

BELL SYSTEM PRACTICES
Teletypewriter and Data Stations

SECTION P34.501
Issue 2, November, 1963
AT&T Co Standard

28 TYPING UNIT
LUBRICATION

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3. ASSOCIATED BELL SYSTEM PRACTICES 3.01

1. GENERAL

1.01 This section provides the lubrication procedures for the maintenance of the 28 typing unit including variable and auxiliary features. This material, together with that contained in the section entitled Teletypewriter Apparatus, Lubrication, General Information and Routines, gives the complete information for lubricating the typing unit. The lubrication symbols used herein are the same as those in the general section. However, the symbol O is used in this section to mean only one drop of oil. The symbol O2 is used to specify 2 drops of oil.

1.02 The section is reissued to:

- (a) Add a more detailed table of contents.
- (b) Improve the locator photographs by labeling the identifying arrows with the names of the mechanisms instead of paragraph numbers.
- (c) Revise 2.08 as authorized by P98.999.32.
- (d) Add one locator photograph (2.75) and three line drawings (2.87-2.89).

Marginal arrows are not used to indicate changes.

1.03 The typing unit should be lubricated before being placed in service as specified in the section entitled Preparation of Teletypewriter Apparatus for Installation. After a few weeks in service, it should ordinarily be relubricated to make certain that all the specified points have received lubricant. Thereafter, because of the varying conditions at each station, the typing unit should be lubricated as often as specified by the

local instructions. The following lubrication intervals are suggested as a guide for use under normal operating conditions.

OPERATING SPEEDS

(Words per Minute)

60
75
100

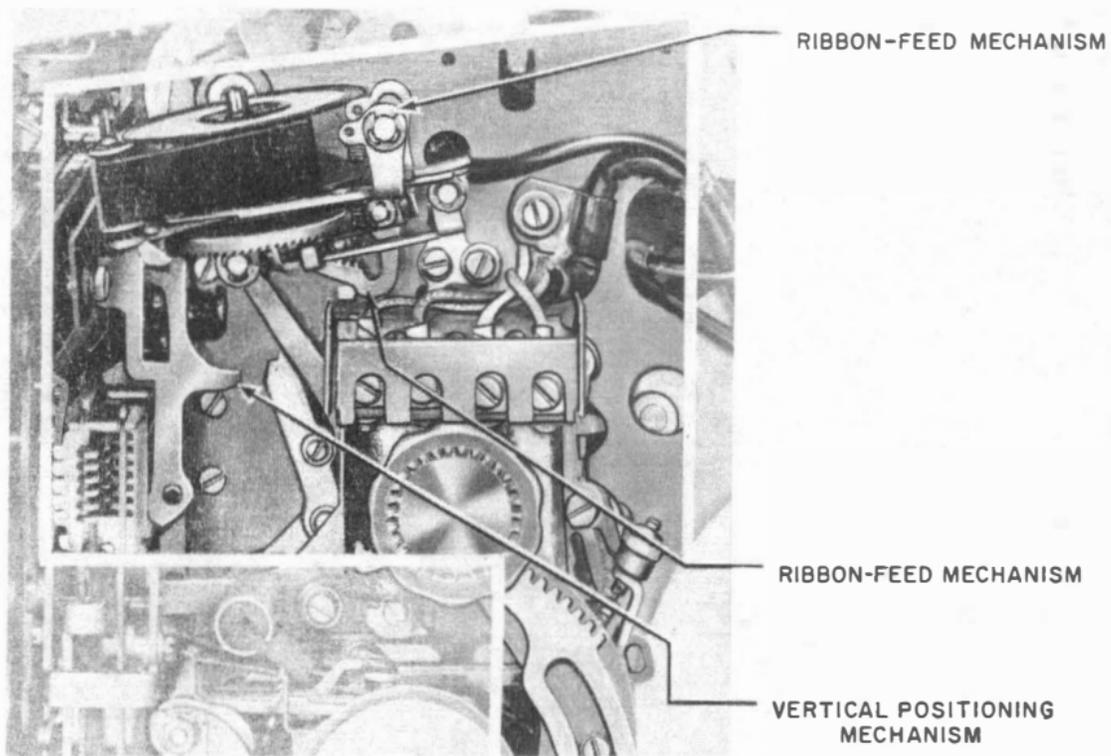
LUBRICATING INTERVALS

(Whichever occurs first)

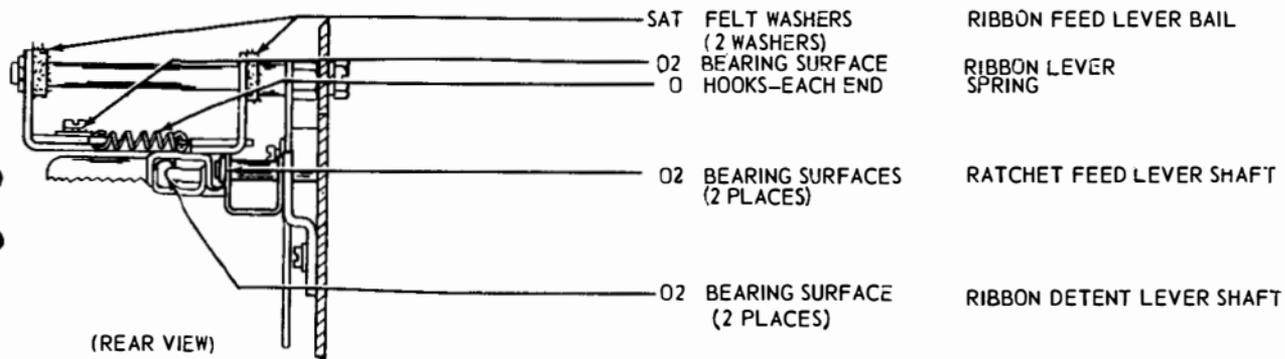
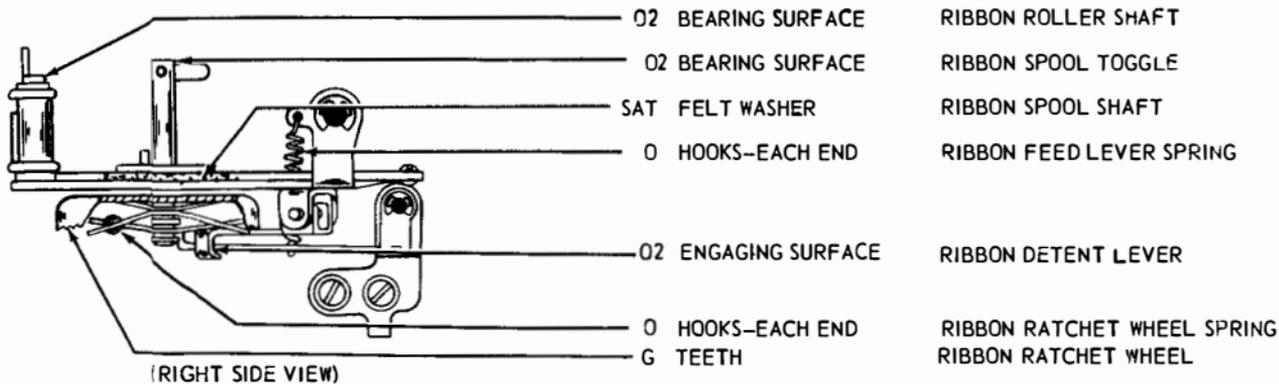
3000 hours or 1 year
2400 hours or 9 months
1500 hours or 6 months

2. LUBRICATION

2.01 Ribbon-feed and Vertical Positioning Mechanisms (Right Side)



2.02 Ribbon-feed Mechanism

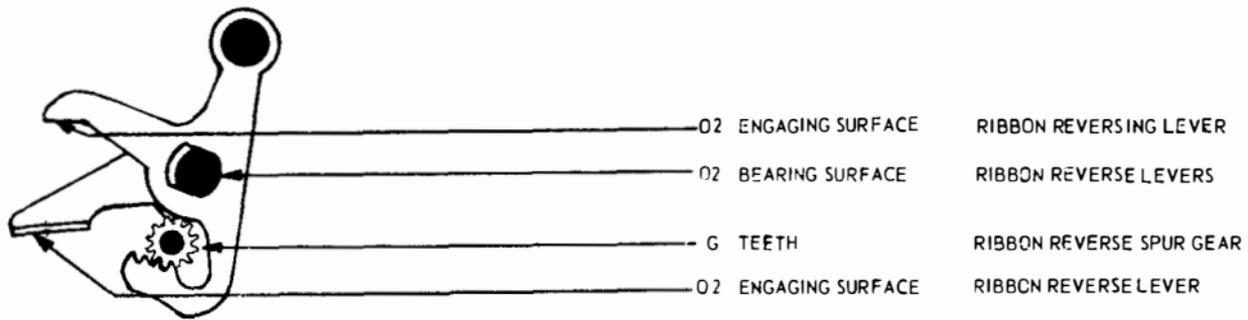


28 TYPING
UNIT
LUBRI-
CATION

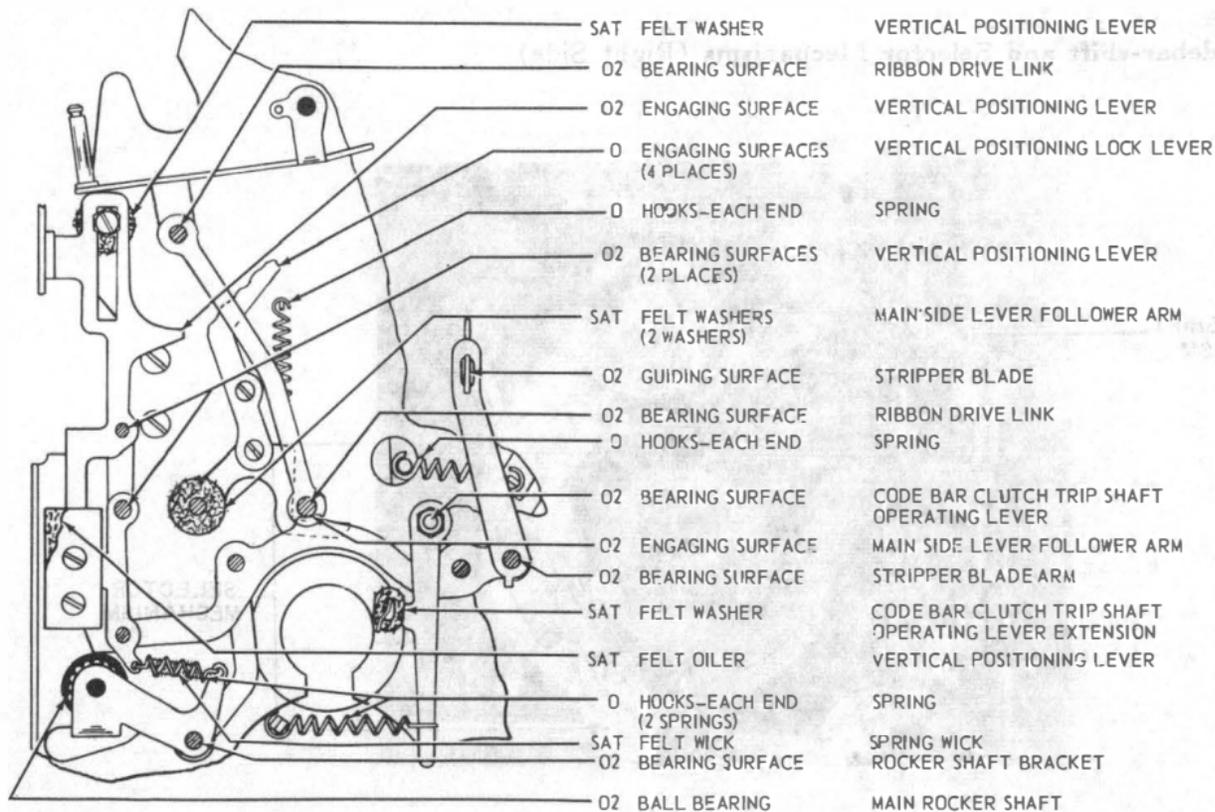
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2.03 Ribbon-feed Mechanism (Contd)

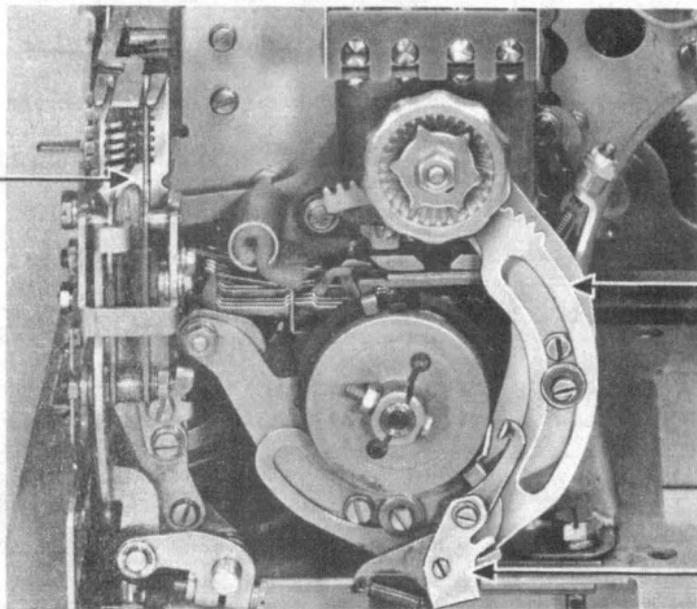


2.04 Vertical Positioning Mechanism



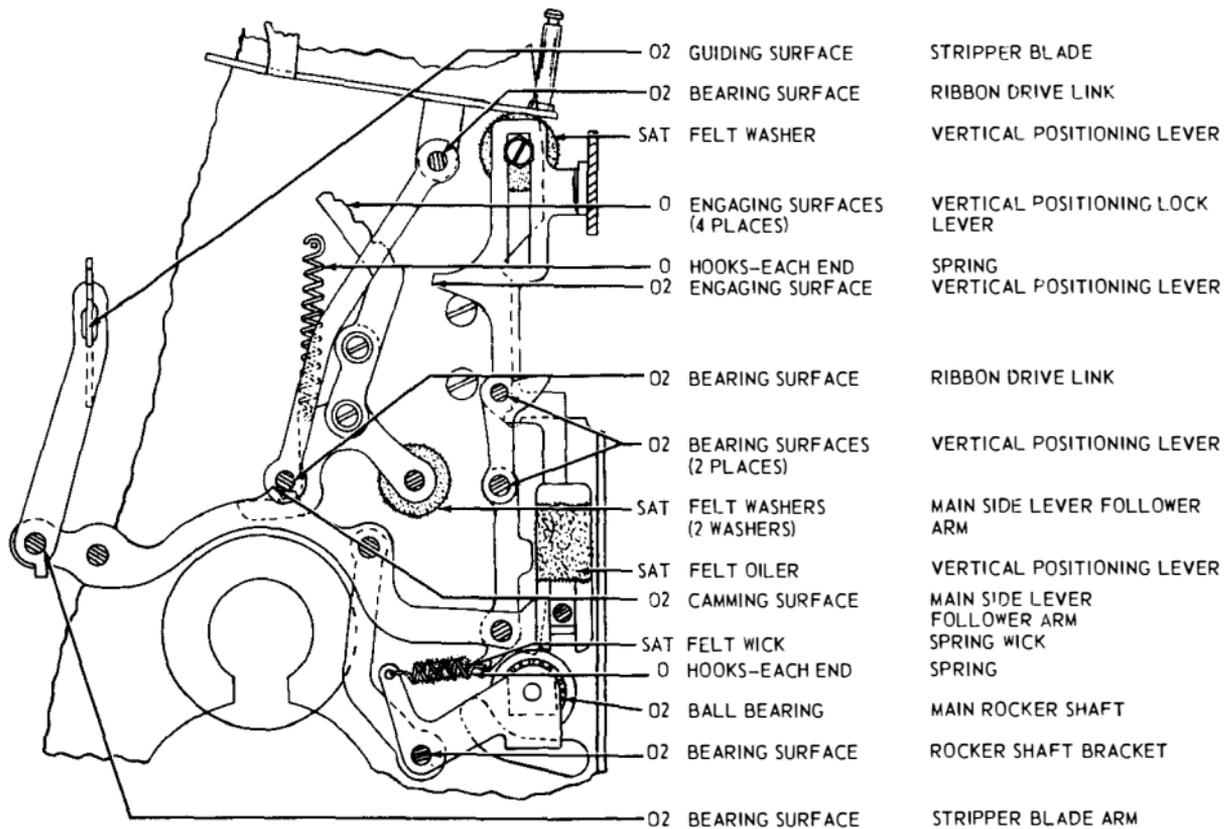
2.05 Codebar-shift and Selector Mechanisms (Right Side)

CODEBAR-SHIFT
MECHANISM



SELECTOR
MECHANISM

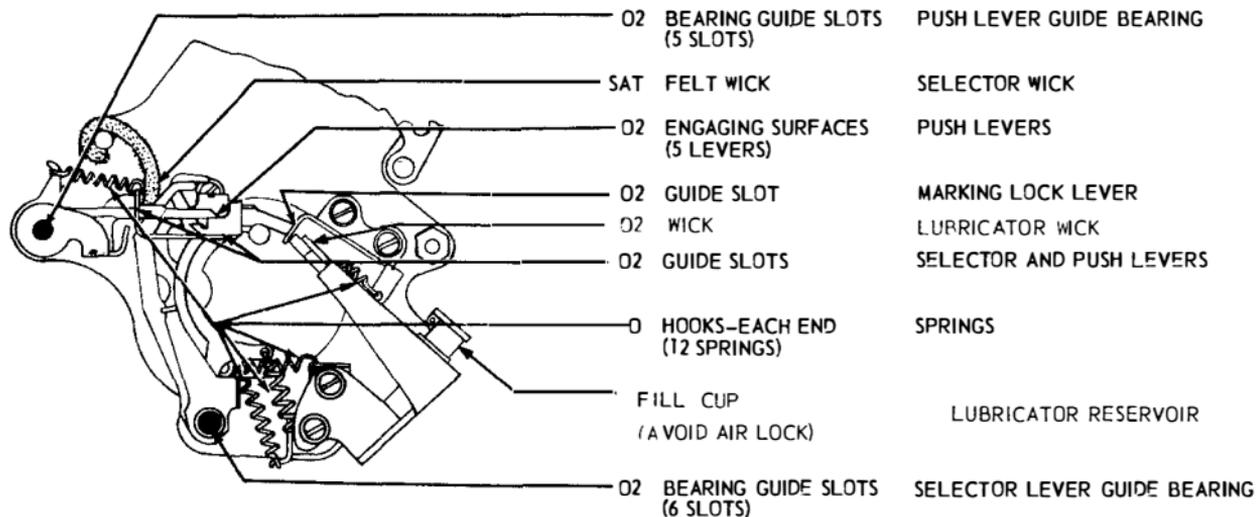
2.06 Codebar-shift Mechanism



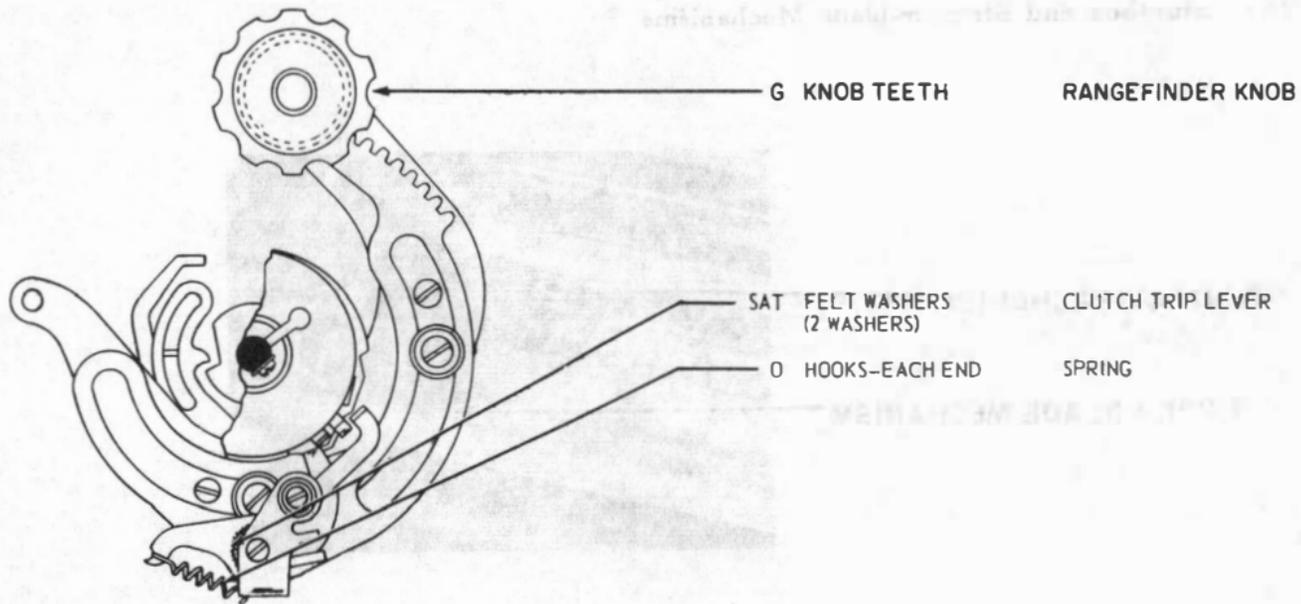
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2.07 Selector Mechanism



2.08 Selector Mechanism (Contd)



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CATION

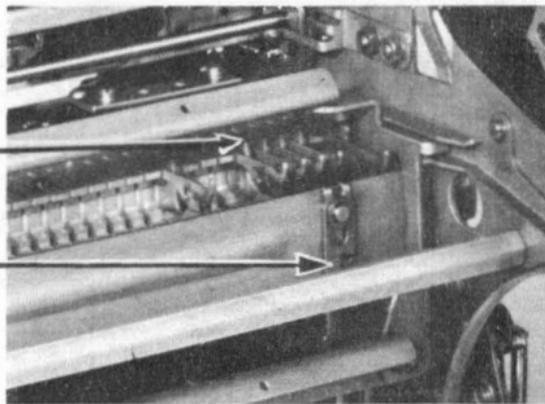
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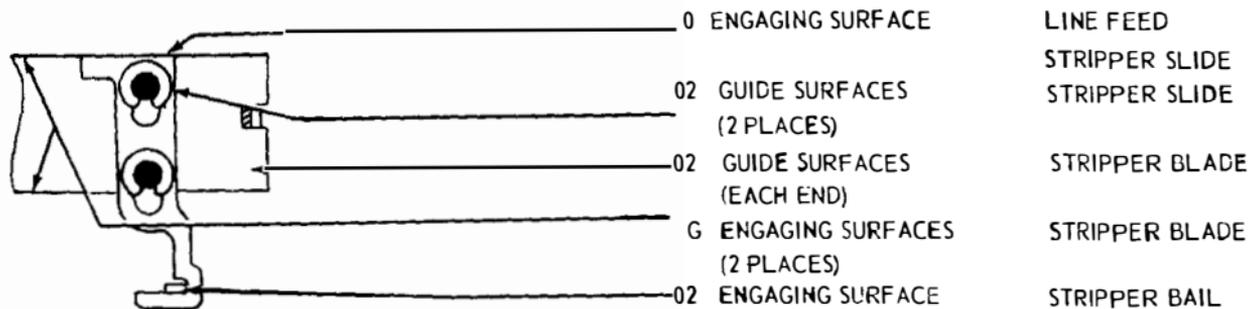
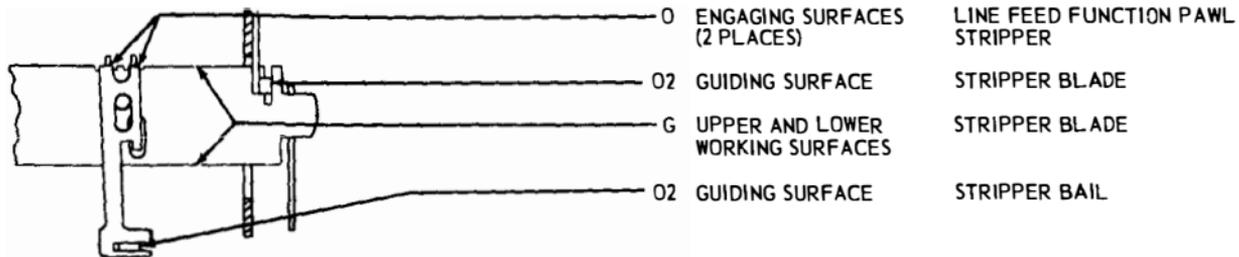
2.09 Stuntbox and Stripper-blade Mechanisms

STUNTBX MECHANISM

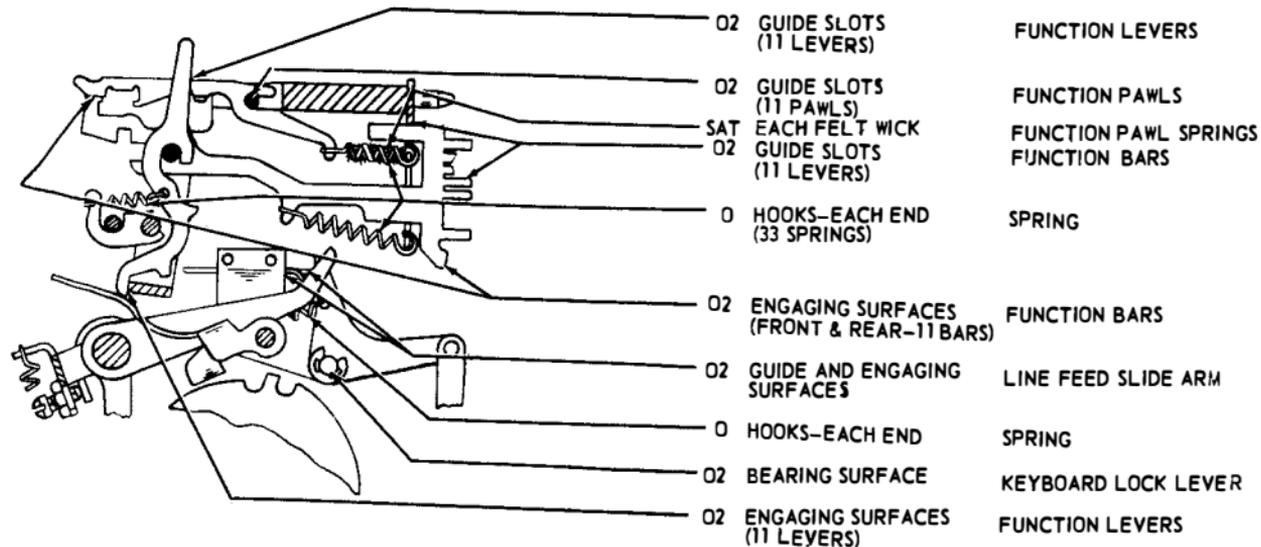
STRIPPER-BLADE MECHANISM



2.11 Stripper-blade Mechanism

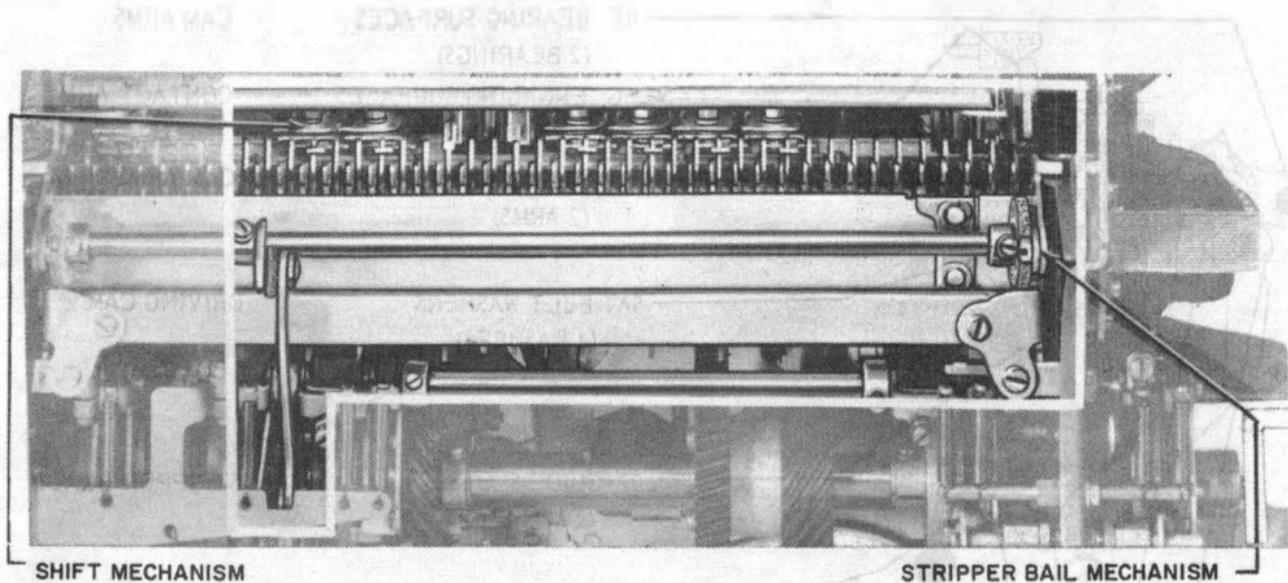


2.10 Stuntbox Mechanism



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UNIT
LUBRI-
CATION

2.12 Shift and Stripper-bail Mechanisms Operated from Function Clutch (Rear)

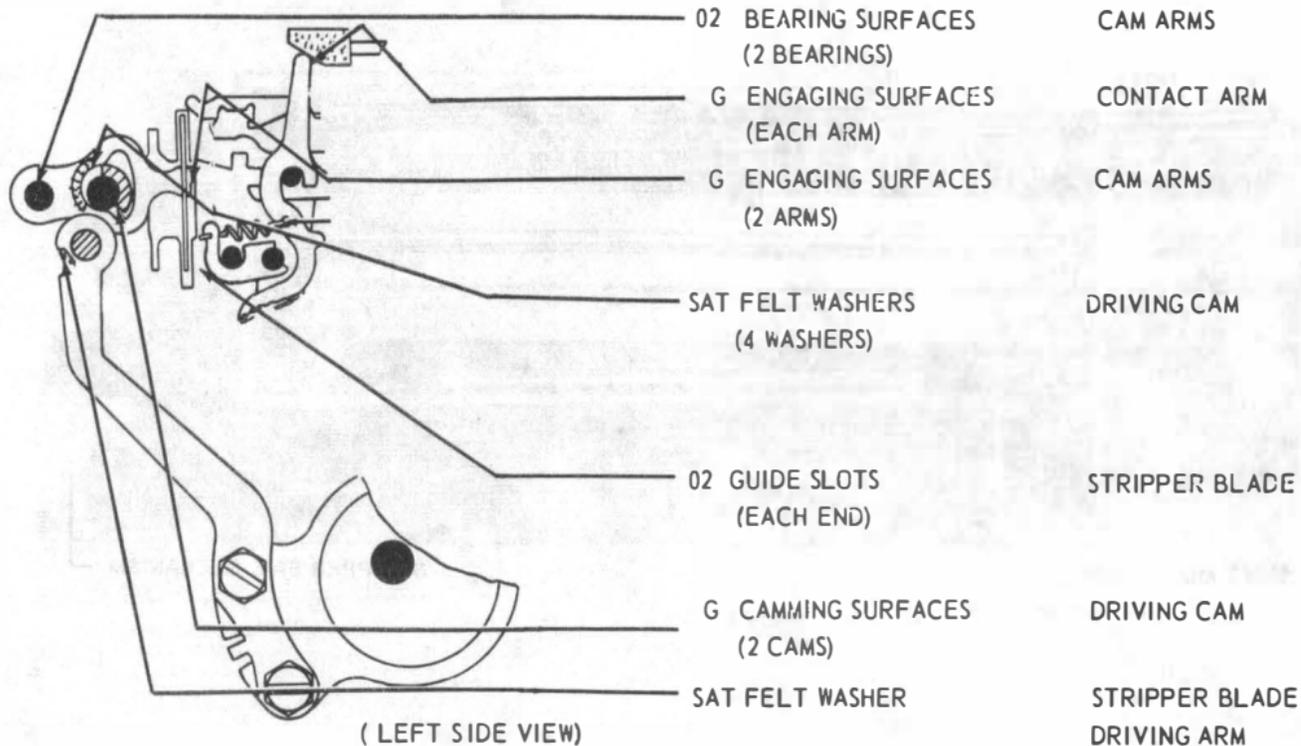


28 TYPING
UNIT
LUBRI-
CATION

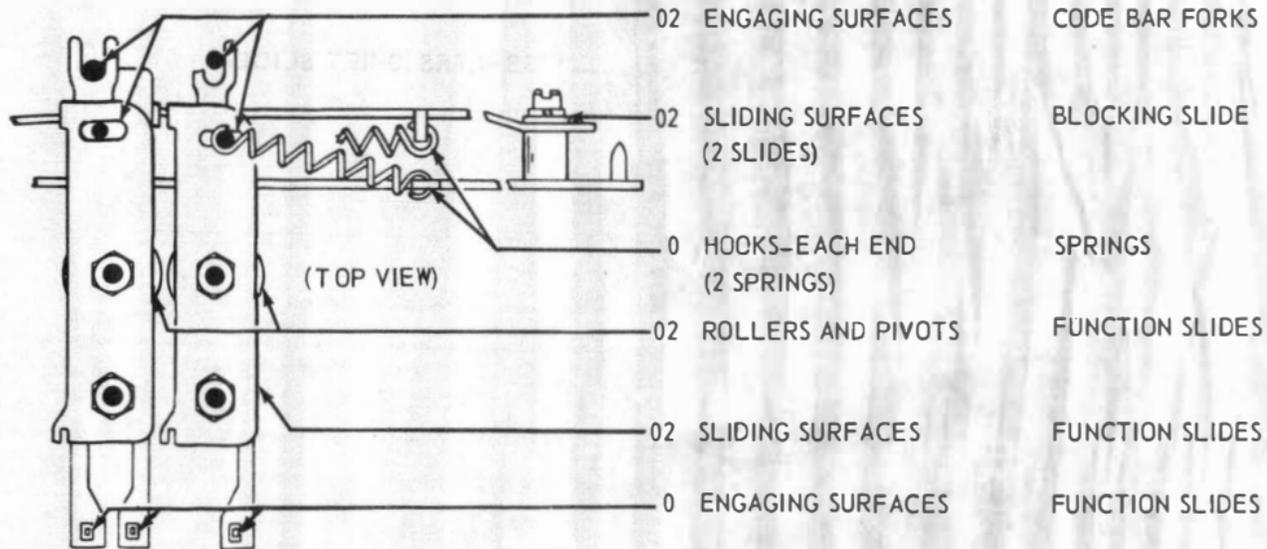
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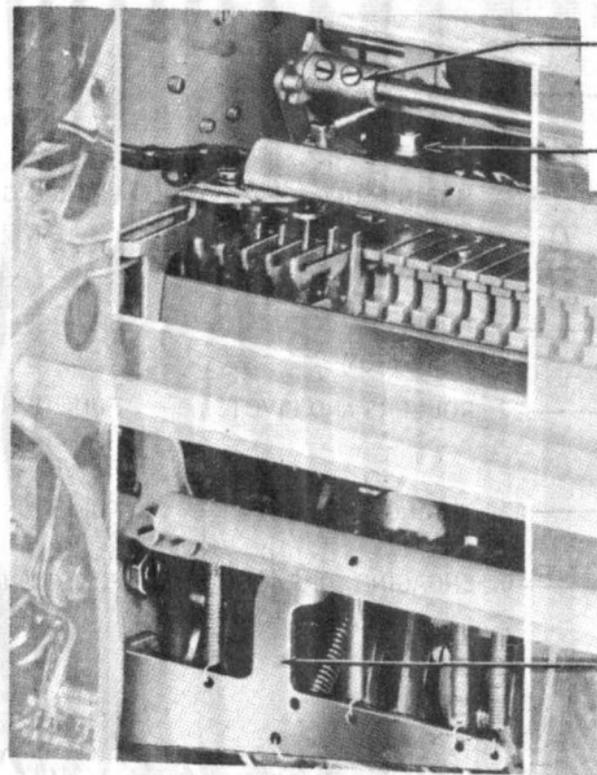
2.13 Stripper Bail Operated from Function Clutch



2.14 Shift and Stripper-bail Mechanisms Operated from Function Clutch



2.15 Ribbon-reverse FIGS-LTRS Shift-slide, and Function Rocker-shaft Mechanisms (Rear)

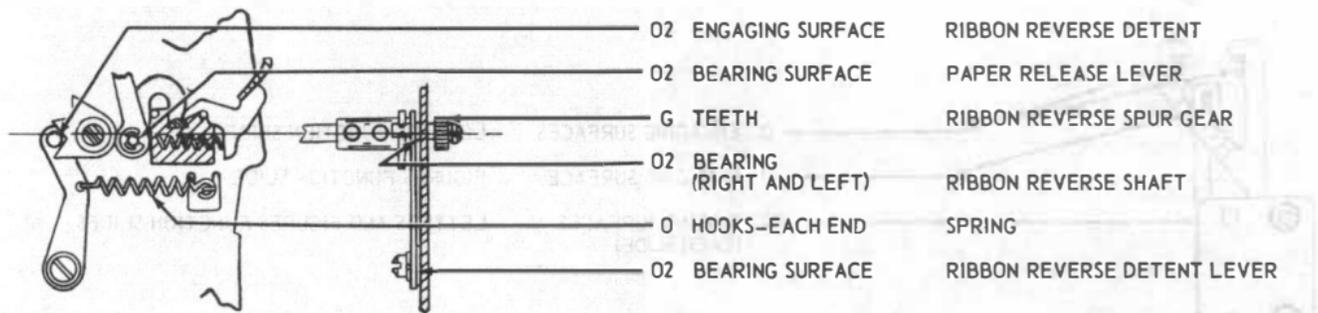


RIBBON-REVERSE MECHANISM

FIGS-LTRS SHIFT SLIDE

FUNCTION ROCKER-SHAFT
MECHANISM

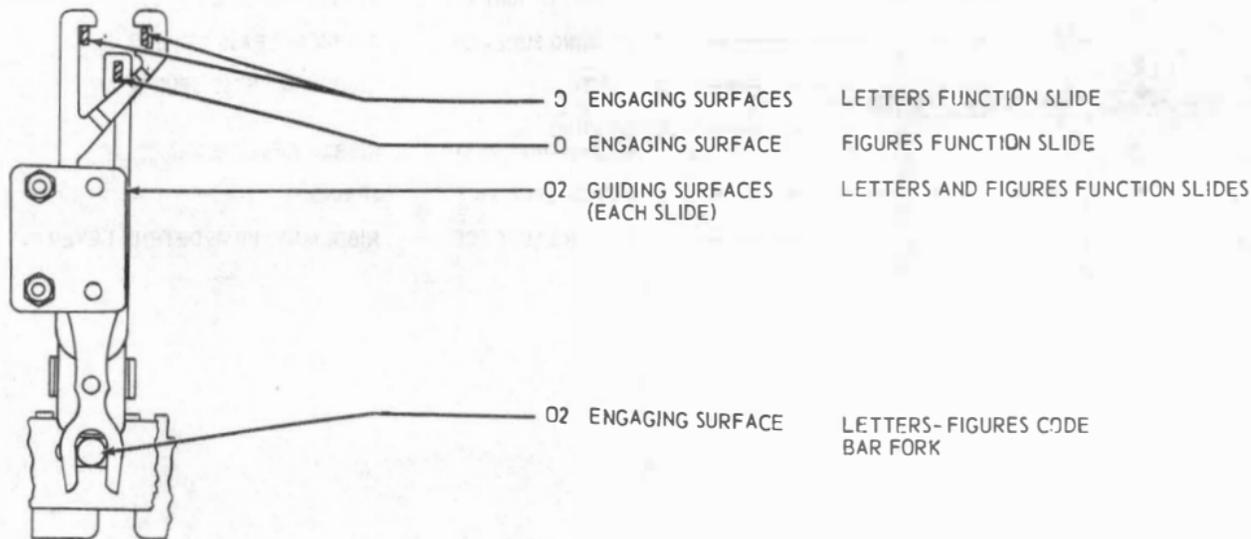
2.16 Ribbon-reverse Mechanism



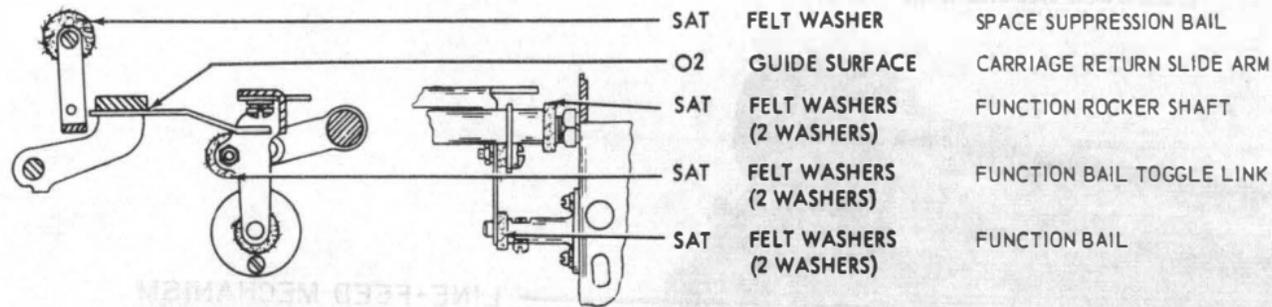
28 TYPING
UNIT
LUBRI-
CATION

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2.17 FIGS-LTRS Shift Slide



2.18 Function Rocker-shaft Mechanism



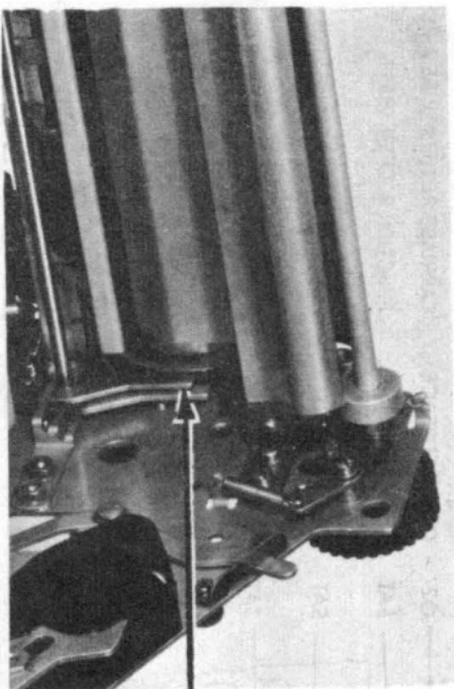
- | | | |
|-----|-----------------------------|---------------------------|
| SAT | FELT WASHER | SPACE SUPPRESSION BAIL |
| O2 | GUIDE SURFACE | CARRIAGE RETURN SLIDE ARM |
| SAT | FELT WASHERS
(2 WASHERS) | FUNCTION ROCKER SHAFT |
| SAT | FELT WASHERS
(2 WASHERS) | FUNCTION BAIL TOGGLE LINK |
| SAT | FELT WASHERS
(2 WASHERS) | FUNCTION BAIL |

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UNIT
LUBRI-
CATION

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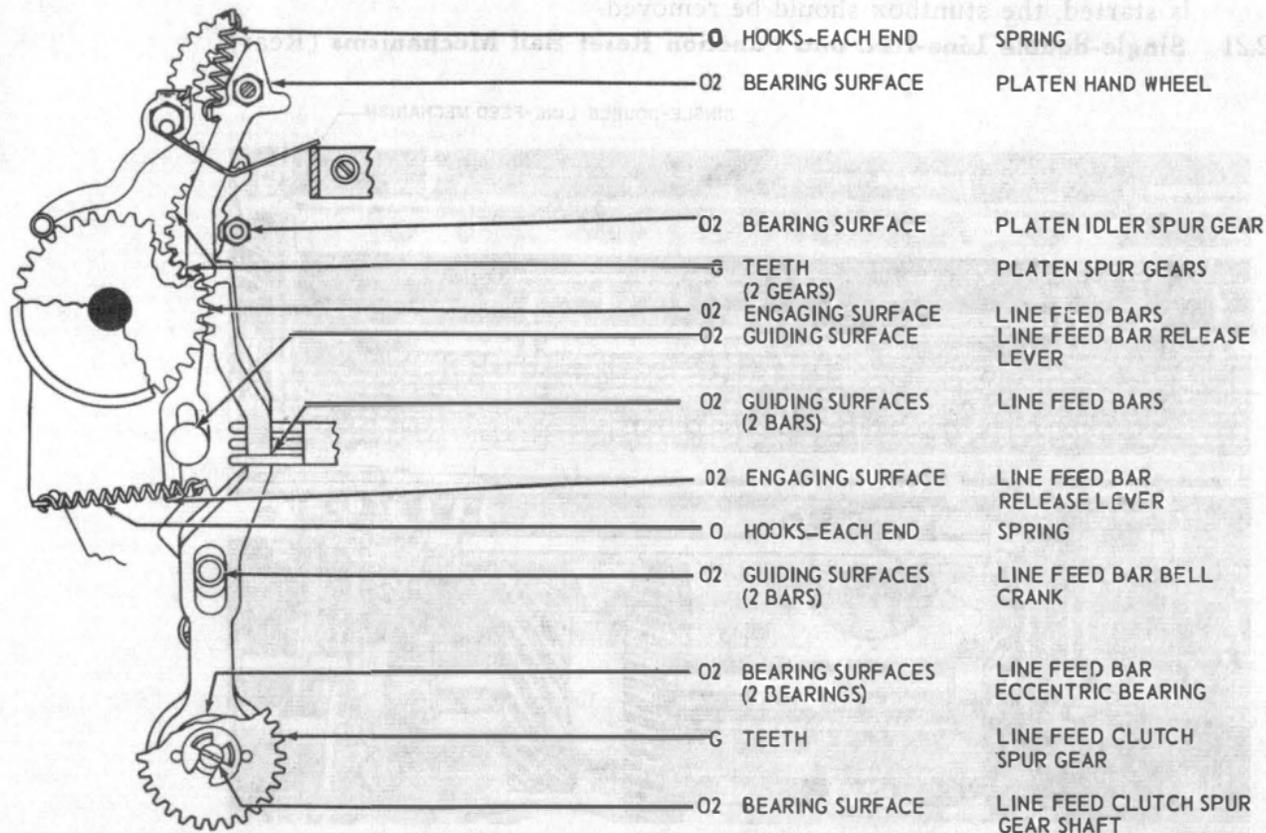
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2.19 Line-feed Mechanism (Rear)



LINE-FEED MECHANISM

2.20 Line-feed Mechanism



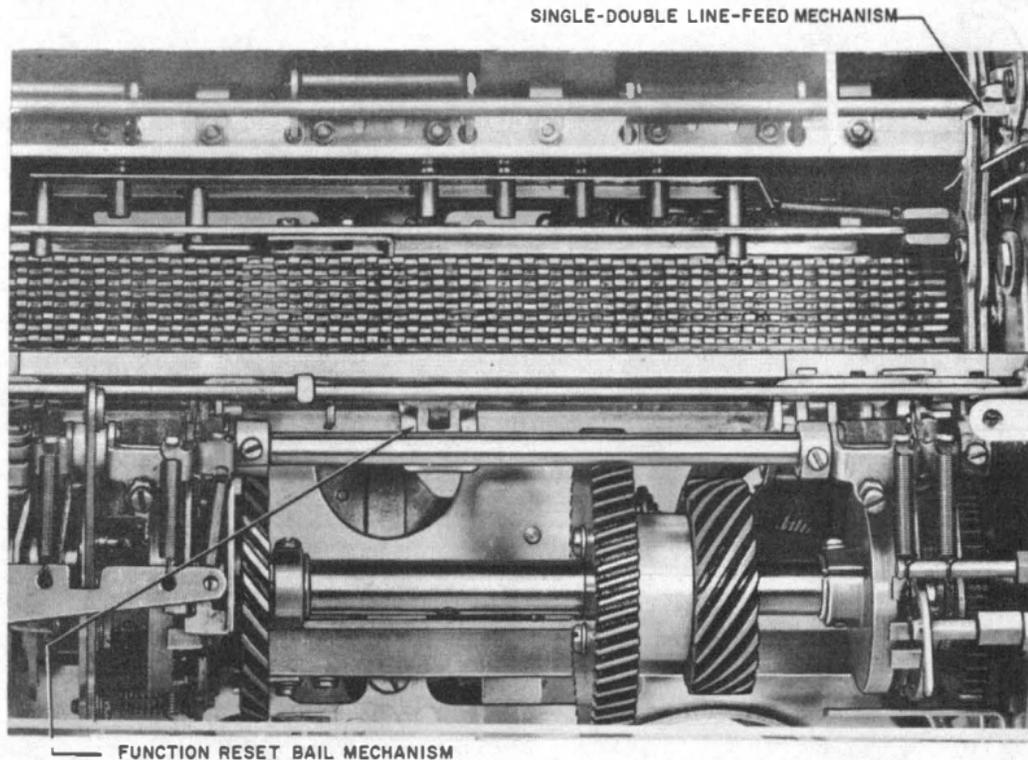
28 TYPING
UNIT
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CATION

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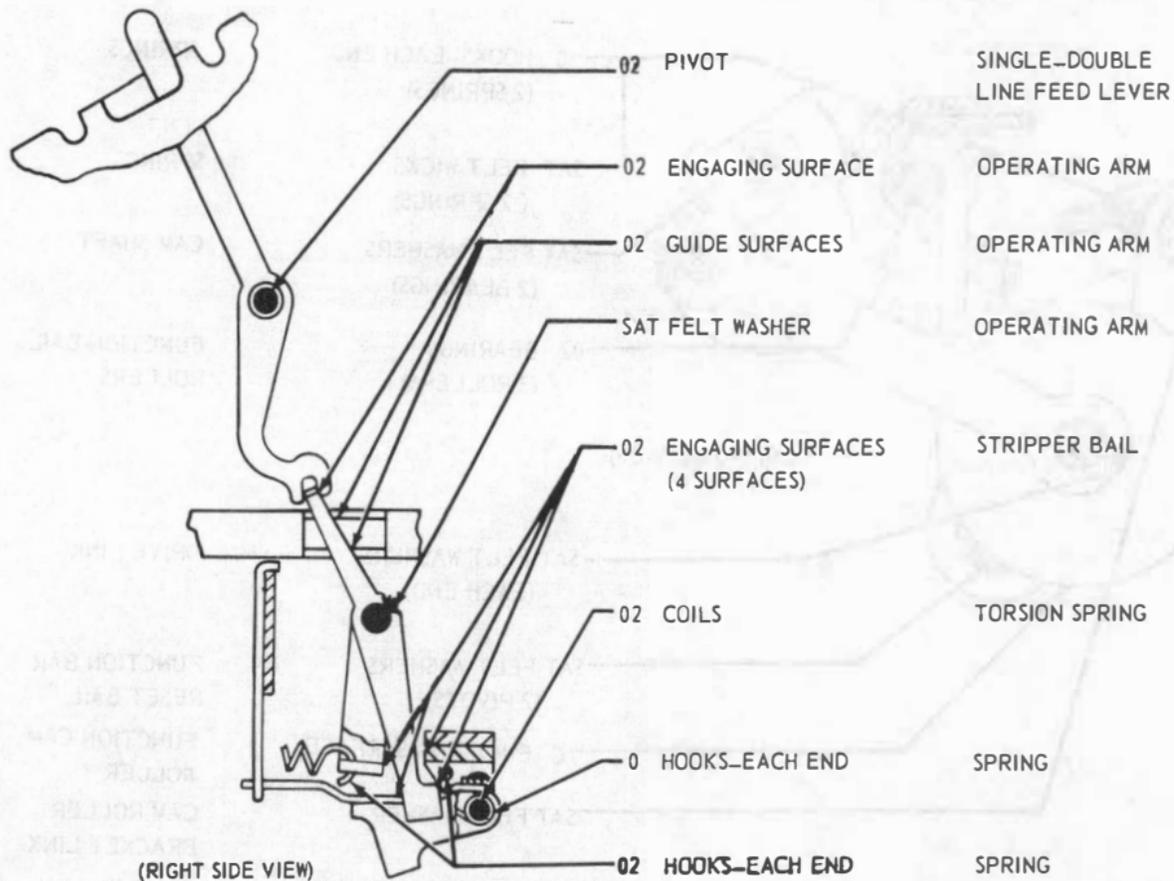
Page 23

Note: Before lubrication shown in 2.21 to 2.23, inclusive, is started, the stuntbox should be removed.

2.21 Single-double Line-feed and Function Reset Bail Mechanisms (Rear)



2.22 Single-double Line-feed Mechanism

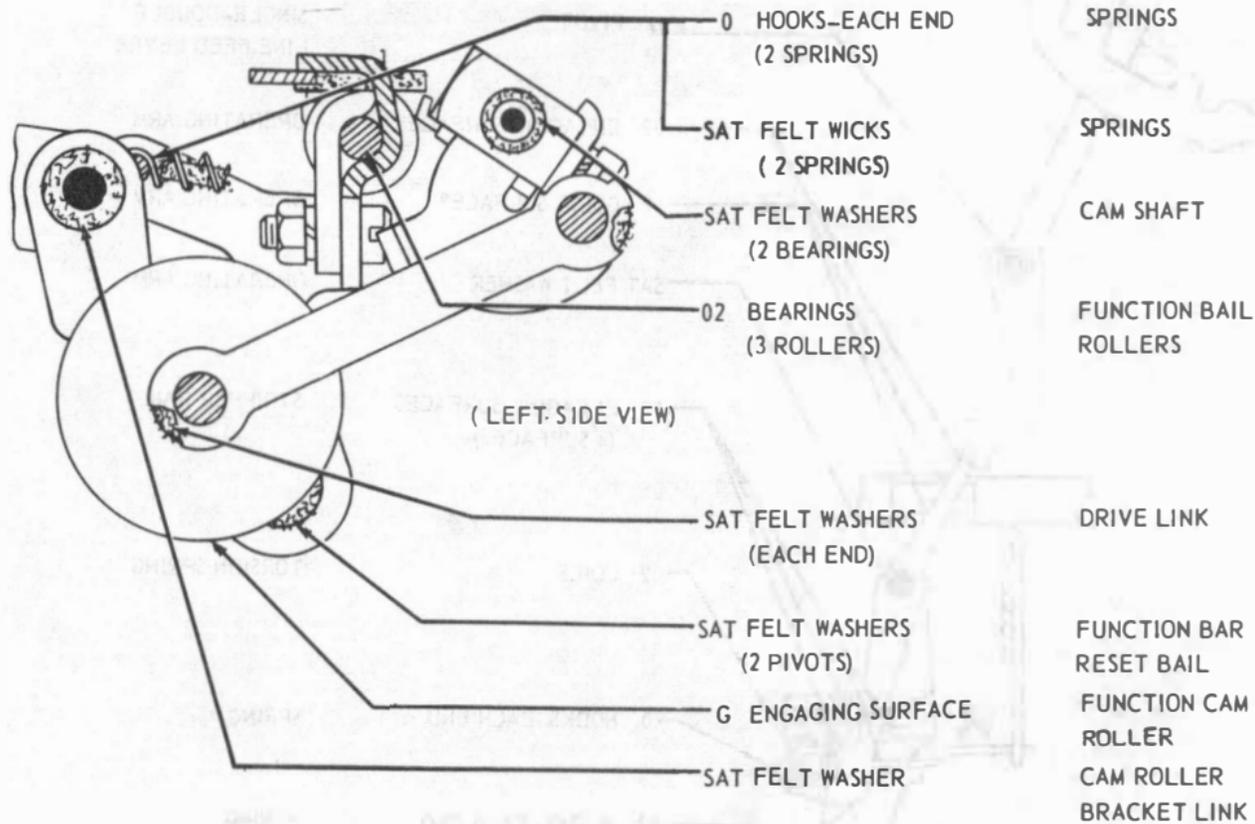


28 TYPING
UNIT
LUBRI-
CATION

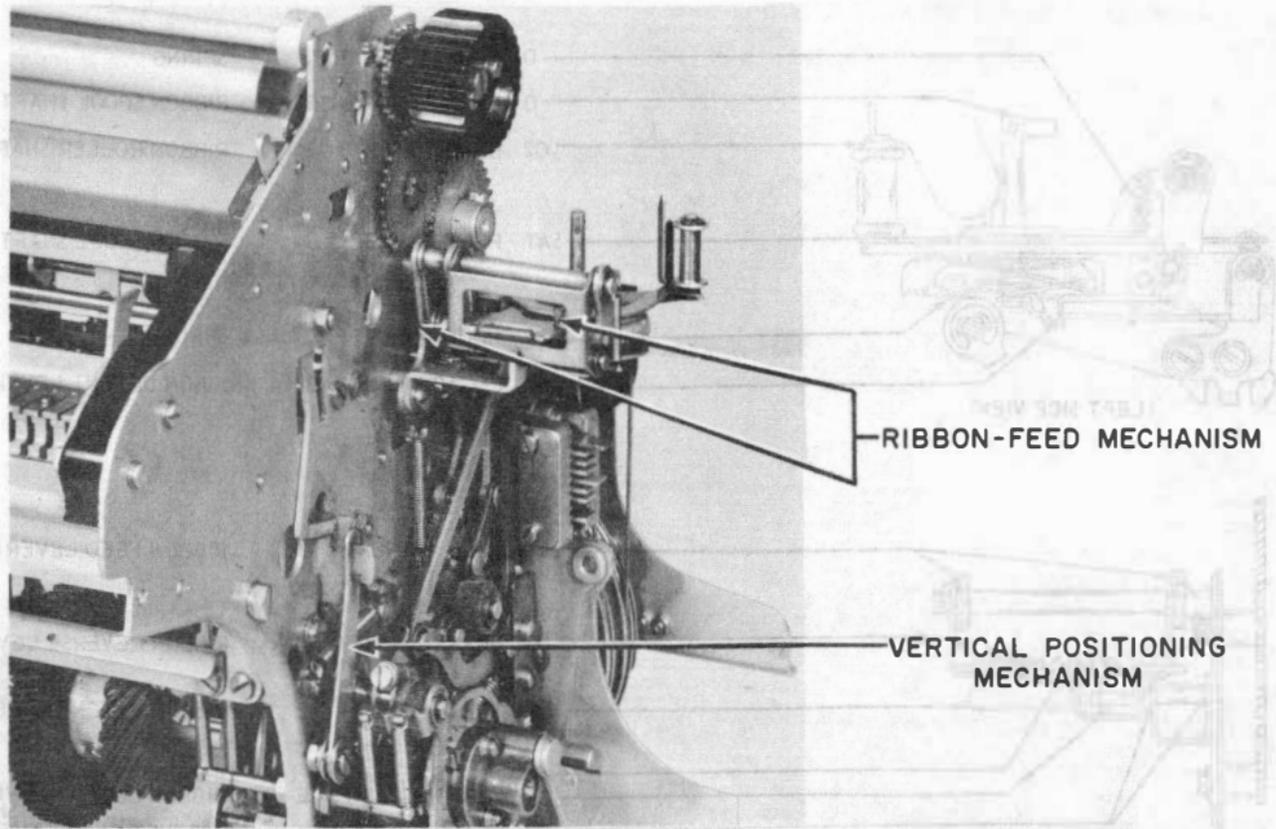
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2.23 Function Reset Bail Mechanism



2.24 Ribbon-feed and Vertical Positioning Mechanisms (Left Side)



RIBBON-FEED MECHANISM

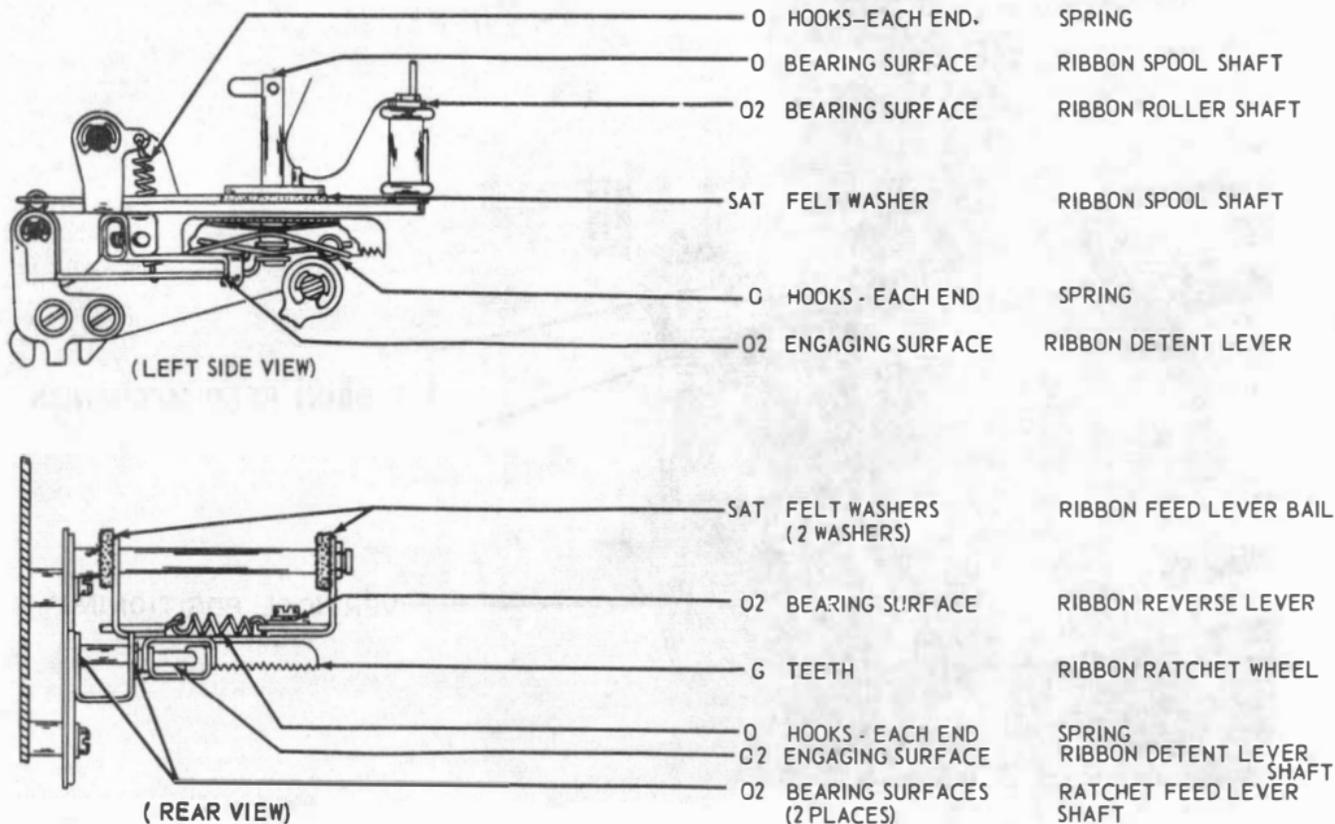
VERTICAL POSITIONING MECHANISM

28 TYPING
UNIT
LUBRI-
CATION

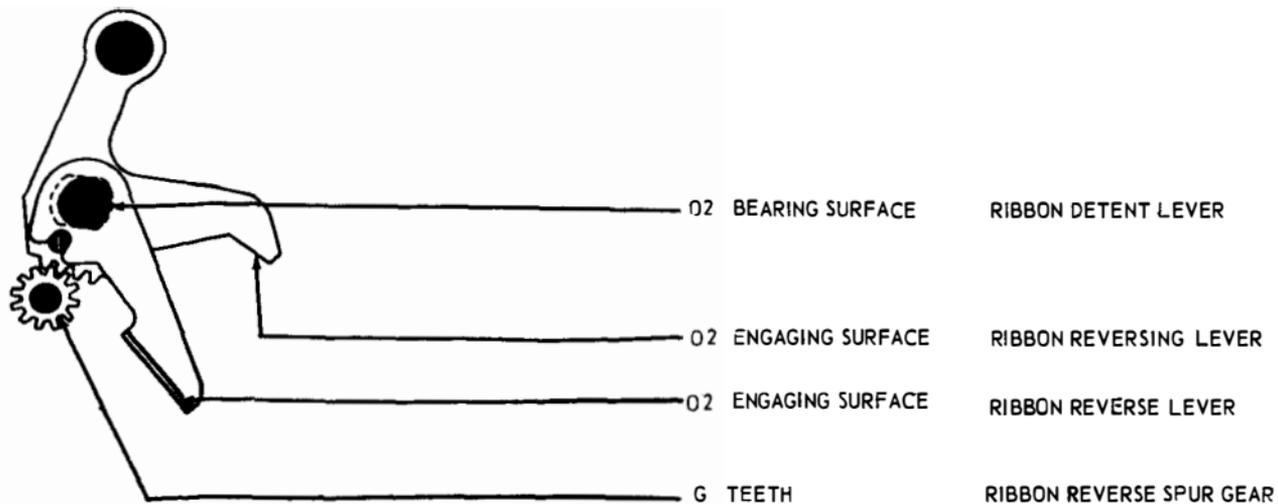
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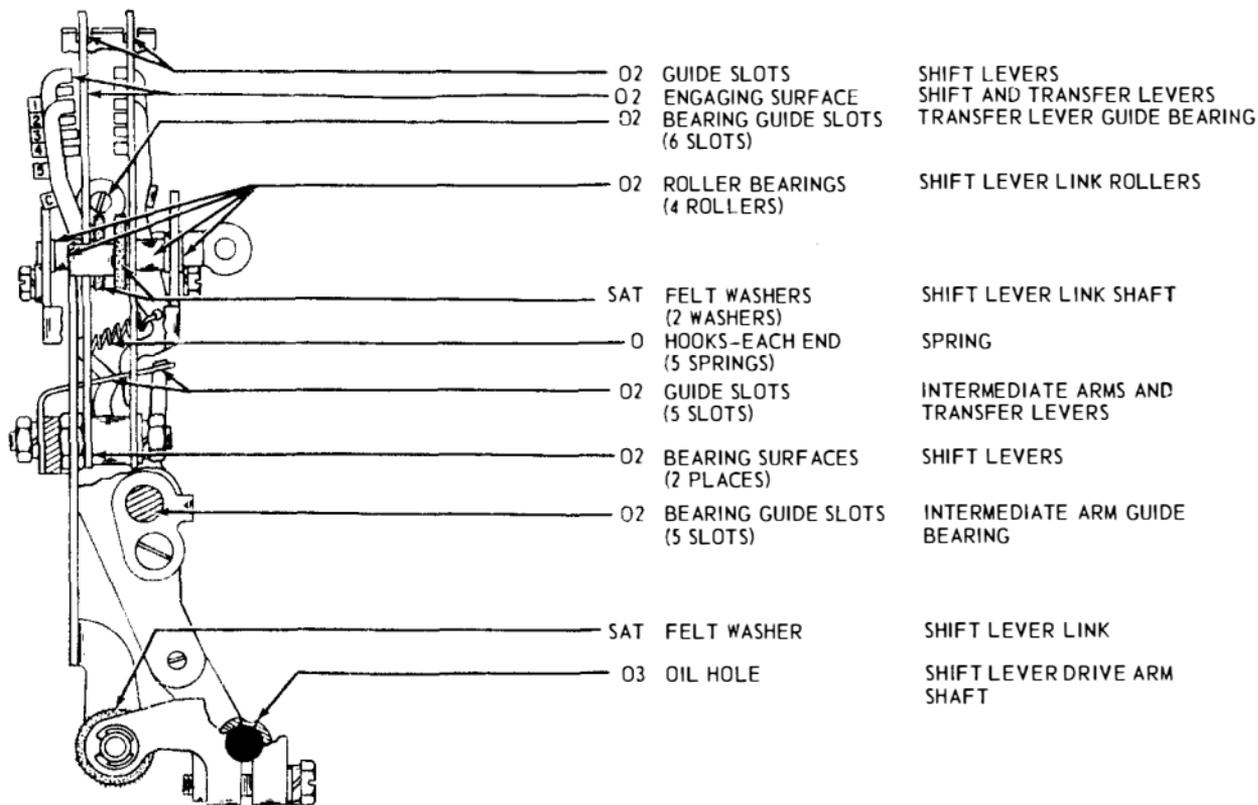
2.25 Ribbon-feed Mechanism



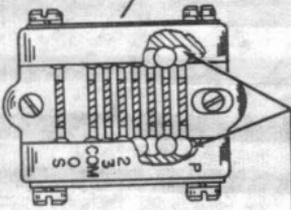
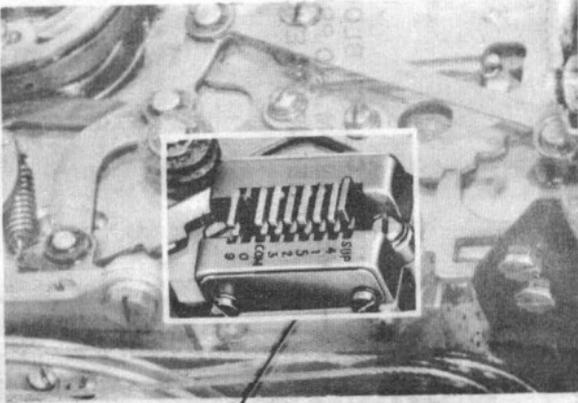
2.26 Ribbon-feed Mechanism (Contd)



2.27 Vertical Positioning Mechanism



2.28 Codebar Mechanism (Left Side)



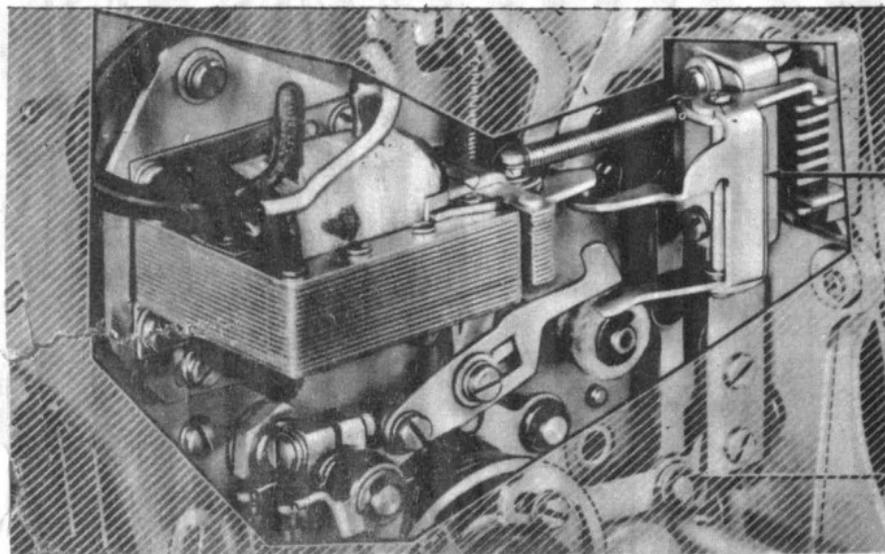
02 BEARING BALLS CODE BAR DETENT
(9 BALLS)

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UNIT
LUBRI-
CATION

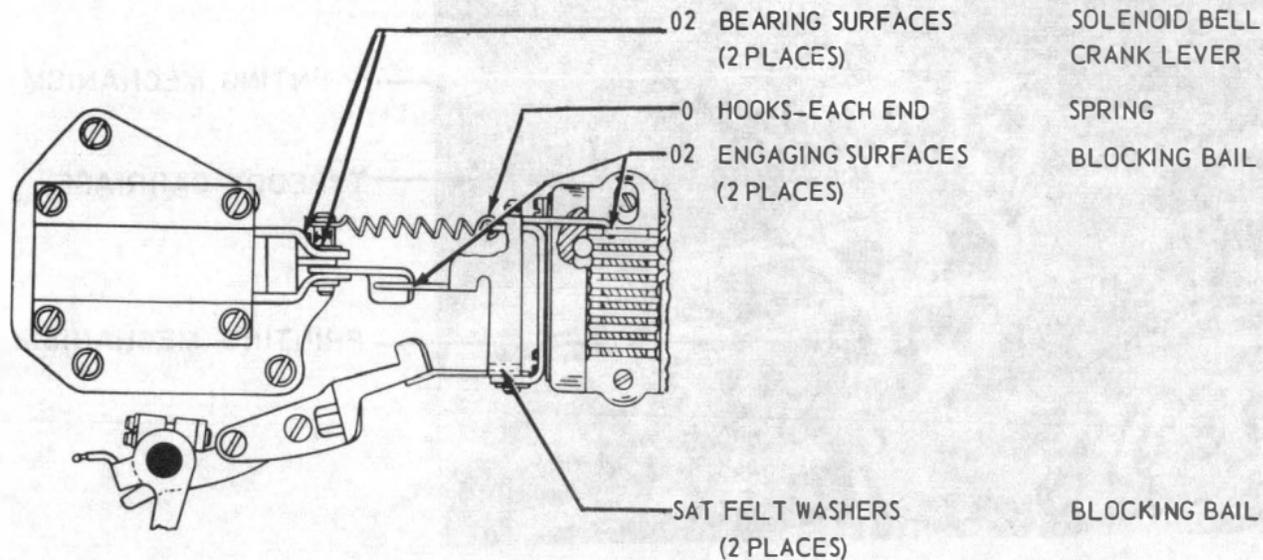
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2.29 Printing Clutch Blocking Mechanism and Print Codebar Solenoid (Left Side)

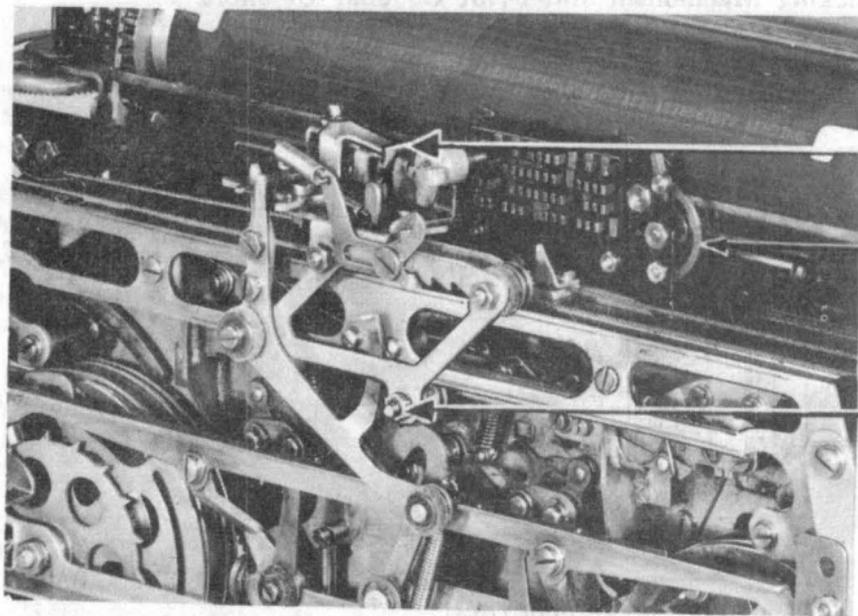


**PRINTING CLUTCH BLOCKING
MECHANISM AND PRINT
CODEBAR SOLENOID**

2.30 Printing Clutch Blocking Mechanism and Print Codebar Solenoid



2.31 Printing Mechanism and Typebox Carriage

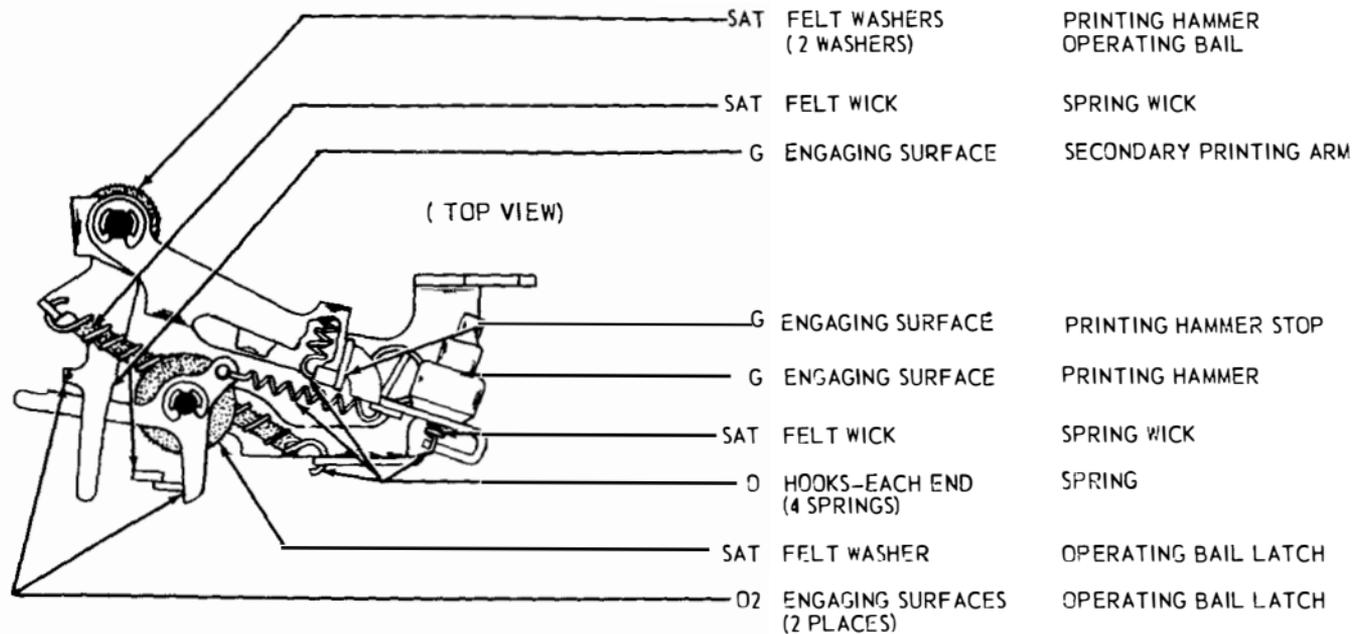


PRINTING MECHANISM

TYPEBOX CARRIAGE

PRINTING MECHANISM

2.32 Printing Mechanism

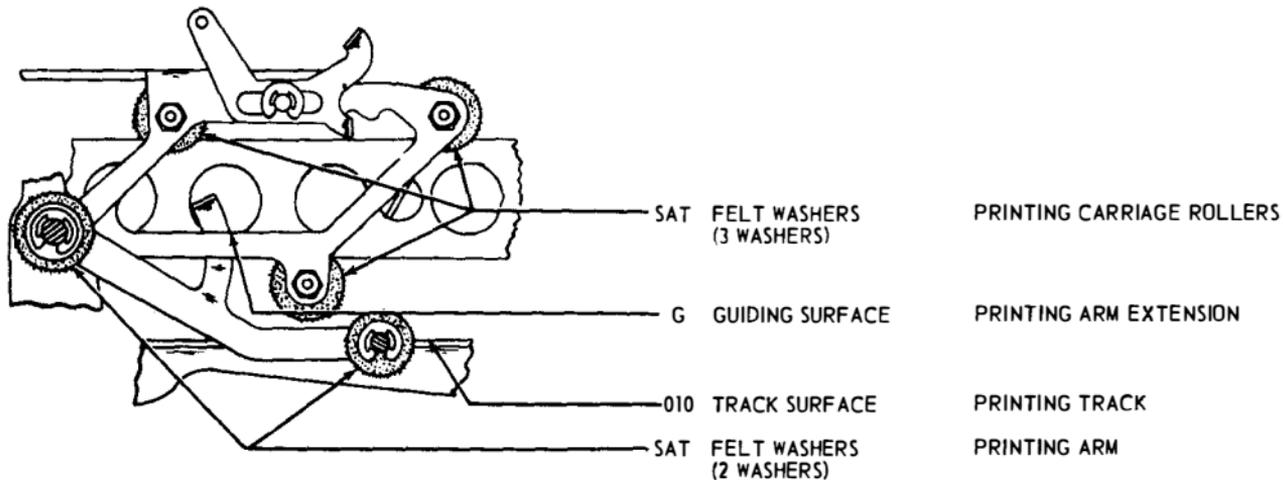


28 TYPING
UNIT
LUBRI-
CATION

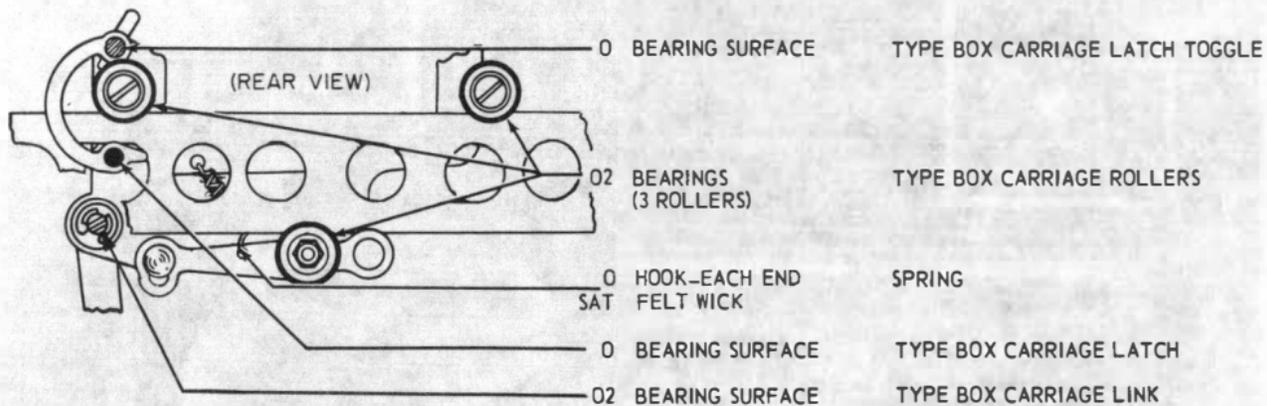
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2.33 Printing Mechanism (Contd)

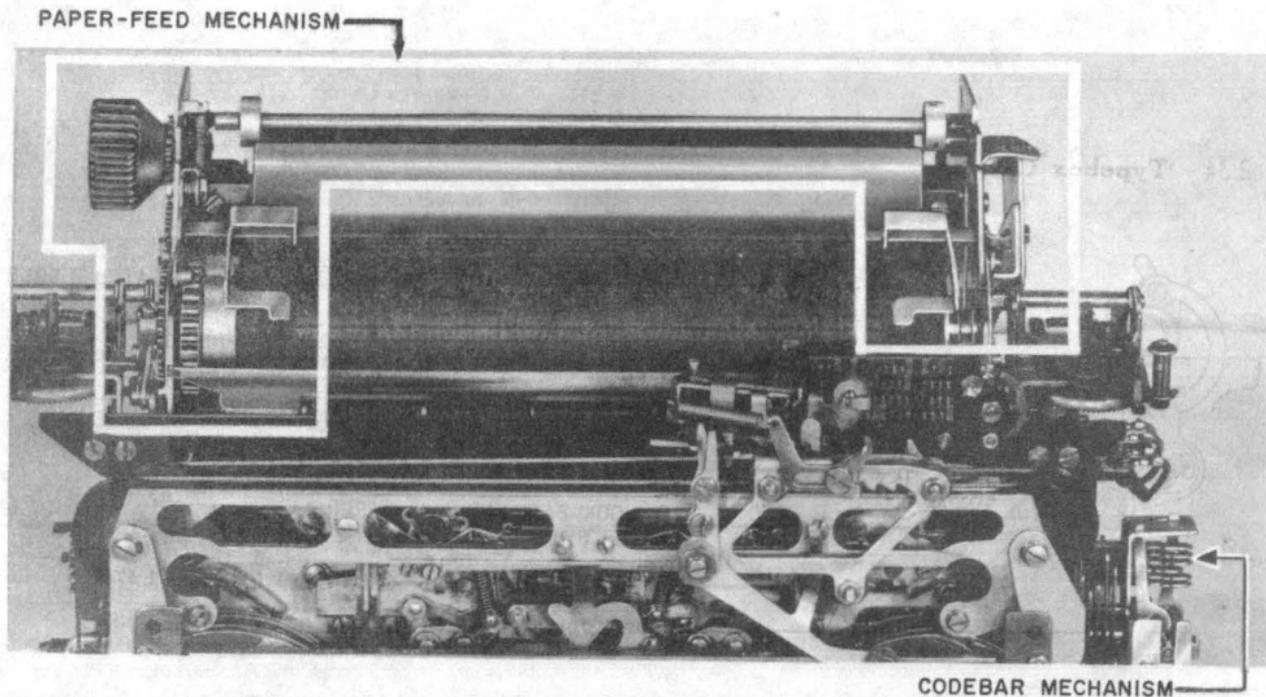


2.34 Typebox Carriage

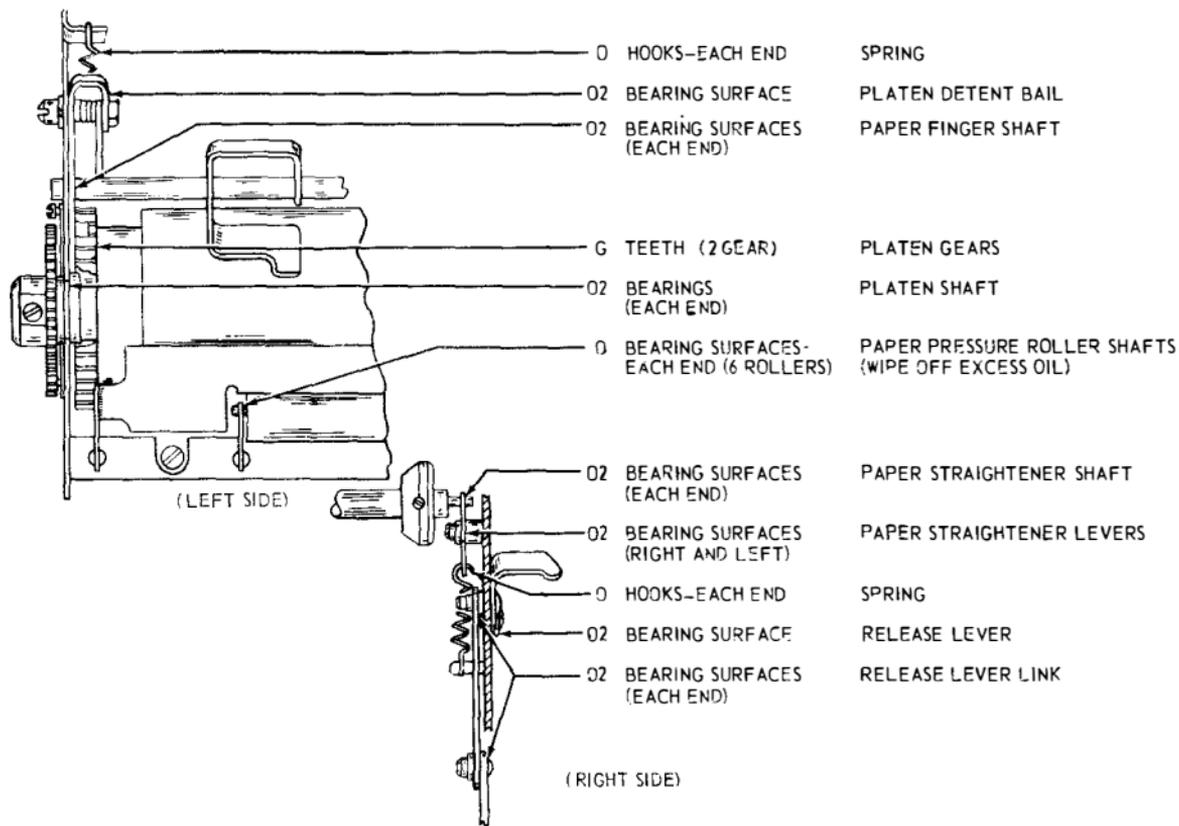


28 TYPING
UNIT
LUBRI-
CATION

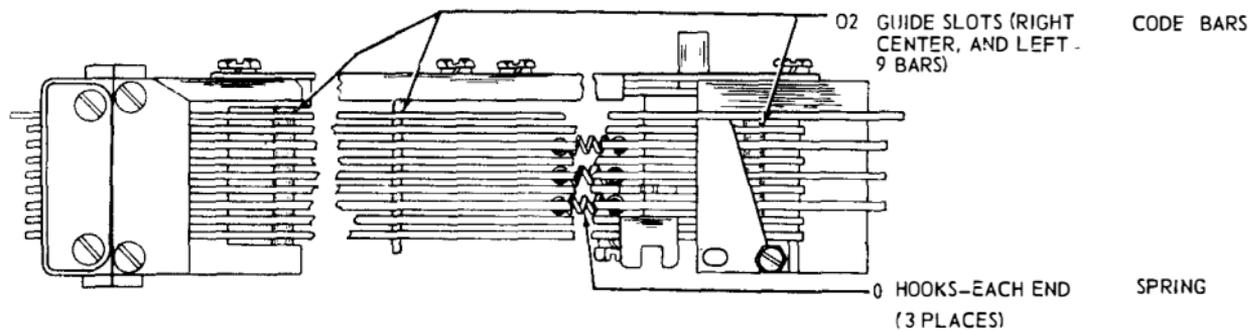
2.35 Paper-feed and Codebar Mechanisms



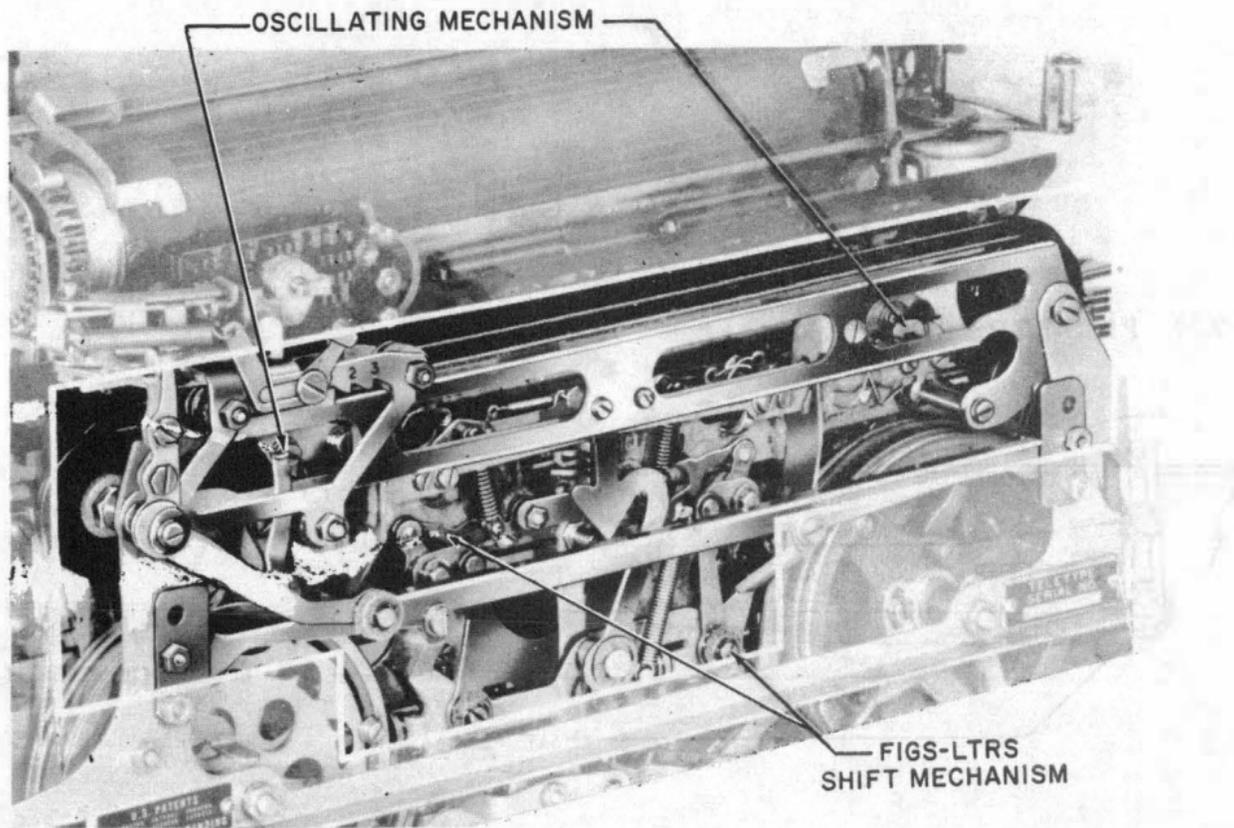
2.36 Paper-feed Mechanism



2.37 Codebar Mechanism



2.38 FIGS-LTRS Shift and Oscillating Mechanisms



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UNIT
LUBRI-
CATION

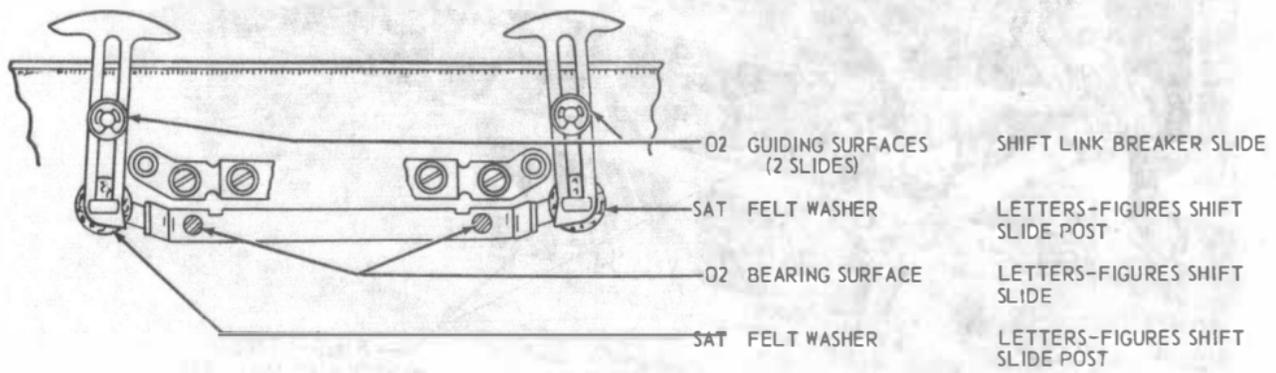
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FIGS-LTRS Shift Mechanism

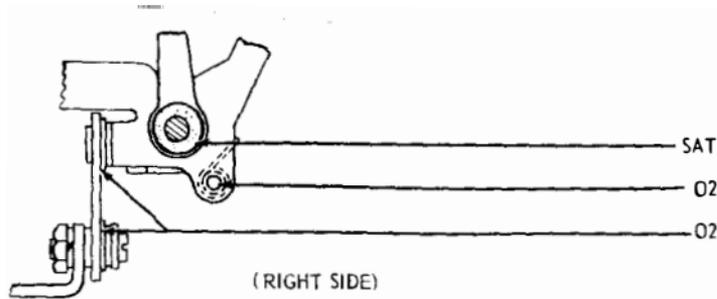
SECTIONAL VIEW

2.39 FIGS-LTRS Shift Mechanism



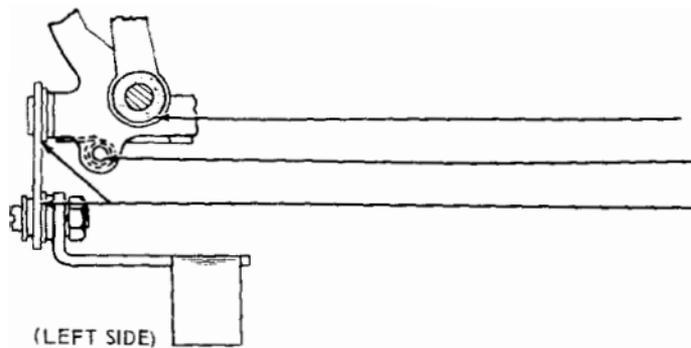
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2.40 FIGS-LTRS Shift Mechanism (Contd)



SAT FELT WASHER
 O2 BEARING SURFACE
 O2 BEARING SURFACES
 (2 PLACES)

SHIFT SLIDE DRIVE LINK
 BREAKER SLIDE BAIL
 MAIN BAIL LINK



SAT FELT WASHER
 O2 BEARING SURFACE
 O2 BEARING SURFACES
 (2 PLACES)

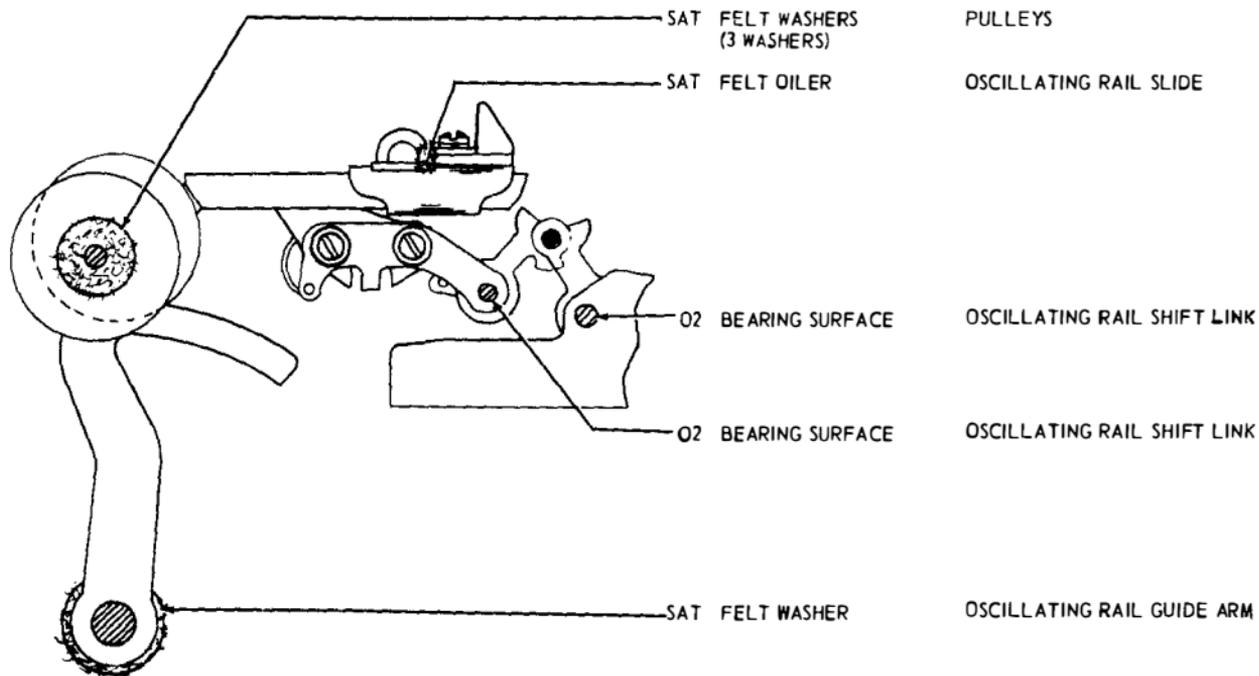
SHIFT SLIDE DRIVE LINK
 BREAKER SLIDE BAIL
 MAIN BAIL LINK

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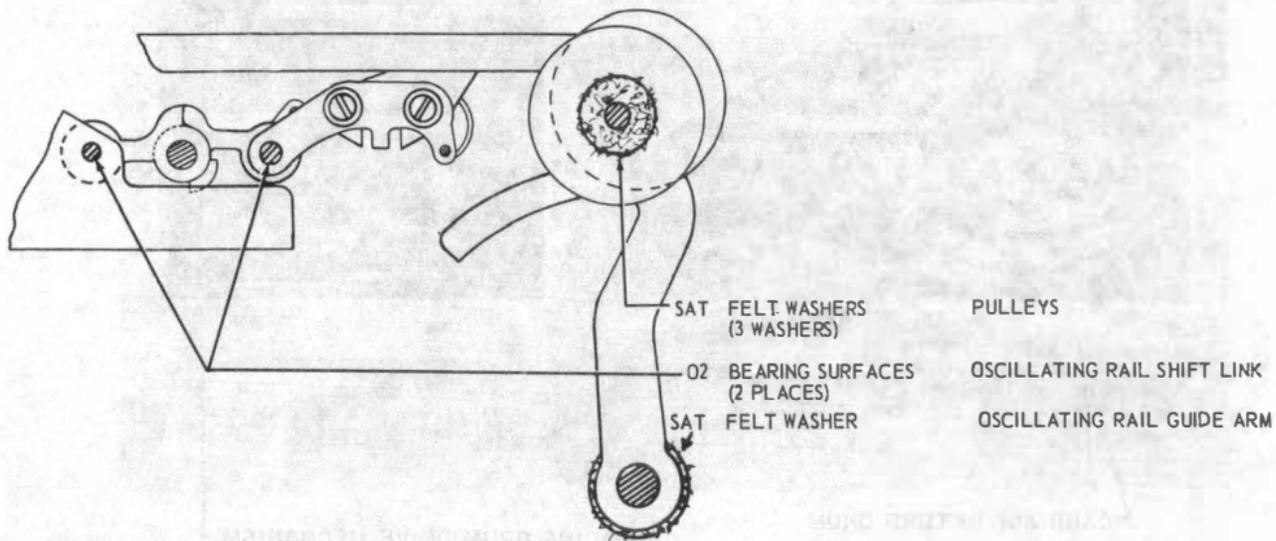
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2.41 Oscillating Mechanism

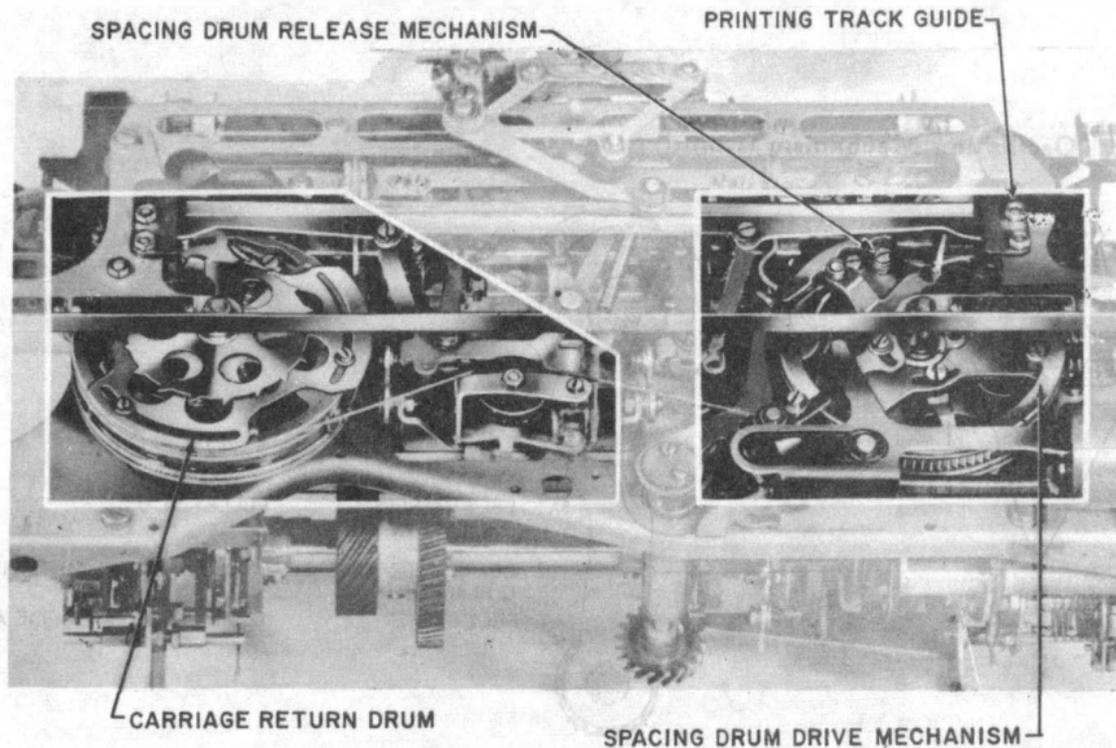


2.42 Oscillating Mechanism (Contd)

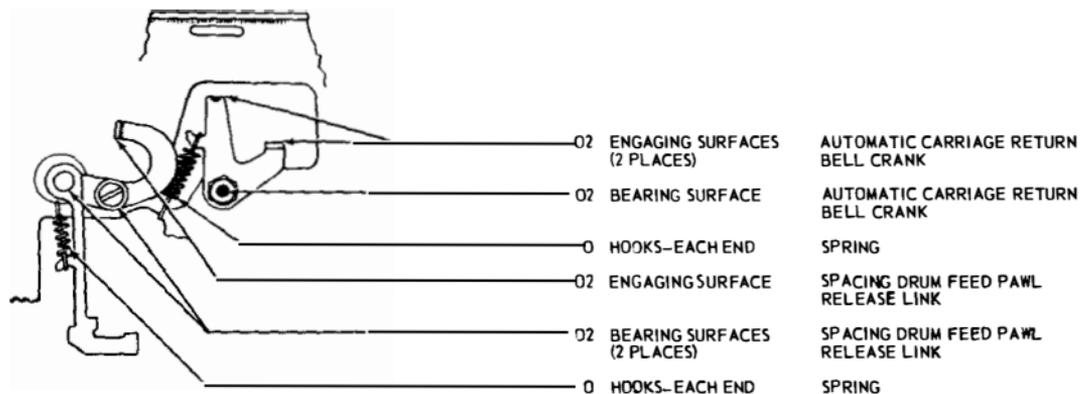


Note: The typing unit should be on its back for lubrication shown in 2.43 to 2.51, inclusive.

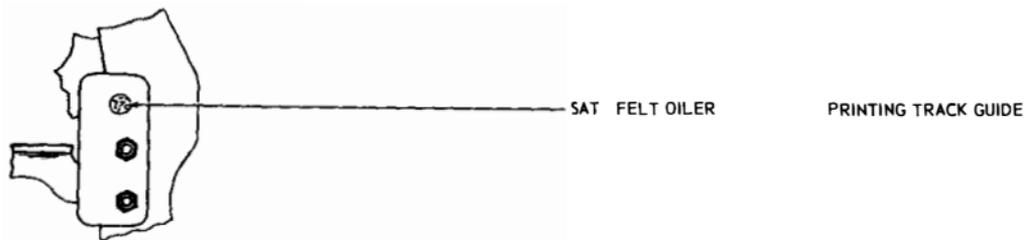
2.43 Spacing Drum Release, Printing Track Guide, Carriage Return Drum, and Spacing Drum Drive Mechanisms



2.44 Spacing Drum Release Mechanism



2.45 Printing Track Guide

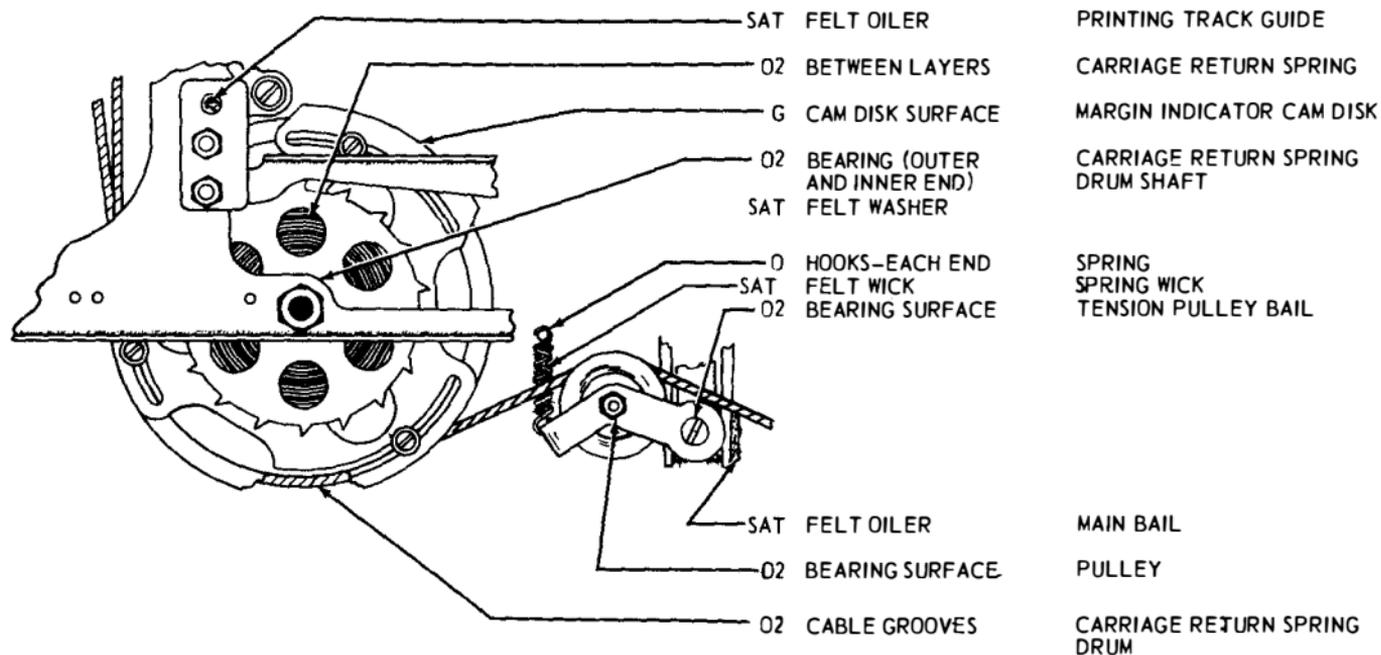


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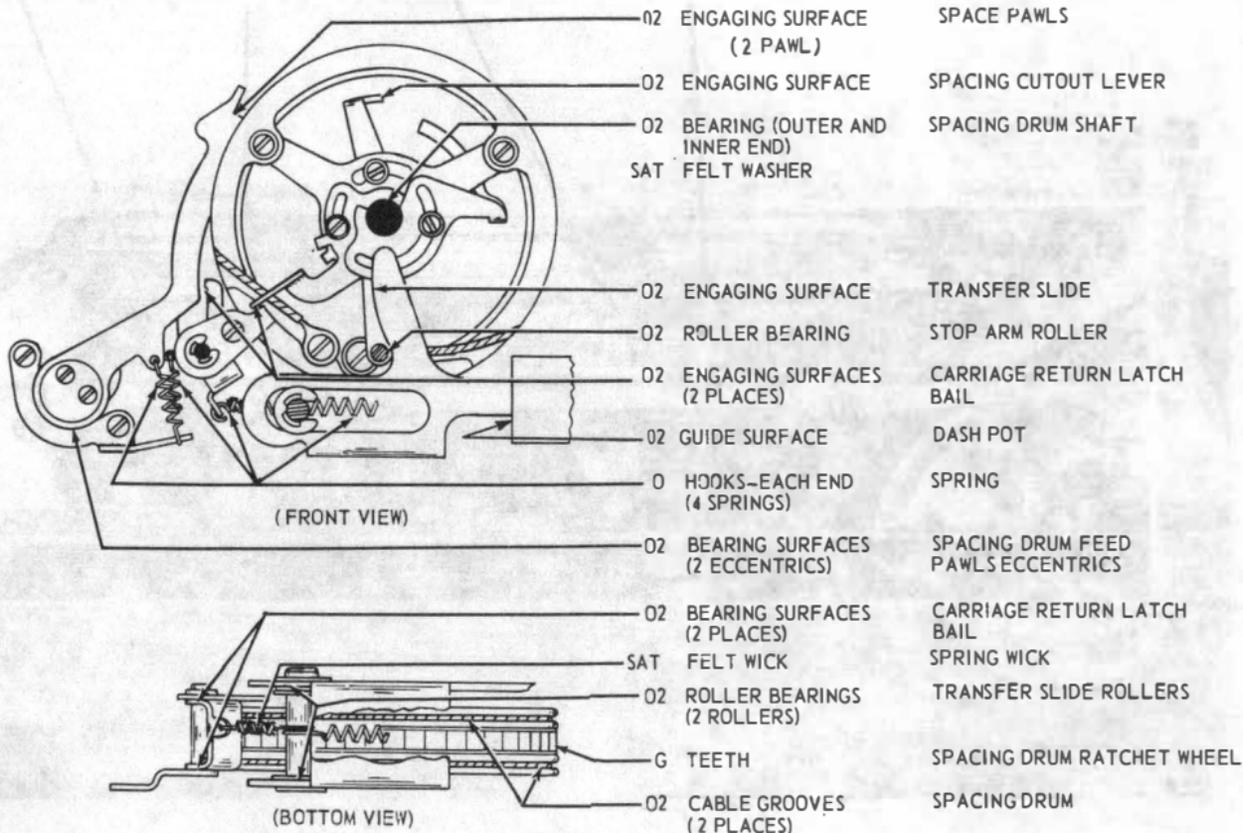
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2.46 Carriage Return Drum



2.47 Spacing Drum Drive Mechanism

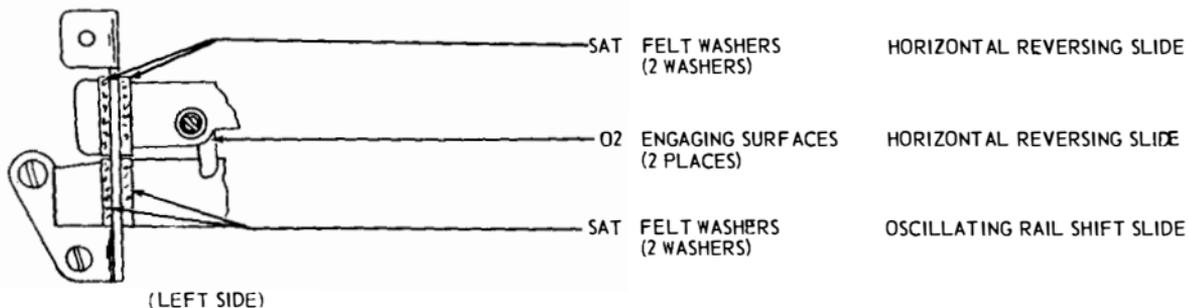
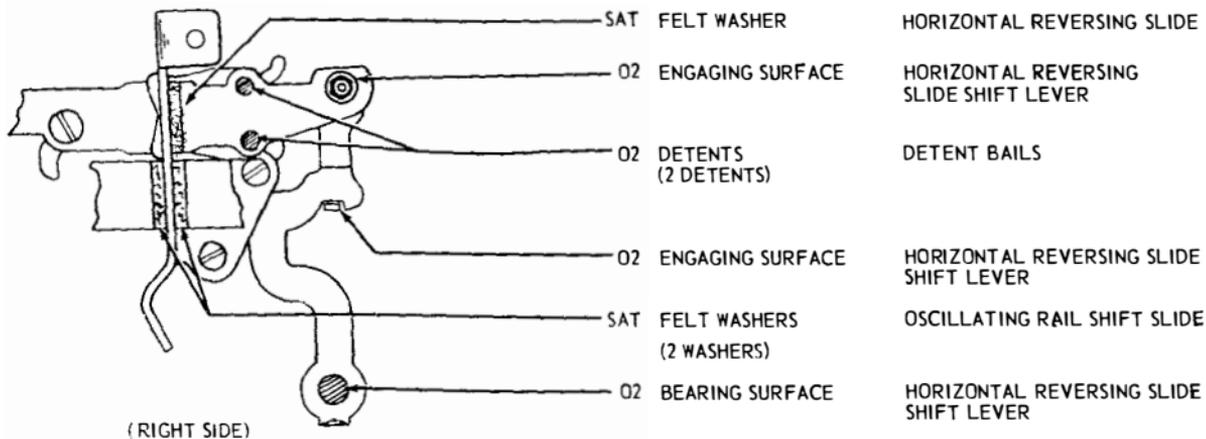


28 TYPING
UNIT
LUBRI-
CATION

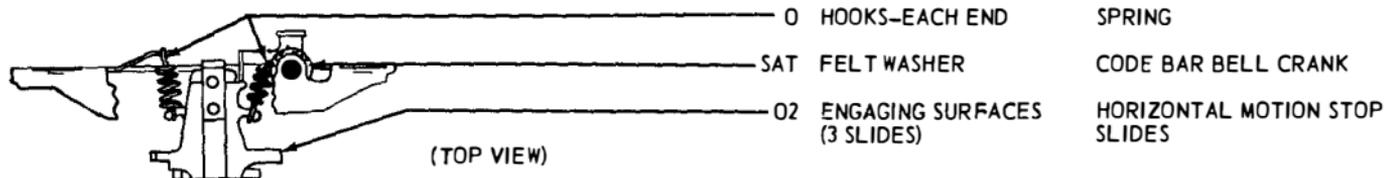
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2.49 Horizontal Positioning Mechanism (Contd)

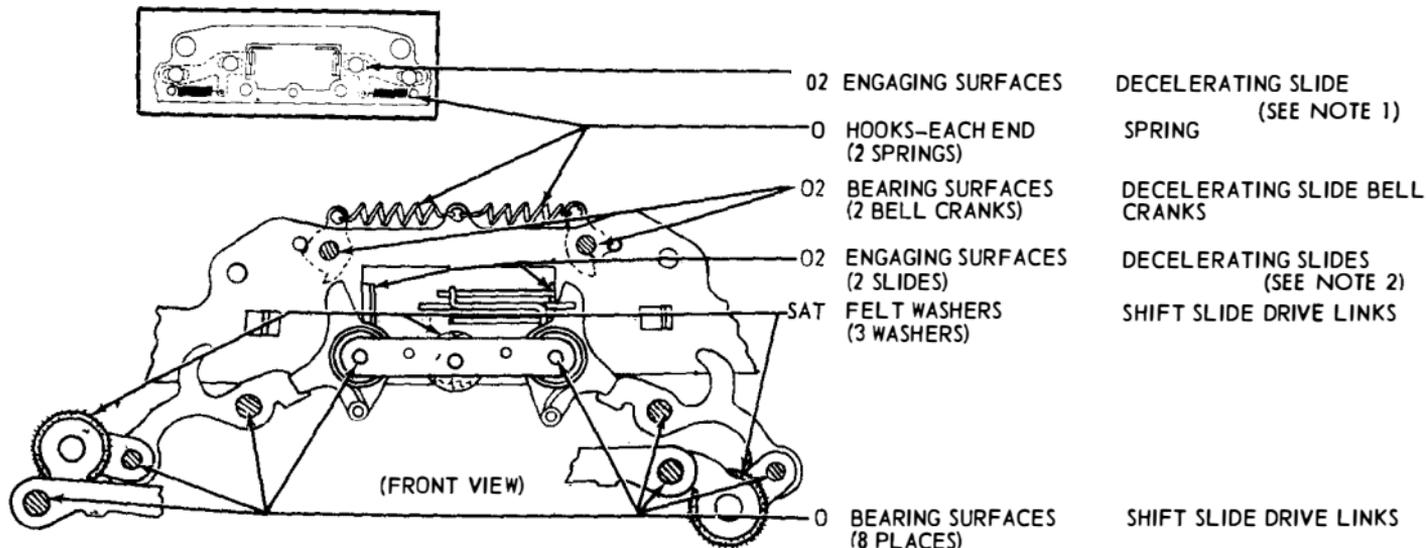


2.50 Horizontal Positioning Mechanism (Contd)

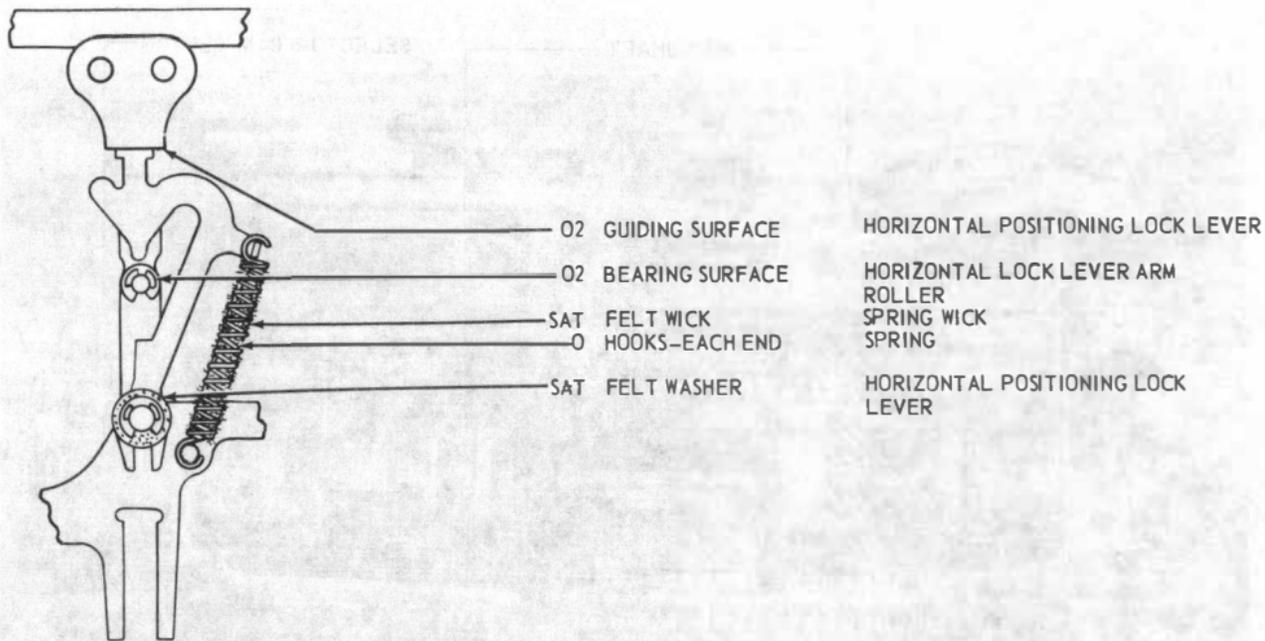


NOTES

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



2.51 Horizontal Positioning Mechanism (Contd)



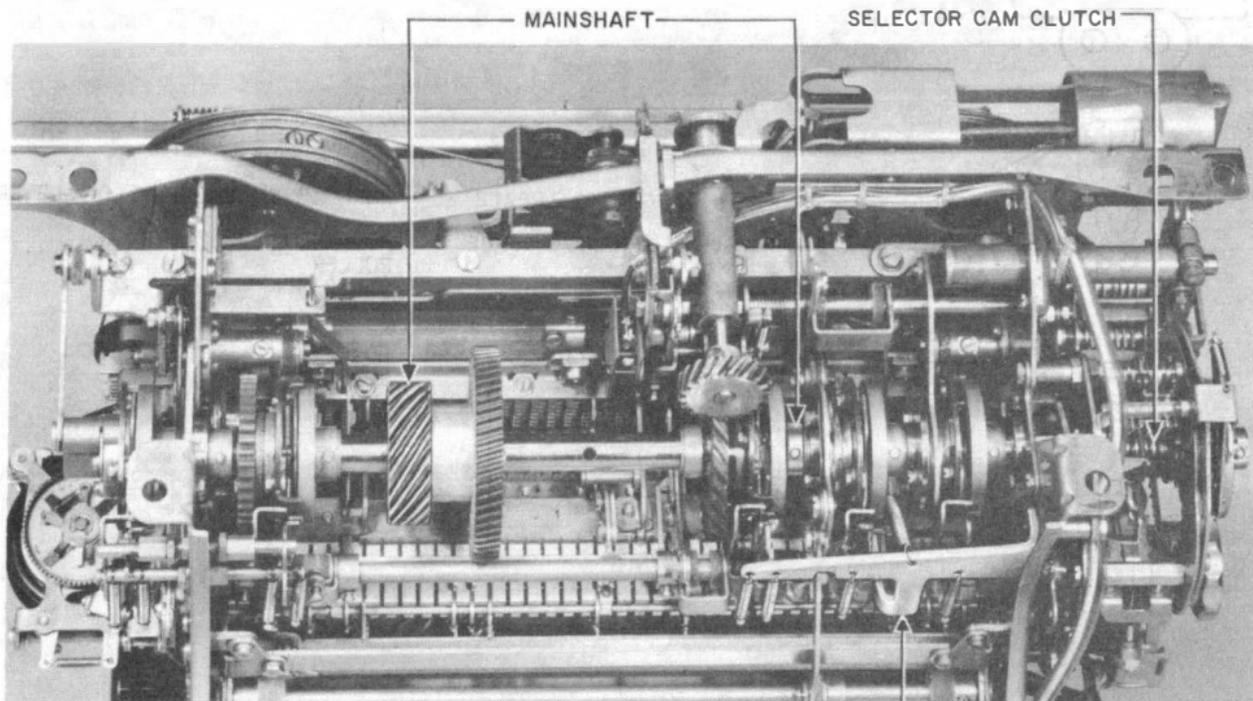
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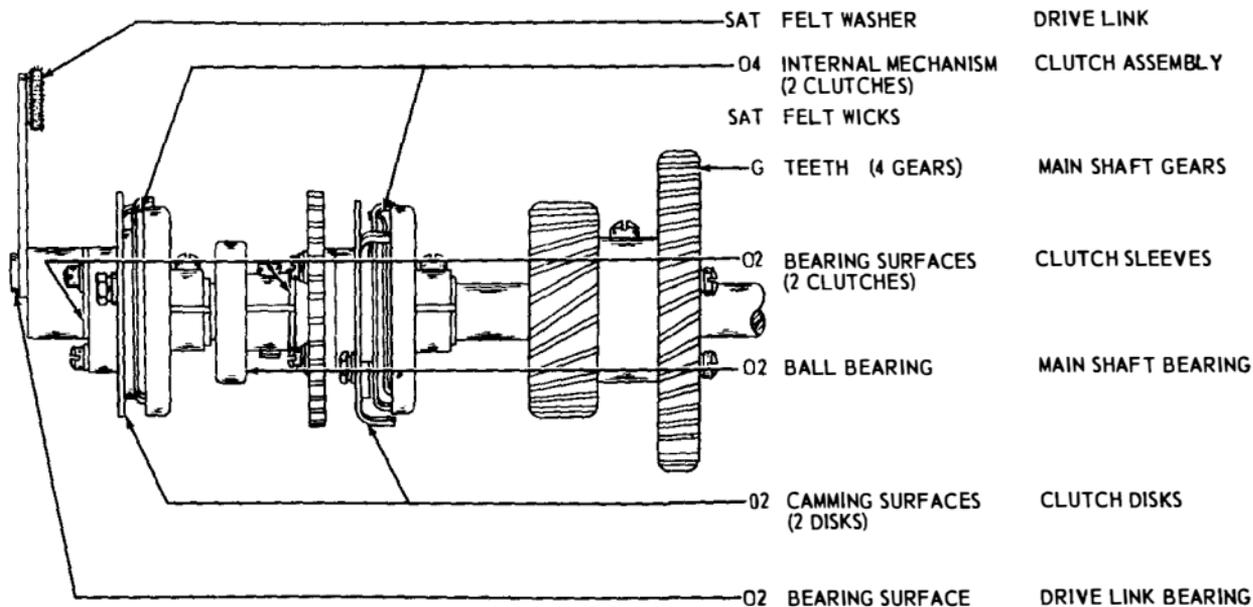
Note: The typing unit should be bottom upward for lubrication shown in 2.52 to 2.60, inclusive.

2.52 **Mainshaft**



CLUTCH TRIPLEVERS AND CAMFOLLOWERS

2.53 Mainshaft (Contd)

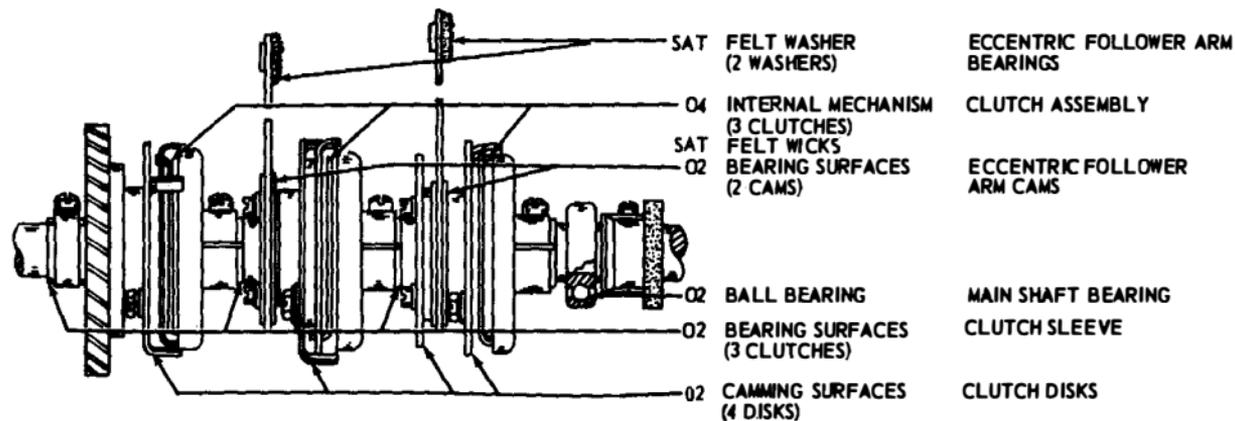


28 TYPING
UNIT
LUBRI-
CATION

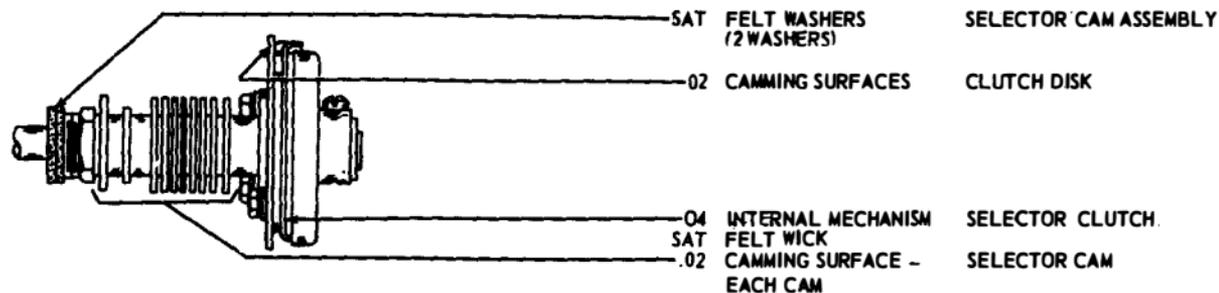
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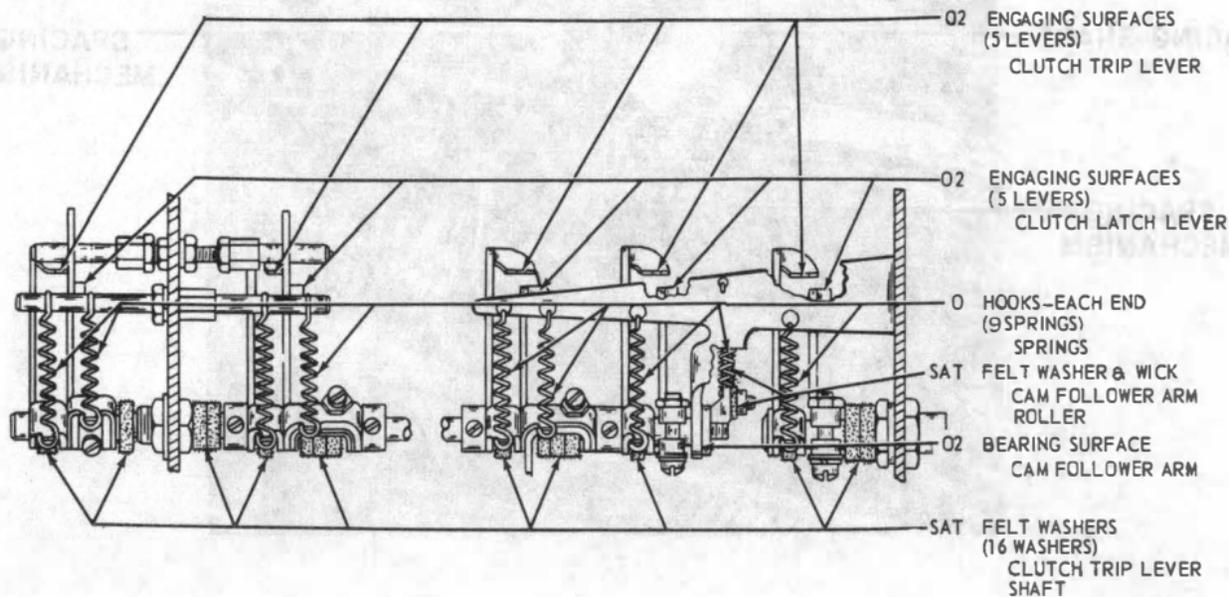
2.54 Mainshaft (Contd)



2.55 Selector Cam Clutch



2.56 Clutch Triplevers and Camfollowers



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UNIT
LUBRI-
CATION

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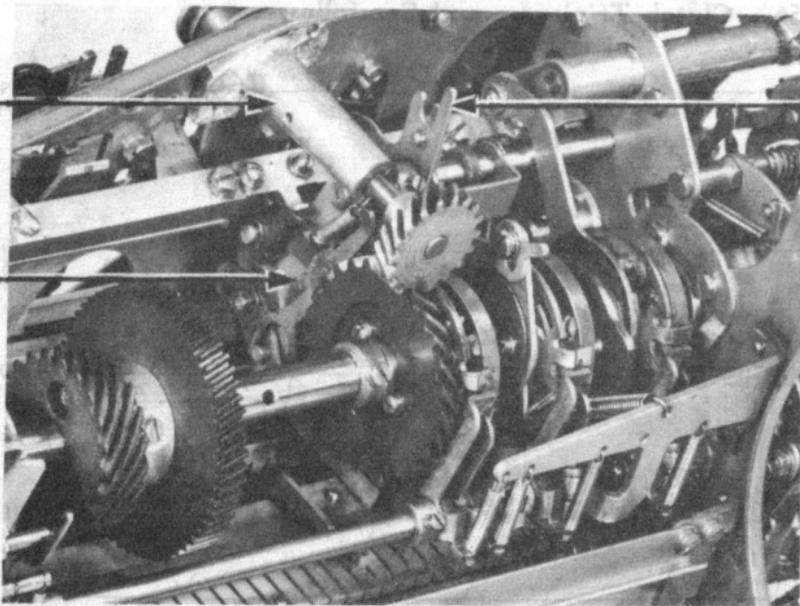
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2.57 Spacing Mechanism

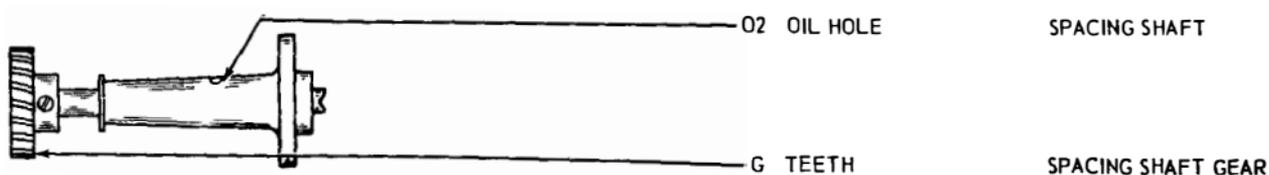
SPACING SHAFT

SPACING
MECHANISM

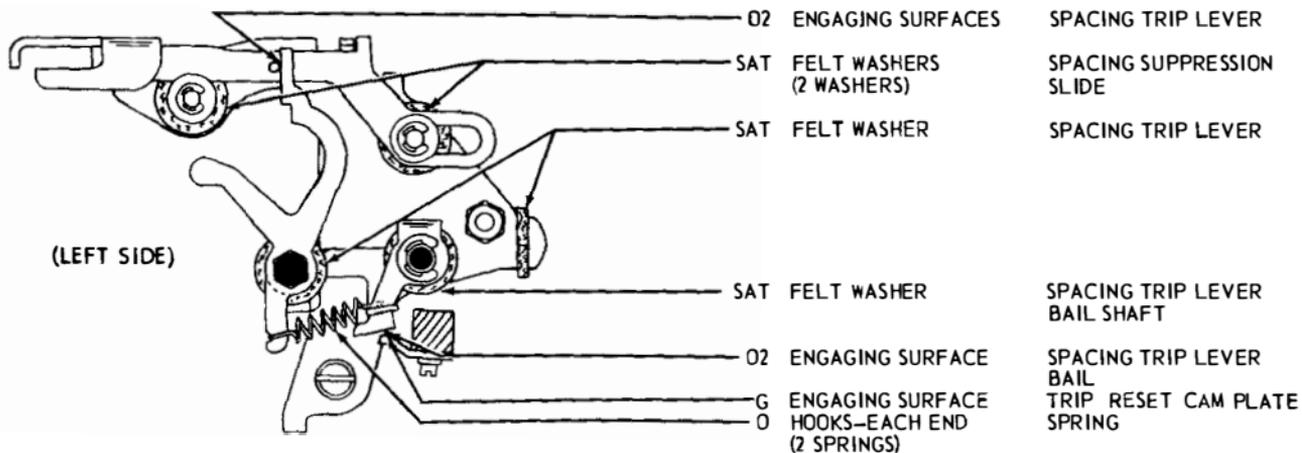
SPACING
MECHANISM



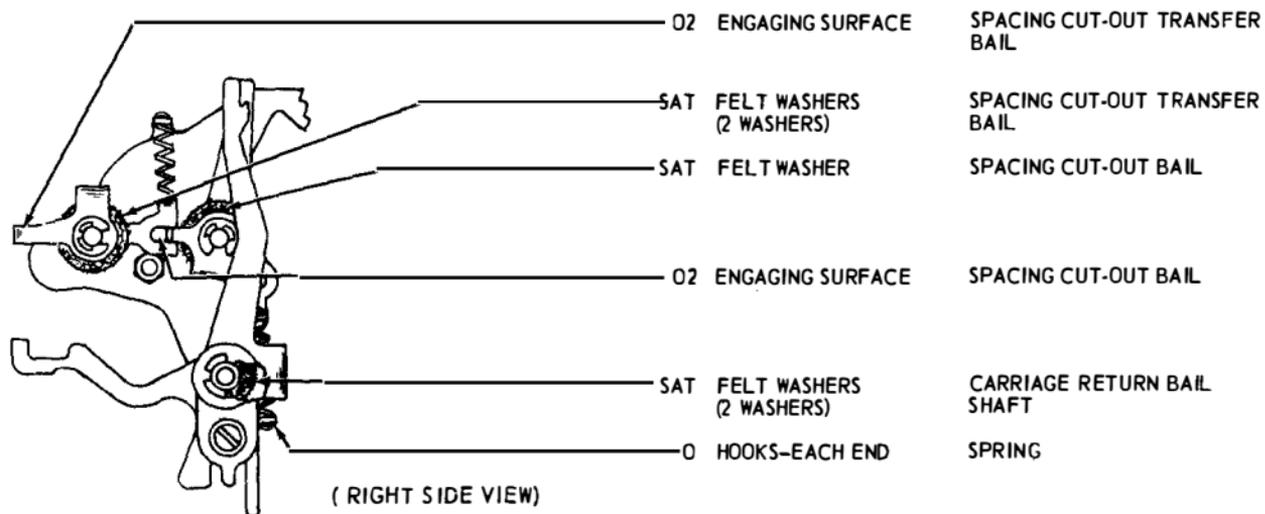
2.58 Spacing Shaft



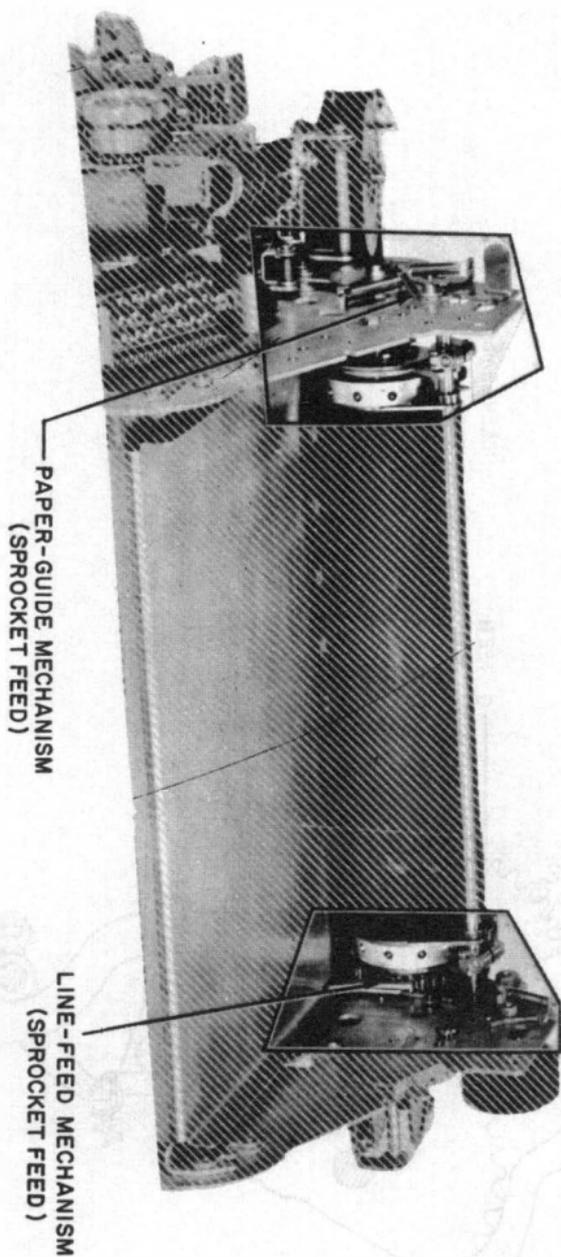
2.59 Spacing Mechanism



2.60 Spacing Mechanism (Contd)



2.61 Sprocket-feed Mechanism (Rear)

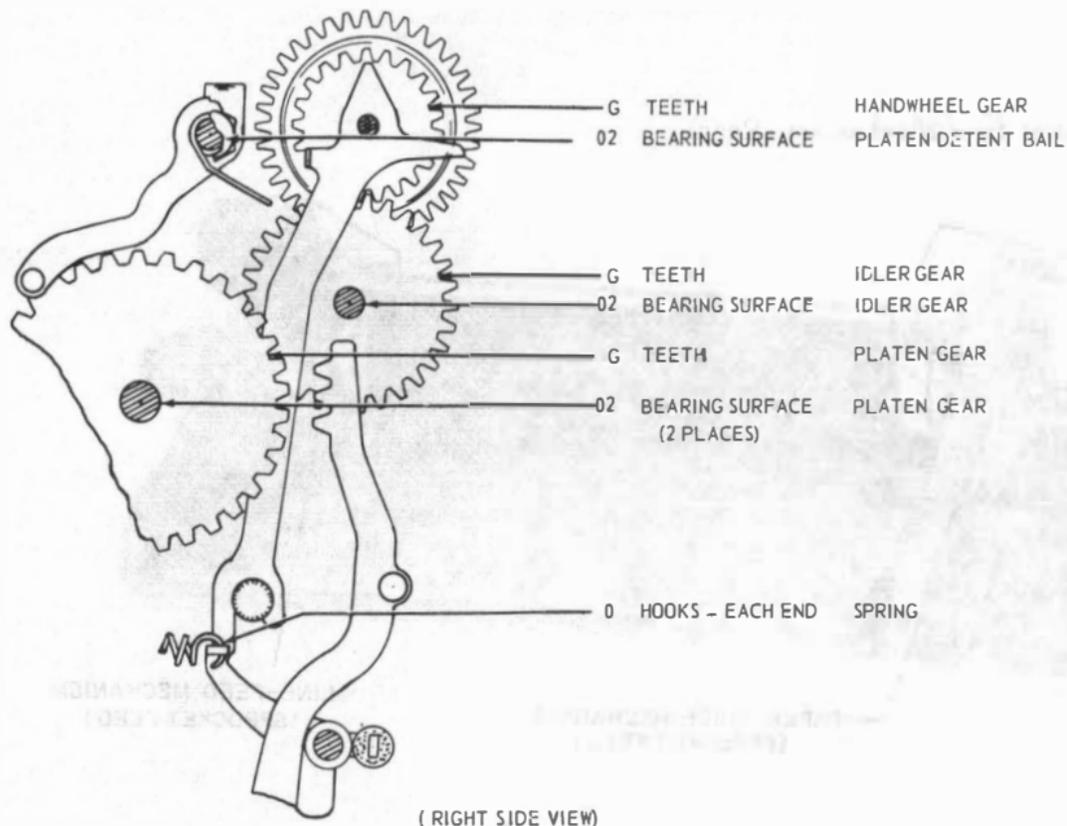


28 TYPING
UNIT
LUBRI-
CATION

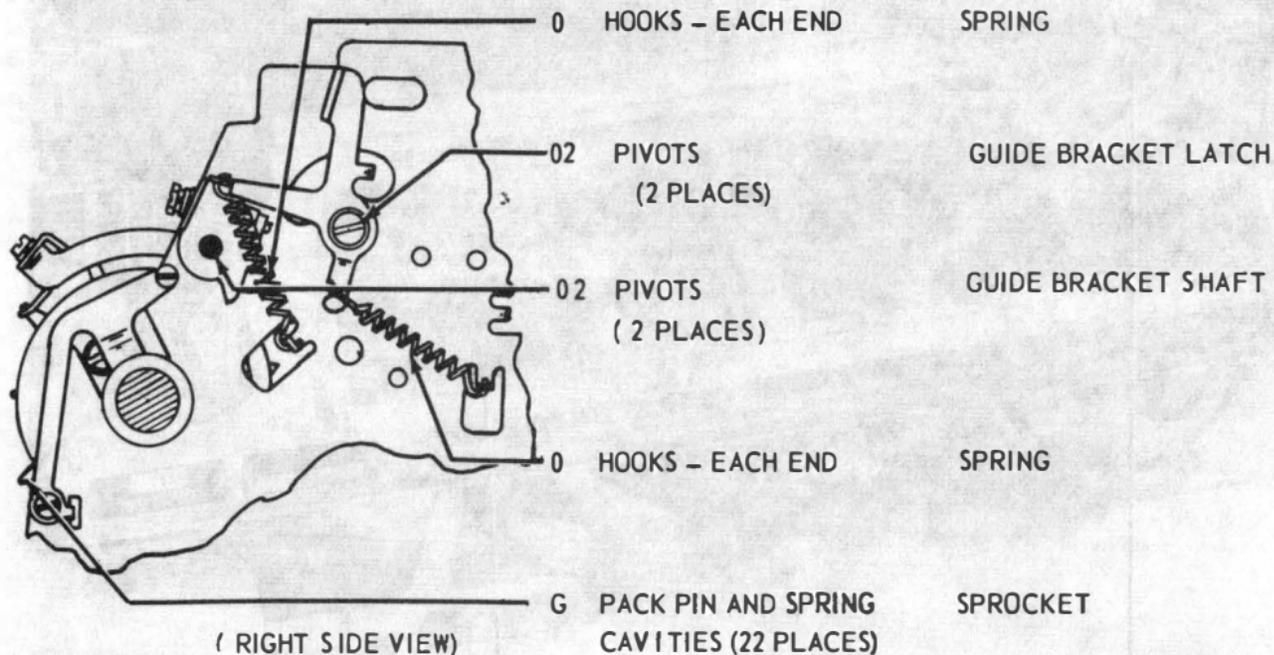
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2.62 Sprocket Feed—Line-feed Mechanism



2.63 Sprocket Feed—Paper-guide Mechanism

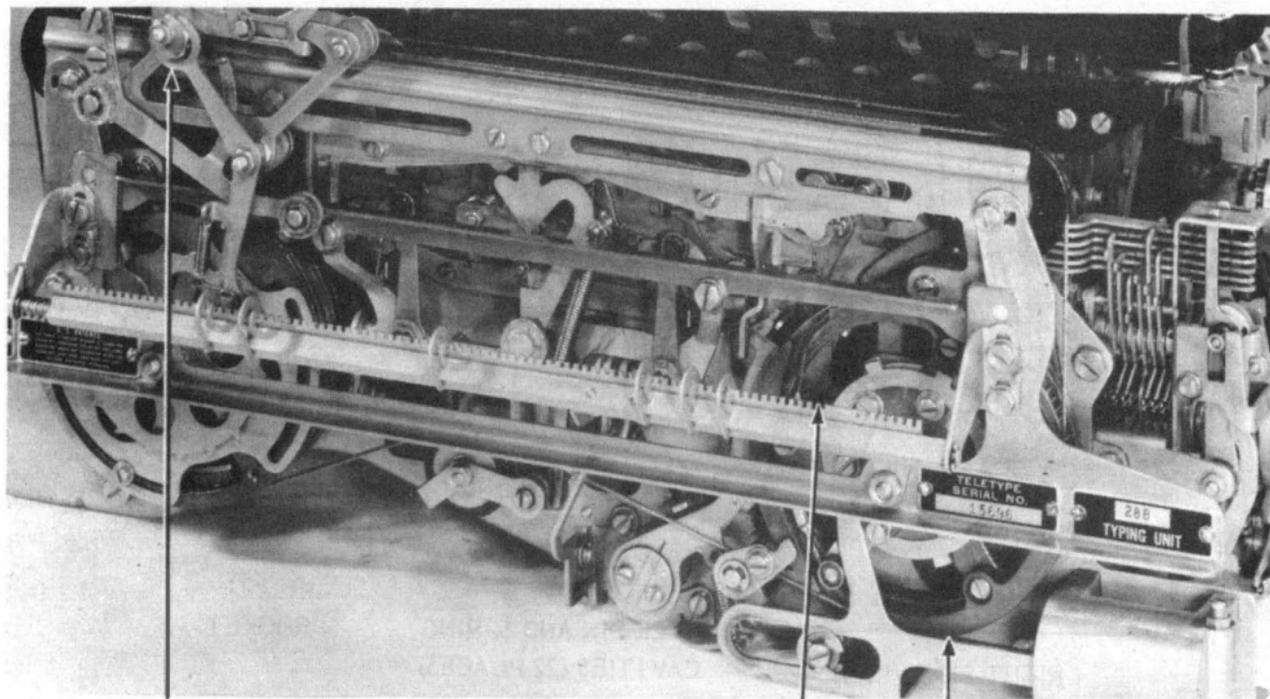


28 TYPING
UNIT
LUBRI-
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2.64 Universal Drum (Later Design) and Horizontal Tabulator (Earlier Design)

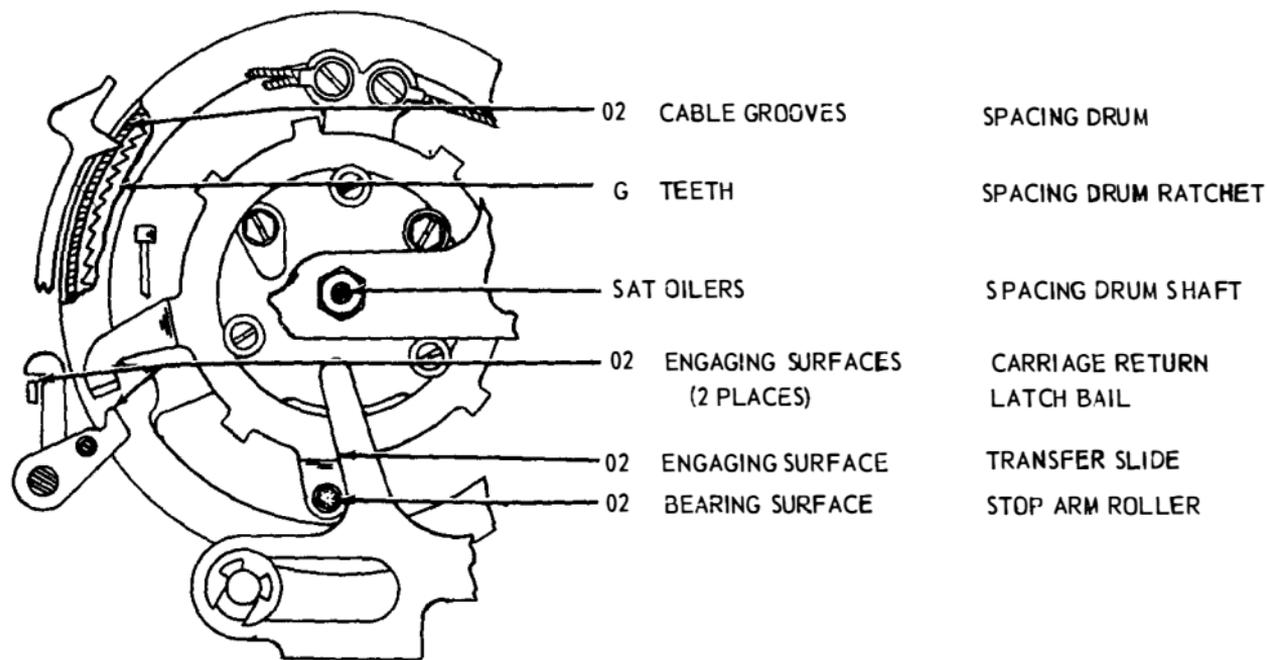


TABULATOR SHAFT

SPACE SUPPRESSION MECHANISM

UNIVERSAL DRUM

2.65 Universal Drum (Later Design)

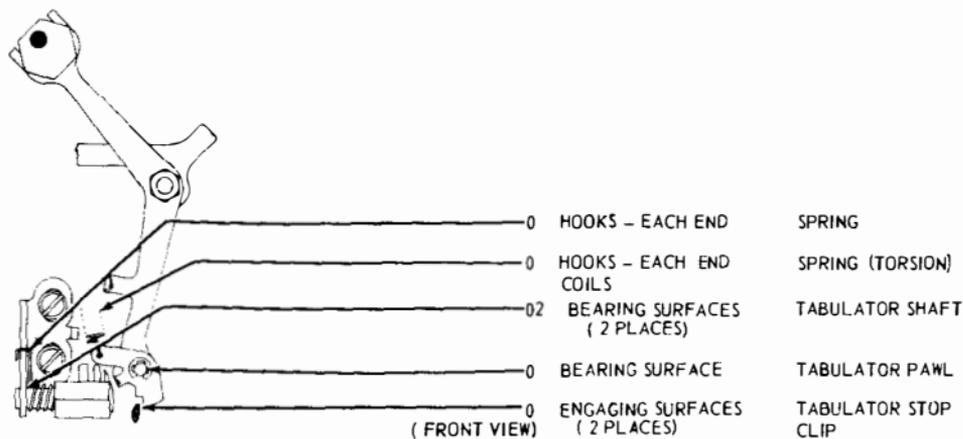


28 TYPING
UNIT
LUBRI-
CATION

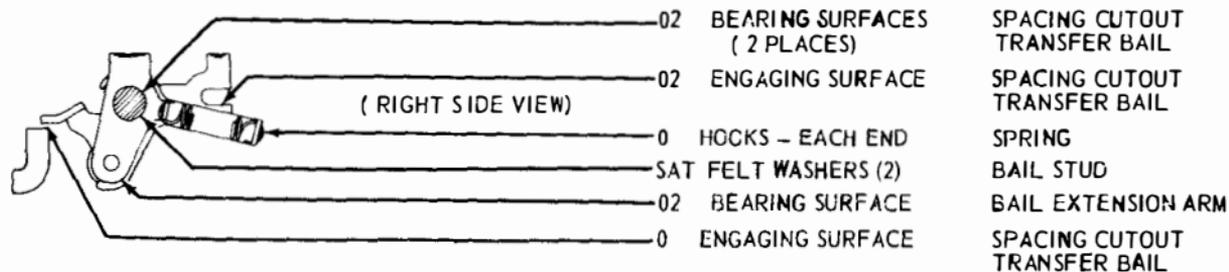
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2.66 Horizontal Tabulator—Tabulator Shaft Mechanism (Earlier Design)

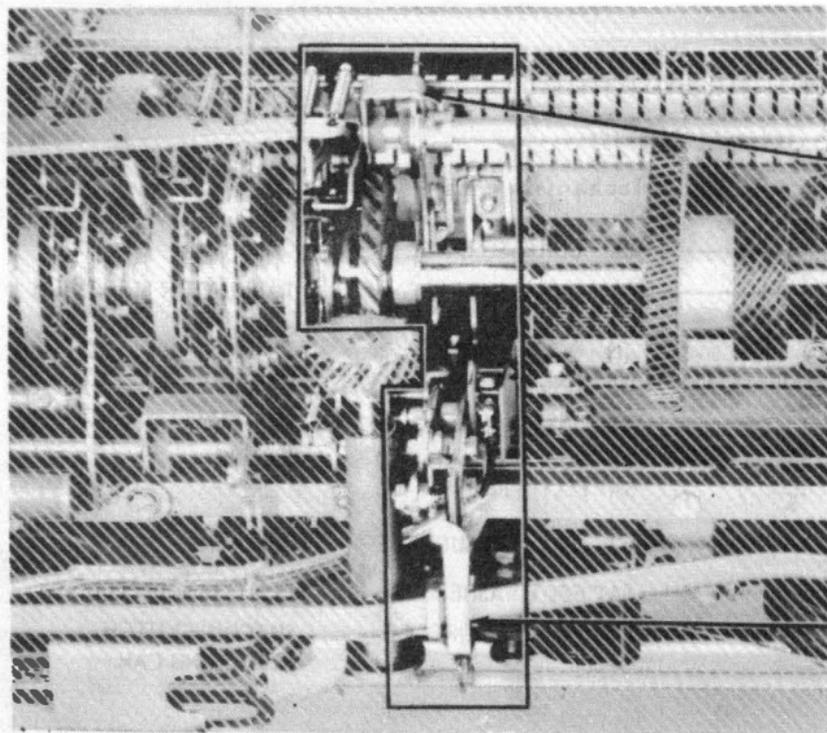


2.67 Horizontal Tabulator—Space Suppression Mechanism (Earlier Design)



Note: The typing unit should be bottom upward for lubrication shown in 2.68 to 2.70, inclusive.

2.68 **Horizontal Tabulator (Earlier Design)**



SPACING CLUTCH
MECHANISM

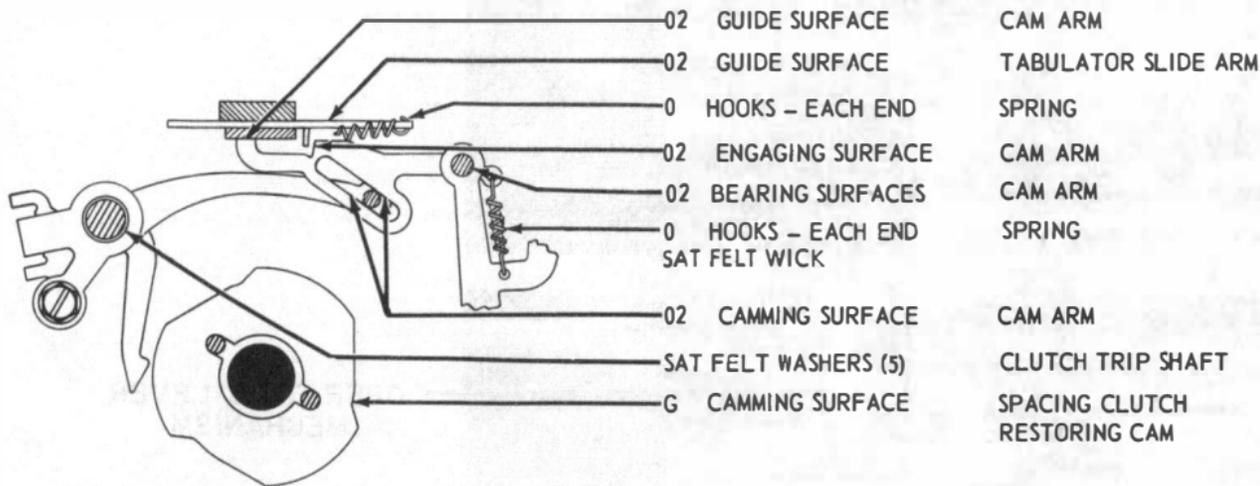
OPERATING LEVER
MECHANISM

28 TYPING
UNIT
LUBRI-
CATION

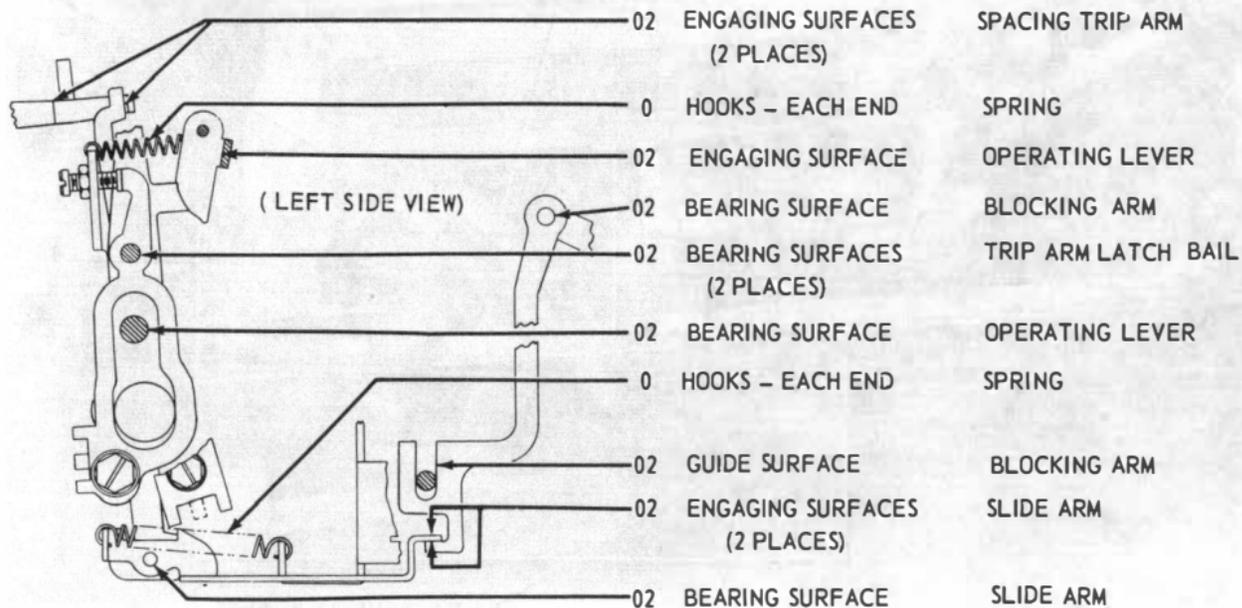
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2.69 **Horizontal Tabulator—Space Clutch Mechanism (Earlier Design)**



2.70 Horizontal Tabulator—Operating Lever Mechanism (Earlier Design)

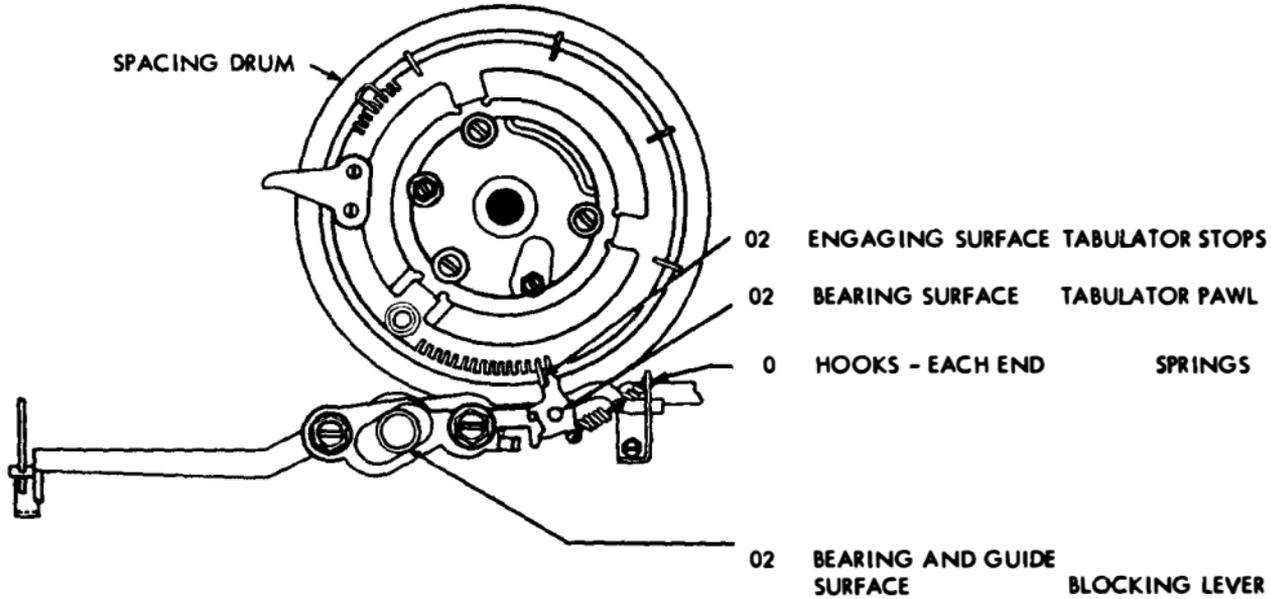


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UNIT
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2.72 Horizontal Tabulator—Blocking Lever (Later Design)

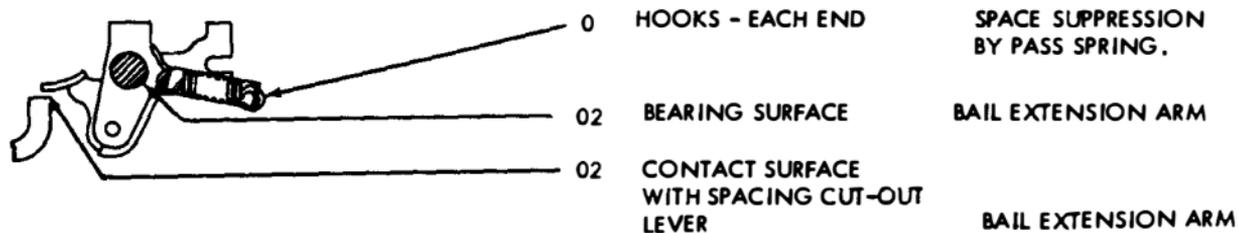


28 TYPING
UNIT
LUBRI-
CATION

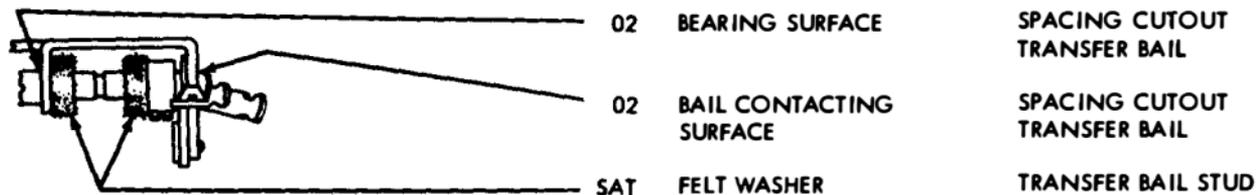
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2.73 Horizontal Tabulator—Spacing Cutout Transfer Bail (Later Design)

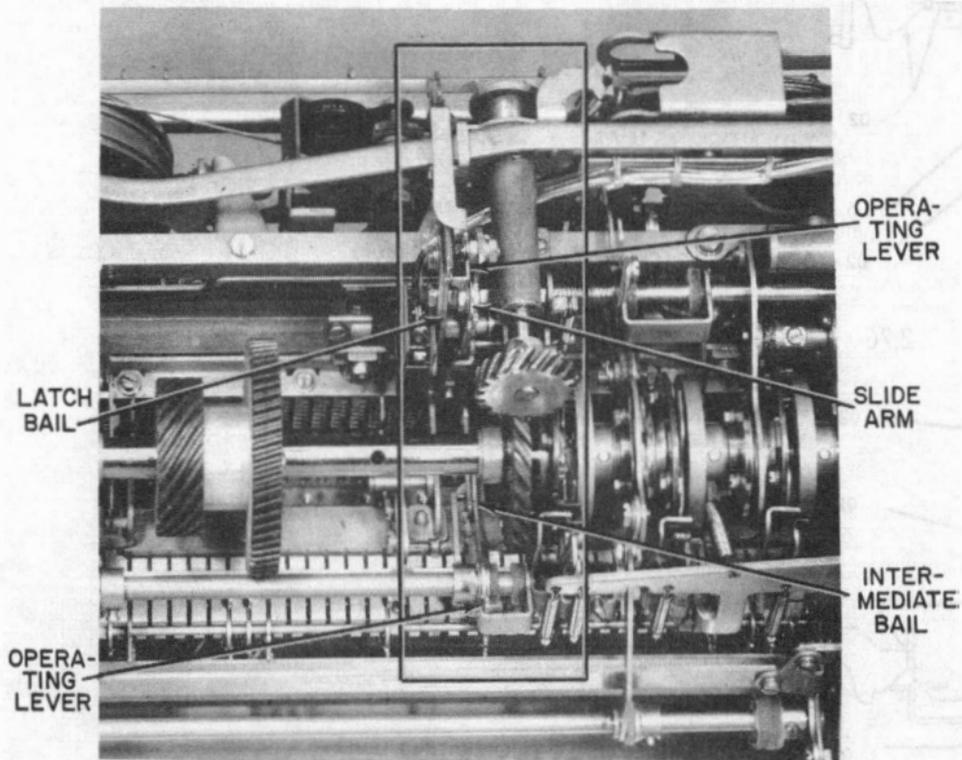


2.74 Horizontal Tabulator—Bail Extension Arm (Later Design)



Note: The typing unit should be bottom up for 2.75 to 2.80.

2.75 Horizontal Tabulator (Later Design)

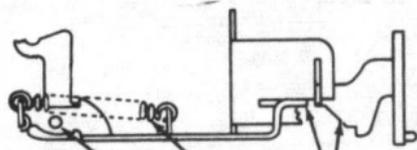


28 TYPING
UNIT
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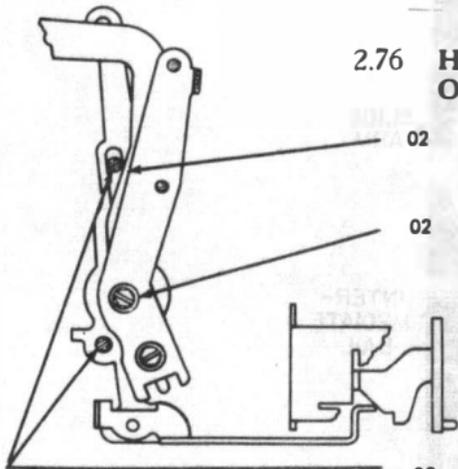
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2.76 Horizontal Tabulator—Slide Arm (Later Design)



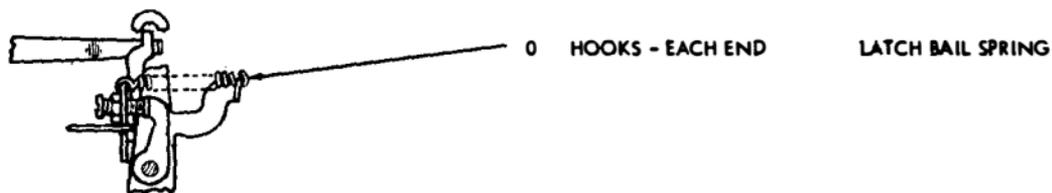
- | | | |
|----|--|------------------------------|
| 02 | ENGAGING SURFACE
WITH BLOCKING LEVER
AND BRACKET | OPERATING LEVER
SLIDE ARM |
| 0 | HOOKS - EACH END | SLIDE ARM SPRING |
| 02 | BEARING SURFACE | OPERATING LEVER
SLIDE ARM |

2.76 Horizontal Tabulator—
Operating Lever (Later Design)

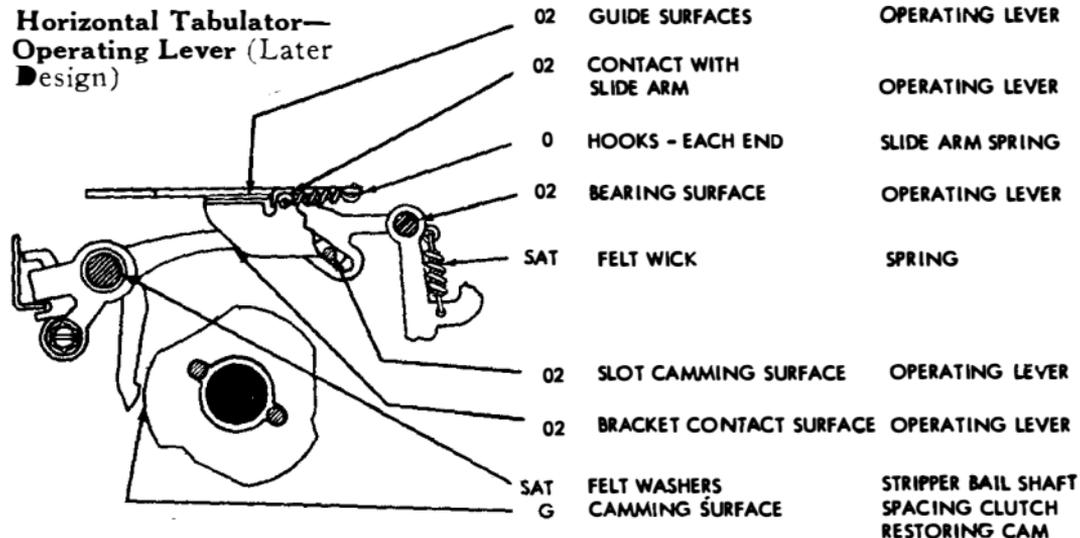


- | | | |
|----|--|------------------------------|
| 02 | CONTACTING SURFACE
WITH ADJUSTING PLATE | OPERATING LEVER |
| 02 | BEARING SURFACE | TRIP LEVER ARM
LATCH BAIL |
| 02 | BEARING SURFACE | OPERATING LEVER |

2.78 Horizontal Tabulator—Latch Bail (Later Design)



2.79 Horizontal Tabulator—
Operating Lever (Later
Design)

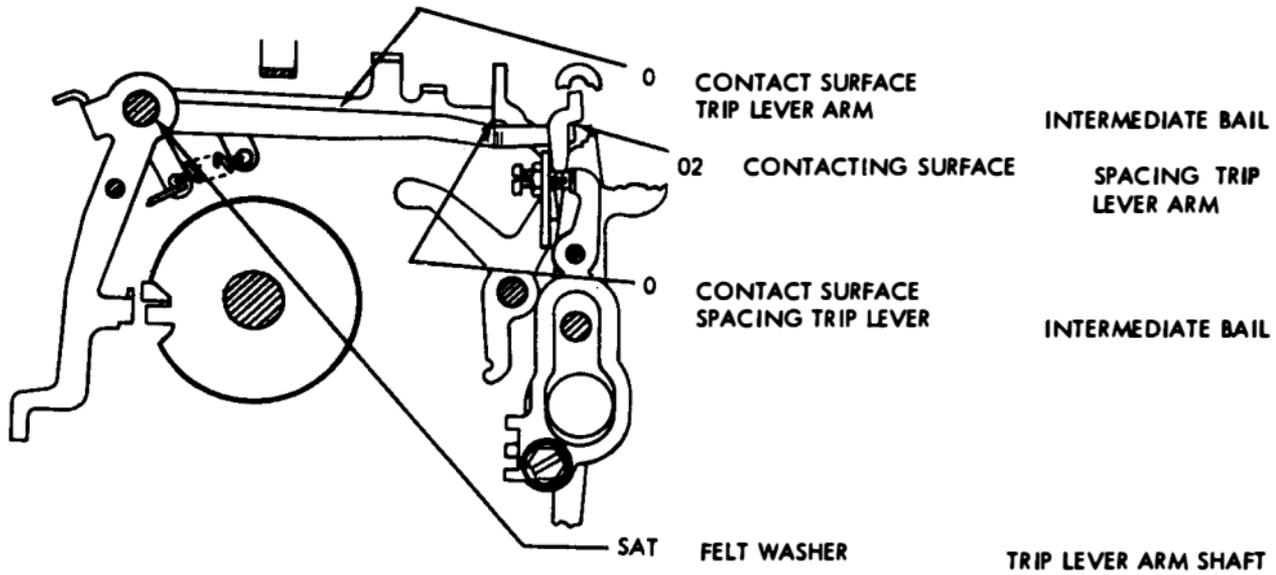


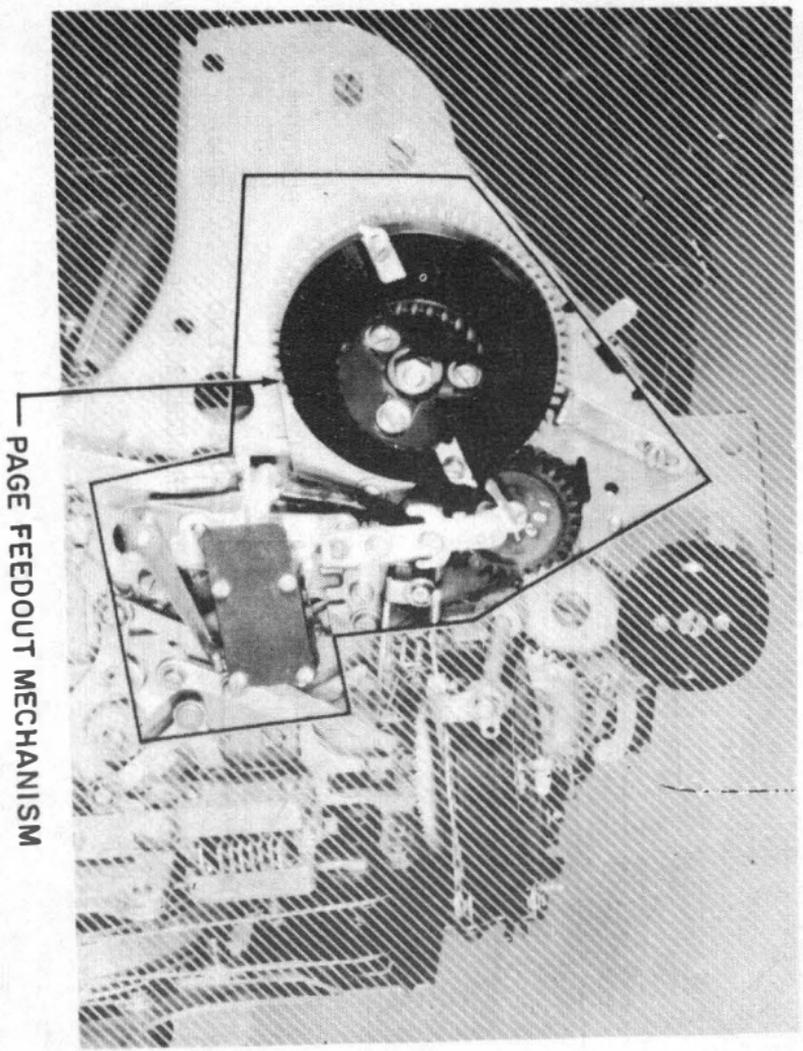
28 TYPING
UNIT
LUBRI-
CATION

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2.80 **Horizontal Tabulator—Intermediate Bail (Later Design)**



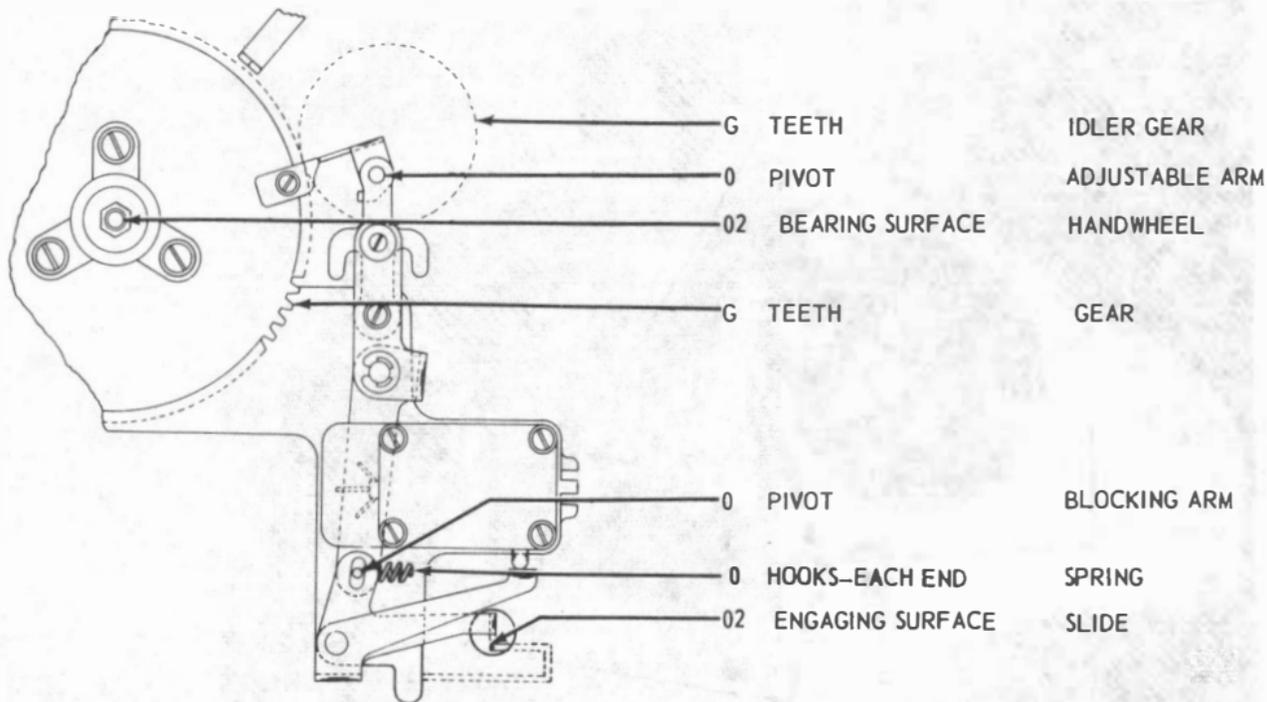


P34.501

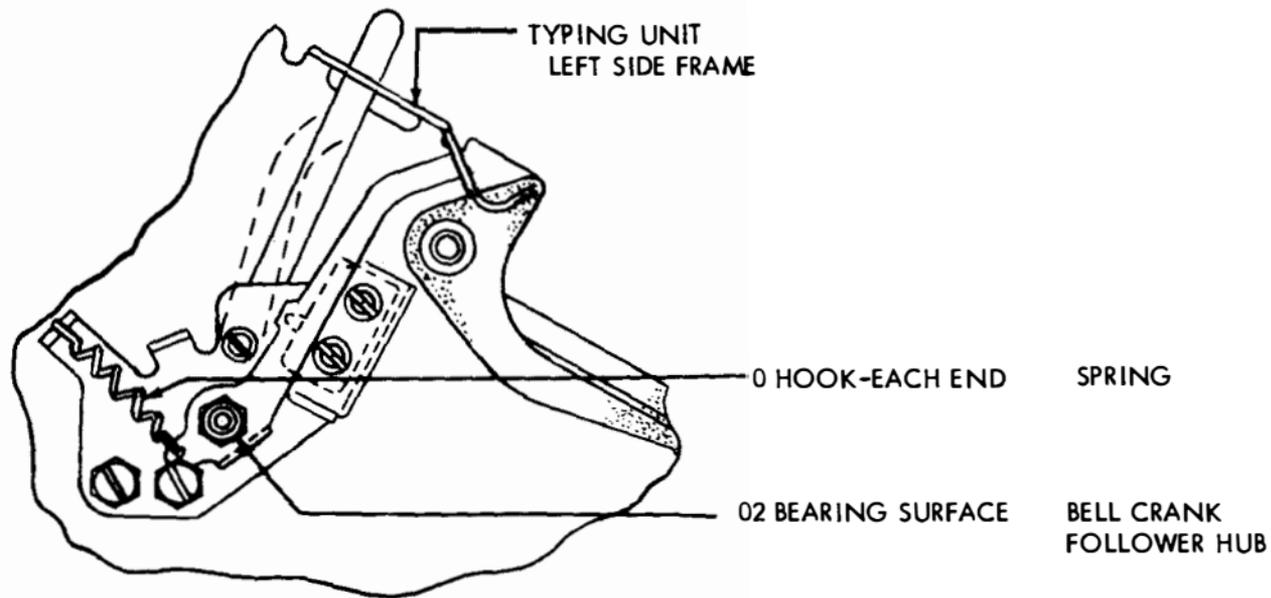
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28 TYPING
UNIT
LUBRI-
CATION

2.82 Page Feedout Mechanism



2.83 Paper-out Alarm Mechanism

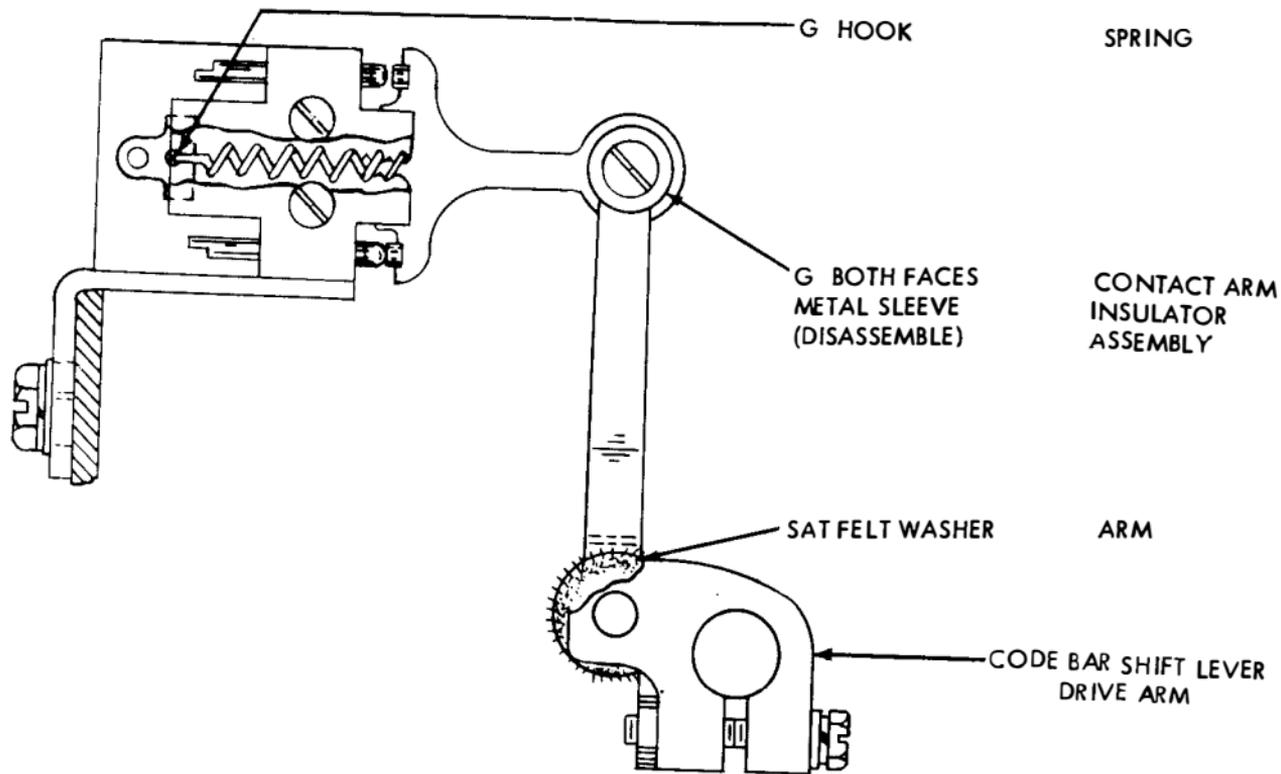


28 TYPING
UNIT
LUBRI-
CATION

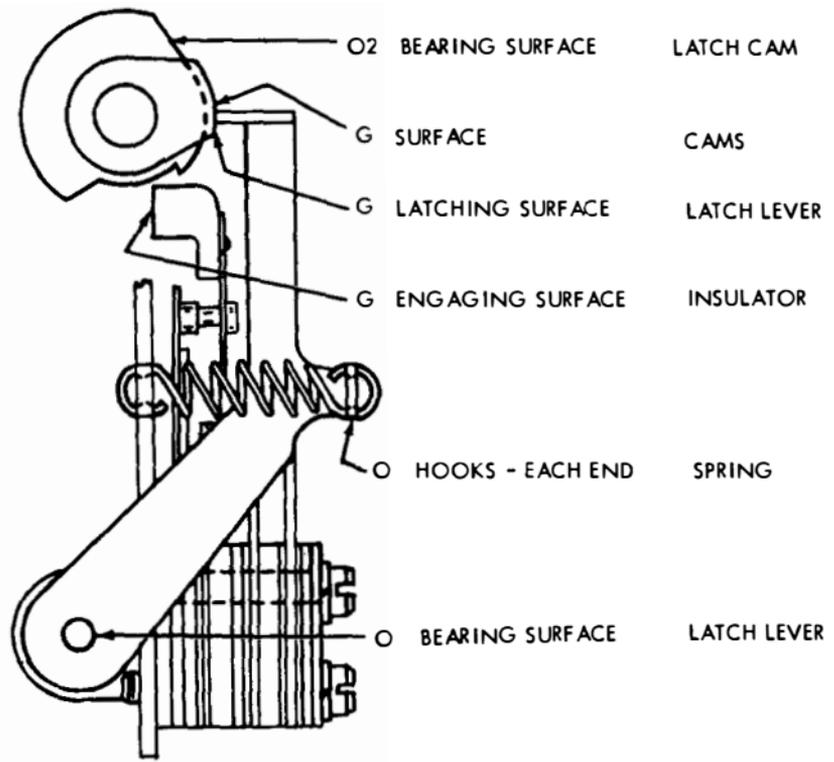
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2.84 Universal Contact Mechanism (Selector)

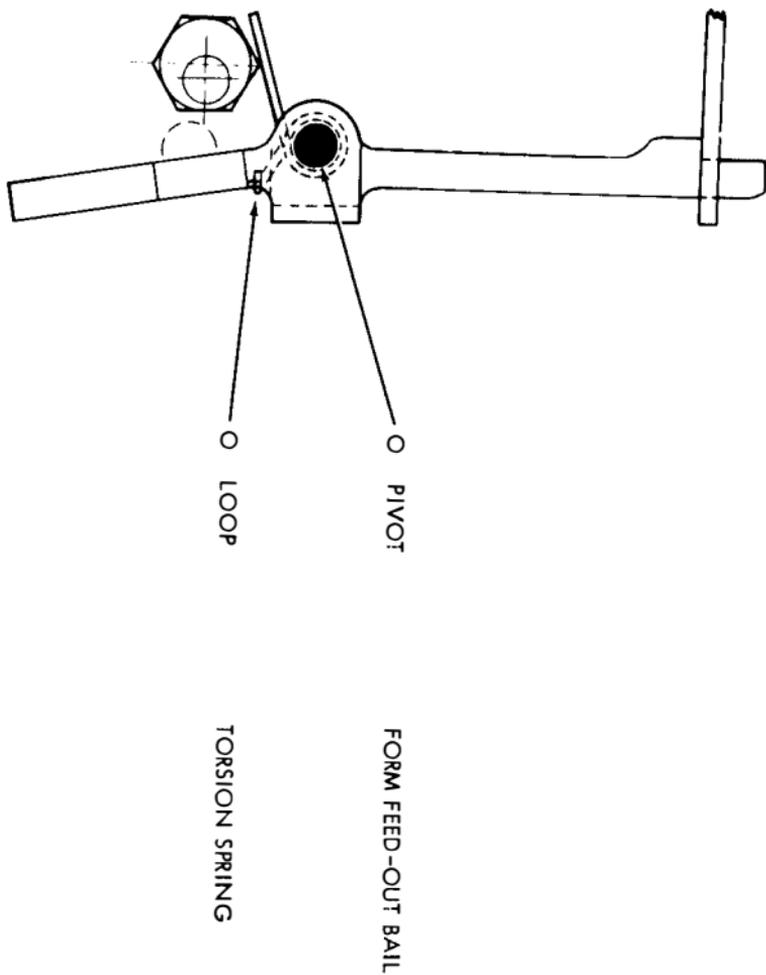


2.85 Universal Contact Mechanism (Stuntbox)

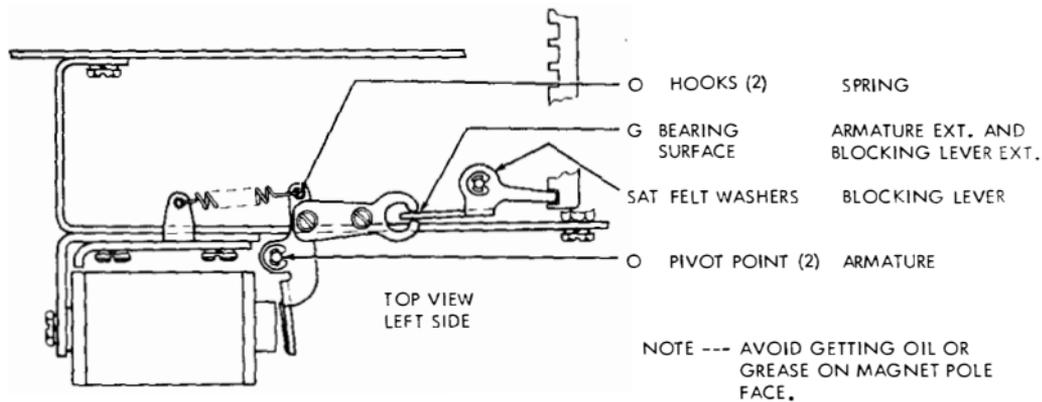


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UNIT
LUBRI-
CATION

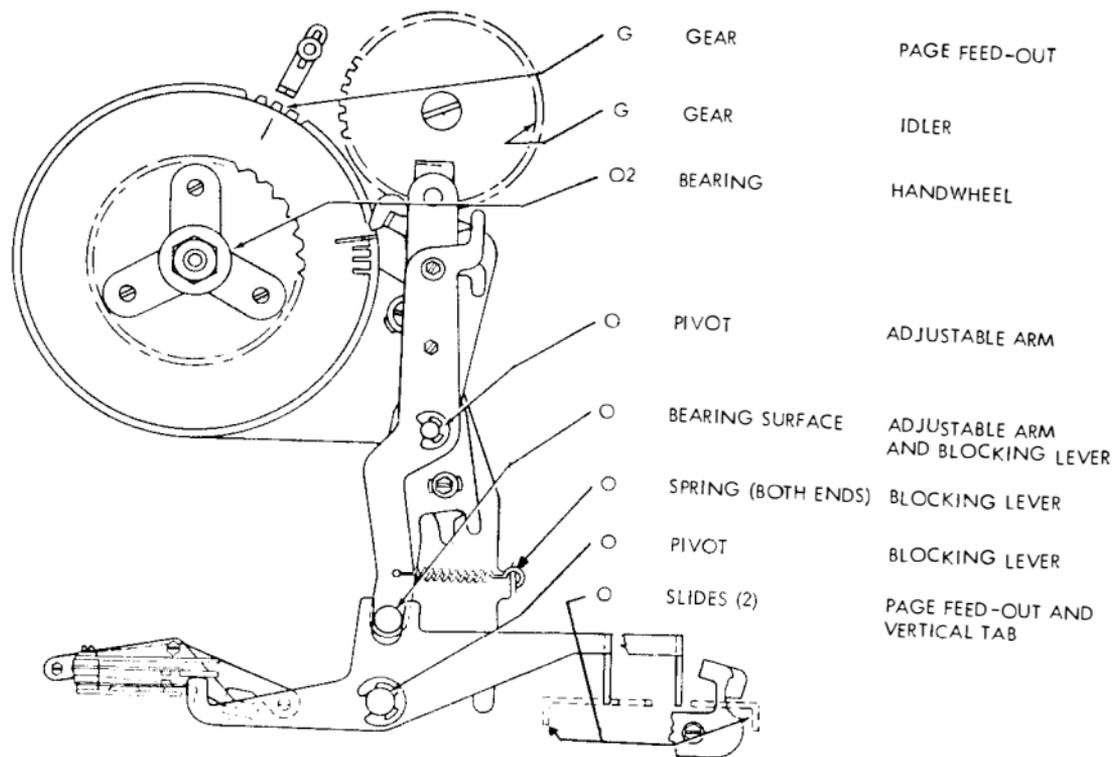
2.86 Form Feedout Mechanism (Local)



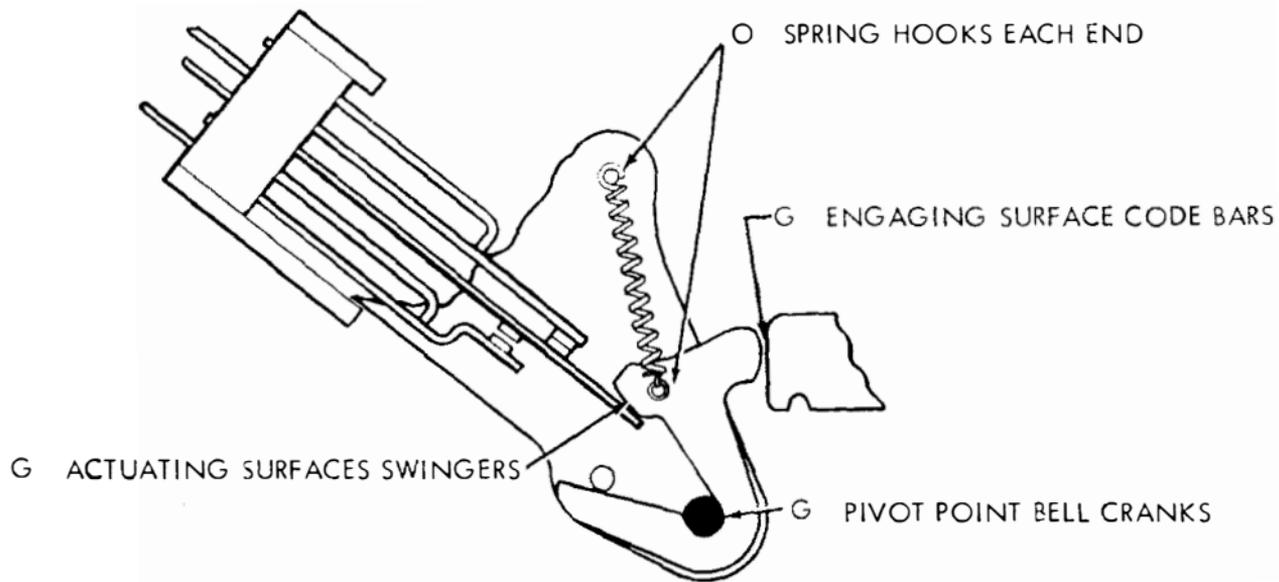
2.87 Print Suppression and Off-line Stunt Shift Control



2.88 Vertical Tabulator



2.89 Parallel Code-reading Contacts



28 TYPING
UNIT
LUBRI-
CATION

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3. ASSOCIATED BELL SYSTEM PRACTICES

3.01 The following Bell System Practice contains an index of information that may be related to this section.

Subject	Section
Alphabetical Index of 28-type Equipment, Bell System Practices, and Associated 28ASR Station Drawings	P34.001