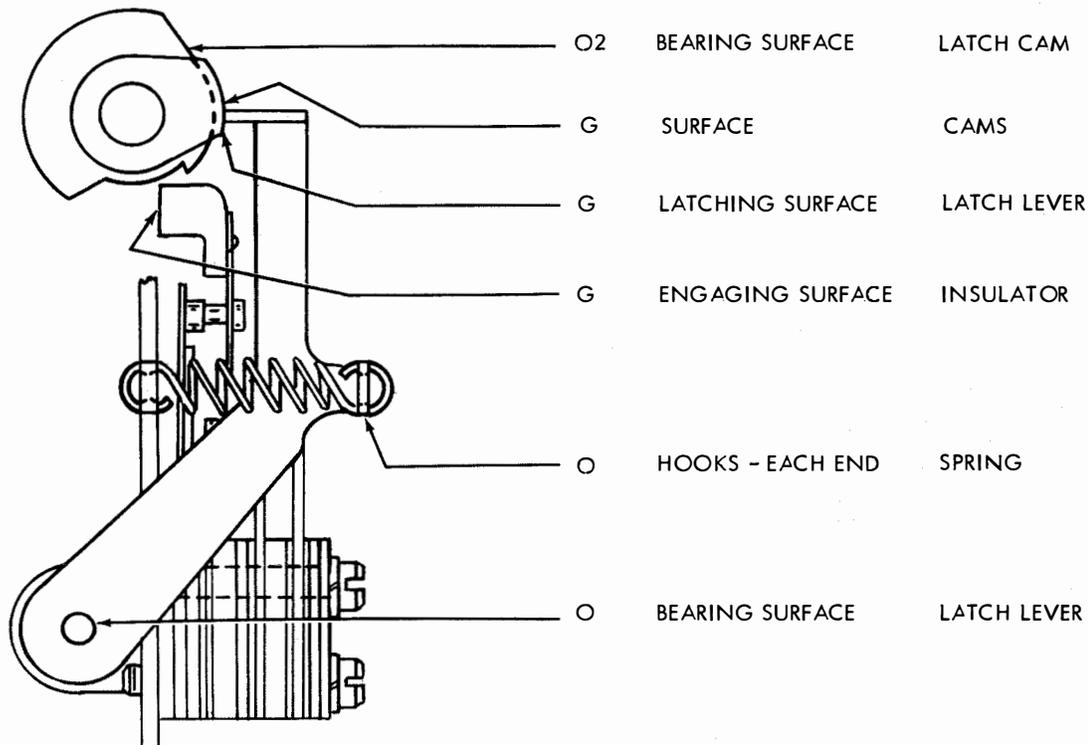


UNIVERSAL CONTACT (STUNT BOX) MECHANISM

3.41 Stunt Box - Rear View

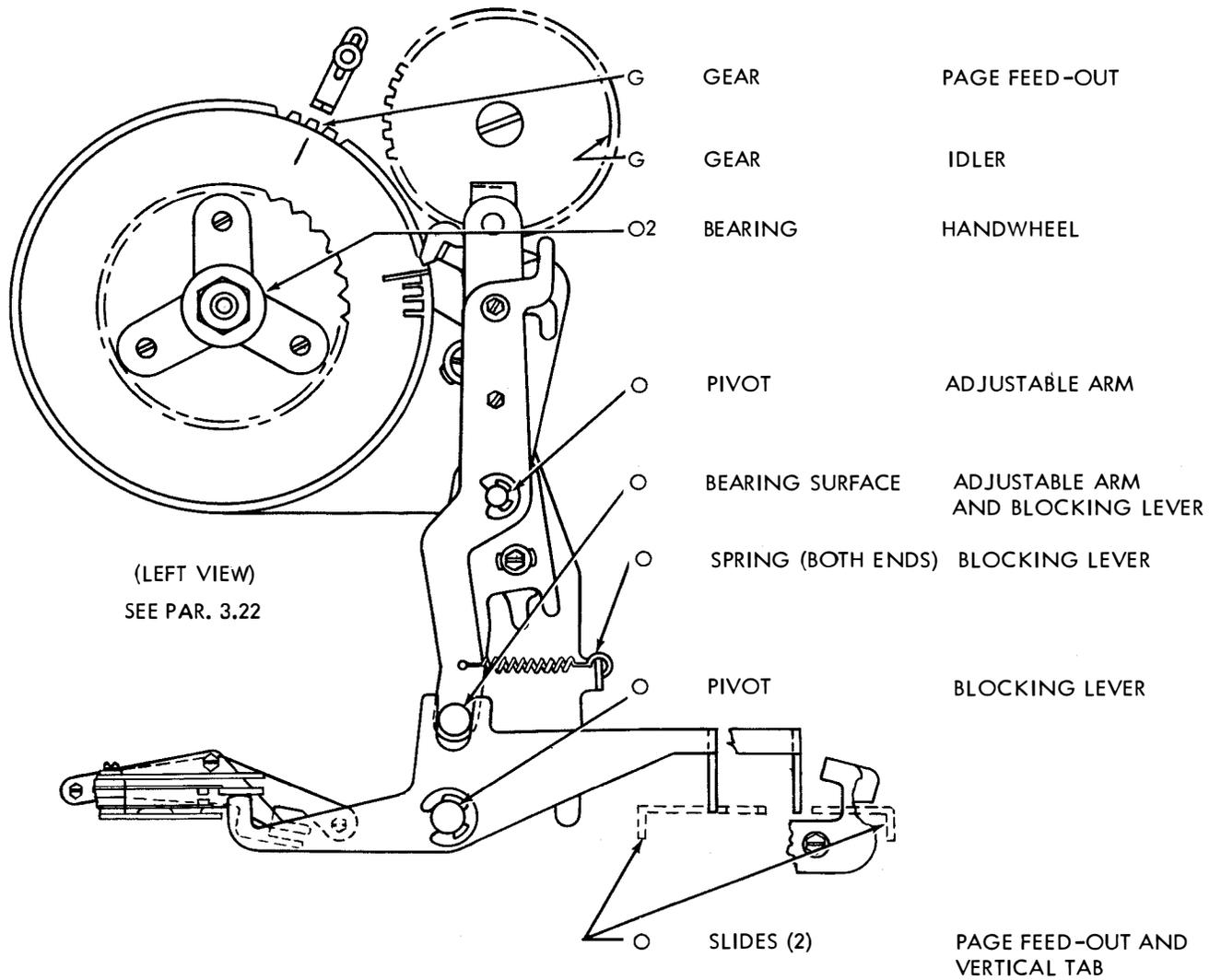


3.42 Operating Mechanism



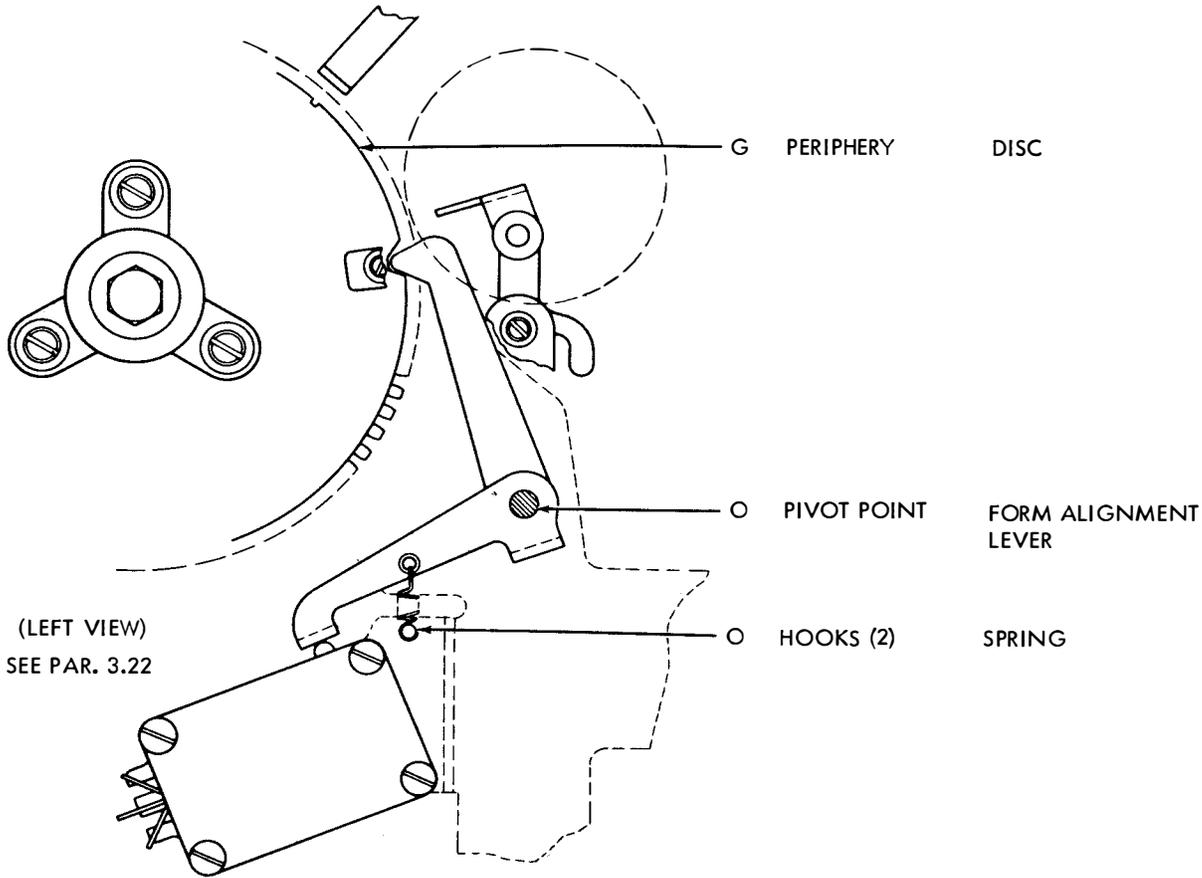
VERTICAL TABULATION AND TRANSMITTER DISTRIBUTOR CONTROL MECHANISM

3.43 Control Mechanism



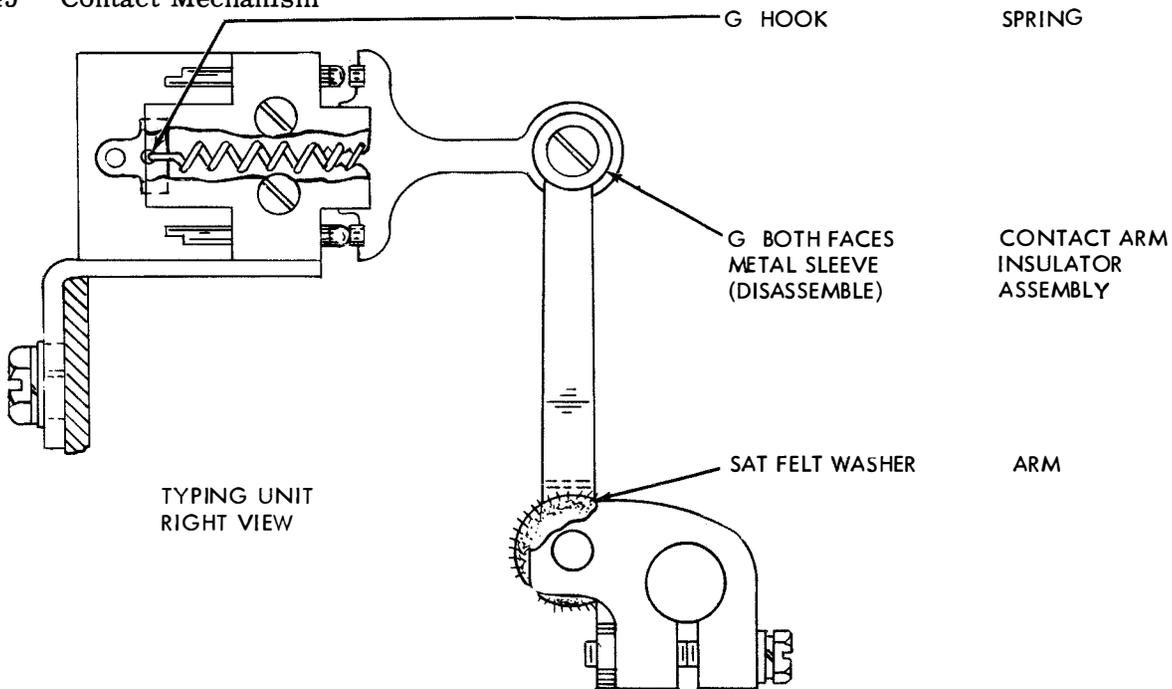
FORM ALIGNMENT SWITCH MECHANISM

3.44 Operating Mechanism



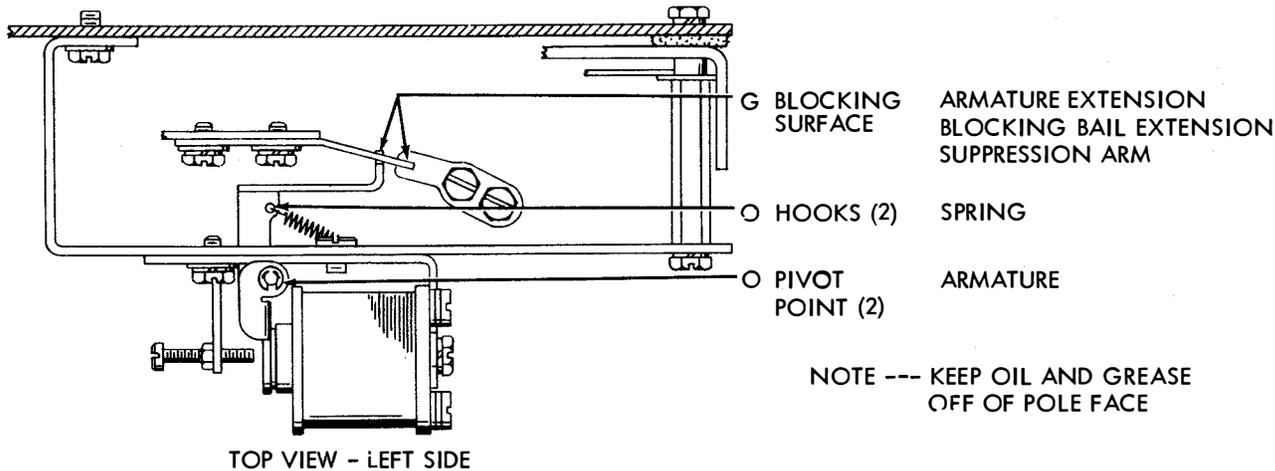
UNIVERSAL CONTACT (SELECTOR) MECHANISM

3.45 Contact Mechanism



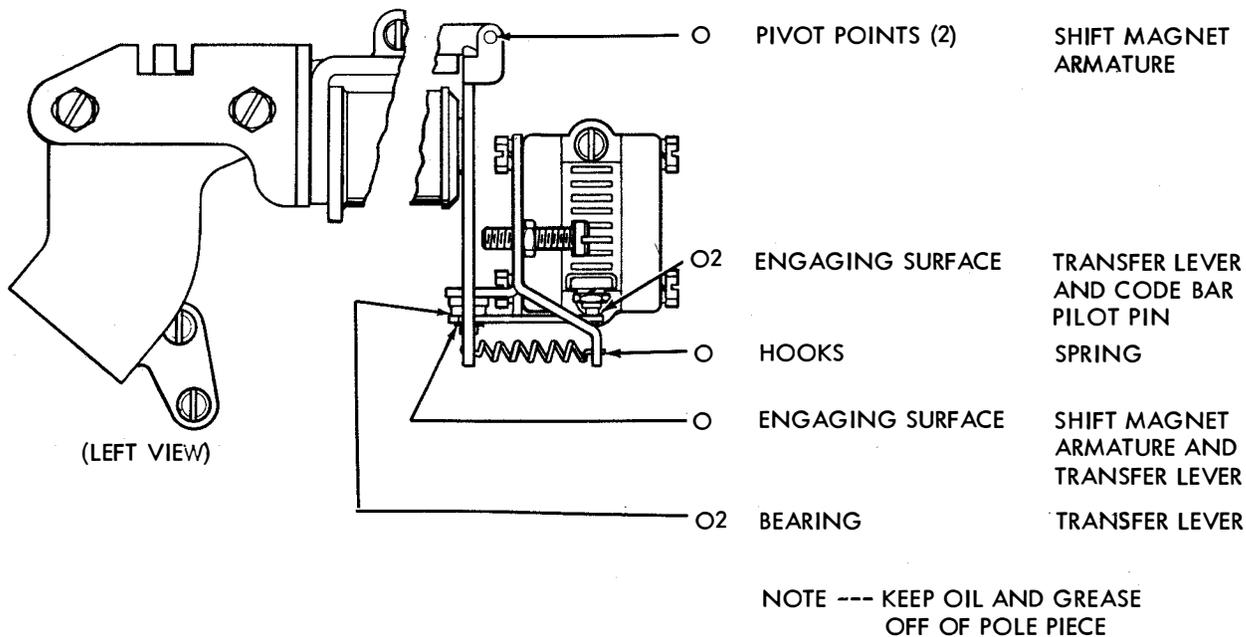
DC MAGNET OPERATED PRINT SUPPRESSION MECHANISM

3.46 Suppression Mechanism



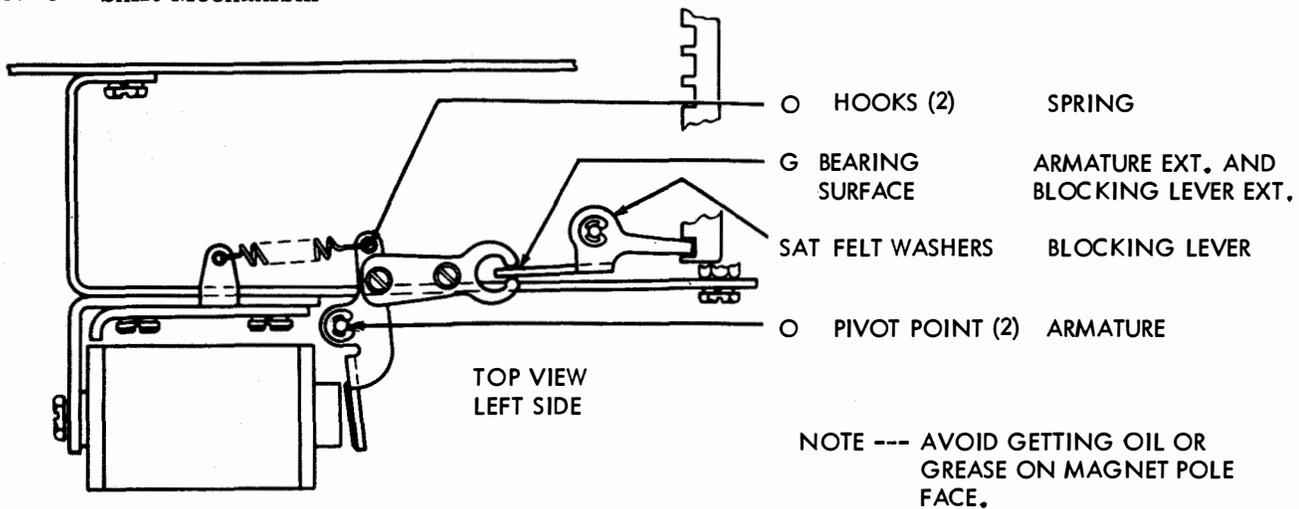
LETTERS-FIGURES CODEBAR SHIFT MAGNET MECHANISM

3.47 Shift Magnet Mechanism



PRINT SUPPRESSION AND OFF-LINE STUNT SHIFT CONTROL MECHANISM

3.48 Shift Mechanism



FORM FEED-OUT MECHANISM

3.49 Feed-Out Bail

