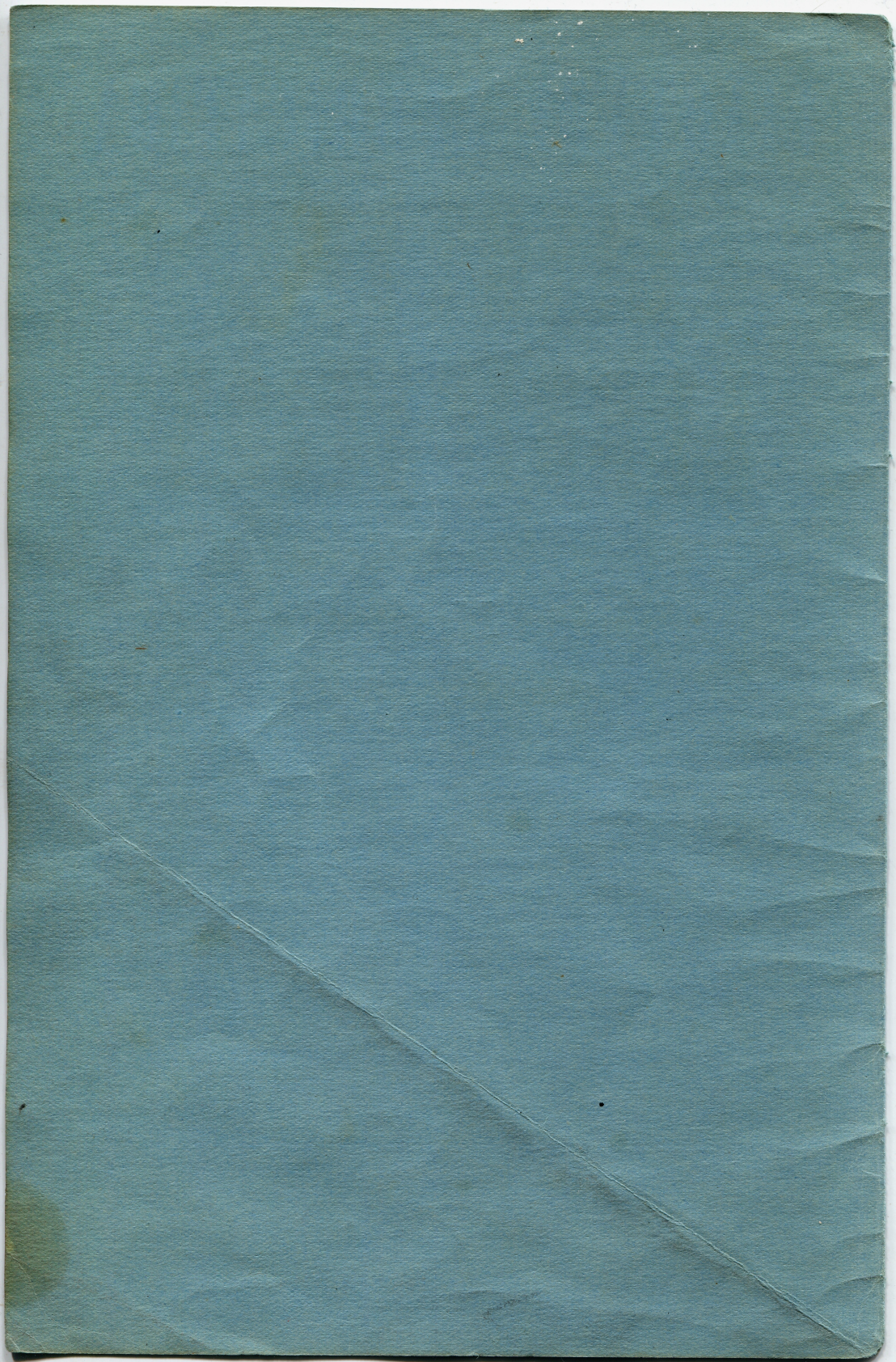


LINOTYPE LUBRICATION

*A Complete Manual for
Efficient Maintenance*

TRADE **LINOTYPE** MARK



LINOTYPE LUBRICATION

To insure a long life of efficient and trouble-free operation, a systematic plan of machine maintenance should be followed. In this plan, proper lubrication is the most important single factor. So that this may be accomplished in a thorough and systematic manner, there are indicated in the following photographs all of the various oiling points on the machine. In some cases two or more oil holes are shown in one location, and are indicated as (2).

The oil holes are placed in the most convenient and accessible positions practicable. It should be remembered that a few drops of oil applied frequently is more economical and much more efficient than flooding the parts with oil occasionally. In addition to wasting oil, flooding only helps to collect dirt, and in all probability does more harm than good. A piece of waste or cloth should be used to remove all surplus oil from around holes after oiling. Extreme care should be used to prevent any oil from coming in contact with the matrices as it will eventually hinder smooth assembling action.

It is not possible to indicate the desirable frequency of oiling individual points on the Linotype, as is practicable in the case of an automobile. The widely varying conditions under which Linotypes are operated, with respect to running time, cleanliness and climate, combine to make it a problem best solved locally, through the exercise of simple mechanical judgment. It should be sufficient to point out that the constantly moving parts call for more frequent attention than those which only contact when the machine makes its periodic cycles.

Particularly important to proper lubrication is the quality of the lubricant. Cheap vegetable oils are a false economy. Always use high-grade machine oils that will not gum. We recommend Linotype oil and grease as it has been thoroughly tested and found efficient. As a guide, with regard to quality and viscosity, we have indicated throughout, by symbol, the proper lubricant for each oiling point. As will be noted, the proper grade oil in the majority of places is our X-24, a medium-weight motor oil (standard S.A.E.20).

LINOTYPE APPROVED LUBRICANTS

* Linotype Oil

Part No. X-24 (½ gallon can)

† Keyboard and Distributor Oil

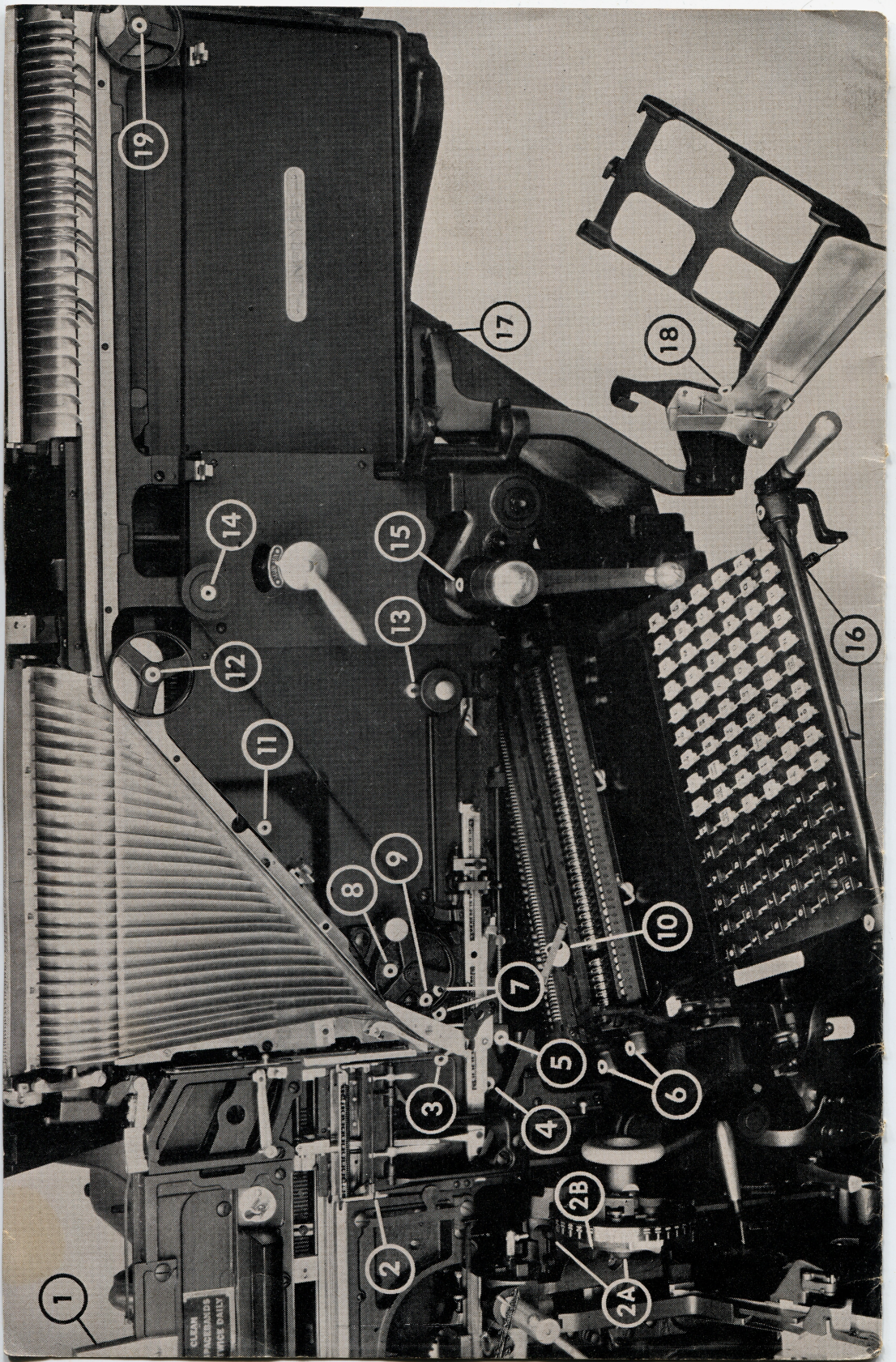
Part No. X-1012 (2 oz. bottle)

‡ Keyboard Cam Oil

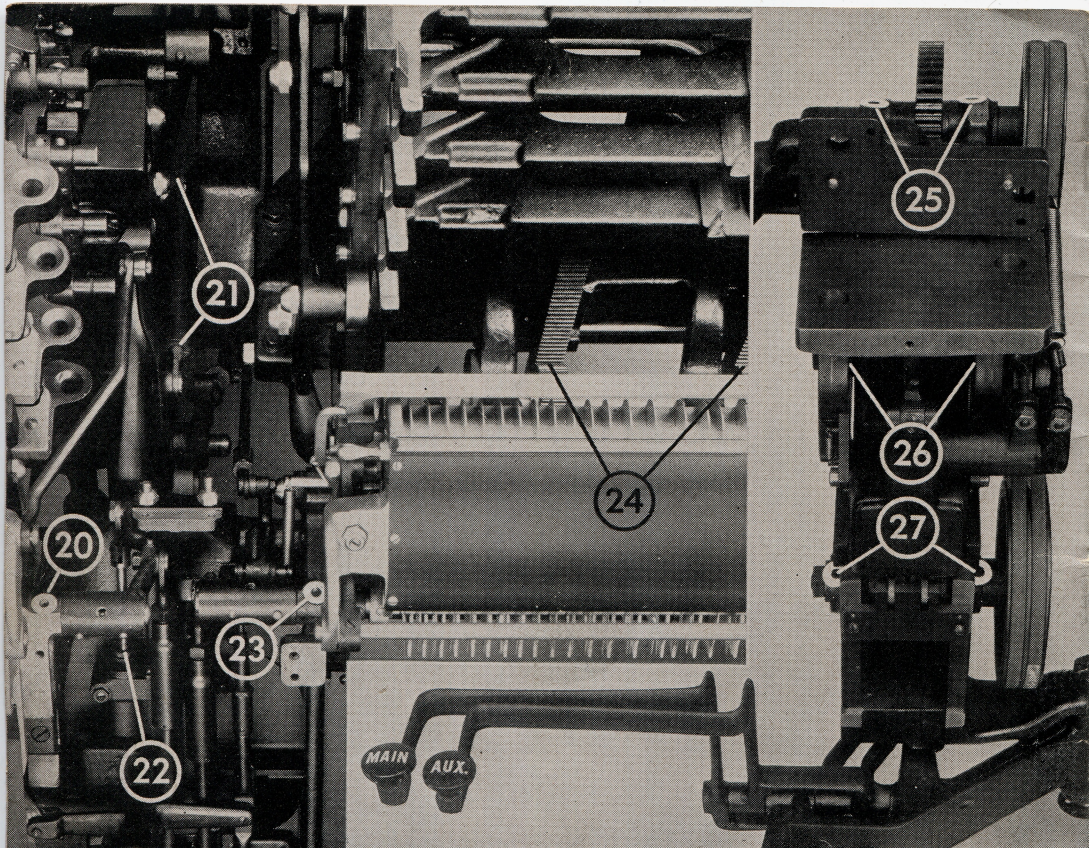
Part No. X-101 (2 oz. bottle)

§ Linotype Grease

Part No. X-1204 (5 lb. can)



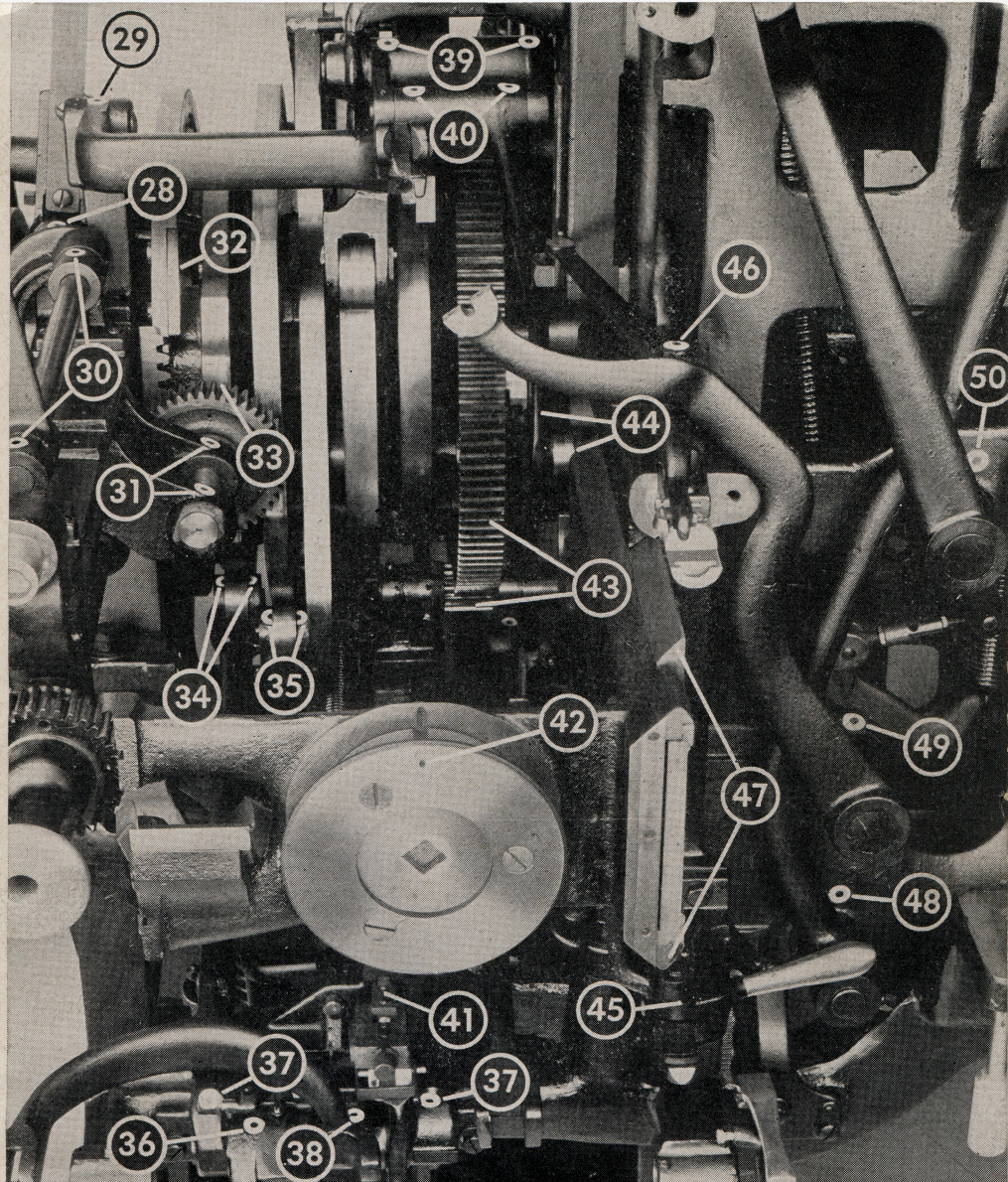
- | | |
|---|--|
| <p>1 Second Elevator Guide (Lower) (Apply oil sparingly with finger) †</p> <p>Also oil hinge pins in Second Elevator sparingly †</p> <p>2 Assembling Elevator Gate Spring Roll †</p> <p>2a Knife Block Slide Oil Holes (2) *</p> <p>2b Knife (R.H.) Slide Pusher Cam (Oil bearing surfaces) *</p> <p>3 Assembler Star Shaft Oil Hole *</p> <p>4 Assembler Slide Roll Oil Hole *</p> <p>5 Keyboard Rod Shift Key Link Lever Shaft Oil Holes (2) (Except 72-90 machines) *</p> <p>6 Keyboard Cam Rubber Roll Shaft Oil Holes (4) *</p> <p>7 Assembler Star Idler Pinion Oil Holes (2) *</p> <p>8 Matrix Delivery Belt Driving Pulley Shaft Oil Hole *</p> <p>9 Assembler Star (Inter.) Gear Oil Hole *</p> | <p>10 Keyboard Cams should be removed and cleaned occasionally and a small drop of oil applied to the pin with a toothpick †</p> <p>11 Keyboard Rod Shifter Guide Oil Holes (3) (Except 72-90 machines) (Cover must be removed to oil) *</p> <p>12 Matrix Delivery Belt Idler Pulley Oil Hole *</p> <p>13 Assembler Slide Return Spring Stud Bearing Oil Hole *</p> <p>14 Matrix Delivery Belt Idler Pulley (Aux.) (Small) Oil Hole (Models 30 and 32) *</p> <p>15 Magazine Elevating Shaft Crank Shaft Oil Hole *</p> <p>16 Assembling Elevator Lever Shaft Oil Holes (2) *</p> <p>17 Pi Stacker Support Oil Hole *</p> <p>18 Pi Star Shaft Oil Hole *</p> <p>19 Matrix Delivery Belt Idler Pulley (Aux.) Oil Hole (Models 30 and 32) *</p> |
|---|--|



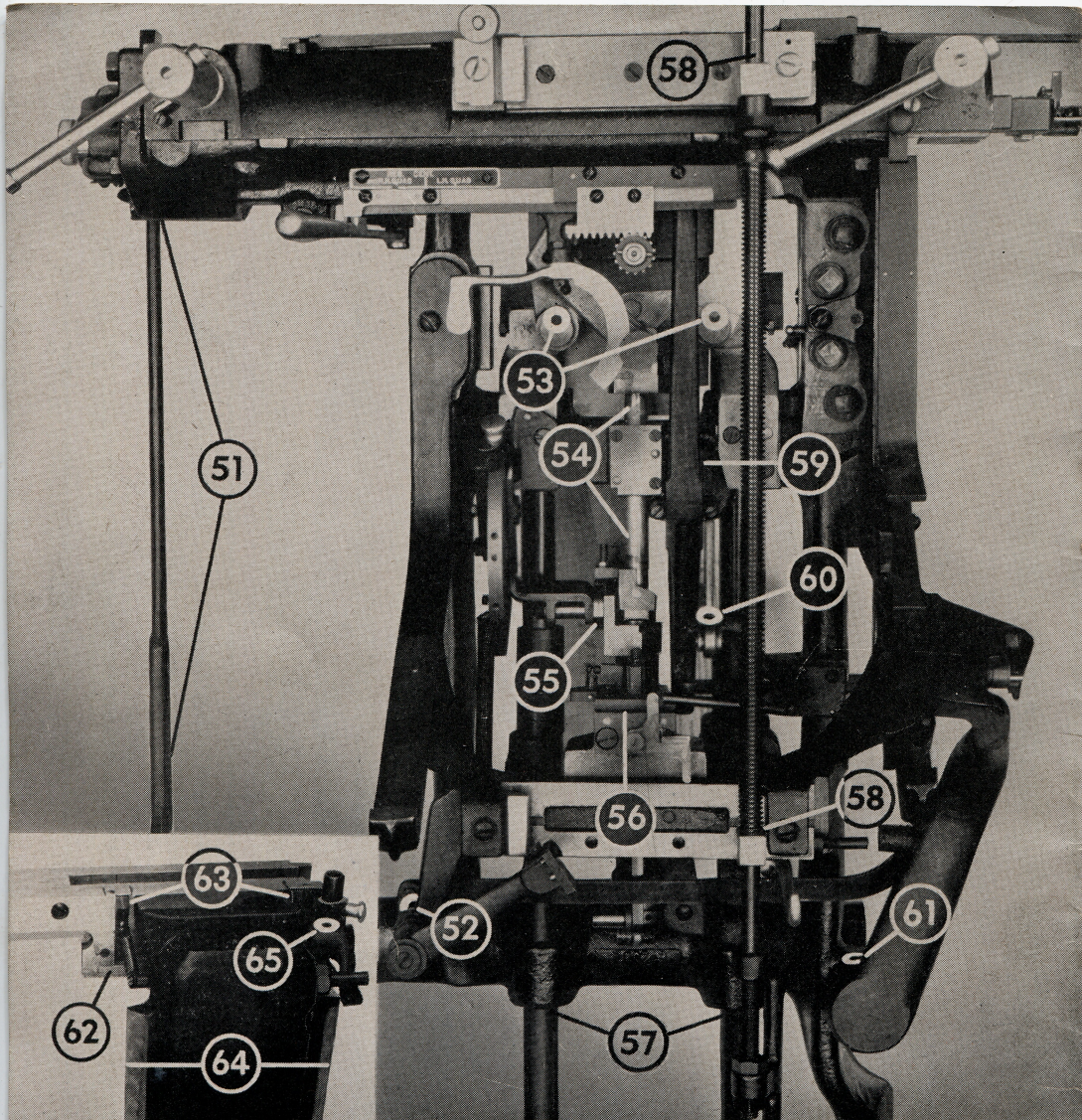
- 20** Assembler Entrance (Upper) Hinge Shaft Oil Holes (2) (one on each end of Shaft) (Models 29 and 30) *
- 21** Pivoting Front Guide Holder Balance Spring and Operating Cam Roll (Apply oil to Plunger Rod and Roll) (Models 29 and 30) *
- 22** Assembler Entrance (Upper) Snubber Piston (Apply oil to Plunger Rod) (Models 29 and 30) *
- 23** Assembler Entrance (Upper) (Aux.) Hinge Shaft Oil Holes (2) (one on each end of Shaft) (Model 30) *
- 24** Magazine (Aux.) Elevating Pinion Racks and Gears (Models 30 and 32) *
- 25** Assembler Entrance (Upper) Shift (Inter.) Driving Gear Shaft Oil Holes (one on Model 29) (two on Model 30) †
- 26** Assembler Entrance (Upper) Finger Key Shift Operating Cams and Rolls (one on Model 29) (two on Model 30) †
- 27** Assembler Entrance (Upper) Finger Key Shift Operating Cam Shaft Oil Holes (2) (Models 29 and 30) †
- Apply oil sparingly to all bearing surfaces not provided with oil holes. Do not allow any oil to get on Assembler Entrance (Upper) Finger Key Shift Roll Cams.*

OPPOSITE PAGE:

- 28** Distributor Shifter Lever Shaft Oil Holes (2) (one on each end of shaft) *
- 29** Pot Pump Lever Oil Holes (3) *
- 30** Pot Crucible Vertical Mouthpiece Wiper Shaft Oil Holes (2) *
- 31** Mold Turning Square Block Shaft Oil Holes (2) *
- 32** Mold Turning Cam Shoes (2) (Oil felt on Gear Guard) *
- 33** Mold Turning Bevel Pinion (Apply oil to teeth of Gear and sides of square block) *
- 34** Vise Closing Cam Roll Oil Holes (2) *
- 35** Justification Cam Roll Oil Holes (2) *
- 36** Vise Jaw Locking Toggle Lever Oil Hole (Self-quadder) *
- 37** Vise Jaw Locking Toggle Lever and Control Rod Lever Shaft Oil Holes (2) (Self-quadder) *



- 38** Vise Jaw Control Rod Lever Oil Hole (Self-quadder) *
- 39** Mold Cam Lever Handle Oil Holes (2) *
- 40** Mold Cam Lever Oil Holes (2) *
- 41** Justification Release Cam Lever Slide (Apply oil to bearing surfaces) (Self-quadder) *
- 42** Mold Disk Bearing Oil Hole *
- 43** Mold Cam and Driving Gear (Apply oil to teeth of Gear) *
- 44** Mold Cam Roll and Mold Cam Lever Roll (Apply oil to Rolls and Studs) *
- 45** Starting and Stopping Lever Hinge Pin; also bearing surfaces of Connecting Rod *
- 46** Pot Pump Lever Stop Lever Operating Lever Oil Hole *
- 47** Mold Disk Slide (Pull slide part way out and apply oil to bearing surfaces) *
- 48** Spaceband Lever Shaft Oil Holes (2) (one in front and one in back) *
- 49** Delivery Slide Lever Shaft Oil Holes (2) (one in front and one in back) *
- 50** Elevator Transfer Lever Shaft Oil Holes (2) (one in front and one in back) *



51 Vise Jaw (L.H.) Wedge (Apply oil to bearing surfaces) *

52 Slug Lever Arm Shaft Oil Hole *

53 Vise Jaw Operating Lever Fulcrum Stud Oil Grooves (2) (Self-quadder) †

54 Vise Jaw Control Rod (Apply oil to sides of Rod) (Self-quadder) †

55 Justification Control Cam (Apply oil to bearing surface) (Self-quadder) †

56 Vise Jaw Locking Toggle Adjusting Screw Cam Oil Hole (Self-quadder) †

57 Justification Rods (2) (Apply oil to sides of Rods) *

58 Knife Wiper Bar Rod (Apply oil to sides of Rod) *

59 Mold Disk Dog (Apply oil to sides of Plunger) †

60 Vise Automatic Stop Rod Lever Oil Hole †

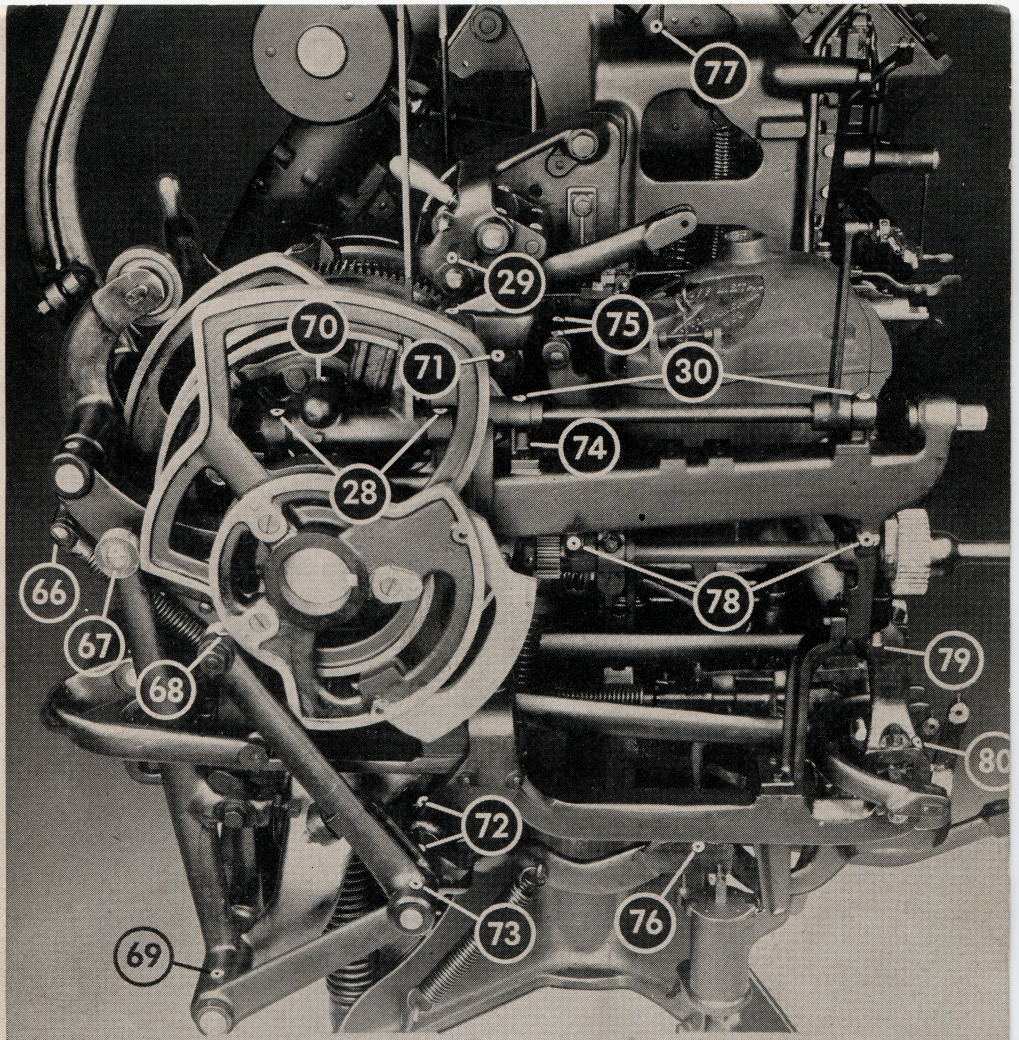
61 Slug Lever Oil Hole *

62 First Elevator Jaw Duplex Rail (Oil sparingly) ‡

63 First Elevator Jaw Duplex Rail Levers (Oil sparingly) ‡

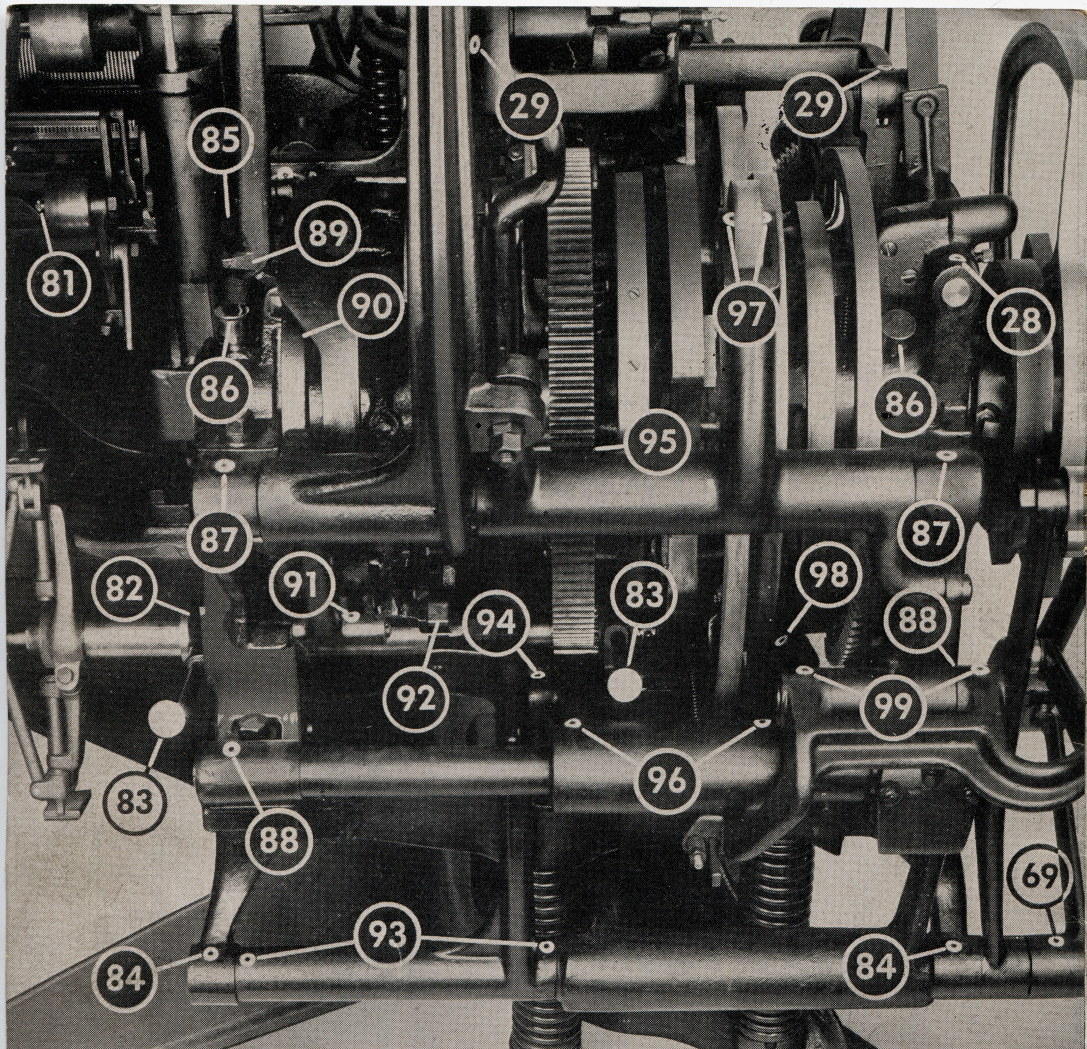
64 First Elevator Slide (Apply oil to bearing surfaces) *

65 Knife Wiper Operating Lever Oil Hole *

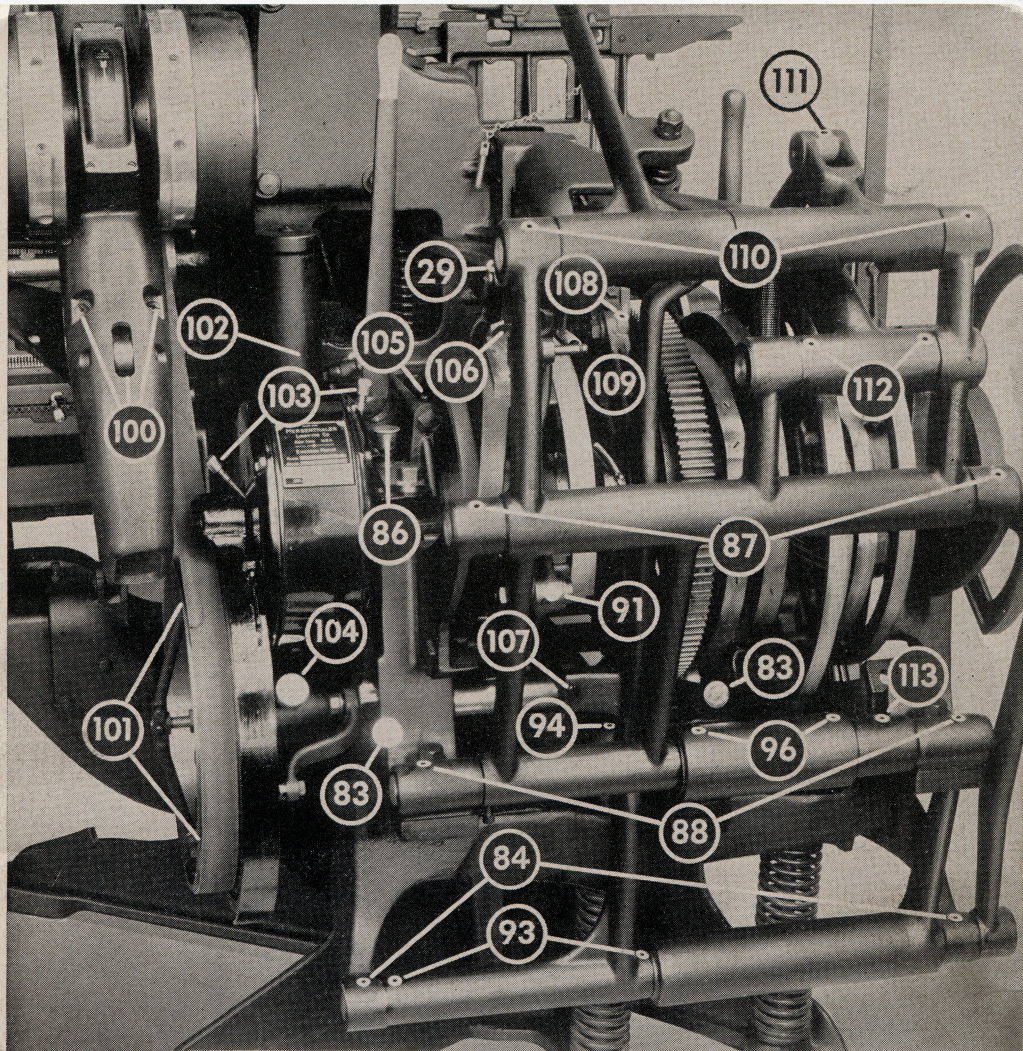


- 66** Second Elevator Starting Spring Bolt Hinge Screw (Models 31 and 32) *
- 67** First Elevator Cam Roll Oil Hole *
- 68** Vise Jaw Locking Toggle Cam Roll Oil Hole (Self-quadder) *
- 69** Vise Jaw Locking Cam Lever Bracket Support Oil Hole (Self-quadder) *
- 70** Distributor Shifter Cam and Cam Rider *
- 71** Pot Pump Lever Roll Oil Holes (2) *
- 72** Vise Jaw Locking Toggle Cam Lever Extension Arm Oil Holes (2) (Self-quadder) *
- 73** Vise Jaw Locking Toggle Cam Roll Lever Oil Hole (Self-quadder) *

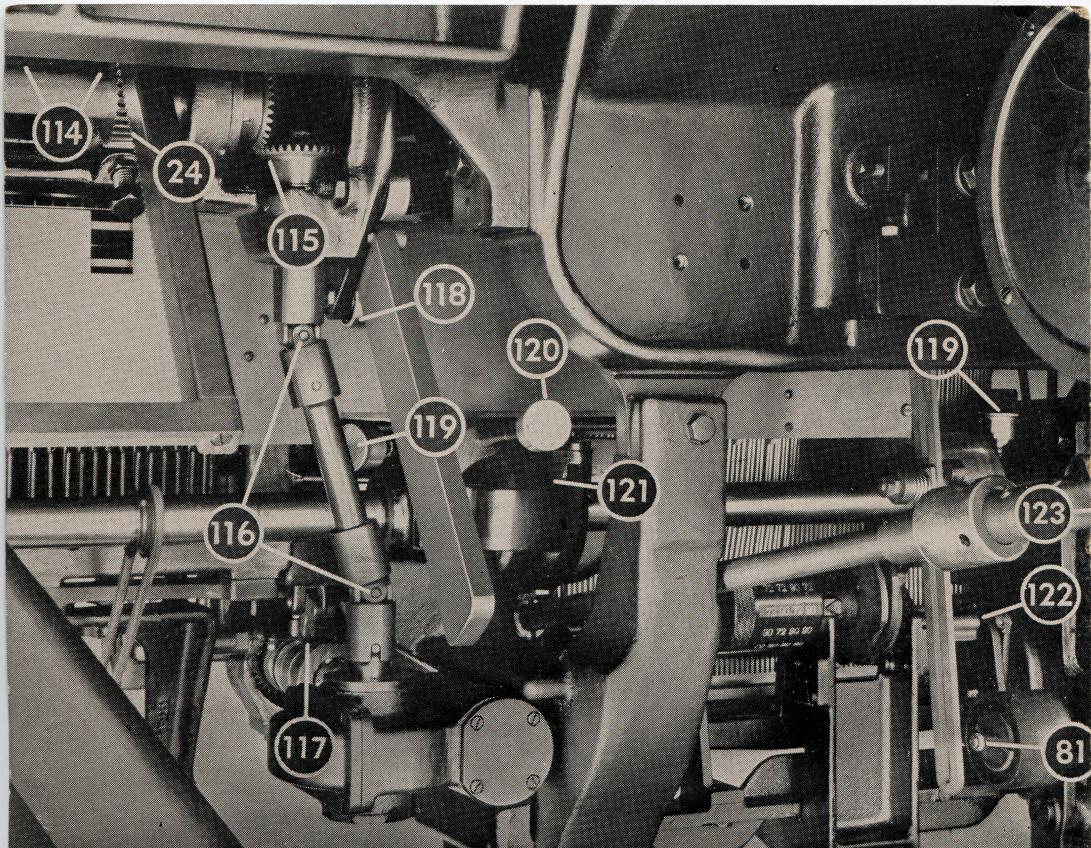
- 74** Pot Cam Roll Oil Holes (2) *
- 75** Pot Lever Oil Holes (2) *
- 76** Vise Jaw Locking Toggle Lever Roll Oil Hole (Self-quadder) *
- 77** Magazine Locating Block Support Lever Shaft Oil Holes (2) (one at each end of shaft) *
- 78** Mold Disk Pinion Shaft Oil Holes (2) *
- 79** Mold Disk Guide Support Screw Grease Cup §
- 80** Pot Leg Bushing Oil Holes (2) (one on each leg) *



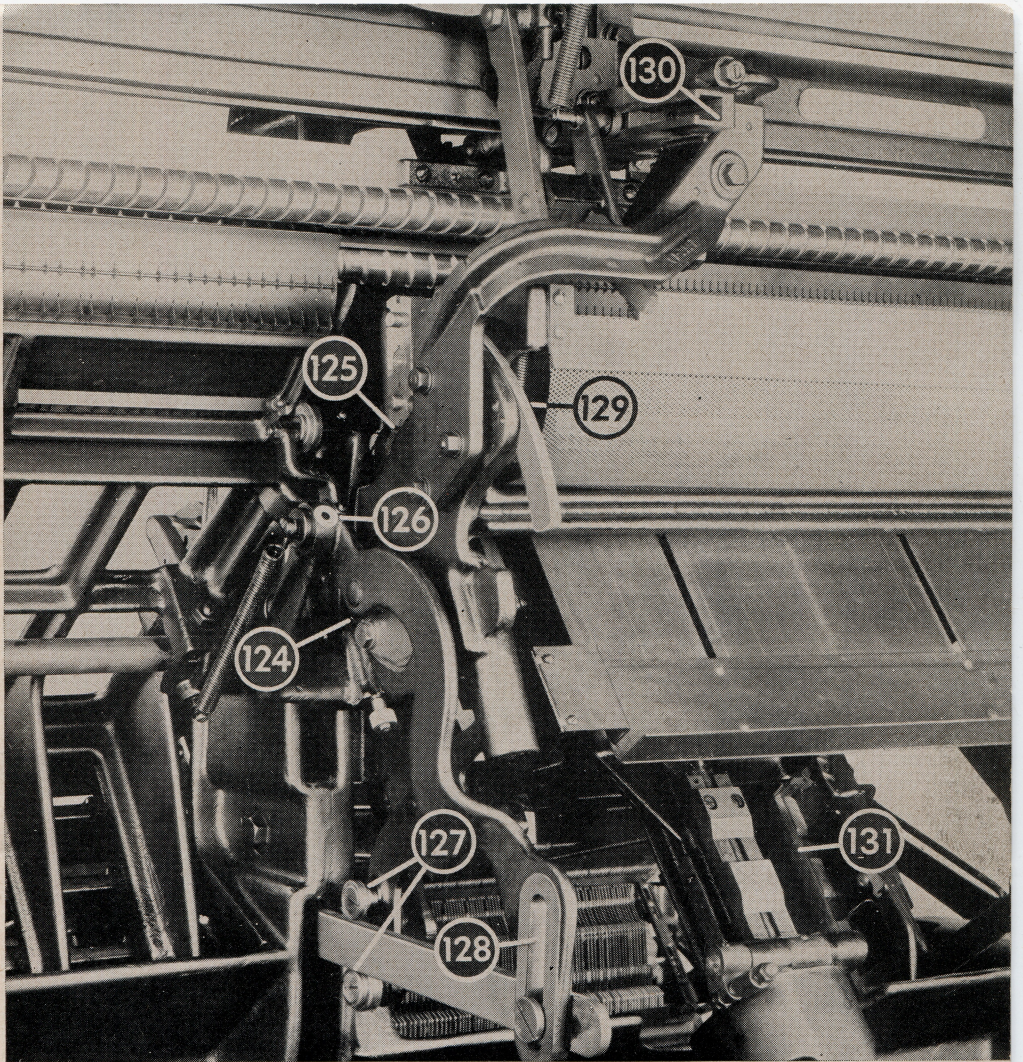
- | | |
|---|--|
| 81 Intermediate Shaft Driving Belt Idler Pulley Oil Cup (72-90 machines) * | 91 Second Elevator Safety Pawl Oil Hole * |
| 82 Driving Shaft Clutch Flange (Oil bearing surfaces) * | 92 Delivery Cam Shoe (Oil bearing surface) * |
| 83 Driving Shaft Bearing Grease Cups (2) § | 93 Ejector Lever Oil Holes (2) * |
| 84 First Elevator and Ejector Lever Shaft Oil Holes (2) * | 94 Vise Closing Lever Spring Rod Oil Hole * |
| 85 Delivery Lever Cam Roll and Pin * | 95 Pot Return Cam (Oil bearing surface) * |
| 86 Cam Shaft Grease Cups (2) § | 96 Justification Lever Oil Holes (2) * |
| 87 Second Elevator Lever Shaft Oil Holes (2) * | 97 Second Elevator Cam Roll Oil Holes (2) * |
| 88 Justification and Vise Closing Lever Shaft Oil Holes (2) * | 98 Justification Lever Spring Rod Oil Hole * |
| 89 Elevator Transfer Cam Roll Oil Hole * | 99 Justification Release Cam Lever Oil Holes (2) (Self-quadder) * |
| 90 Delivery and Elevator Transfer Cam (Oil bearing surface) * | |



- 100** Magazine Elevating Shaft Anti-Friction Rolls (6) *
- 101** Driving Shaft Friction Shoe Rods and Pins *
- 102** Delivery Air Cushion Piston Fulcrum Screw *
- 103** Motor Armature Bearing Grease Cups (2) (NOTE: A medium ball-bearing grease should be used on the type of motor illustrated. For older style motors having oil cups, use Linotype oil X-24.)
- 104** Motor Driving Pulley Grease Cups §
- 105** Vertical Starting Lever Shaft *
- 106** Automatic Safety Pawl and Automatic Stopping Pawl (Oil bearing surfaces and hinge pins) *
- 107** Ejector Lever Shoe (Oil bearing surface) *
- 108** Ejector Lever Adjustable Pawl Plate (Oil bearing surface) *
- 109** Ejector Lever Adjusting Pawl Oil Hole *
- 110** Second Elevator Lever Shaft Oil Holes (2) (Models 29 and 30) *
- 111** Second Elevator Lever Link Oil Holes (2) (Models 29 and 30) *
- 112** Second Elevator Cam Lever Oil Holes (2) (Models 29 and 30) *
- 113** Vise Closing Lever Oil Hole *

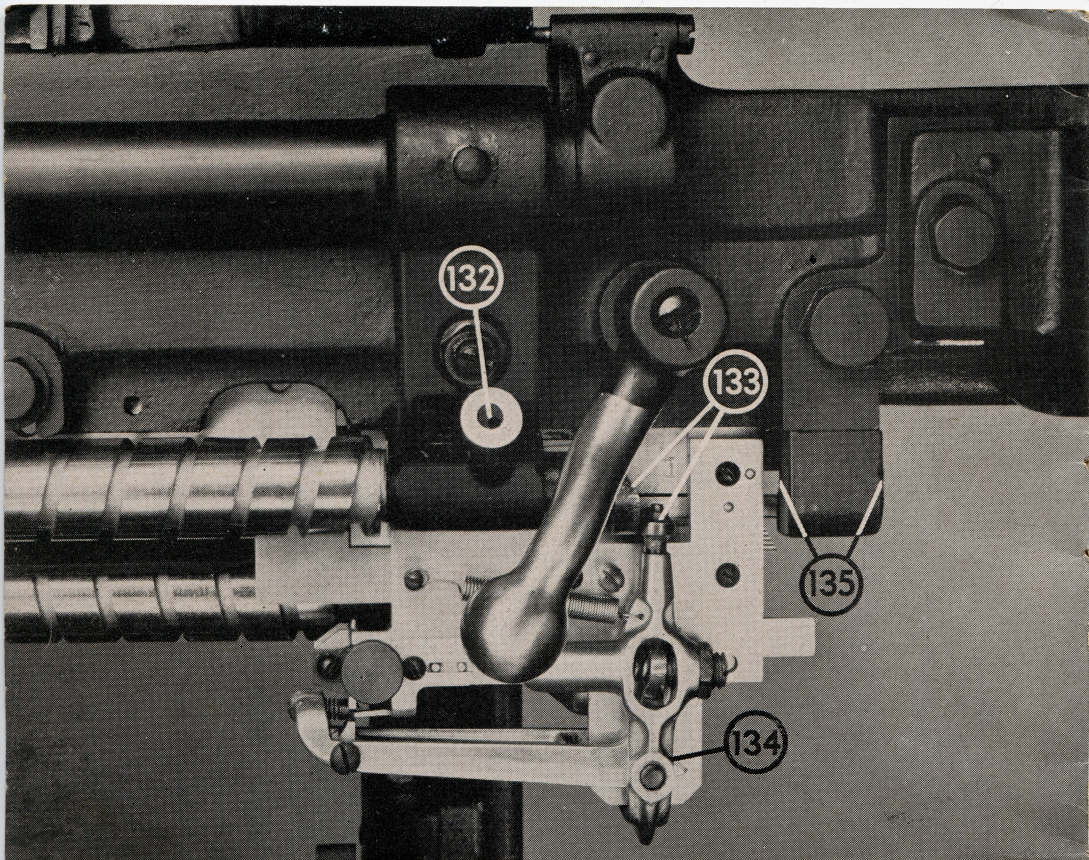


- 114** Magazine (Aux.) Elevating Pinion Rack Guide Roll Oil Holes (2) (Oil holes are in face of Roll) (Models 30 and 32) *
- 115** Magazines (Aux.) Frame Elevating Shaft Gears (Models 30 and 32) *
- 116** Magazine (Aux.) Elevating Shaft Universal Joints (2) (Models 30 and 32) *
- 117** Magazine Elevating Shaft Clutch (one on Models 29 and 31) (two on Models 30 and 32) (Oil bearing surfaces) *
- 118** Magazine (Aux.) Frame Guide Rolls (4) (Models 30 and 32) *
- 119** Intermediate Shaft Grease Cups (2) §
- 120** Assembler Driving Pulley Shaft Grease Cup §
- 121** Intermediate Shaft Bevel Gear and Assembler Driving Belt Gear *
- 122** Keyboard Rod Lever Slide Link and Cam Roll Lever Shaft Oil Holes (3) (Models 31 and 32 [72-90]) *
- 123** Magazine Elevating Shaft Universal Joints *



- 124** Distributor Screw Guard Safety Lock (Oil bearing surfaces) (Models 31 and 32 [72-90]) †
- 125** Channel Entrance Revolving Block (Oil bearing surfaces) (Models 31 and 32 [72-90]) †
- 126** Channel Entrance Frame Control Lever Link Oil Holes (2) (one hole on front of Link) (Models 31 and 32 [72-90]) *
- 127** Channel Entrance Control Lever Link Guide Rolls (Oil studs) (Model 32 [72-90]) *

- 128** Channel Entrance Control Lever Link (Long) (Oil bearing surfaces) (Model 32 [72-90]) *
- 129** Channel Entrance Revolving Cams (Oil bearing surfaces) (Models 31 and 32 [72-90]) †
- 130** Distributor Bar Shifter Guide (Oil bearing surfaces) (Models 31 and 32 [72-90]) †
- 131** Magazine Frame (Lower) Guide Rails (2) (one on each side of frame) (Oil bearing surfaces) (Models 31 and 32) *

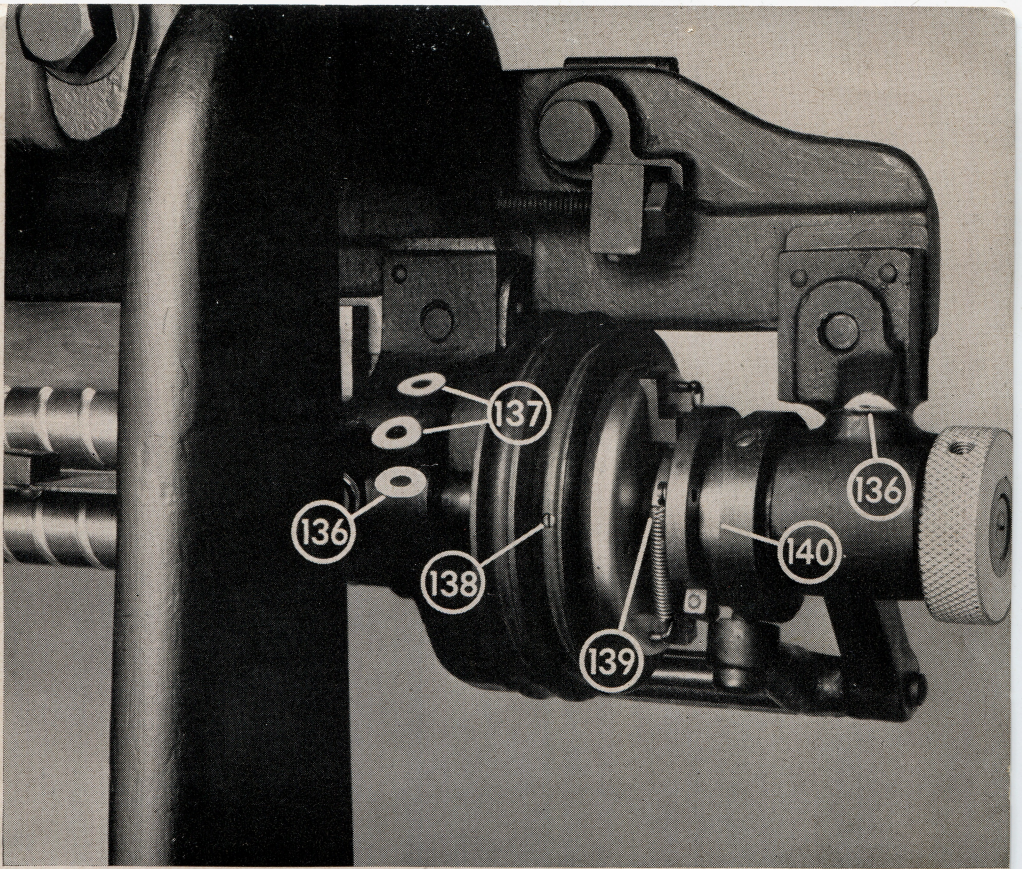


132 Distributor Back Screw Oil Holes (2) (one hole at other end of screw) (Models 31 and 32) †

133 Distributor Box Matrix Lift Cam and Roll (Models 31 and 32) †

134 Distributor Box Matrix Lift Cam Lever Oil Holes (2) (Models 31 and 32) †

135 Second Elevator Guide (Upper) (Oil bearing surfaces) †



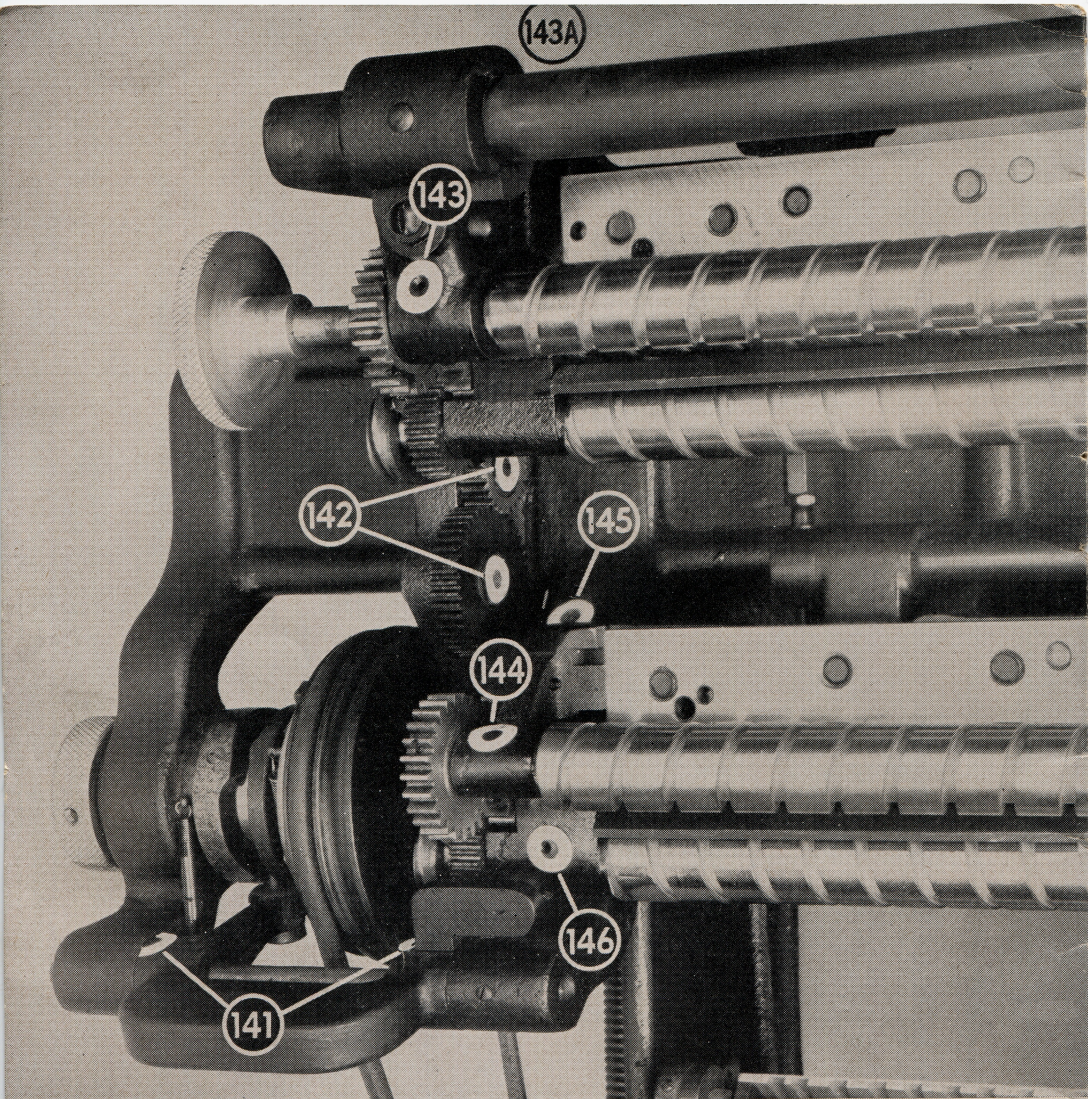
136 Distributor Clutch Shaft Oil Holes
(2) †

137 Distributor Front Screw Oil Holes
(4) (one hole at other end of each
screw) (Models 31 and 32) †

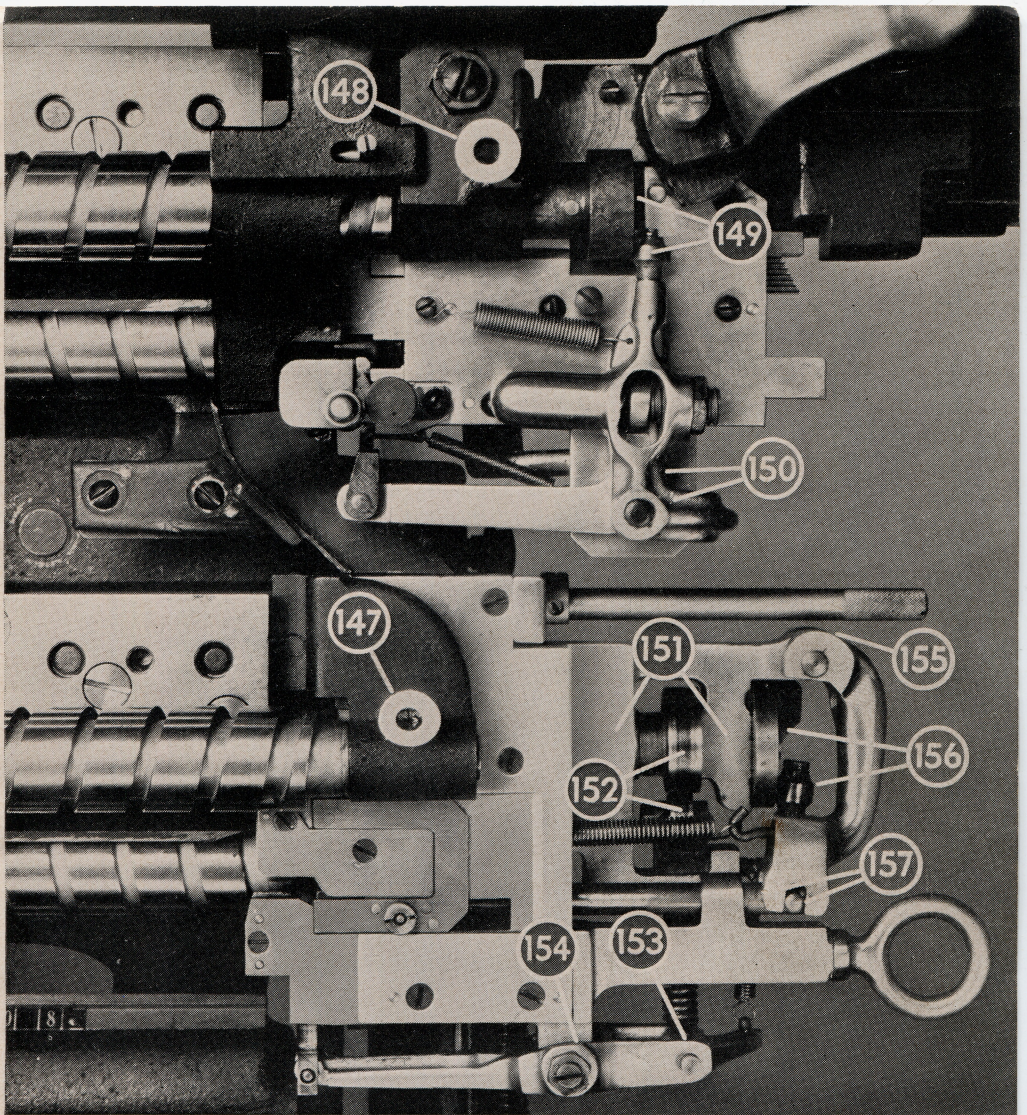
138 Distributor Clutch Pulley Oil Hole
(Remove screw to oil) †

139 Distributor Clutch Pulley Washer
Flange Oil Hole †

140 Distributor Clutch Flange Collar
(Oil bearing surface) †

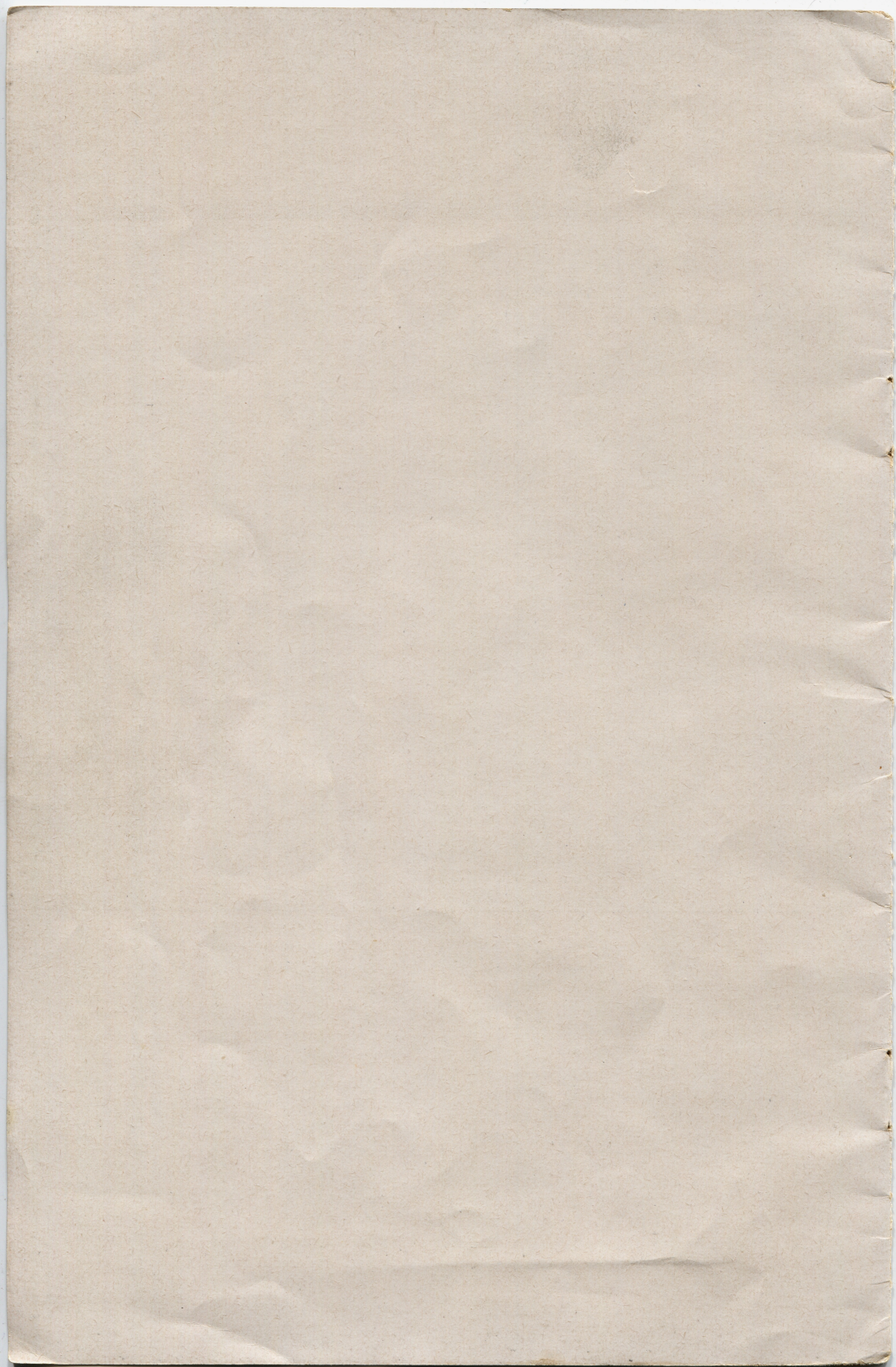


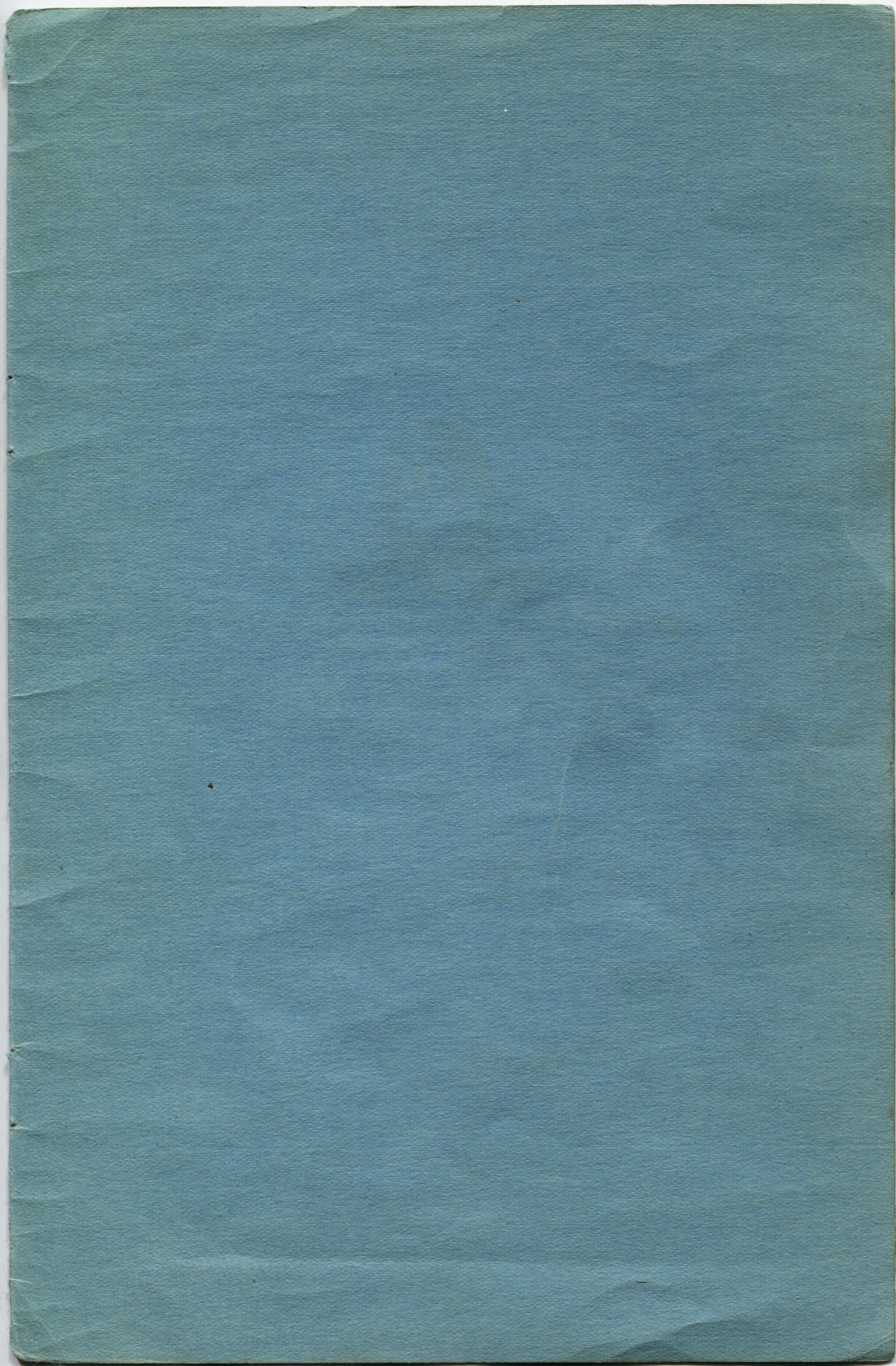
- 141** Distributor Clutch Lever Oil Holes (2) (Models 29 and 30) †
- 142** Distributor Screw Idler Gear Stud Oil Holes (4) (holes in head of each stud) (Models 29 and 30) †
- 143** Distributor Back Screw (Upper Set) Oil Holes (2) (one hole at other end of screw) (Models 29 and 30) †
- 143a** Distributor Front Screw (Upper Set) and Distributor Lower Screw (Upper Set) Oil Holes (4) (one hole at each end of each screw—visible from top of machine) (Models 29 and 30) †
- 144** Distributor Back Screw (Lower Set) Oil Holes (2) (one hole at other end of screw) (Models 29 and 30) †
- 145** Distributor Front Screw (Lower Set) Oil Tube (one hole at other end of screw) (Models 29 and 30) †
- 146** Distributor Lower Screw (Lower Set) Oil Holes (2) (one hole at other end of screw) (Models 29 and 30) †



- 147** Distributor Back Screw (Lower Set) Oil Holes (2) (one hole at other end of screw) (Models 29 and 30) †
- 148** Distributor Back Screw (Upper Set) Oil Holes (2) (one hole at other end of screw) (Models 29 and 30) †
- 149** Distributor Box (Upper) Matrix Lift Cam and Roll (Models 29 and 30) †
- 150** Distributor Box (Upper) Matrix Lift Cam Lever Oil Holes (2) (Models 29 and 30) †
- 151** Distributor Box (Lower) Cam Shaft Bearing Oil Holes (2) (holes are in front of box) (Models 29 and 30) †
- 152** Distributor Box (Lower) Matrix Lift Cam and Roll (Models 29 and 30) †

- 153** Distributor Box (Lower) Matrix Lift Lever Oil Hole (Models 29 and 30) †
- 154** Distributor Box Matrix Lift Lever Fulcrum Screws (2) (Models 29 and 30) †
- 155** Distributor Box (Lower) Matrix Pusher Slide Lever Oil Hole (Models 29 and 30) †
- 156** Distributor Box (Lower) Matrix Pusher Slide Lever Cam and Roll (Models 29 and 30) †
- 157** Distributor Box (Lower) Matrix Slide Lever Fulcrum and Pusher Rods (Models 29 and 30) †







TRADE **LINOTYPE** MARK

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