



*Union Special*<sup>®</sup>  
INDUSTRIAL SEWING EQUIPMENT

**STYLES      ADJUSTING INSTRUCTIONS AND  
ILLUSTRATED PARTS LIST**

**51200**

**51400**

**51600**

**51700**

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**CLASS 51200 FLAT BED ONE NEEDLE  
DOUBLE LOCKED STITCH LIGHT DUTY  
MACHINES**

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**CATALOG  
NO. 92L**

**FIRST  
EDITION**

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## FOREWORD

The dominating idea back of "Union Special" is to build the best industrial sewing machines in the world. Our new line of high speed flat bed machines in Classes 51200, 51400, 51600 and 51700, is a pronounced achievement along these lines. All parts are made to gauges with exceedingly close limits.

It is our constant aim to furnish carefully prepared information that will enable the customer to secure all possible economies and advantages from the use of Union Specials. On the pages which follow will be found illustrations and descriptions of the parts for styles in Classes 51200, 51400, 51600 and 51700.

Additional catalogs, containing information relative to these machines, and which will be furnished on request, are listed below:

Catalog No. 29	
Third Edition	List of miscellaneous accessories and transmitter parts.
Catalog No. 45	Needle Manual.
Catalog No. 45 A	Price List of Needles.
Form 357	Engineering Department
	Adjusting Instructions. Specify the style of machine for which the adjusting instructions are required.

In all manufacturing centers will be found Union Special representatives, who will cooperate with those who desire in planning and estimating their requirements.

UNION SPECIAL MACHINE COMPANY

Engineering Department

## IDENTIFICATION OF MACHINES

Each Union Special carries a style number which is stamped on the name plate on the machine. Style numbers are classified as standard and special. Those which are standard have one or more letters suffixed but never contain the letter "Z". Example; 51400 P. Style numbers containing the letter "Z" are special. When minor changes are made from a standard machine style, a "Z" is suffixed to the standard style number. Example: 51400 PZ.

Styles of machines similar in construction are grouped under a class number which differs from the style numbers in that it contains no letters. Example: 51400.

Certain special machines, not readily identifiable with a particular machine style, have the letter "Z" suffixed to the class number alone. Example: 51400 Z.

The distance between the rows of stitches in Class 51400, 51600 and 51700 machines is represented by a gauge number measured in 1/64ths of an inch, viz: 12 gauge represents a distance of 12/64 or 3/16 inch. 64 gauge represents a distance of 64/64 or 1 inch.

## APPLICATION OF CATALOG

This catalog applies only to the standard styles of machines herein listed. It can be applied with discretion to the special machines covered by these classes.

### STYLES OF MACHINES IN CLASS 51200

Enclosed Type Flat Bed One Needle Light Duty Machines  
Double Locked Stitch Type 401, Lateral Looper Travel.

51200 A (succeeds 6400 I, 15900 D). For binding aprons, dresses and similar garments; seam Type BSc-1, capillary oiling system. Type 106 needle, uses cut edge strips, standard widths 3/4, 7/8, 1 1/8, and 1 1/4 inch.

51200 B (succeeds 6400 M). For seaming mattress ticks; bound seam Type BSa-1, English binder, capillary oiling system, Type 126 needle, uses selvage edge strip, standard widths 5/8, 3/4 and 7/8 inch.

51200 C (succeeds 6400 W). For seaming mattress ticks; plain seam, capillary oiling system, Type 126 needle.

51200 D (succeeds 1700 F, 1700 H). For seaming canton flannel and jersey cloth gloves, also leather palm gloves; seam Type SSa-1, capillary oiling system, Type 101 needle.

51200 G (succeeds 6400 N). For joining shoulders of shirts; one operation, seam Type LSe-1, capillary oiling, Type 106 needle.

STYLES OF MACHINES IN CLASS 51200 (Cont'd)

- 51200 H (succeeds 6000 A). For miscellaneous operations on knitted drawer bands and knitted shirt fronts; capillary oiling system, Type 101 needle.
- 51200 J (succeeds 15900 F). For attaching one piece extension button stays to front and sleeves of woven shirts, also facing sleeves; seam Type BSc-1, capillary oiling, Type 106 needle, strips used in either garment length or long lengths, standard widths 1/2, 3/4, 7/8 and 1 inch.
- 51200 K (succeeds 6400 I, 15900 D, 51200 A). For binding aprons, dresses, and similar garments; seam Type BSc-1, enclosed type oiling system for looper drive eccentric and crank, Type 106 needle, uses cut edge strip, standard widths 3/4, 7/8, 1 1/8, and 1 1/4 inch.
- 51200 L (succeeds 6400 M, 51200 B). For seaming mattress ticks; bound seam Type BSa-1, English binder, enclosed type oiling system for looper drive eccentric and crank, Type 126 needle, uses selvage edge strip, standard widths 5/8, 3/4 and 7/8 inch.
- 51200 M (succeeds 6400 W, 51200 C). For seaming mattress ticks; plain seam, enclosed type oiling system for looper drive eccentric and crank, Type 126 needle.
- 51200 N (succeeds 1700 F, 1700 H, 51200 D). For seaming canton flannel and jersey cloth gloves, also leather palm gloves; seam Type SSa-1, enclosed type oiling system for looper drive eccentric and crank, needle Type 101.
- 51200 R (succeeds 6400 N, 51200 G). For joining shoulders of shirts, one operation; seam Type LSa-1, enclosed type oiling system for looper drive eccentric and crank, Type 106 needle.
- 51200 S (succeeds 6000 A, 51200 H). For miscellaneous operations on knitted drawer bands and knitted shirt fronts; enclosed type oiling system for looper drive eccentric and crank, needle Type 101.
- 51200 T (succeeds 15900 F, 51200 J). For attaching one piece extension button stays to front and sleeves of woven shirts, also facing sleeves: seam Type BSc-1, enclosed type oiling for looper drive eccentric and crank, Type 106 needle, strips used in either garment length or long lengths, standard widths 1/2, 3/4, 7/8 and 1 inch.
- 51200 U For attaching one piece extension button stays to front and sleeves of woven shirts, also facing sleeves; seam Type BSc-1, upper roller feed, capillary oiling system, Type 106 needle, strips used in either garment lengths or long lengths, standard widths 1/2, 5/8, 3/4, 7/8 and 1 inch.

STYLES OF MACHINES IN CLASS 51200 (Cont'd)

51200 V For attaching one piece extension button stays to knitted undergarments; seam Type BSc-1, upper roller feed, thumbscrew adjustment off-set differential feed, capillary oiling system, needle Type 106, strips used in long lengths, standard widths 3/8, 1/2, 9/16, 5/8, 3/4, 7/8, and 1 inch.

51200 Z A special style, similar to the standard styles in Class 51200, but differing in one or more of its component parts.

STYLES OF MACHINES IN CLASS 51400

Enclosed Type Flat Bed Independent Row Two Needle Light Duty Machines, Left Needle in Front, Double Locked Stitch Type 401, Lateral Loooper Travel.

51400 A (succeeds 7400 A, 7400 B). For piecing sleeves, joining shoulders and setting sleeves of ordinary quality shirts and similar garments made of medium and light weight materials; double stitch felled seam Type LSc-2, 5/32 inch space between needles in line with feed, feed surface between needles of No. 16 and wider gauges, capillary oiling system, Type 106 needles, standard gauges Nos. 6, 8, 10, 12, 16 and 18.

51400 B (succeeds 7400 X). For folding and attaching extension center plait, interlining strip and facing strip to front of shirts and similar garments; one operation, seam Type LSj-2, plaits used in garment lengths and extend 1/4 inch beyond the rows of stitches, facing and interlining strips used in long lengths, starts operation at neck, 5/32 inch space between needles in line with feed, "Tru-Front" folder, capillary oiling system, Type 106 needles, standard gauge No. 48.

51400 C (succeeds 7400 AH). Same as 51400 B, except it is designed for folding and attaching set-on center plait and interlining strip; seam Type LSm-2.

51400 D (succeeds 7400 AL). For folding and attaching inside button facing to shirts and similar garments; one operation, seam Type LSk-2, 1/16 inch margins, facing strip used in long lengths and guided next to feed dog, starts operation at neck, 5/32 inch space between needles in line with feed. Capillary oiling system Type 106 needles, standard gauges Nos. 32 and 48.

STYLES OF MACHINES IN CLASS 51400 (Cont'd)

- 51400 E For piecing sleeves, joining shoulders, and setting sleeves of extra fine quality shirts and similar garments made of medium and light weight materials; double stitch felled seam Type LSc-2, 5/32 inch space between needles in line with feed, feed surface between needles for all gauges capillary oiling system, Type 106 needles, standard gauges Nos. 8, 10, 12, 16
- 51400 F For "cut-on" button stay operation on shirts; turn down hem seam Type EFb-2 inverted, starts operation at neck, 5/32 inch space between needles in line with feed, capillary oiling system Type 106 needles, standard width of hem 5/8 inch; standard gauge No. 32.
- 51400 G (succeeds 7400 AG). For hemming bloomers and similar garments made from knitted fabrics, and simultaneously inserting an elastic band within the hem, seam Type EFg-2, 3/16 inch space between needles in line with feed, 1 1/8 inch, parallel take-up, built in puller, capillary oiling system Type 101 needles, standard gauges Nos. 16, 18 and 24, standard widths of heading 1/8, 3/16 and 1/4 inch for Nos. 16 and 18 gauge machines, standard width of heading 1/8 inch for No. 24 gauge machines.
- Note: By using a knee press No. 21691 A, the operator can shift the elastic into the left row of stitches at the start and finish of the hem.
- 51400 H (succeeds 7000 A). For uniting the lower edge of French drawer bands to the body fabric; 3/16 inch space between needles in line with feed, capillary oiling system, Type 101 needles, standard gauges Nos. 16 and 18.
- 51400 J (succeeds 7400 B). For setting sleeves of extra fine quality shirts and similar garments made from medium and light weight materials; double stitch felled seam Type LSc-2, 3/16 inch space between needles in line with feed, feed surface between needles, capillary oiling system, Type 106 needles, standard gauge No. 26.
- 51400 K For quilting collar bands of shirts and similar garments, 5/32 inch space between needles in line with feed, capillary oiling system, Type 106 needles, standard gauges Nos. 24 and 26.
- 51400 M (succeeds 7400 AK). For folding and attaching single piece facings to sleeves of shirts and similar garments, one operation, facing used in garment lengths, capillary oiling system, Type 106 needles, standard gauge No. 48.

STYLES OF MACHINES IN CLASS 51400 (Cont'd)

- 51400 N For "cut-on" button stay operation on shirts, turn up hem, starts operation at neck,  $5/32$  inch space between needles in line with feed, capillary oiling system, Type 106 needles, standard width of hem  $7/8$  inch, standard gauge No. 48.
- 51400 P (succeeds 7400 A, 7400 B, 51400 A). For piecing sleeves, joining shoulders and setting sleeves of ordinary quality shirts and similar garments made of medium and light weight materials; double stitch felled seam Type LSc-2,  $5/32$  inch space between needles in line with feed, feed surface between needles of No. 16 and wider gauges, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauges Nos. 6, 8, 10, 12, 16 and 18.
- 51400 Q (succeeds 7400 X, 51400 B). For folding and attaching extension center plait, interlining strip and facing strip to fronts of shirts and similar garments; one operation, seam Type LSj-2, plaits used in garment lengths and extend  $1/4$  inch beyond the rows of stitches, facing and interlining strips used in long lengths, starts operation at neck,  $5/32$  inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauge No. 48.
- 51400 R (succeeds 7400 AH, 51400 C). Same as 51400 Q, except it is designed for folding and attaching set-on center plait and interlining strip, seam Type LSm-2.
- 51400 S (succeeds 7400 AL, 51400 D). For folding and attaching inside button facing to shirts and similar garments; one operation, seam Type LSk-2, with  $1/16$  inch margins, facing strip used in long lengths and guided next to feed dog, starts operation at neck,  $5/32$  inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauges Nos. 32 and 48.
- 51400 T (succeeds 51400 E). For piecing sleeves, joining shoulders and setting sleeves of extra fine quality shirts and similar garments made of medium and light weight materials; double stitch felled seam Type LSc-2,  $5/32$  inch space between needles in line with feed, feed surface between needle for all gauges, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauges Nos. 8, 10, 12 and 16.



STYLES OF MACHINES IN CLASS 51400 (Cont'd)

- 51400 U (succeeds 51400 F). For "cut-on" button stay operation on shirts; turn down hem, stitching Type Efb-2 inverted; starts operation at neck, 5/32 inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard width of hem 5/8 inch, standard gauge No. 32.
- 51400 V (succeeds 7000 A, 51400 H). For uniting the lower edge of French drawer bands to the body fabric; seam Type Lsd-2, 3/16 inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 101 needles, standard gauges Nos. 16 and 18.
- 51400 W (succeeds 7400 B, 51400 J). For setting sleeves of extra fine quality shirts and similar garments made from medium and light weight materials; double stitch felled seam Type LSc-2, 3/16 inch space between needles in line with feed, feed surface between needles, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauge No. 26.
- 51400 X (succeeds 51400 K). For quilting collar bands of shirts and similar garments; 5/32 inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric crank, Type 106 needles, standard gauges Nos. 24 and 26.
- 51400 Y (succeeds 51400 L). For folding and attaching set-on button stay to fronts of work shirts and similar garments; seam Type Lsk-2, 1/32 inch margins, stays used in garment lengths and guided next to presser foot, starts operation at neck, 5/32 inch space between needles in line with feed, folder presser foot, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard Gauge No. 32.
- 51400 Z A special style similar to the standard styles in Class 51400, but differing in one or more of its component parts.
- 51400 AA (succeeds 7400 AK, 51400 M). For folding and attaching single piece facing to sleeves of shirts and similar garments; one operation, seam Type BSc-2, facing used in garment lengths, 5/32 inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauge No. 48.

STYLES OF MACHINES IN CLASS 51400 (Cont'd)

51400 AB (succeeds 51400 N). For "cut-on" button stay operation on shirts; turn up hem, stitching Type Efb-2, starts operation at neck, 5/32 inch space between needles in line with feed, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard width of hem 7/8 inch, standard gauge No. 48.

51400 AC For setting puff sleeves in waists, pajamas and similar garments made from light weight woven fabrics and similar operations where a large percent of the work calls for intermittently or continuously gathered curved seams and a small percent calls for intermittently or continuously gathered straight seams, seam Type LSc-2, upper ply of fabric passes to right of needles 5/32 inch space between needles in line with feed, treadle controlled 3 to 1 differential feed gathering mechanism, capillary oiling system, Type 106 needles, standard gauges Nos. 12 and 16.

STYLES OF MACHINES IN CLASS 51600

Enclosed Type Flat Bed Independent Row Two Needle Machines. Right Needle in Front, 1/8 inch space between needles in line with feed, Double Locked Stitch Type 401, Lateral Looper Travel.

51600 A For gathering and attaching ruffles to body of garments made from light weight woven fabrics and similar operations where a large percent of the work calls for an intermittently or continuously gathered straight seam and a small percent of the work calls for an intermittently or continuously gathered curved seam; Type LSc-2, upper ply of fabric passes to left of needles, treadle controlled 3 to 1 differential feed gathering mechanism, capillary oiling system, Type 106 needles, standard gauges Nos. 8, 10, 12 and 16.

51600 Z A special style similar to the standard style in Class 51600, but differing in one or more of its component parts.

STYLES OF MACHINES IN CLASS 51700

Enclosed Type Flat Bed Independent Row Two Needle Machines, Needles Abreast, Double Locked Stitch Type 401, Lateral Looper Travel

51700 C (succeeds 16200 N, 16200 Q). For folding and attaching set-on center plait and interlining strip to fronts of shirts and similar garments; one operation, seam Type LSm-2, plaits used in garment lengths and extend 1/4 inch beyond the rows of stitches, starts operation at neck, "Tru-Front" folder, capillary oiling system, Type 106 needles, standard gauges Nos. 56 and 64.

STYLES OF MACHINES IN CLASS 51700 (Cont'd)

- 51700 D (succeeds 16200 D, 16200 P). Same as 51700 C, except for folding and attaching extension center plait, interlining strip and facing strip, seam Type LSj-2, standard gauge No. 64.
- 51700 E For folding and attaching buttonhole facings to knitted undergarments; one operation, self-finish front, seam Type LSk-2, cut edge facing strip used in long lengths and guided next to feed dog, strip controlled differential top feed, capillary oiling system, Type 121 needles, standard gauges Nos. 64, 72 and 80.
- 51700 F For attaching garment length single piece extension bands to overalls and similar garments; heavy duty work, one operation, seam Type BSc-2, collapsible horn type folder, 1/16 inch seam margins, capillary oiling system, Type 128 F needles, standard gauge No. 88, includes puller.
- 51700 G For folding and attaching cuffs to pajamas and similar garments made from silk and broadcloth, and inserting a corded piping on left side of cuff, one operation, piping made from a 5/8 inch bias strip folded around a 3/32 inch cord, capillary oiling system, Type 106 needles, standard width of strip 2 1/8 inches, standard gauge No. 128, includes puller.
- 51700 H Same as 51700 G, except for flannelette fabrics; puller omitted.
- 51700 J (succeeds 16200 N, 16200 Q, 51700 C). For folding and attaching set-on center plait and interlining strip to fronts of shirts and similar garments, one operation, seam Type LSm-2, plaits used in garment lengths and extend 1/4 inch beyond the rows of stitches, starts operation at neck, "Tru-Front" folder, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauges Nos. 56 and 64.
- 51700 K (succeeds 16200 D, 16200 P, 51700 D) same as 51700 J, except for folding and attaching extension center plait, interlining strip and facing strip, seam Type LSj-2, standard gauge No. 64.
- 51700 L (succeeds 51700 E). For folding and attaching buttonhole facings to knitted undergarments; one operation, self-finish front, seam Type LSk-2, cut edge facing strip used in long lengths and guided next to feed dog, strip controlled differential top feed, enclosed type oiling for looper drive eccentric and crank, Type 121 needles, standard gauges Nos. 64, 72, and 80.

STYLES OF MACHINES IN CLASS 51700 (Cont'd)

- 51700 M (Succeeds 51700 F). For attaching garment length single piece extension bands to overalls and similar garments; heavy duty work, one operation, seam Type BSc-2, collapsible horn type folder, Type 128 F needles, standard gauges Nos. 80 and 88, includes PULLER.
- 51700 N (succeeds 51700 G). For folding and attaching cuffs to pajamas and similar garments made from silk and broadcloth, and inserting a corded piping on left side of cuff; one operation, piping made from a 5/8 inch bias strip folded around a 3/32 inch cord. Type 106 needles. Standard width of strip 2 1/8 inches, standard gauge No. 128, includes PULLER.
- 51700 P (Succeeds 51700 H). Same as 51700 N, except for flannelette fabrics, puller is omitted.
- 51700 Q For folding and attaching set on center plait to fronts of heavy weight army shirts and similar garments; one operation, seam Type LSk-2, plaits used in garment lengths and extend 1/4 inch beyond the rows of stitches, starts operation at the neck, "Tru-Front" folder, enclosed type oiling system for looper drive eccentric and crank, Type 106 needles, standard gauge No. 64.
- 51700 R For folding and attaching inside button facings to heavy weight army shirts and similar garments; one operation, seam Type LSk-2 with 1/16 inch margins, facing strip cut from body fabric, used in long lengths and guided next to feed dog, starts operation at neck, enclosed type oiling for looper drive eccentric and crank, Type 106 needles, standard gauge No. 56.
- 51700 T For attaching waistband to trousers and similar garments; heavy duty work, seam Type LSk-2, strip guided next to feed dog, capillary oiling system, Type 128 G needle, standard gauge No. 96, includes PULLER.
- 51700 U (succeeds 51700 T) For attaching waistbands to trousers and similar garments; heavy duty work, seam Type LSk-2, strip guided next to feed dog, enclosed type oiling system for looper drive eccentric and crank, Type 128 G needles, standard gauge No. 96, includes PULLER.
- 51700 Z A special style similar to the standard styles in Class 51700, but differing in one or more of its component parts.

## NEEDLES

### TYPE NUMBER AND SIZES

Each needle has a type number and size number. The former denotes the kind of shank, point, length, groove, finish, and other details. The latter denotes the largest diameter of the blade, measured in thousandths of an inch midway between the shank and eye, and is stamped in the needle shank. Collectively the type number and size number is the complete symbol.

To have orders promptly and accurately filled, the empty package, a sample needle, or the type and size numbers should be given. See marks on packages. An intelligent order would read as follows; "1000 Needles Type 106 Size .036". The type numbers of the needles available for use in the styles of machines covered by this catalog are listed below. Set opposite each type number is the description of the needle and the sizes available.

Type No.	Description
101	Round shank, round point, extra short, double groove, nickel plated- sizes 019, 022, 025, 027, 029, 032, 034, 036, 038, 040, 042, 044, 046, 049, 054.
101 G	Round shank, round point, extra short, double groove, chromium plated- sizes 032, 036, 040.
101 J	Round shank, round point, extra short, double groove, taper blade, diameter across eye is the size number, plain finish- sizes 019, 022, 027.
102	Round shank, round point, extra short, double groove, short blade, 1/8 inch less than standard, nickel plated- sizes 025, 027, 032, 036, 040, 044.
104	Round shank, round point, extra short, double groove, spotted, nickel plated- sizes 036, 040, 042, 044, 049.
104 JH	Round shank, round point, extra short, double groove, spotted, ball point, taper blade, diameter across the eye is the size number, chromium plated- sizes 029, 032.
106	Round shank, round point, extra short, double groove, ball eye, standard length blade, nickel plated- sizes 027, 029, 032, 036, 038, 040, 042, 044, 049.
106 A	Same as Type 106, except blades are 1/16 inch shorter and shanks are 1/16 inch longer- sizes 032, 036.

NEEDLES (Cont'd)

Type No.	Description
106 G	Round Shank, round point, extra short, double groove, ball eye, chromium plated-ssizes 032, 036, 040, 044.
106 H	Round shank, round point, extra short, double groove, ball eye, ball point, standard length blade, nickel plated- size 040.
108	Round shank, round point, extra short, double groove, ball eye, spotted, nickel plated- sizes 032, 036, 038, 040, 042, 044, 049, 054.
108 G	Round shank, round point, extra short, double groove, ball eye, spotted, chromium plated-sizes 040, 044, 049, 054.
108 H	Round shank, round point, extra short, double groove, ball eye, ball point, spotted, nickel plated- sizes 036, 040.
108 GH	Round shank, round point, extra short, double groove, ball eye, ball point, spotted, chromium plated- sizes 036, 040, 044.
109	Round shank, round point, extra short, double groove, ball eye, government, nickel plated-sizes 027, 032, 036, 040, 044.
109 B	Round shank, round point, extra short, double groove, government, nickel plated- sizes 027, 032, 036, 040, 044, 049.
109 G	Round shank, round point, extra short, double groove, ball eye, government, chromium plated-sizes 036, 040, 044.
109 HA	Round shank, round point, extra short, double groove, ball eye, ball point, government, short blade 1/8 inch less than standard, chromium plated- size 040.
110	Round shank, round point, extra short, double groove, ball eye, government spotted, nickel plated- sizes 036, 040, 044.
110 G	Round shank, round point, extra short, double groove, ball eye, spotted, government, chromium plated- size 040.

NEEDLES (Cont'd)

Type No.	Description
110 ZL	Round shank, round point, extra short, double groove, ball eye, ball point, government, spotted, chromium plated- size 040.
121	Round shank, round point, short, double groove, nickel plated- sizes 019, 022, 025, 027, 029, 032, 036, 038, 040, 042, 044, 049, 054.
121 G	Round shank, round point, short, double groove, chromium plated- sizes 032, 036, 040, 049.
121 H	Round shank, round point, short, double groove, ball point, nickel plated- sizes 029, 032, 036.
121 J	Round shank, round point, short, double groove, taper blade, diameter across the eye is the size number, plain finish- sizes 022, 025, 027, 032.
121 JH	Round shank, round point, short, double groove, ball point, taper blade, diameter across the eye is the size number, plain finish- size 027.
124	Round shank, round point, short, double groove, spotted, nickel plated- sizes 040, 044, 049, 060, 067, 080, 090.
124 G	Round shank, round point, short, double groove, spotted, chromium plated- size 067.
126	Round shank, round point, short, double groove, ball eye, nickel plated- sizes 027, 032, 036, 040, 042, 044, 049, 054.
126 G	Round shank, round point, short, double groove, ball eye, chromium plated- sizes 040, 044, 049.
128	Round shank, round point, short, double groove, ball eye, spotted, nickel plated, standard width of eye and grooves- sizes 032, 036, 040, 044, 049, 054, 060, 067, 080.
128 F	Round shank, round point, short, double groove, ball eye, spotted, nickel plated, under-size eye and grooves, one step reduction- sizes 044, 049, 054.
128 G	Round shank, round point, short, double groove, ball eye, spotted, chromium plated, under-size eye and grooves, one step reduction- sizes 044, 049, 054.

NEEDLES (Cont'd)

Type No.	Description
128 H	Round shank, round point, short, double groove, ball eye, spotted, short blade 1/8 inch less than standard, width of eye and grooves under-size one step reduction, ball point, nickel plated- sizes 036, 040, 044, 049.
128 GA	Round shank, round point, short, double groove, ball eye, spotted, chromium plated, standard width of eye and grooves- sizes 040, 044, 049, 054.
128 HA	Round shank, round point, short, double groove, ball eye, spotted, under-size eye and grooves 27% of needle size, ball point, nickel plated- sizes 044, 049, 054.
128 HB	Round shank, round point, short, double groove, ball eye, spotted, under-size eye and grooves 27% of needle size, ball point, chromium plated- sizes 044, 049, 054.
129	Round shank, round point, short, double groove, government, nickel plated- sizes 027, 029, 032, 036, 040, 044, 049.
129 G	Round shank, round point, short, double groove, government, chromium plated- sizes 029, 032, 036, 040.
130	Round shank, round point, short, double groove, ball eye, government, spotted, nickel plated- sizes 036, 040, 044, 049, 054, 060.
130 G	Round shank, round point, short, double groove, ball eye, government, spotted, chromium plated- sizes 044, 049, 054.
130 HA	Round shank, round point, short, double groove, ball eye, government, spotted, ball point, nickel plated- sizes 044, 049, 054.
130 HB	Round shank, round point, short, double groove, ball eye, government, spotted, ball point, chromium plated- sizes 044, 049, 054.
301	Round shank, stay point, extra short, double groove, plain finish- sizes 027, 029, 032, 034, 036, 038, 040, 042, 044, 046, 049, 052, 054, 060.
301 G	Round shank, stay point, extra short, double groove, chromium plated- sizes 032, 034, 036, 038, 040, 042, 044, 049, 054



NEEDLES (Cont'd)

Type No.	Description
302	Round shank, stay point, extra short, double groove, nickel plated- sizes 032, 036, 040, 042, 044, 049.
501	Round shank, rocked point, extra short, double groove, plain finish- sizes 029, 032, 034, 036, 038, 040, 042, 044, 046.
501 G	Round shank, rocked point, extra short, double groove, chromium plated- sizes 036, 038, 040, 042.
907	Round shank, spear point, extra short, double groove, ball eye, nickel plated- sizes 027, 032, 034, 036, 040, 042, 044, 049, 054.
929	Round shank, spear point, short, double groove, ball eye, spotted, nickel plated- sizes 044, 049, 054, 060, 067, 080.
1501	Round shank, twist point, extra short, double groove, plain finish- sizes 027, 029, 032, 034, 036, 038, 040, 042, 044, 049, 052, 054, 060.
1701	Round shank, twist centered point, extra short, double groove, plain finish- sizes 029, 032, 034, 036, 038, 040, 042, 044, 046, 049, 054, 060.
1701 G	Round shank, twist centered point, extra short, double groove, chromium plated- size 038.

APPLICATION OF TYPE NUMBERS TO MACHINES

The standard type of needle applicable to each style is listed in the description of each style. The styles of machines covered by this catalog are listed below. Set opposite each style number is the type numbers of the needles that can be used. Type numbers are arranged numerically, as the variety of the materials sewed on each machine makes it impractical to show a preference.

Machine Style	Type of Needles
51200 A	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 G, 110, 110 G, 110 ZL, 302, 907
51200 B	126, 126 G, 128, 128 F, 128 G, 128 GA, 130, 130 G, 929
51200 C	126, 126 G, 128, 128 F, 128 G, 128 GA, 130, 130 G, 929
51200 D	101, 101 G, 101 J, 102, 104, 104 JH
51200 G	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907

NEEDLES (Cont'd)

APPLICATION OF TYPE NUMBERS TO MACHINES (Cont'd)

Machine Style	Type of Needles
51200 H	101, 101 G, 101 J, 104, 104 JH, 106, 106 G, 109 B
51200 J	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51200 K	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 G, 110, 110 G, 110 ZL, 302, 907
51200 L	126, 126 G, 128, 128 F, 128 G, 128 GA, 130, 130 G, 929
51200 M	126, 126 G, 128, 128 F, 128 G, 128 GA, 130, 130 G, 929
51200 N	101, 101 G, 101 J, 102, 104, 104 JH
51200 P	101, 101 G, 104, 106, 106 A, 106 G, 108, 108 G, 301, 301 G, 302, 501, 501 G, 1501, 1701, 1701 G
51200 Q	101, 101 G, 104, 106, 106 A, 106 G, 108, 108 G, 301, 301 G, 302, 501, 501 G, 1501, 1701, 1701 G
51200 R	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51200 S	101, 101 G, 101 J, 104, 104 JH, 106, 106 G, 109 B
51200 T	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 G, 110, 110 G, 110 ZL, 302, 907
51200 U	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 G, 110, 110 G, 110 ZL, 302, 907
51200 V	106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 G, 110, 110 G, 110 ZL
51400 A	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 B	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 C	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 D	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 E	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G

NEEDLES (Cont'd)

APPLICATION OF TYPE NUMBERS TO MACHINES (Cont'd)

Machine Style	Type of Needles
51400 F	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 G	101, 101 G, 109 B
51400 H	101, 101 G, 101 J, 104, 104 JH, 106, 106 G, 109 B
51400 J	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 K	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 L	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 M	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 N	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 P	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 Q	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 R	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 S	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 T	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G
51400 U	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 V	101, 101 G, 101 J, 104, 104 JH, 106, 106 G, 109 B
51400 W	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 X	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907

NEEDLES (Cont'd)

APPLICATION OF TYPE NUMBERS TO MACHINES (Cont'd)

Machine Style	Type of Needles
51400 Y	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 AA	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 AB	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51400 AC	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51600 A	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 C	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 D	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 E	121, 121 G, 121 H, 121 J, 121 JH, 124, 124 G, 129, 129 G
51700 F	126, 126 G, 128, 128 F, 128 G, 128 H, 128 GA, 128 HA, 128 HB, 129, 129 G, 130, 130 G, 130 HA, 130 HB, 929
51700 G	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 H	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 J	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 K	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 L	121, 121 G, 121 H, 121 J, 121 JH, 124, 124 G, 129, 129 G
51700 M	126, 126 G, 128, 128 F, 128 G, 128 H, 128 GA, 128 HA, 128 HB, 129, 129 G, 130, 130 G, 130 HA, 130 HB, 929
51700 N	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 P	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907

## NEEDLES (Cont'd)

### APPLICATION OF TYPE NUMBERS TO MACHINES (Cont'd)

Machine Style	Type of Needles
51700 Q	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 R	104 JH, 106, 106 A, 106 G, 106 H, 108, 108 G, 108 H, 108 GH, 109, 109 B, 109 G, 109 HA, 110, 110 G, 110 ZL, 302, 907
51700 T	126, 126 G, 128, 128 F, 128 G, 128 H, 128 GA, 128 HA, 128 HB, 129, 129 G, 130, 130 G, 130 HA, 130 HB, 929
51700 U	126, 126 G, 128, 128 F, 128 G, 128 H, 128 GA, 128 HA, 128 HB, 129, 129 G, 130, 130 G, 130 HA, 130 HB, 929

## ORDERING REPAIR PARTS

### PLATES

Illustrations of parts are arranged according to scale and, wherever possible, parts similar in appearance or function are grouped together.

When a given design of part is made in two or more sizes, only one illustration is usually shown. In ordering these pieces, it is necessary that the additional information be furnished as requested under these illustrations.

### LIST OF PARTS

Turning from the plates to the list of parts, the description of each part and its principal uses will be found. Always check the symbol against its description before ordering. It is not necessary to furnish the plate number.

When a part is used, or can be used, in all machines covered by this catalog, no specific use is mentioned in the description.

For convenience in ordering, minor parts such as screws, nuts and similar articles are repeated after each major part.

(-) A dash in the "plate number" column of the list of parts indicates the absence of an illustration.

(‡) A double dagger in the "symbol to order by" column indicates that the component parts cannot be furnished separately. Due to the high speed of these machines and other factors it is impossible for these associated parts to be fitted a second time and make a serviceable job.

### IDENTIFYING PARTS

Where the construction permits, each part is stamped with its part number. Some of the smaller parts are stamped with an identification letter to distinguish them from parts similar in appearance.

## ORDERING REPAIR PARTS (Cont'd)

### IDENTIFYING PARTS (Cont'd)

All part numbers represent the same part, regardless of the catalog in which they appear.

### SUPPLIES

All supplies, including taps, reamers, belting, belt hooks, belt fasteners, screw drivers, wrenches and powdered oil stone will be promptly furnished.

### USE GENUINE NEEDLES AND REPAIR PARTS

Success in the operation of these machines can be secured only by the use of genuine Union Special Needles and Repair Parts as furnished by the Union Special Machine Company, its subsidiaries and authorized distributors. They are designed according to the most approved scientific principles, and are made with the utmost precision. The maximum efficiency and durability are assured.

Genuine needles are put up in packages marked at the top "Trade 'UNION SPECIAL' mark". Genuine repair parts are stamped with a reproduction of the familiar Union Special padlocks.

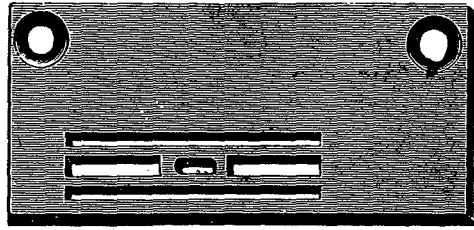


Each trade mark is your guarantee of the highest quality in materials and workmanship.

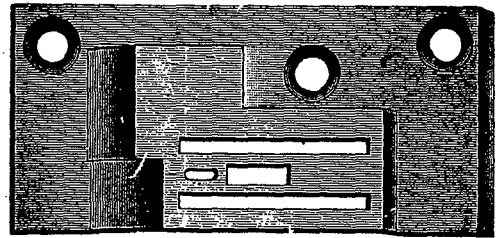
### TERMS

Prices are strictly "net cash" and subject to change without notice. All shipments are forwarded at the buyer's risk F.O.B. shipping point. Parcel post shipments are insured unless otherwise directed. A charge is made to cover the postage and insurance.

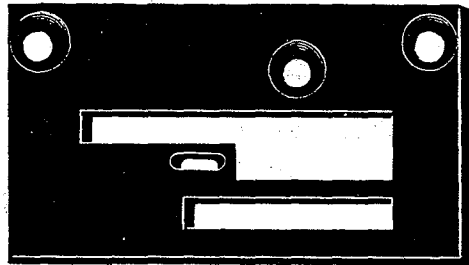
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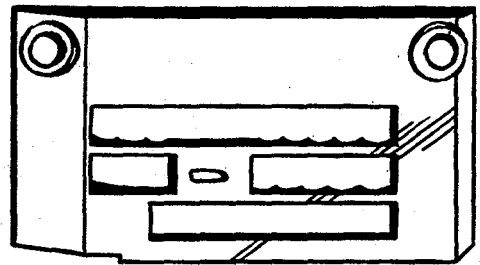
112



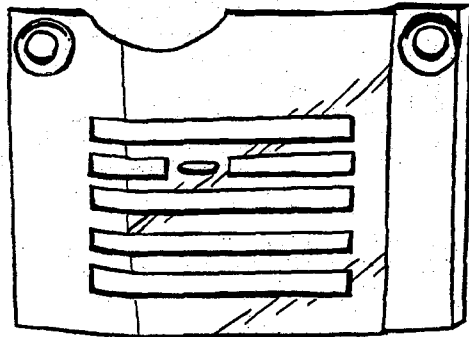
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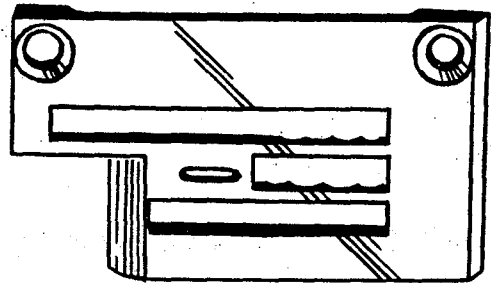
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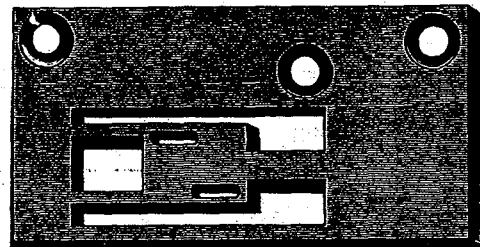
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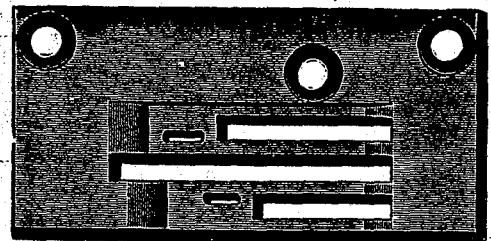
6428L



K60150

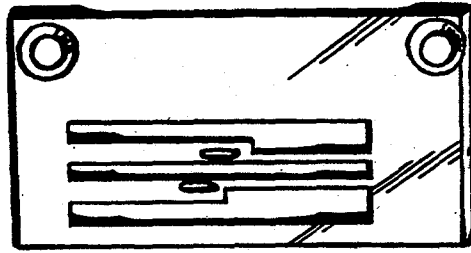


7024C  
Specify Gauge

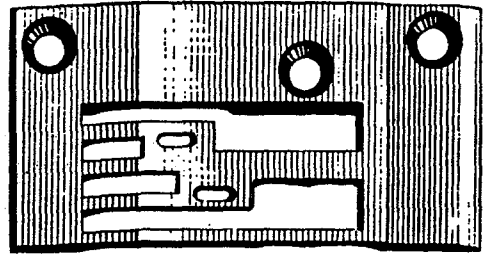


7424B  
Specify Gauge

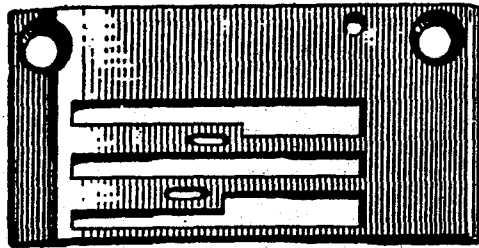
Plate 2 - Full Size



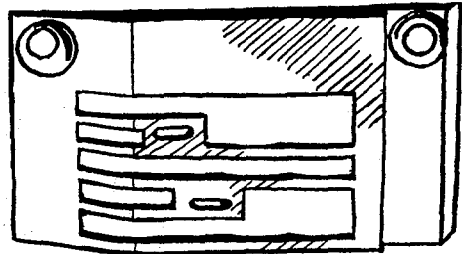
8328 C-3



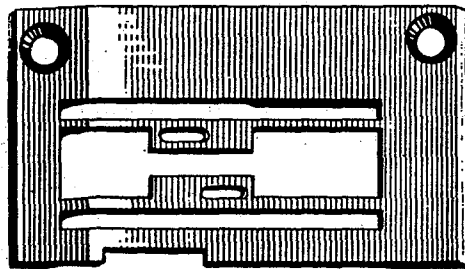
7528H-4 1/2



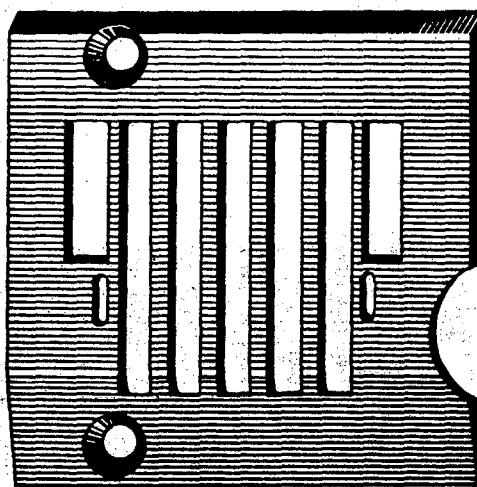
8324 L  
Specify Gauge



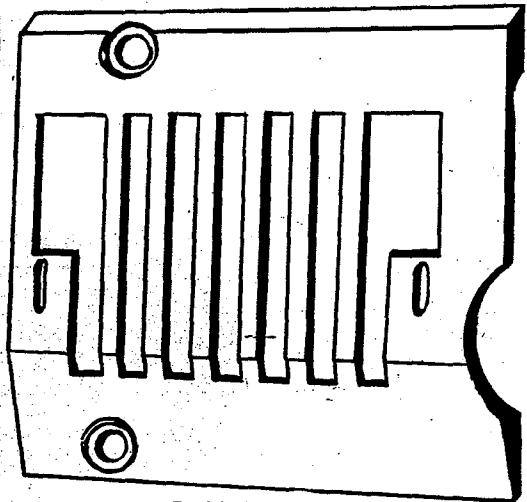
7424 AF  
Specify Gauge



7424AG-5



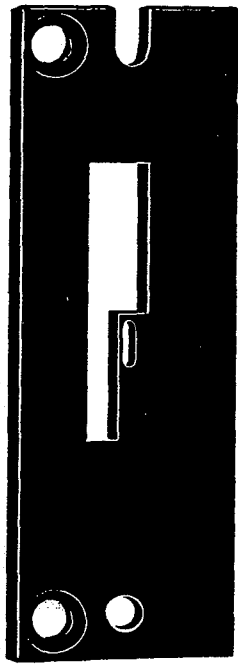
16524 B  
Specify Gauge



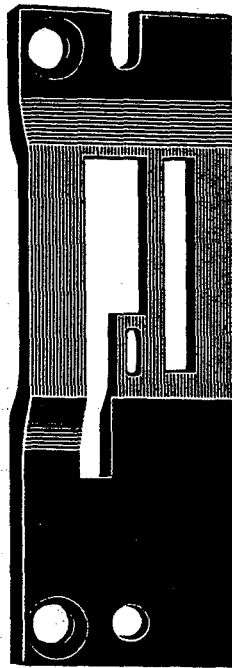
51724G-128



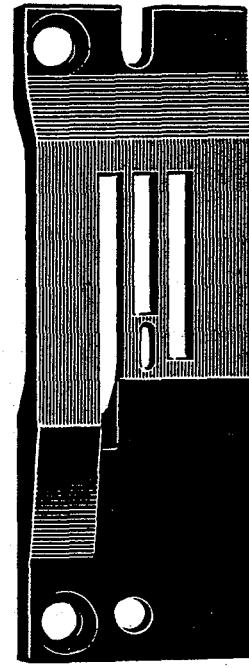
Plate 3 - Full Size



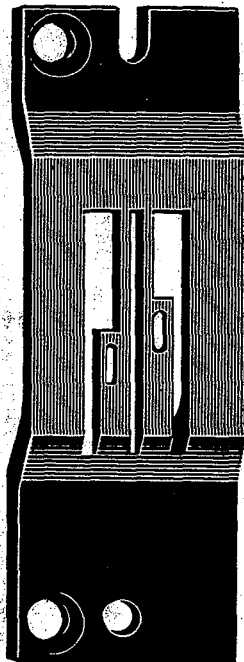
51224D



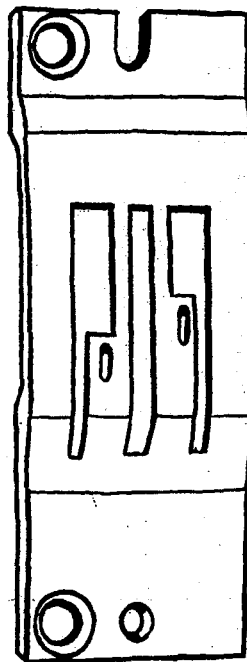
51224B



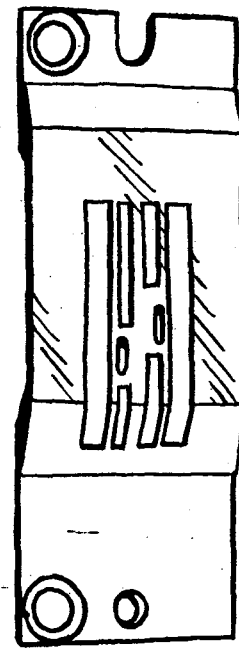
51224A



51424  
Specify  
Gauge

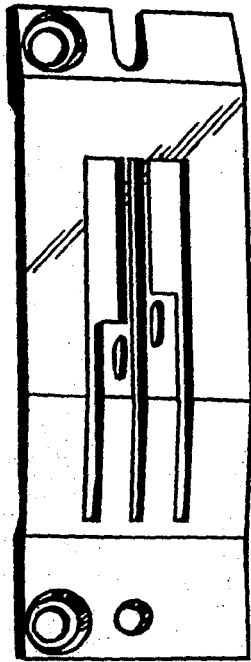


51424K  
Specify  
Gauge

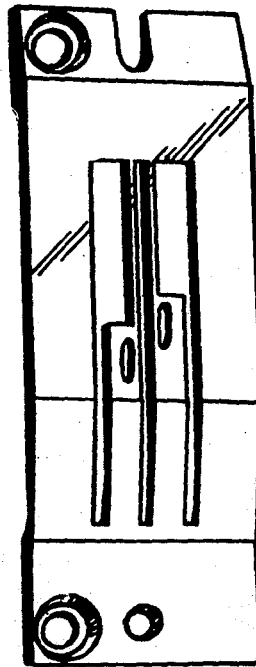


51424 A  
Specify  
Gauge

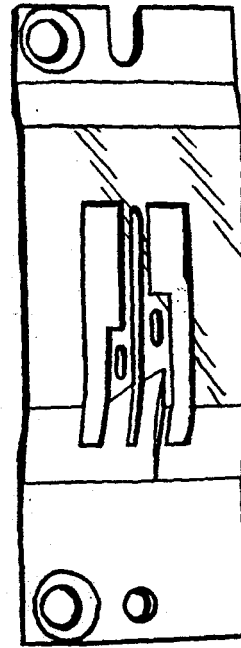
Plate 4 - Full Size



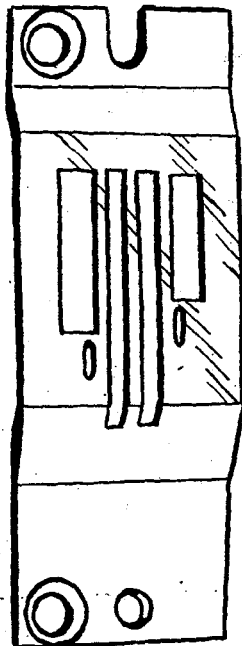
K59500



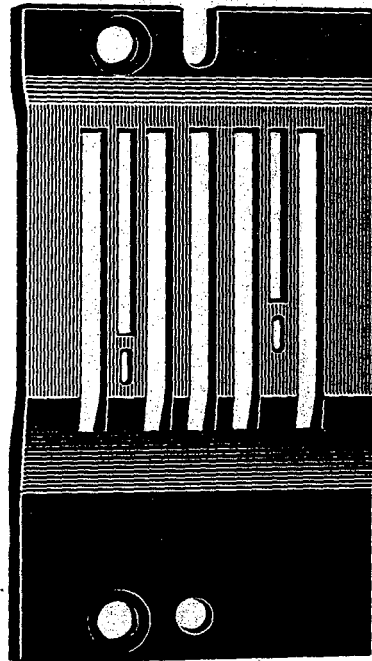
K59502



51424 E  
Specify  
Gauge

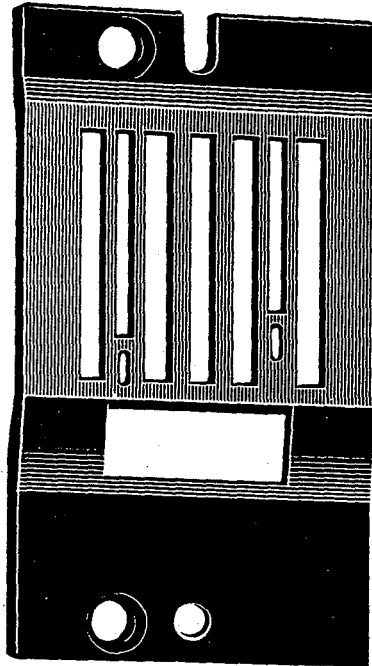


51424 F-32

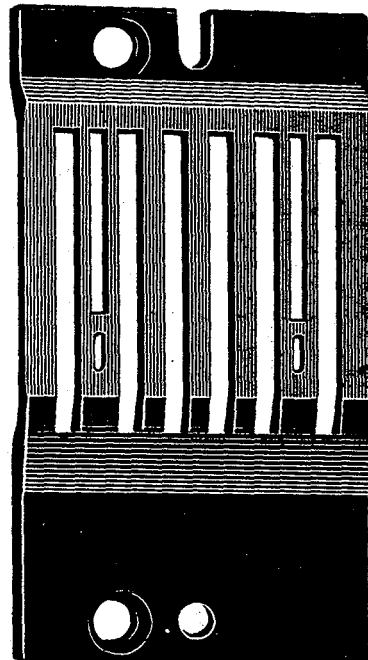


51424 C-48

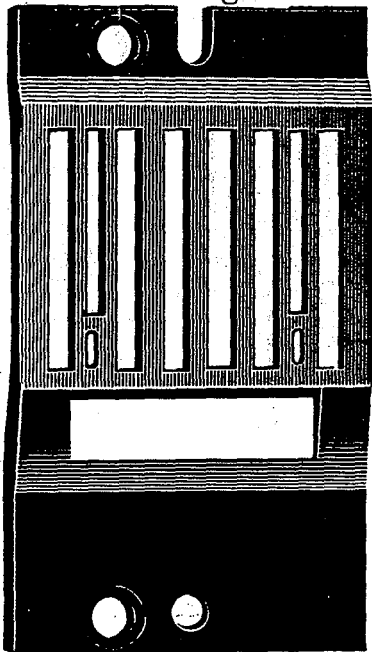
Plate 5 - Full Size



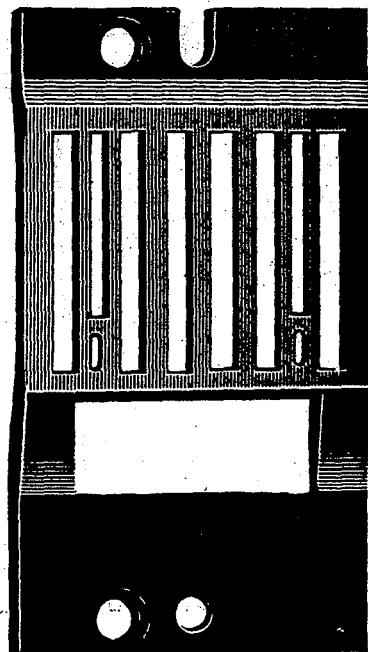
51424B  
Specify  
Gauge



51724  
Specify  
Gauge

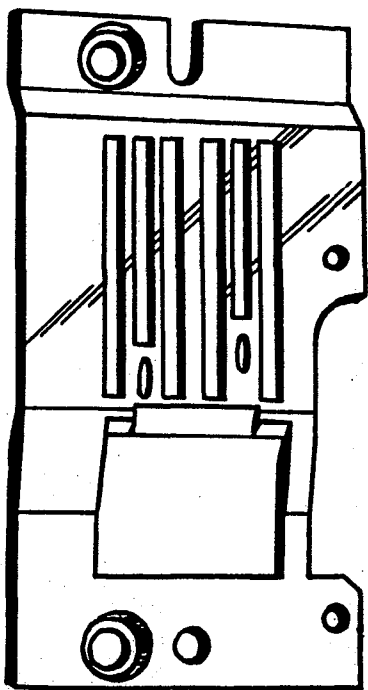


51724D  
Specify  
Gauge

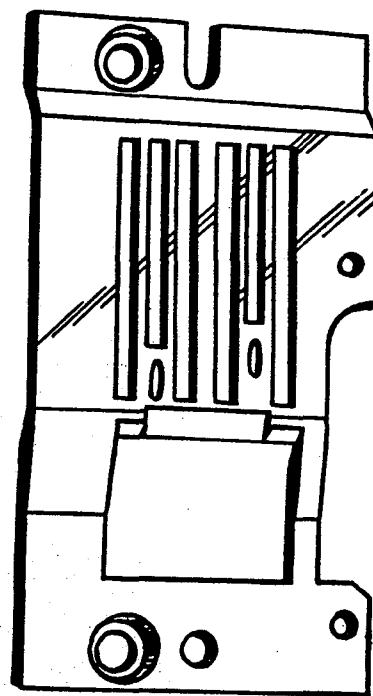


K59843

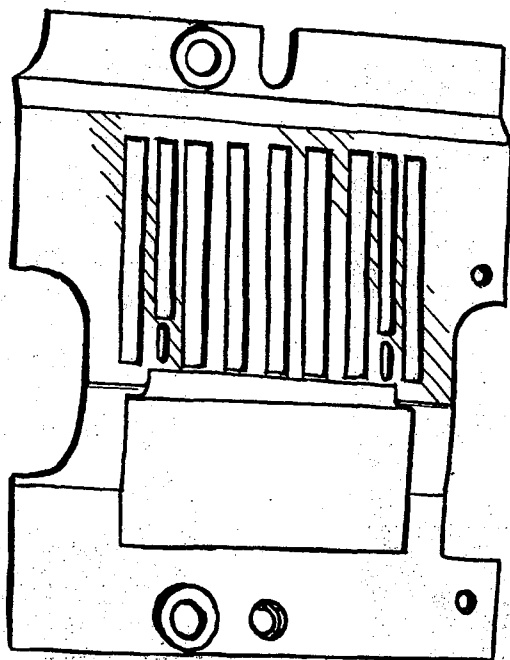
Plate 6 - Full Size



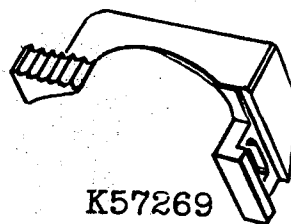
K54259



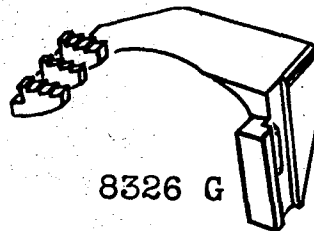
K53843



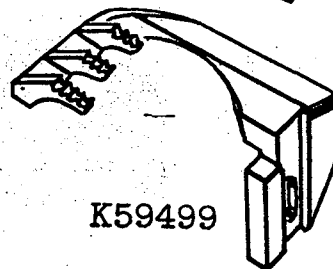
51724 E  
Specify Gauge



K57269

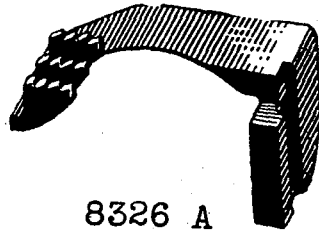


8326 G

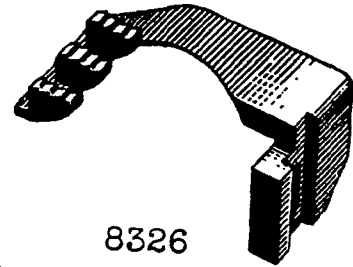


K59499

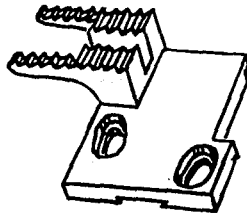
Plate 7 - Full Size



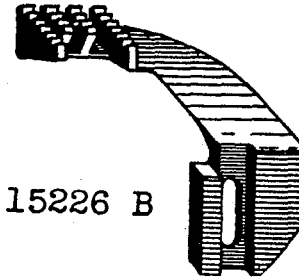
8326 A



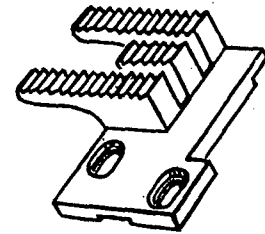
8326



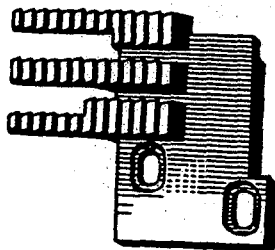
15105 B



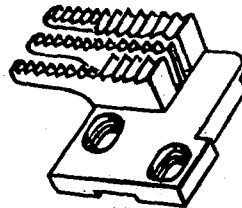
15226 B



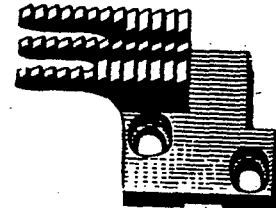
K60151



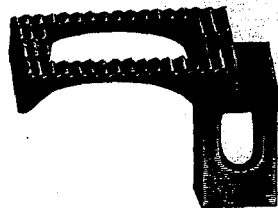
8305 L



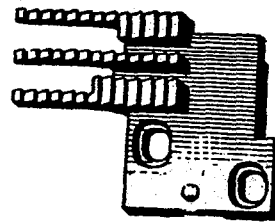
K59498



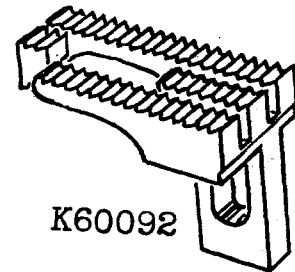
8305 S



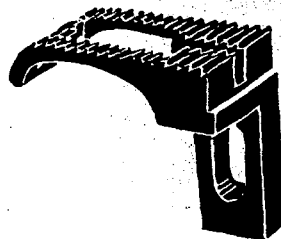
7005A  
Specify  
Gauge



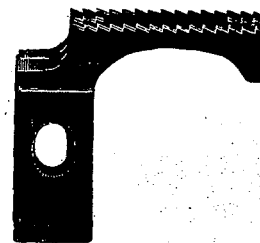
8305 N



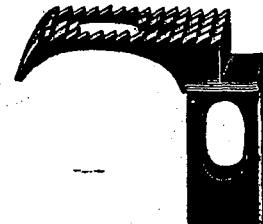
K60092



7405U-4 1/2

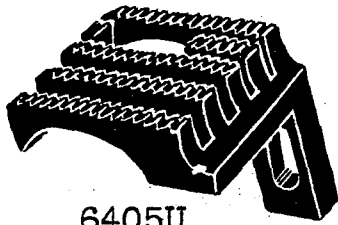


22 I

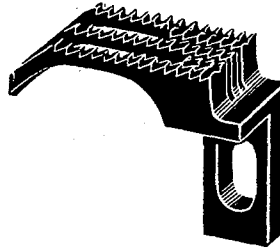


51405 A  
Specify  
Gauge

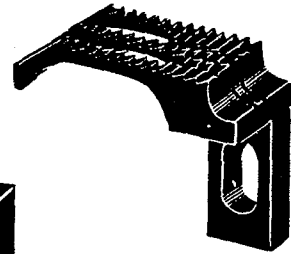
Plate 8 - Full Size



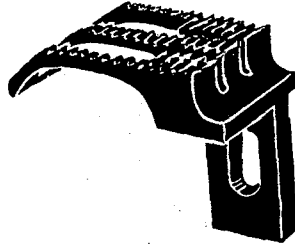
6405U



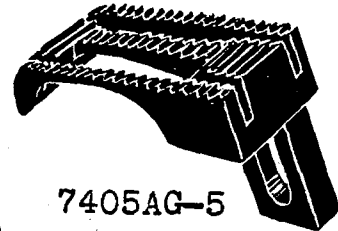
51405-16



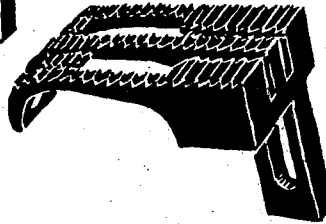
51405E  
Specify  
Gauge



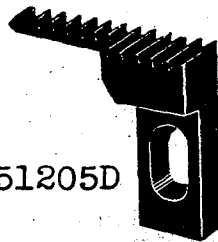
51405 K-26



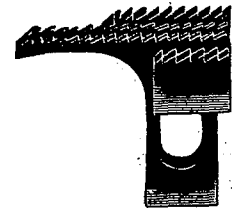
7405AG-5



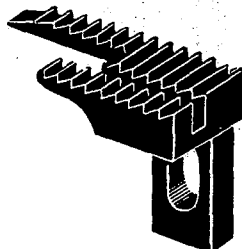
7405AF-5 1/2



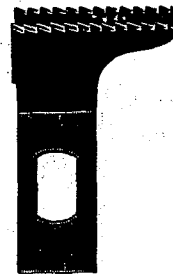
51205D



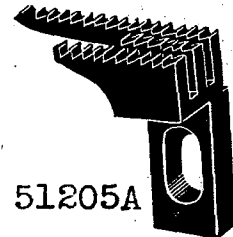
7405B-6



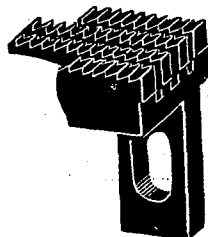
6405M



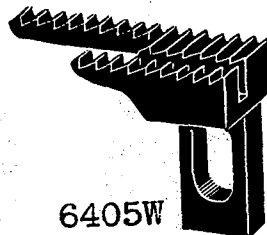
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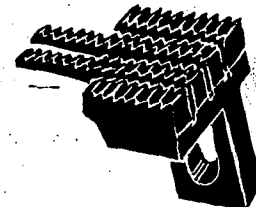
51205A



51405B-32

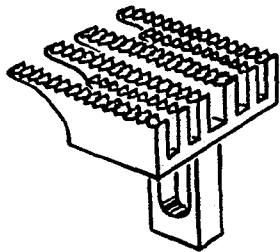


6405W

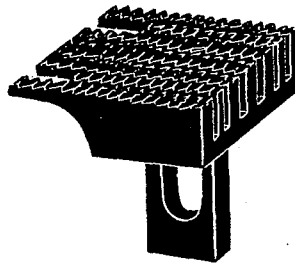


51405F-32

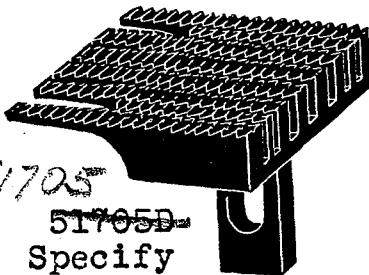
Plate 9 - Full Size



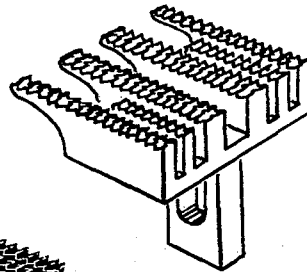
K53844



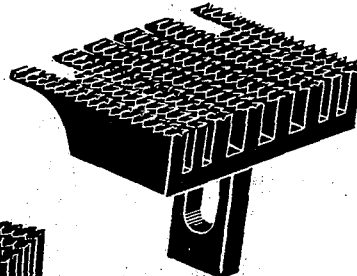
51405B-48



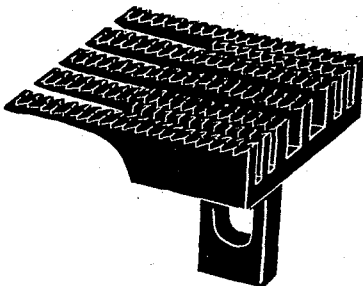
51705  
~~51705B~~  
Specify  
Gauge



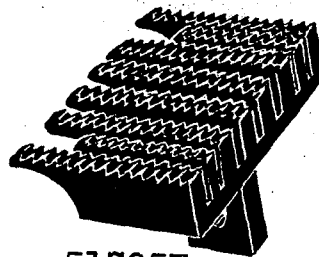
K54260



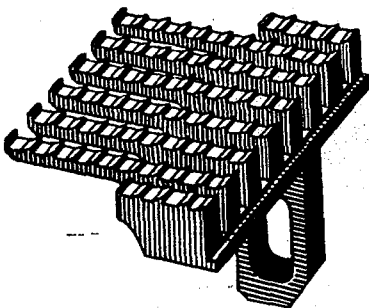
51705 D  
Specify  
Gauge



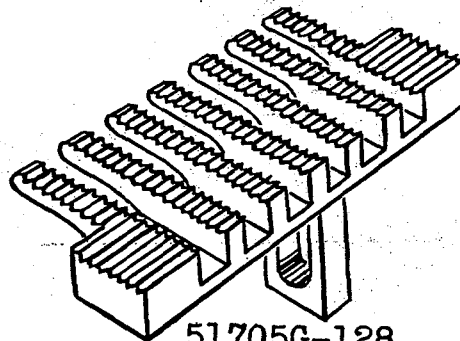
51405C-48



51705E  
Specify  
Gauge

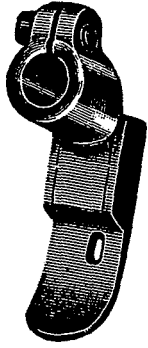


16505  
Specify  
Gauge

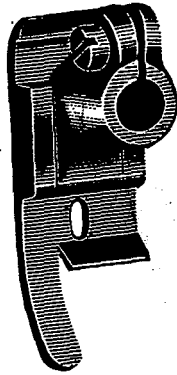


51705G-128

Plate 10 - Full Size



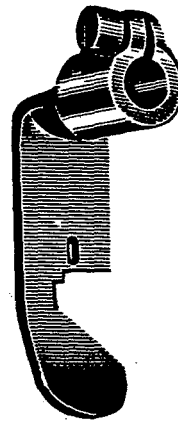
1727A



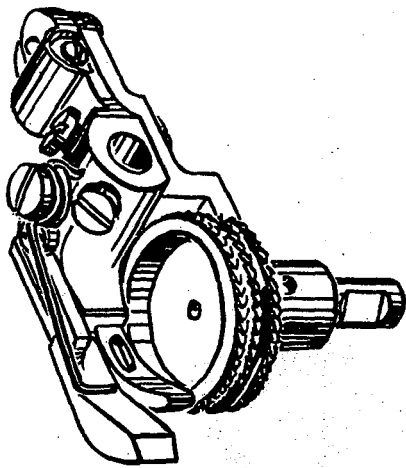
6420W



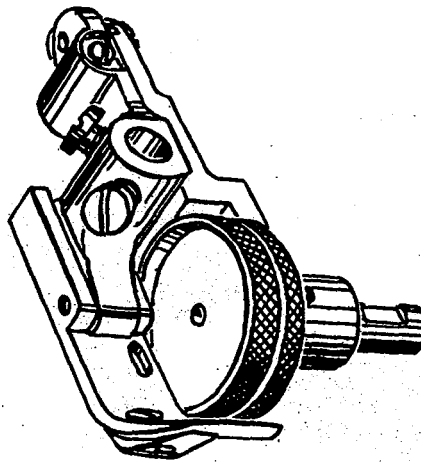
65A



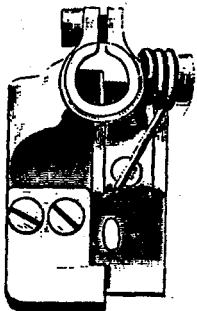
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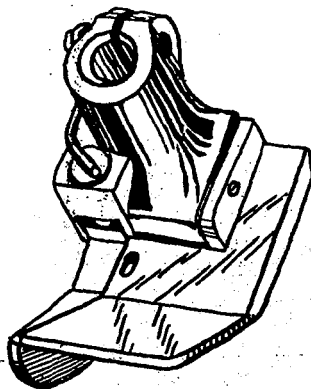
K59088



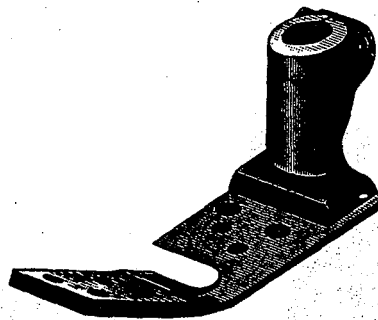
K57279



9720



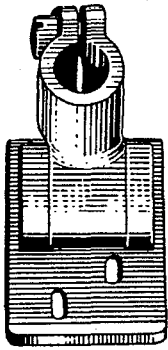
51220J



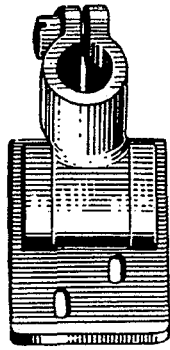
9420 C  
Specify  
Gauge



Plate 11 - Full Size



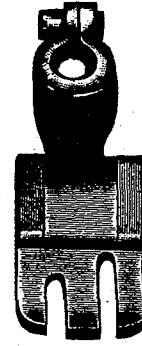
51420 K-26



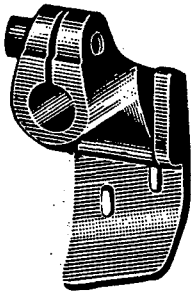
7420AG  
Specify  
Gauge



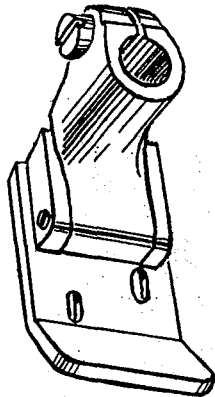
198 B-6  
Specify  
Gauge



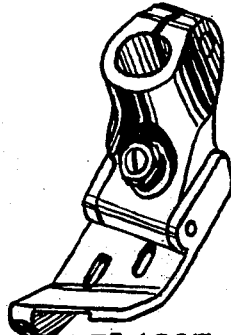
7020B  
Specify  
Gauge



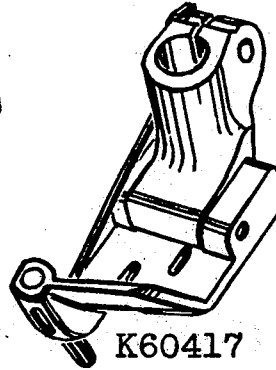
51420  
Specify  
Gauge



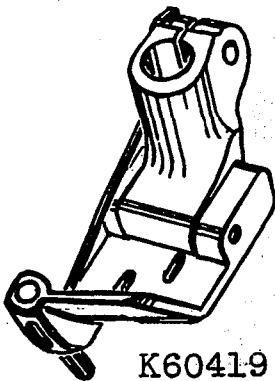
K52033



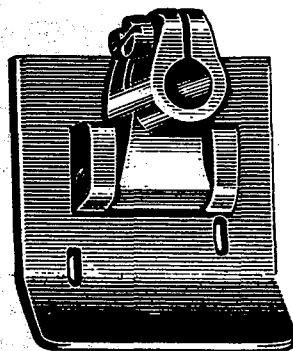
51420E  
Specify  
Gauge



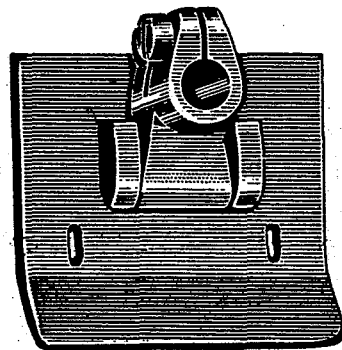
K60417



K60419

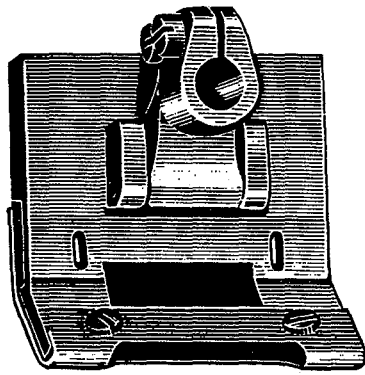


51420C  
Specify  
Gauge

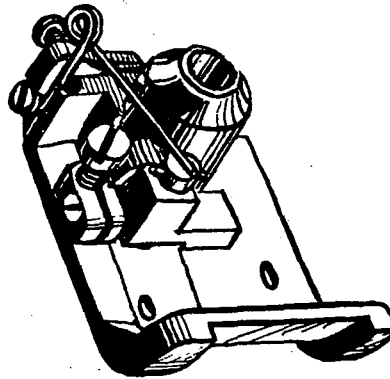


51720 D  
Specify  
Gauge

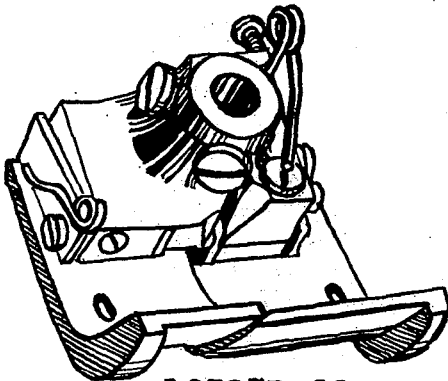
Plate 12 - Full Size



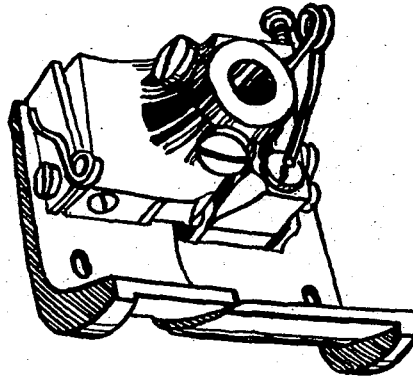
51720  
Specify  
Gauge



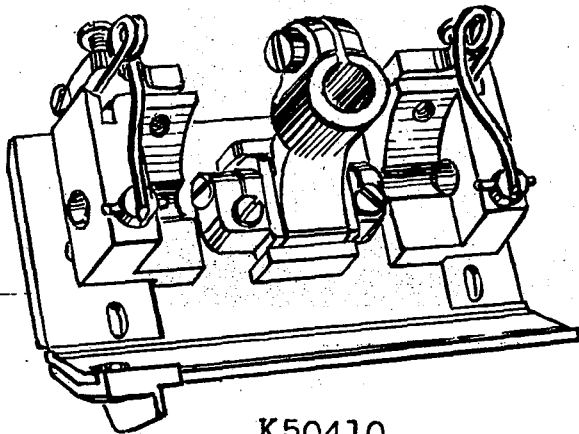
51420M-48



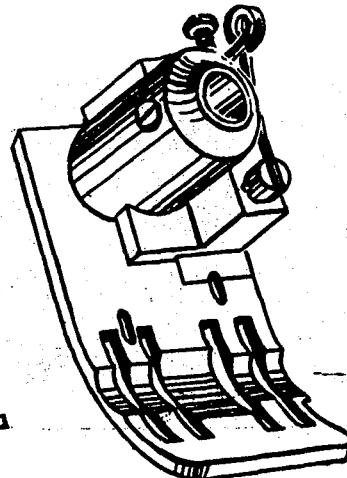
16527B-88



K55764

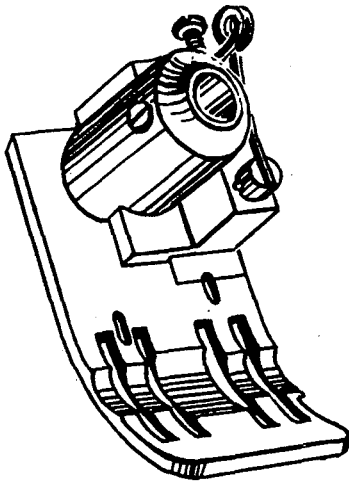


K50410

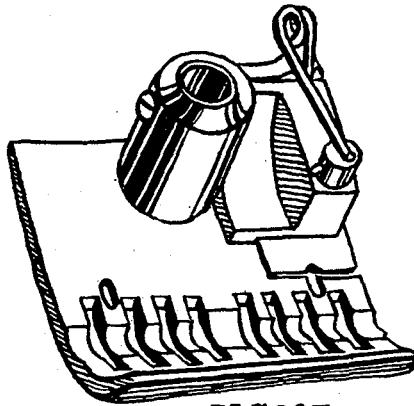


K53842

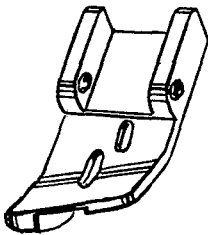
Plate 13 - Full Size



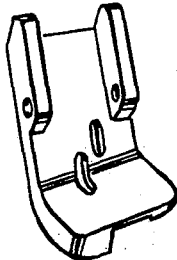
K54258



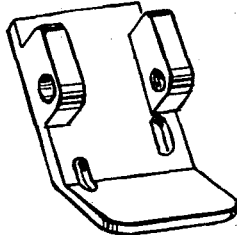
51720E  
Specify  
Gauge



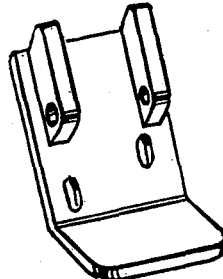
51430A  
Specify  
Gauge



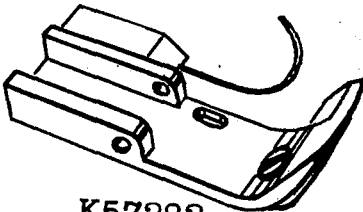
51430E  
Specify  
Gauge



51430C  
Specify  
Gauge



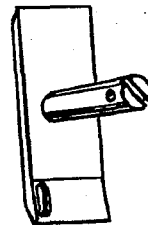
51430K-26



K57282



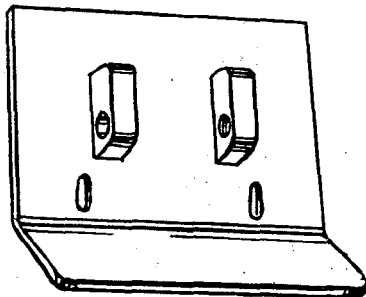
9733



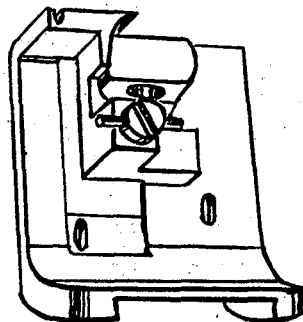
51430N-48



51730F  
Specify  
Gauge

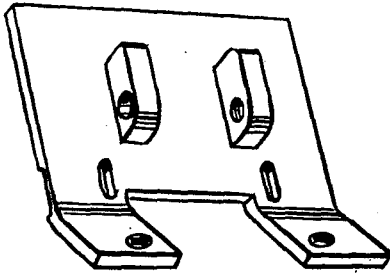


51730D  
Specify  
Gauge

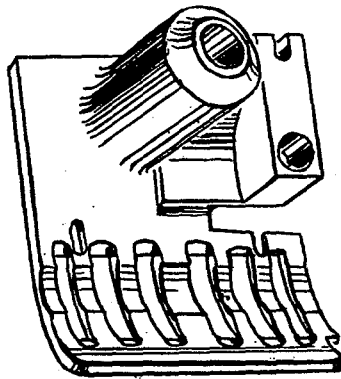


51430M-48

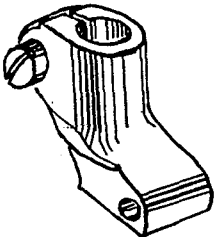
Plate 14 - Full Size



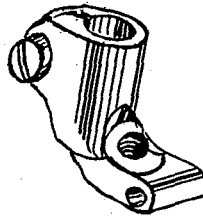
51730  
Specify  
Gauge



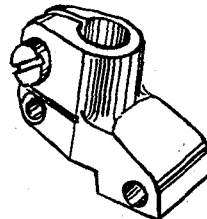
51730E  
Specify  
Gauge



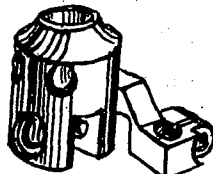
51430B



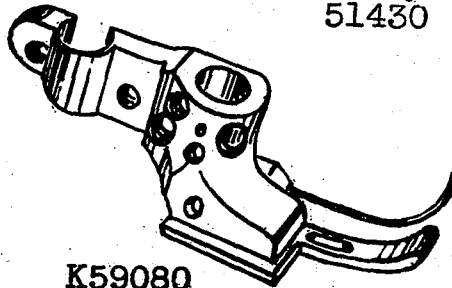
51430D



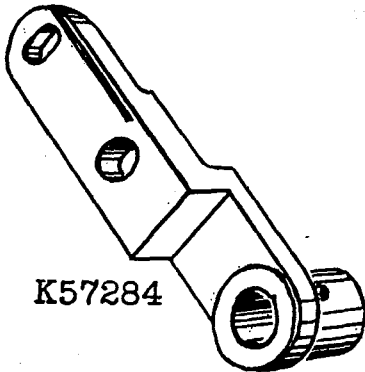
51430



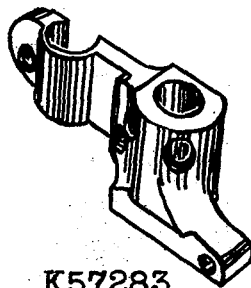
51430G



K59080



K57284



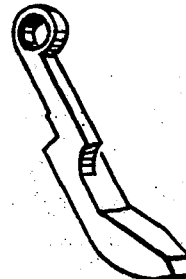
K57283



1741B

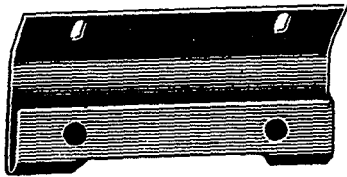


9634A



K57342

Plate 15 - Full Size



51730A  
Specify  
Gauge



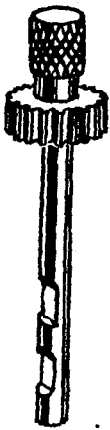
K53845



K54261



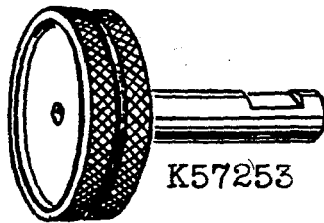
K53848



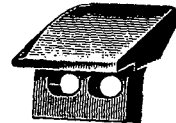
K53846



51774D



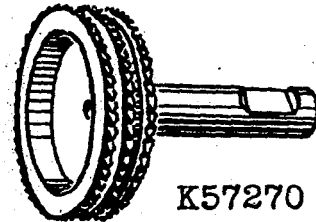
K57253



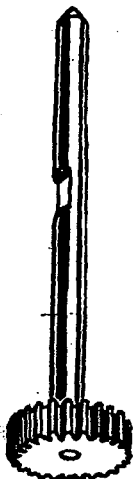
9735



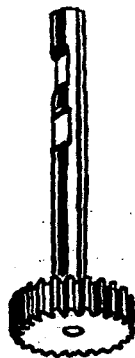
16194B



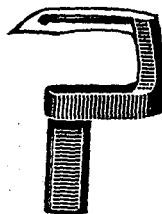
K57270



51777D



K53850



51708



K53890



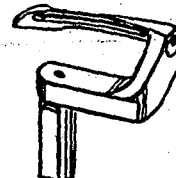
K57667



K56823

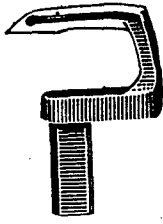


K57818

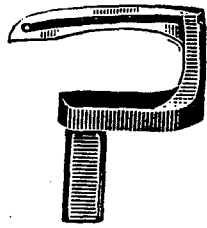


K55001

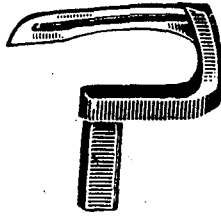
Plate 16 - Full Size



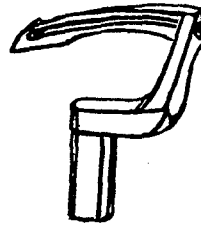
51709



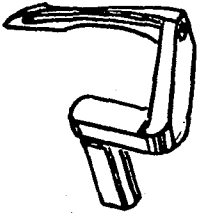
51408  
Specify  
Gauge



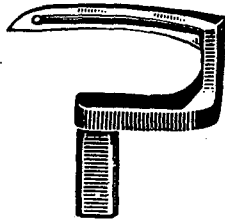
51408A-16



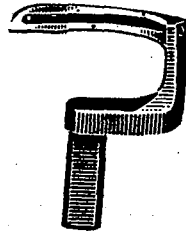
K57668



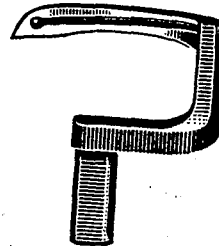
K53891



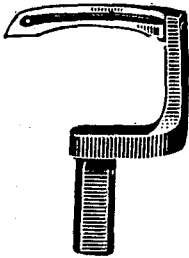
51208



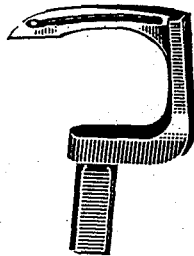
51208D



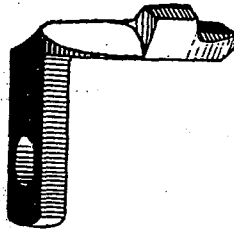
51909B



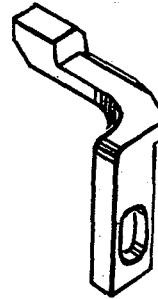
51409



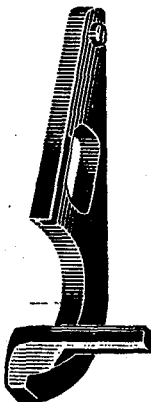
51409B



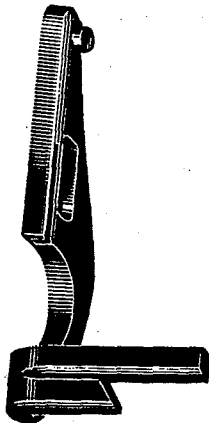
K58494



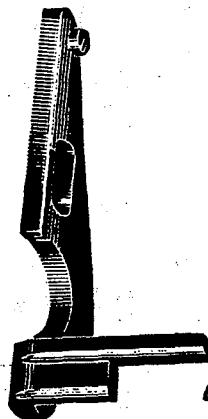
K59002



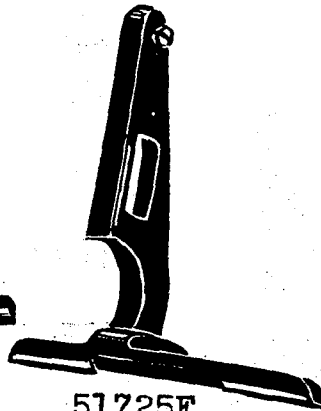
51225



51425

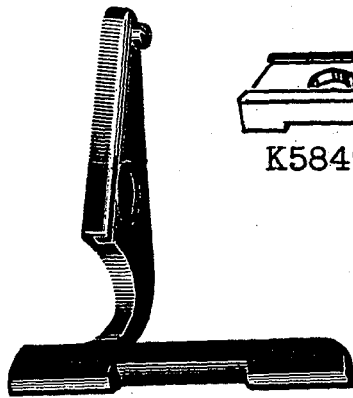


51525



51725E

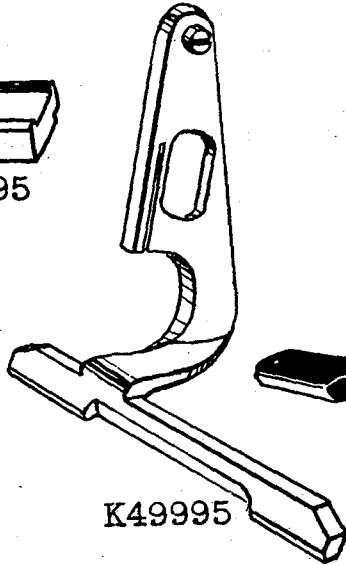
Plate 17 - Full Size



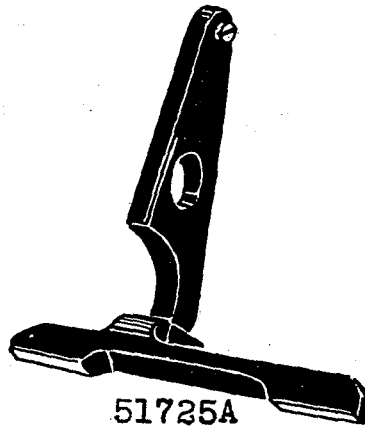
51725



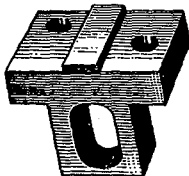
K58495



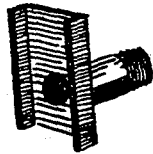
K49995



51725A



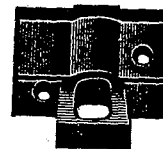
5650



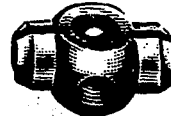
51134G



51418-16



13153



51418 K  
Specify  
Gauge



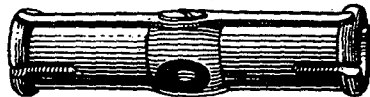
7018E  
Specify  
Gauge



51418B  
Specify  
Gauge



8118-64



16152  
Specify  
Gauge



7040  
Specify Gauge



7933  
Specify  
Gauge



51759 A

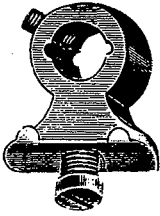


51758A



57 WB

Plate 18 - Full Size



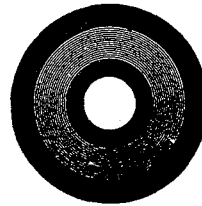
1287



1288



109



109B



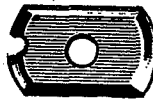
1346



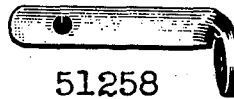
51292



107



51959B



51258



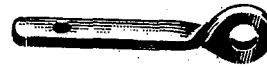
52A



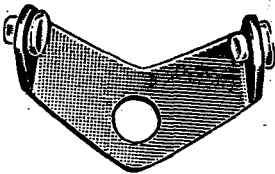
158B



51458



51258A



51292D



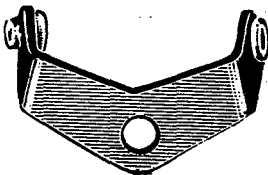
51758



52958



51458A



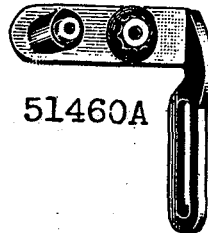
51292 E



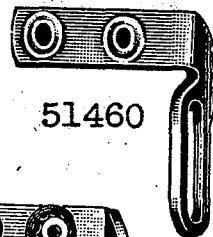
668-13



668-12



51460A



51460



668-7



668-1



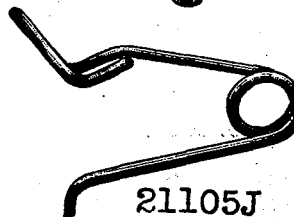
668-14



51292A



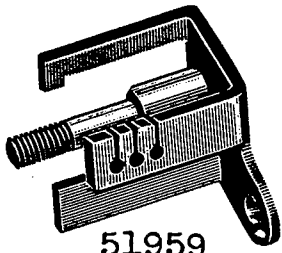
51491C



21105J



Plate 19 - Full Size



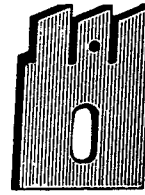
51959



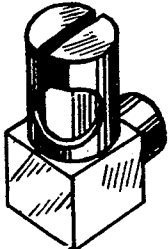
51459A



51462B



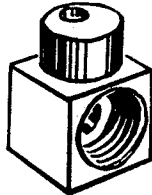
51404



39193



39193 A



39193B



666-49



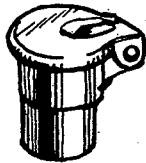
12964C



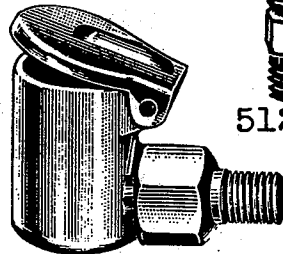
28619



660-95



666-50



666-28



51294F



61294 W



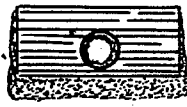
52894 Z



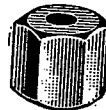
666-13



666-82



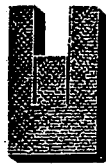
51245 A



660-75



666-19



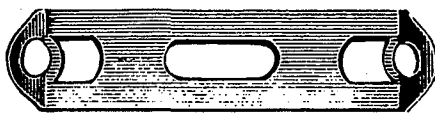
660-90



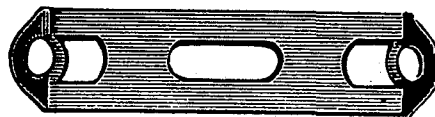
1248



666-66



51243E



51243R

Plate 20 - Full Size



28C



22743



22560



89



22586 B



88



22586



22565 C



78



22580



88 B



22813



98



22560B



95



22591



22591 A



22560A



22597A



22571A



22840 A



719



22622



92201



96



22764 A



96 A



81



22597



91A



604



187A



73A



25B



187B



22561



357



22819



605



25CC



22704



22726A



28



605A



12986B



77



87 U



22768

Plate 21 - Full Size



Plate 22 - Full Size

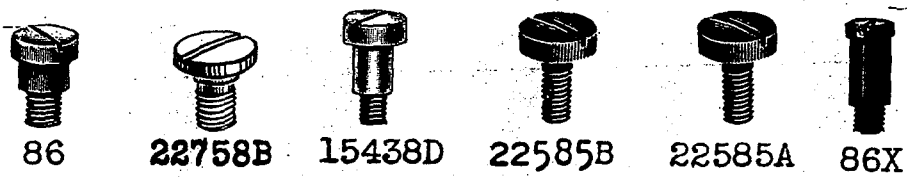
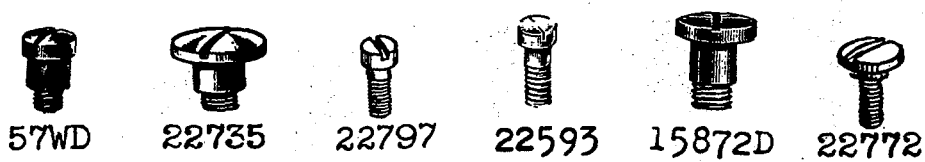
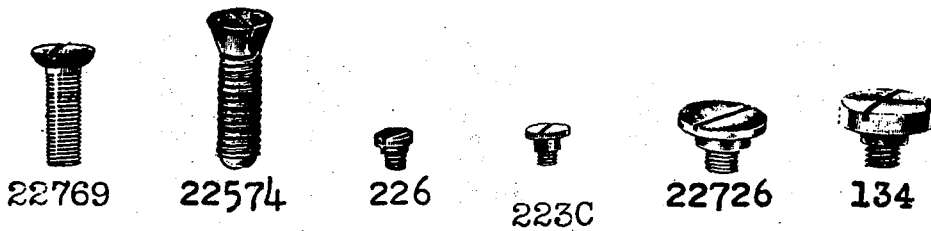
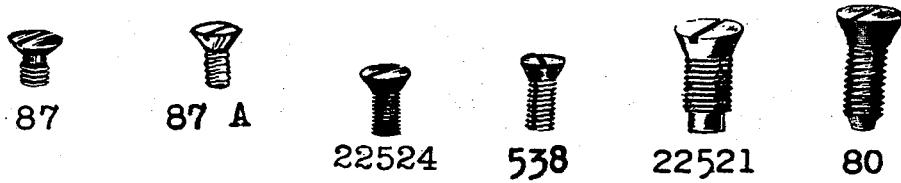
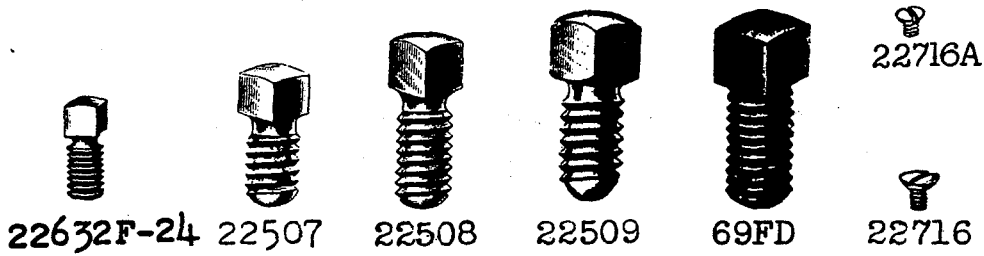
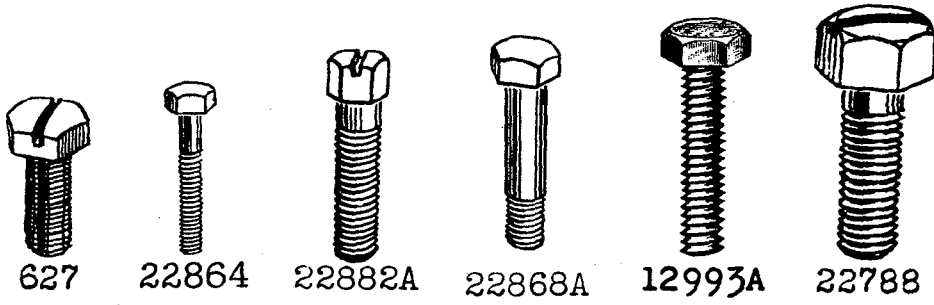
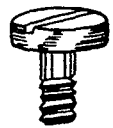


Plate 23 - Full Size



22872



22778



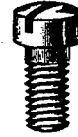
22594



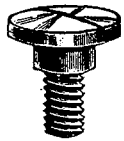
97A



22799



22517



22557



22773



22559A



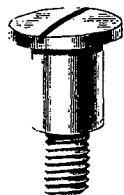
22504



22569



9663



236



22794B



75A



22559C



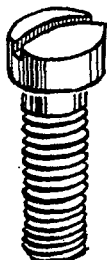
22587



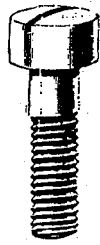
22559B



74



22810



318



22799 N



22845B



22801



22799G



402



22799 P



T2



22799B



22799E



J42JK



22799D



1332

Plate 24 - Full Size

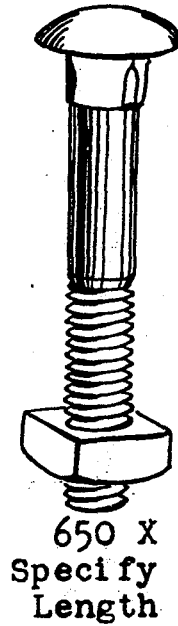
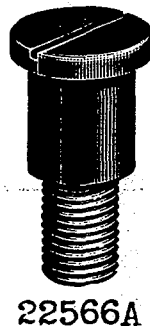
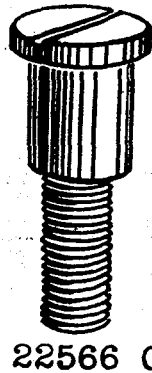
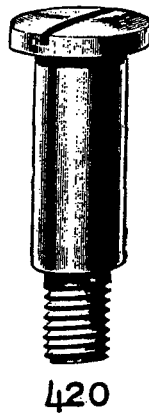
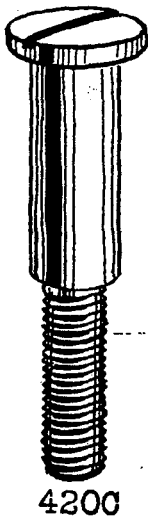
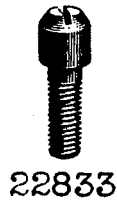
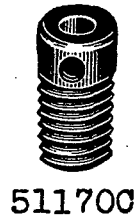
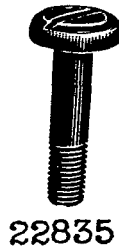
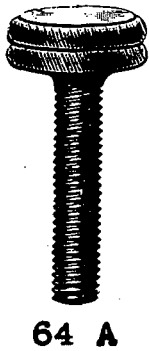
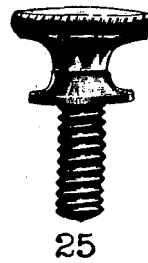
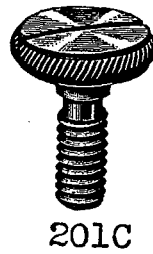
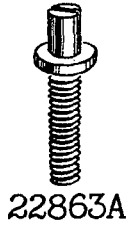
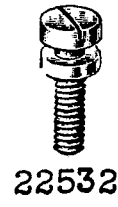
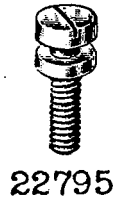
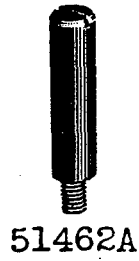


Plate 25 - Full Size

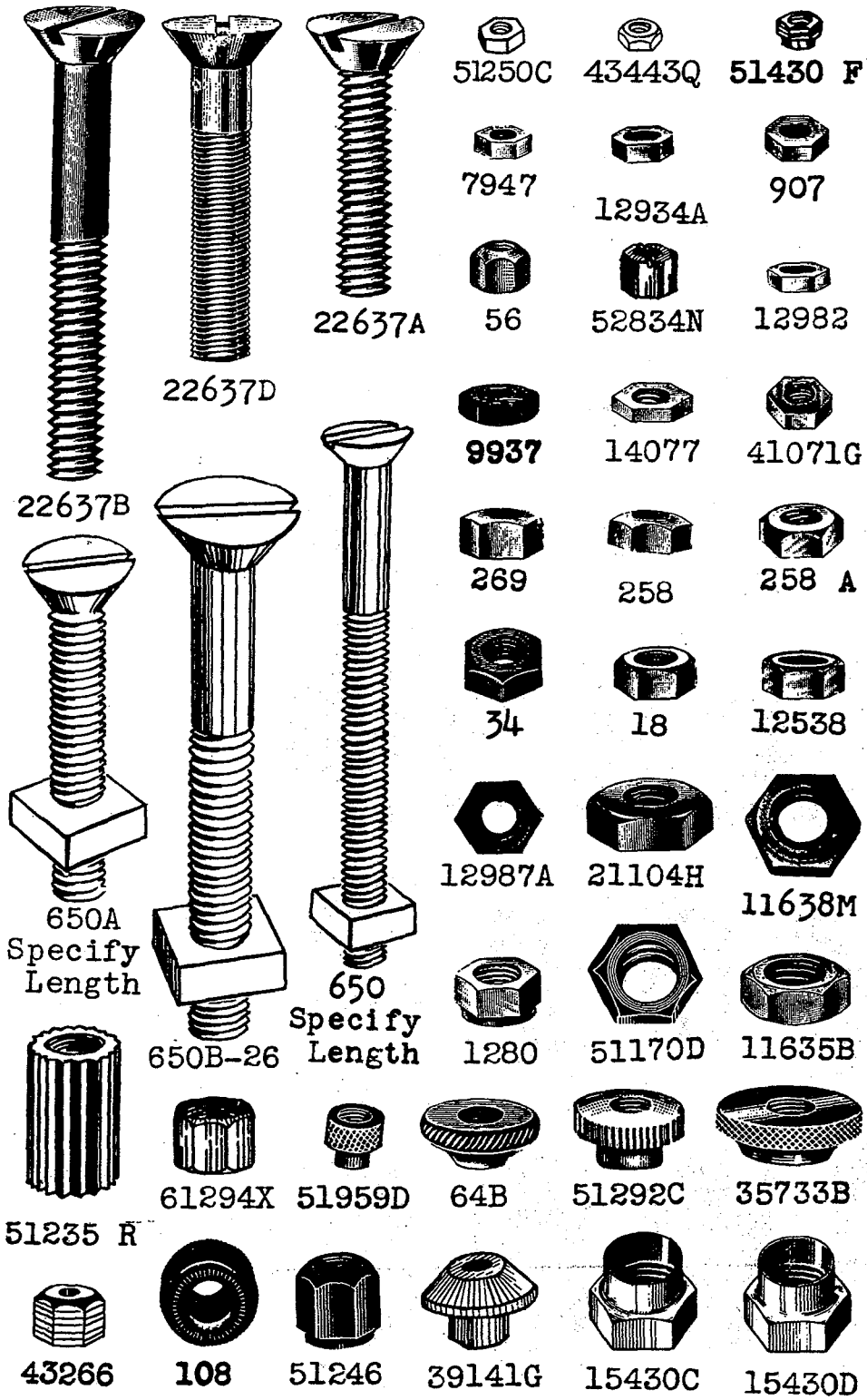


Plate 26 - Full Size

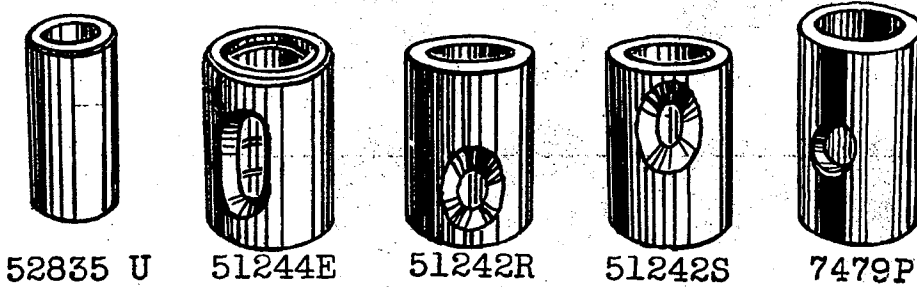
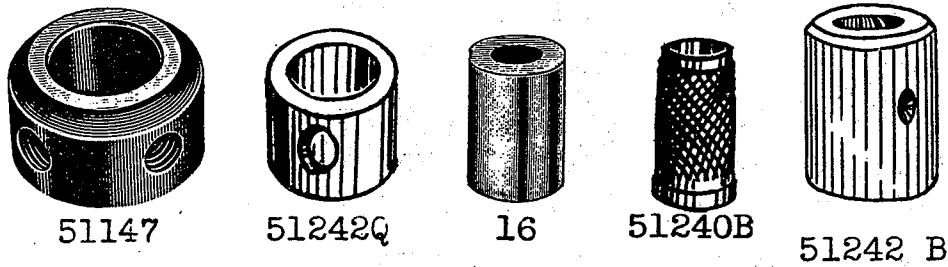
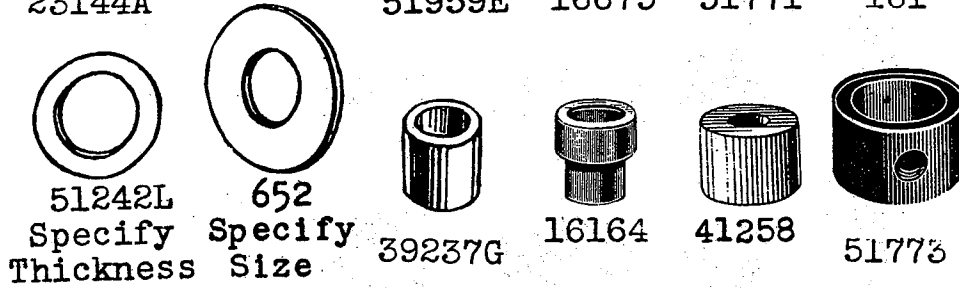
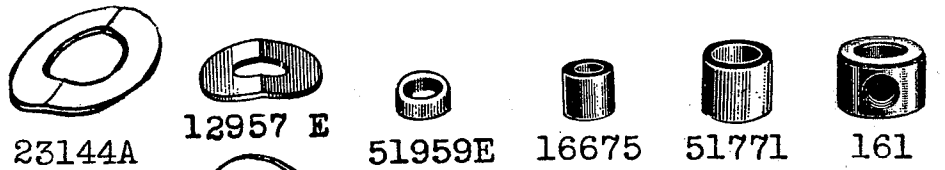
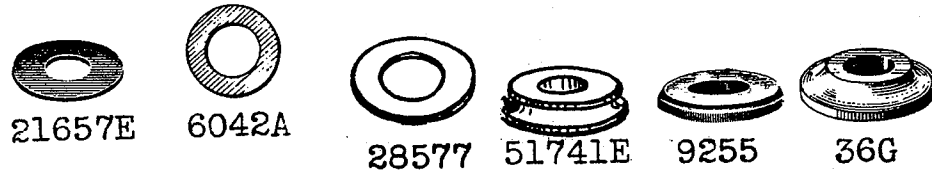
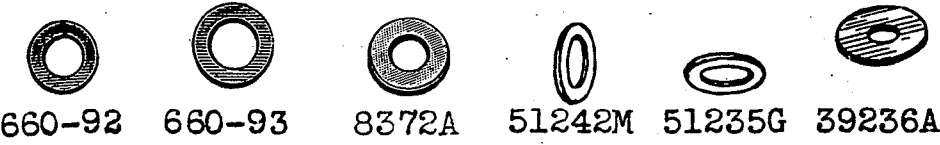
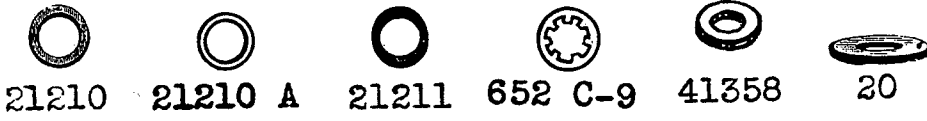
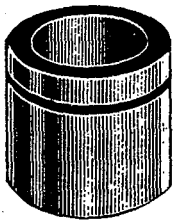
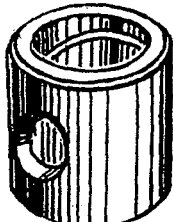




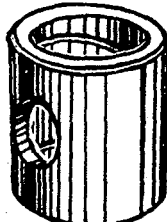
Plate 27 - Full Size



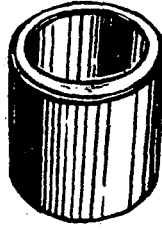
51250B



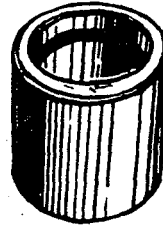
51290



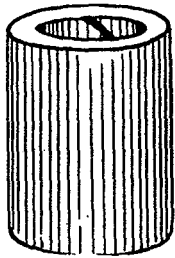
51290D



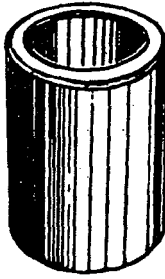
51290 K



51290 M



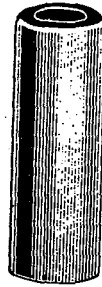
51290 E



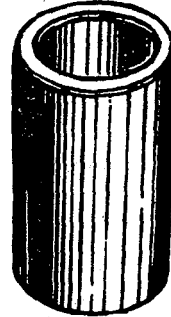
51290 J



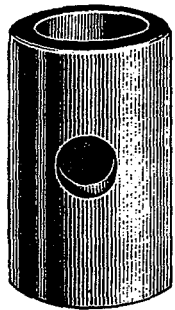
52889



51254A



51290 L



51290A



52835 W



53556C



51257D



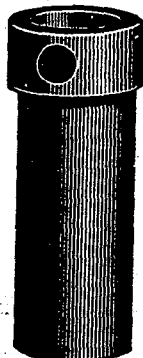
21113B



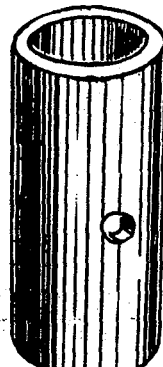
51254



51257 C



51244C



51250A



51257A

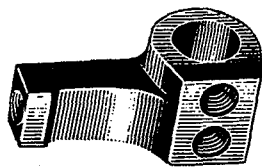
Plate 28 - Full Size



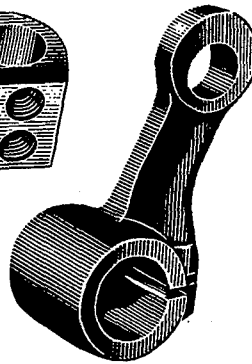
51774H



51777H



51751



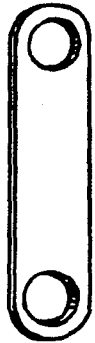
51244B



15465F



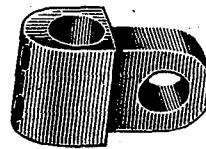
51283F



52835 G



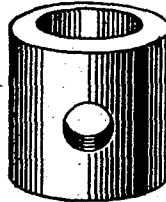
51243C



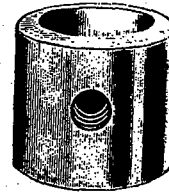
35759



51770  
Specify  
Gauge



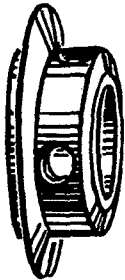
43C



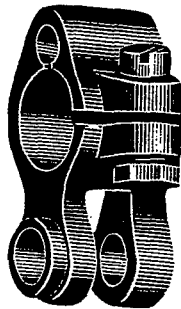
43



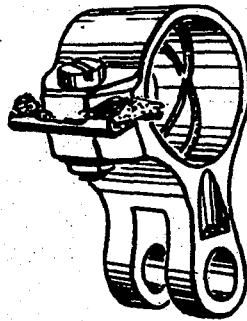
8372



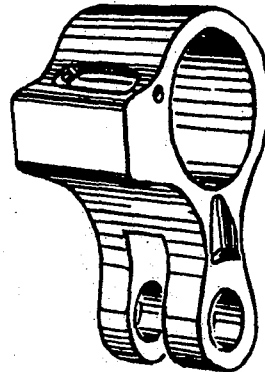
51582



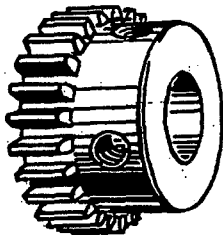
51236



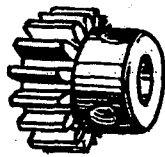
51245



51145



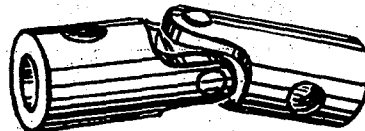
51239 D



51239 E

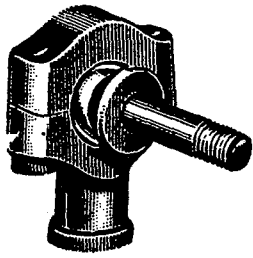


51775

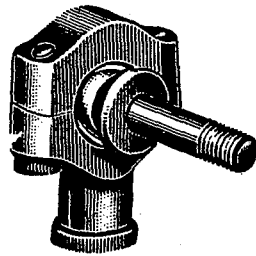


51239 G

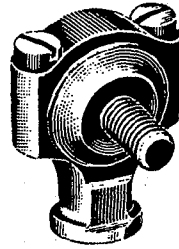
Plate 29 - Full Size



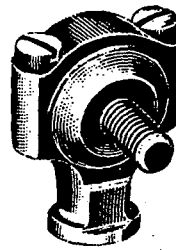
55641



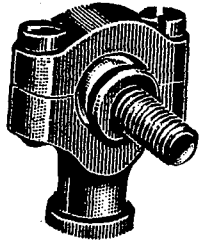
51741



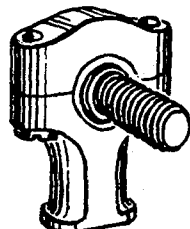
51741B



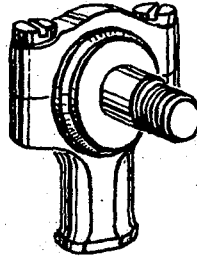
51239 L



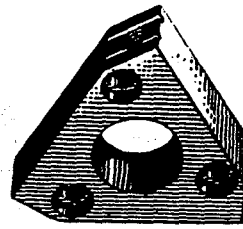
51241D



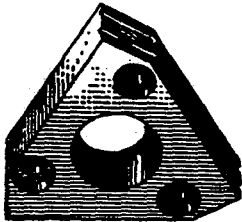
55241N



51741C



41258 E



41258B



50J-16



16676



1740



43281 L



50J-40



61267G



52841



HA1286



1286



1286 A



51461C



51236A



51239 B



51283B



35167 B



667D-16



14786A



39132V

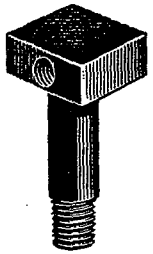


51296A



51296

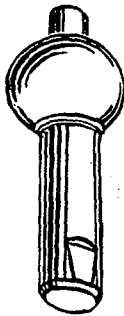
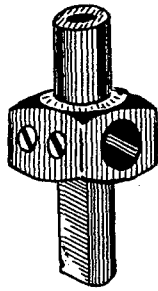
Plate 30 - Full Size



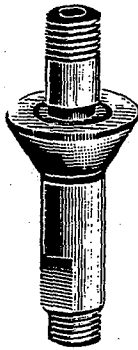
51236C



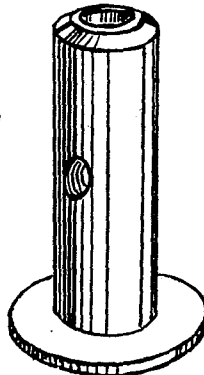
51239 H 39237



51243B



51745



21172L



V118



52887 N



41047



4761



51240A



51492



52835 S



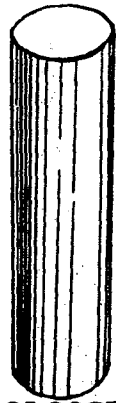
39236



51239 C



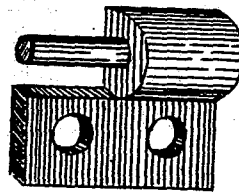
51239 F



21693H



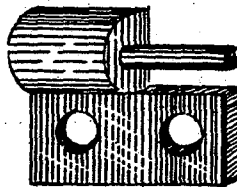
K57272



52885G



39237D



52885H

Plate 31 - Full Size



35731A



51236B



51461B



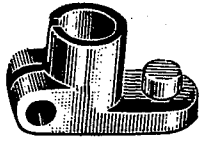
7486PA



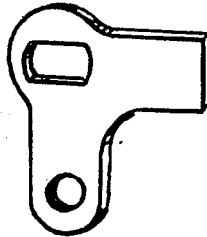
51293B



52887G



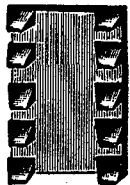
21657B



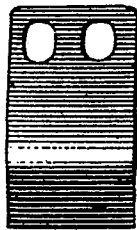
51235 M



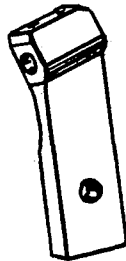
358 B



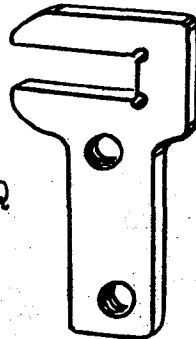
21350



8344



51235 Q



51235 N



660-127

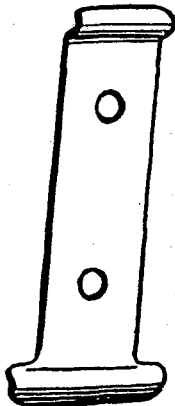


380

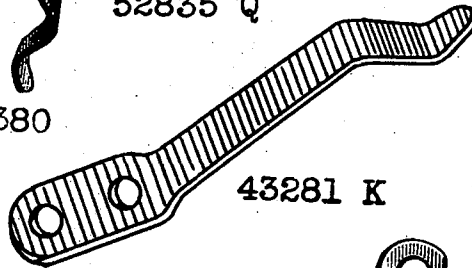
52835 Q



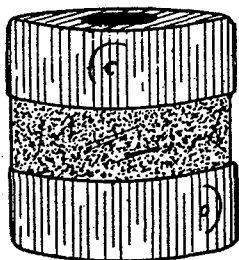
21351



23447C



43281 K



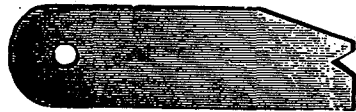
51295



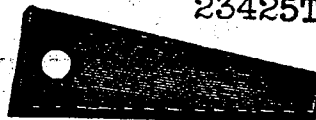
23449C



23425T



21225  
Specify  
Measurement



7459A

Plate 32 - Full Size

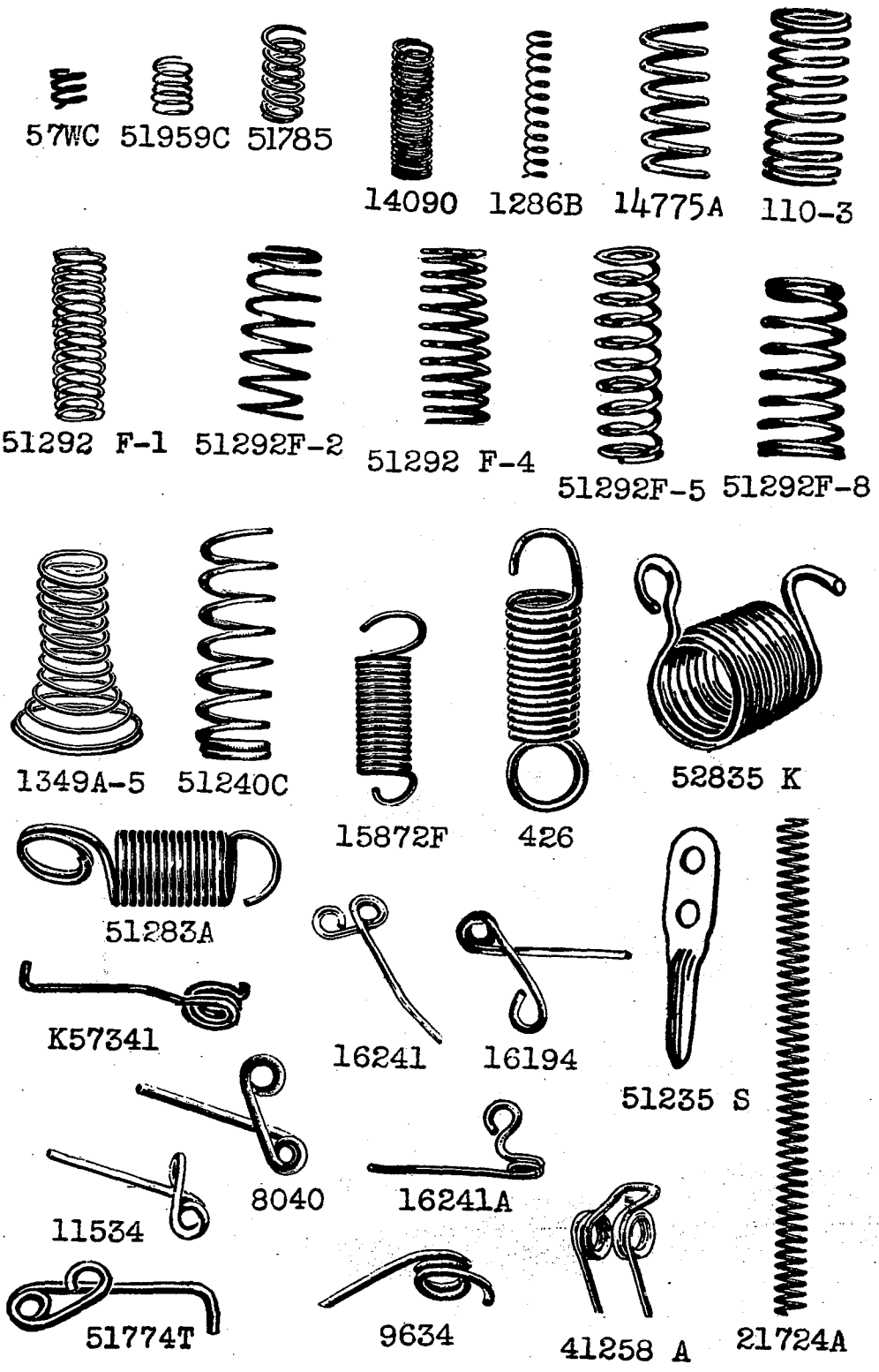
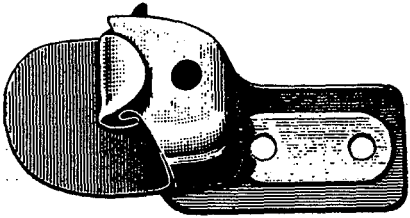


Plate 33 - One-half Size



23420 U  
Specify Gauge  
and Capacity



23421U  
Specify Gauge  
and Capacity



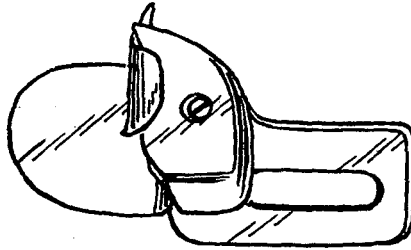
23253B



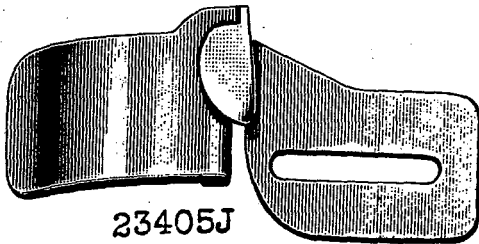
K6805



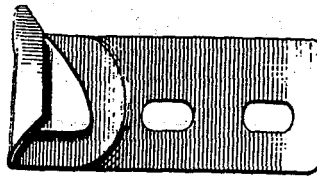
23421V  
Specify Gauge  
and Capacity



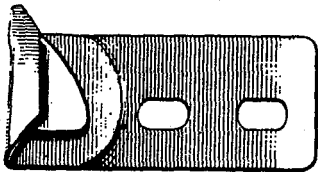
23420V  
Specify Gauge  
and Capacity



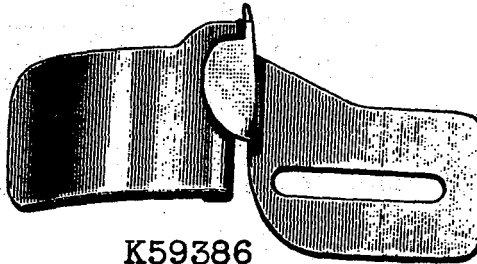
23405J



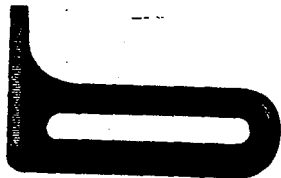
23253F



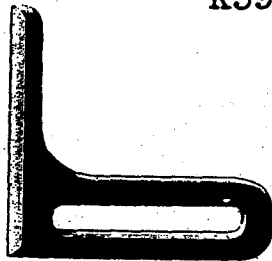
K6806



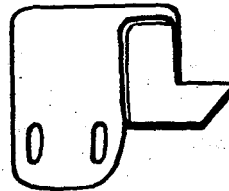
K59386



24 X

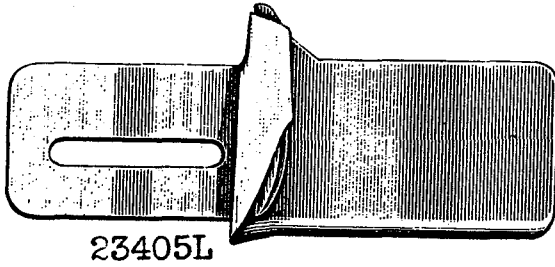


24

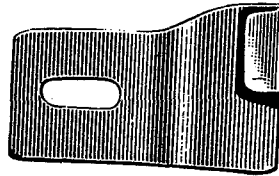


K58111

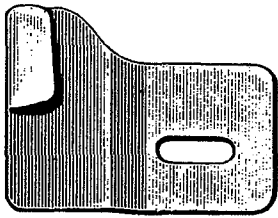
Plate 34 - One-half Size



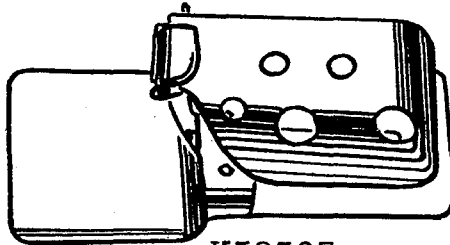
23405L



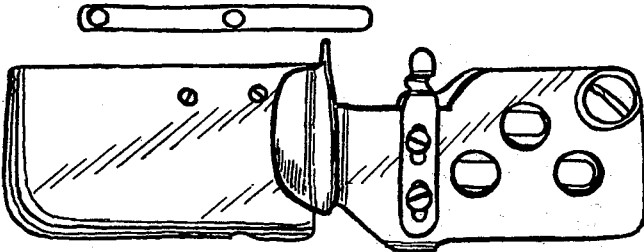
23404B



23404E



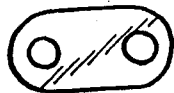
K59503



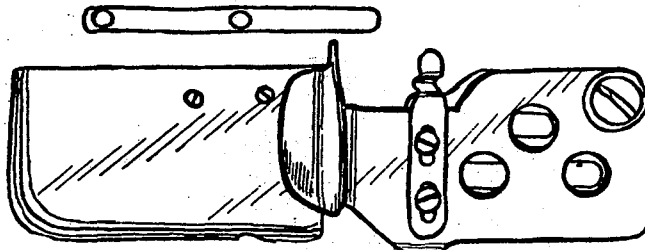
23449



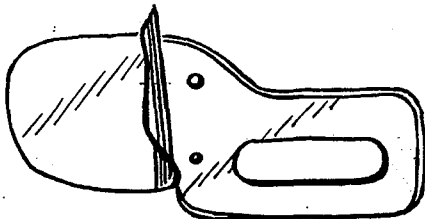
23425V



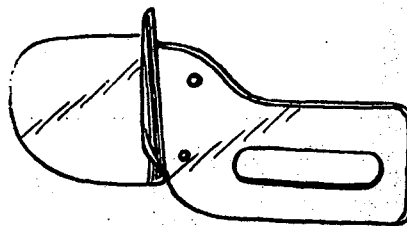
23425U



K53852



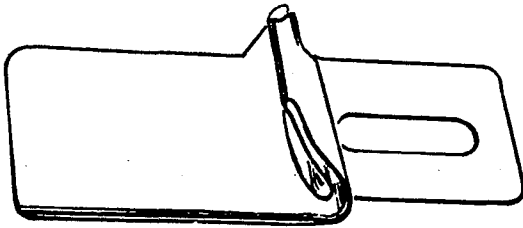
23422U  
Specify Capacity



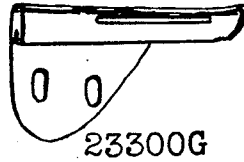
23422 V-1/32



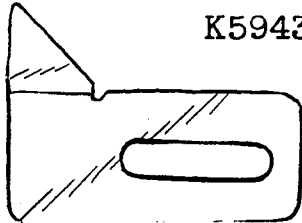
Plate 35 - One-half Size



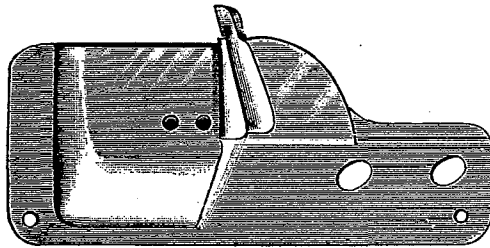
K59432



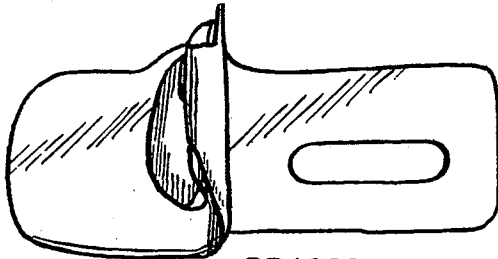
23300G



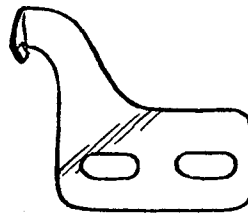
23438A



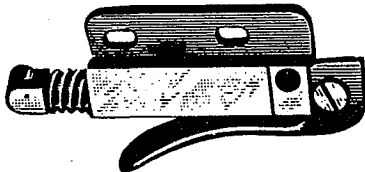
23100



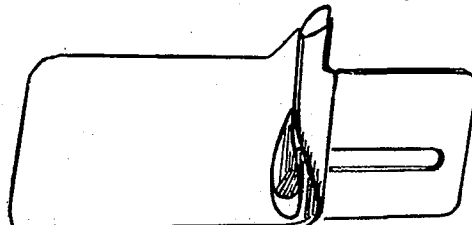
23405N



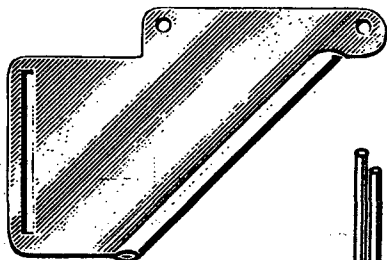
7403P



2603K



23405F



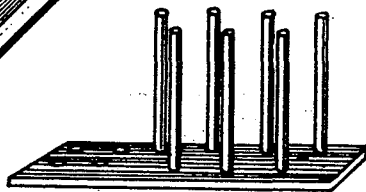
23403  
Specify  
Gauge



23324J



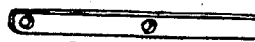
23438B



23439 A

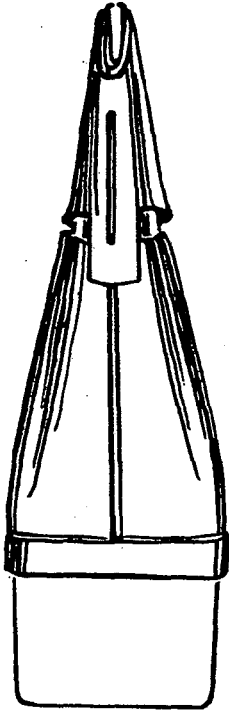


23447A



23449B

Plate 36 - One-half Size



K58001



K53941



23447  
Specify  
Gauge

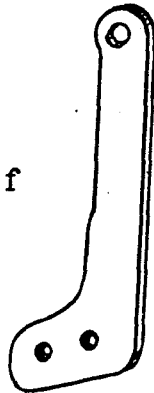


K53853



23322AB

Specify Width of  
Binding Strip



23229N



K56034

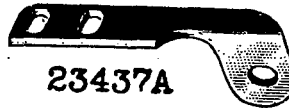


51420L-32

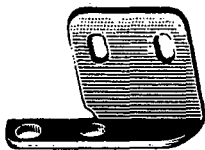


23215BC

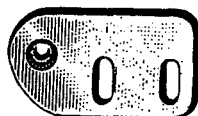
Specify Width of  
Binding Strip



23437A



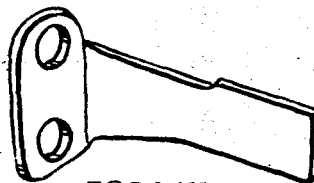
23322AC



23437B



23324G

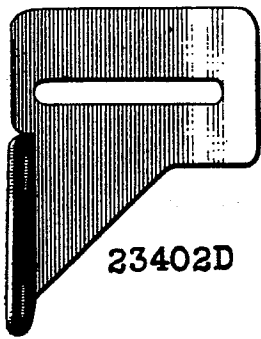


52864N

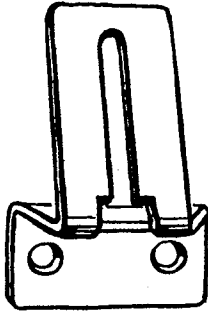
Plate 37 - One-half Size



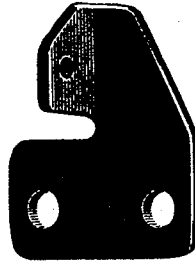
23229M



23402D



23447B



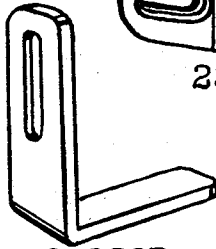
23436



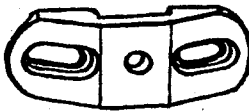
K60416



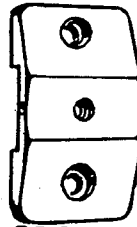
23432



23229P



23432A



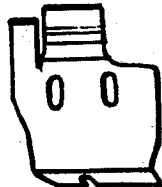
23229Q



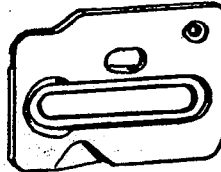
K60418



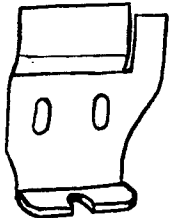
K54262



K53851



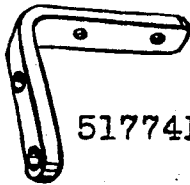
23449A



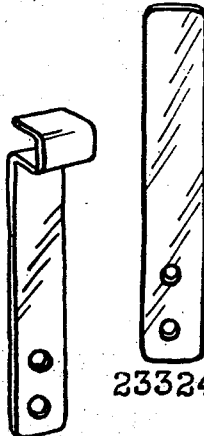
51777  
Specify  
Gauge



23324H



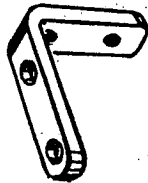
51774P



23324V



K55310



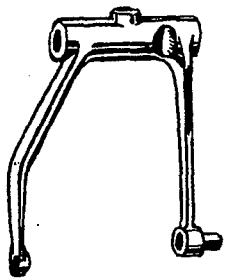
K53855

23324U

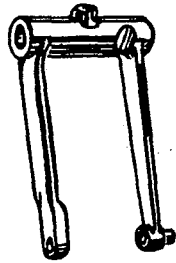


K51165

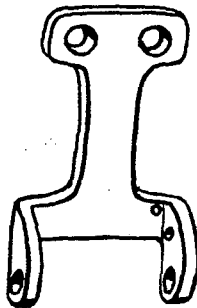
Plate 38 - One-half Size



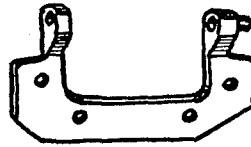
51774L



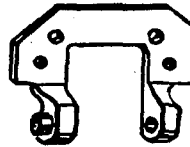
K53847



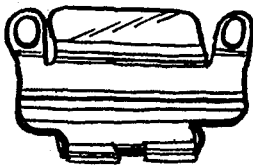
51774N



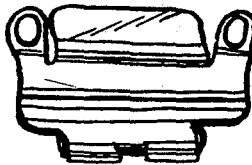
51777L



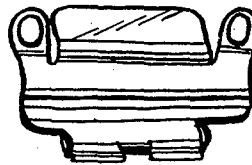
K53849



K53854



K54264



23448  
Specify  
Gauge



51776



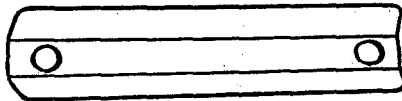
51774  
Specify  
Gauge



21182K



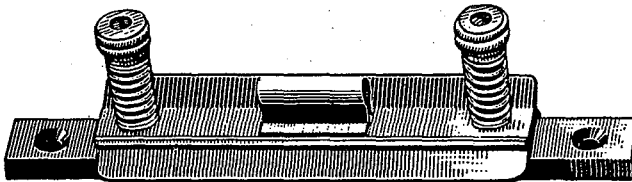
243



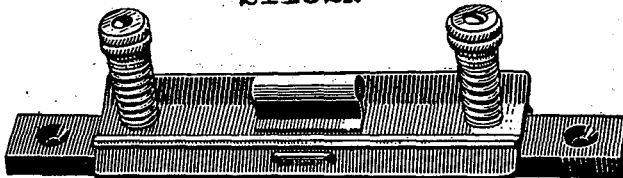
21182L



53592



21182N

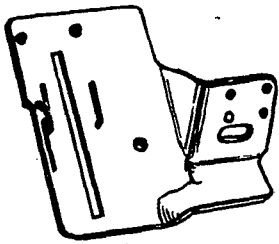


21182T

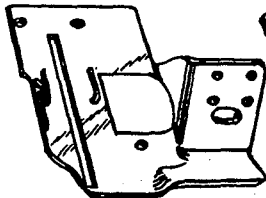


21182P

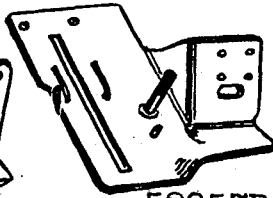
Plate 39 - One-half Size



51457A



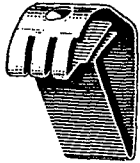
51757A



52857B



21657J



51423



51704



52804



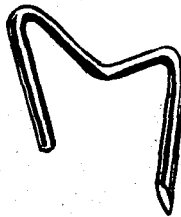
52804A



51423B



51170 F



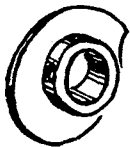
51270B



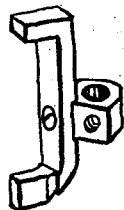
21657-2



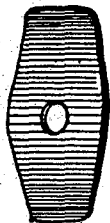
21657-4



51723 A



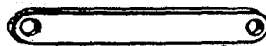
52883G



35833C



16182C



21657M



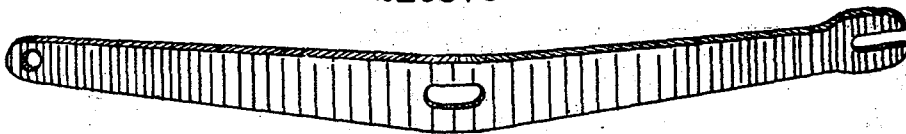
16182B



21657C

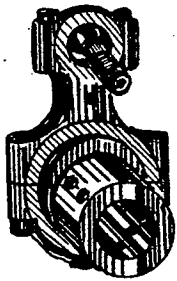


21657D

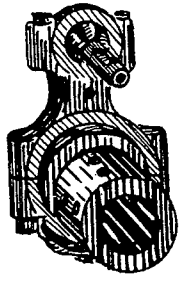


52887

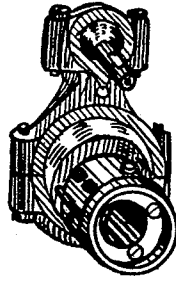
Plate 40 - One-half Size



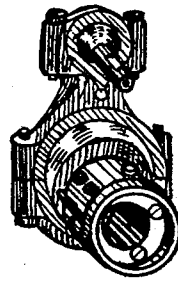
29105 A



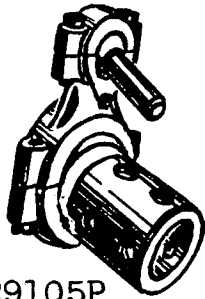
29105 B



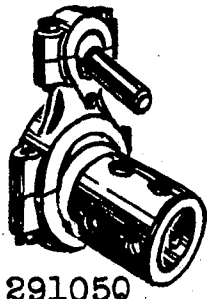
29105L



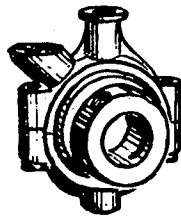
29105M



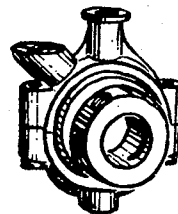
29105P



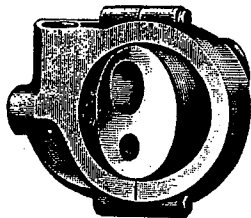
29105Q



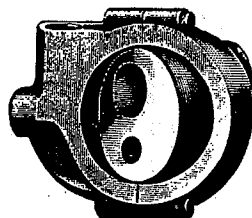
29114 A



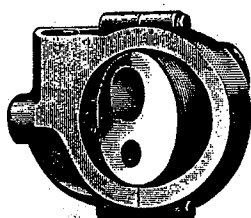
29114B



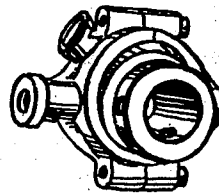
29138 H



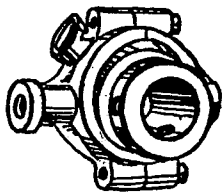
29138 J



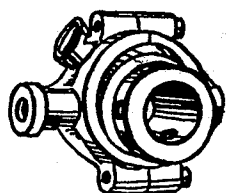
29138 K



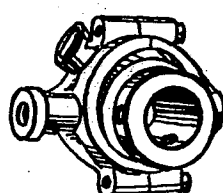
29138M



29138Q



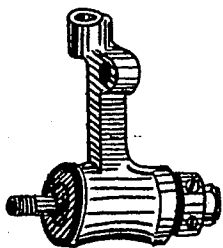
29138R



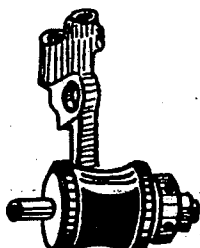
29138S



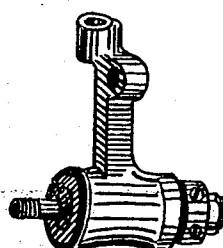
29066F



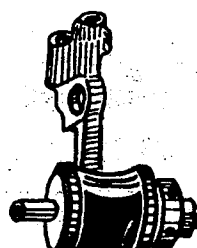
29192



29192 A

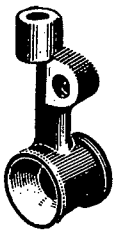


29192 C

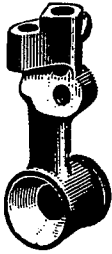


29192 D

Plate 41 - One-half Size



51213



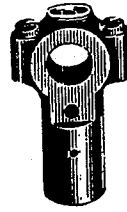
51413



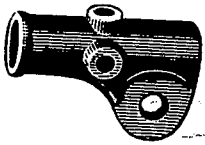
51513



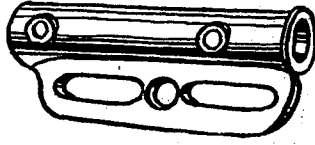
51713



51216A



51244



51744A



52944G



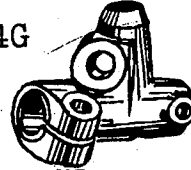
54



51772  
Specify  
Gauge



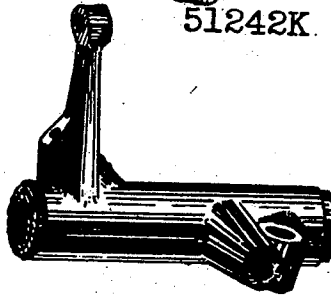
51241



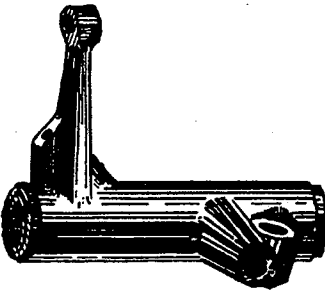
51242K



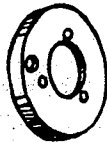
51241G



51242T



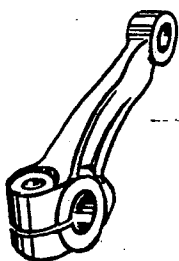
51242U



51243K



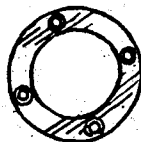
51243L



51242N



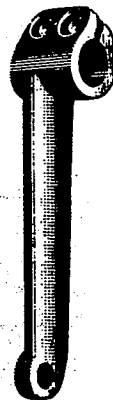
51242V



51243N



51235A



52836C

Plate 42 - One-half Size

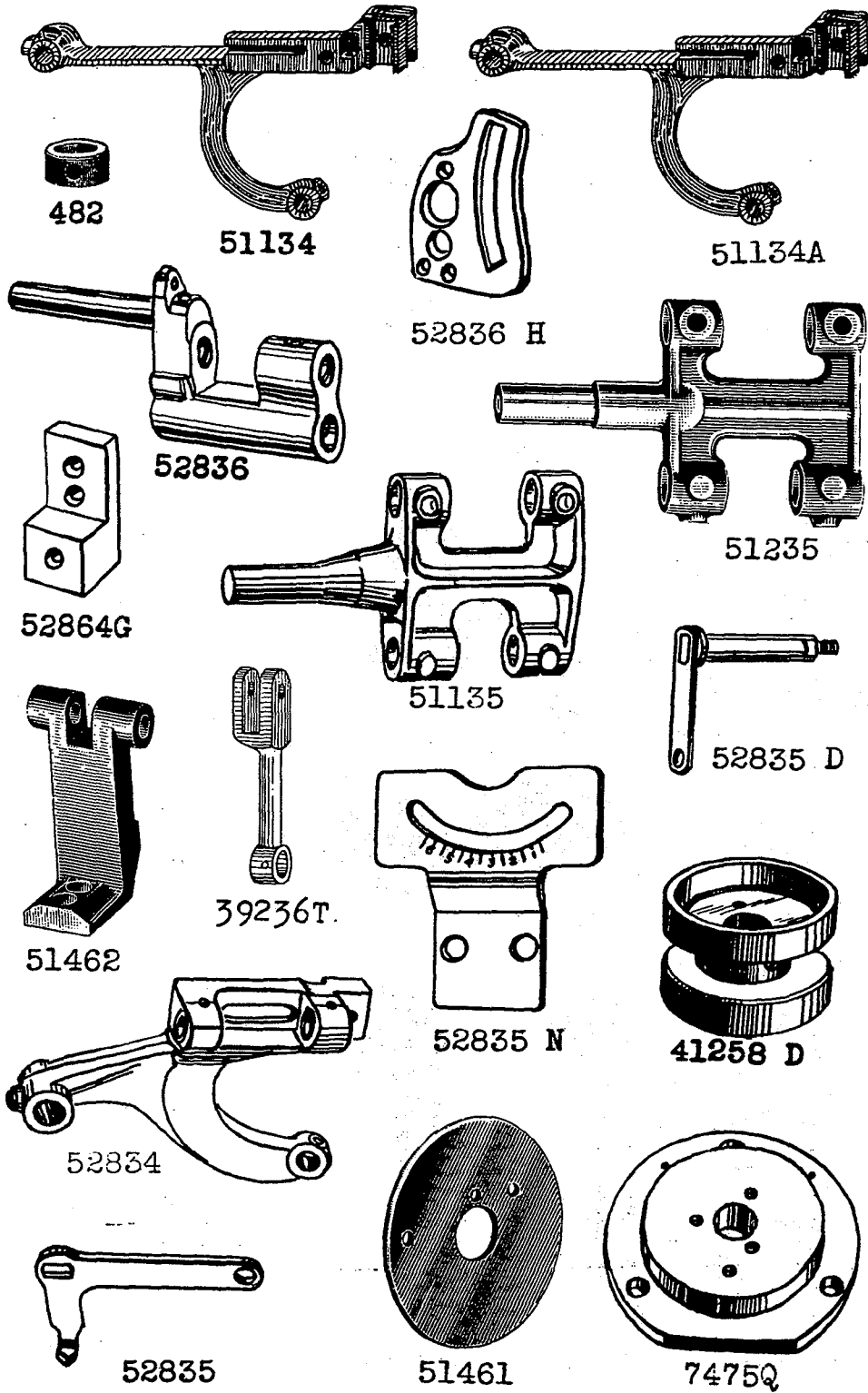
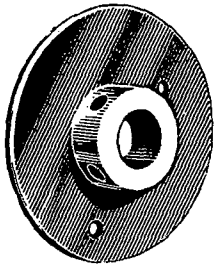
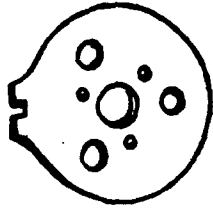




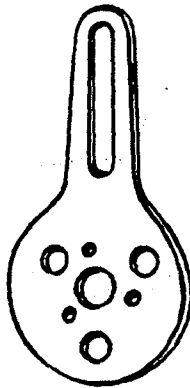
Plate 43 - One-half Size



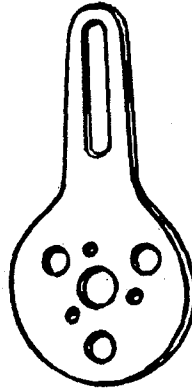
51461A



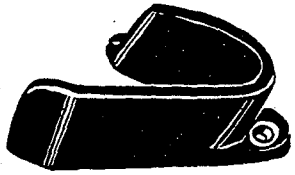
51239 A



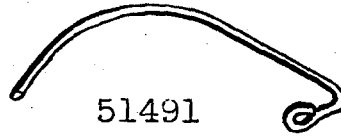
K57257



41258 CG



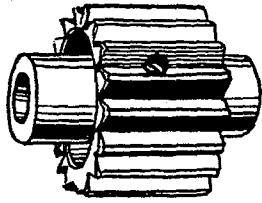
7485P



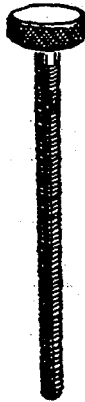
51491



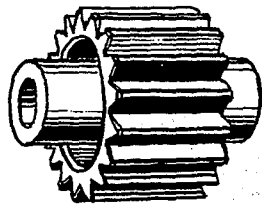
7487 Q



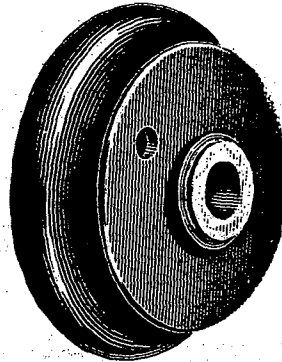
7490P



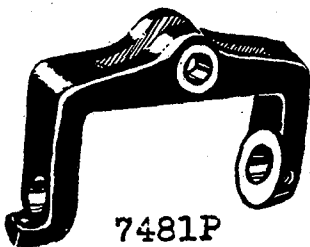
51235 P



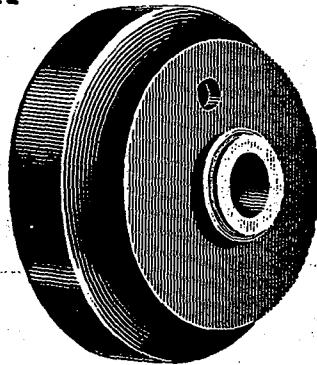
7491P



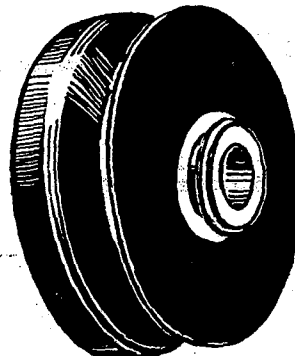
51221



7481P



51321A



51321B



51217



51217 A



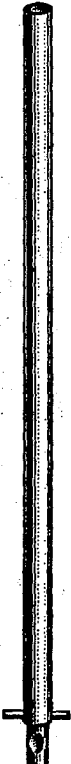
51417  
Specify  
Gauge



51417B



51517-16



51517A



51717



K53889



K56824



K57666



K57819



52888

Plate 44 - One-half Size

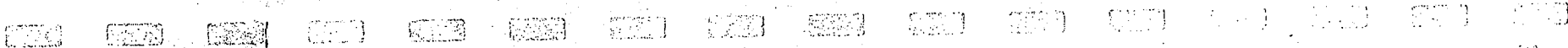


Plate 45 - One-half Size

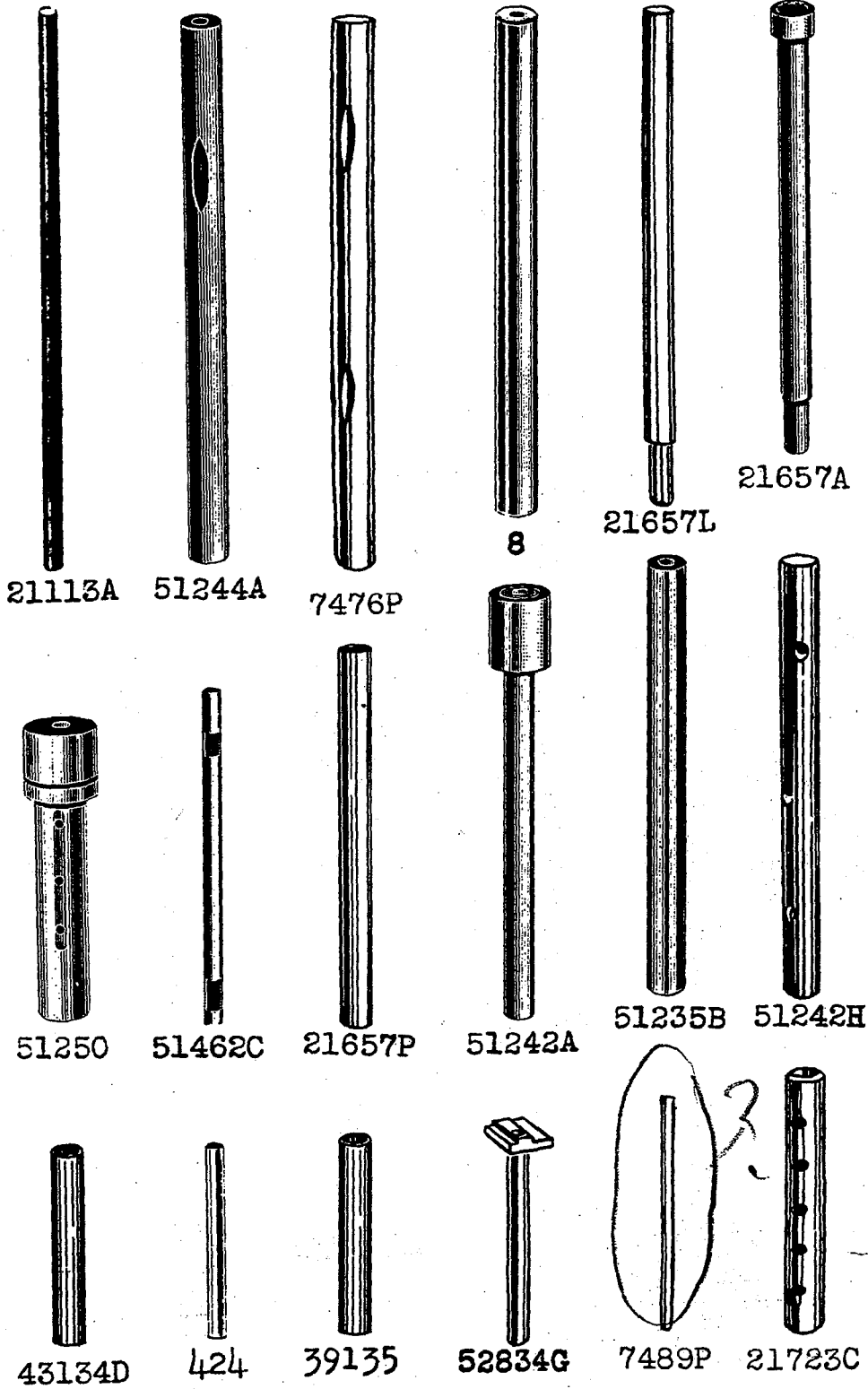


Plate 46 - One-half Size

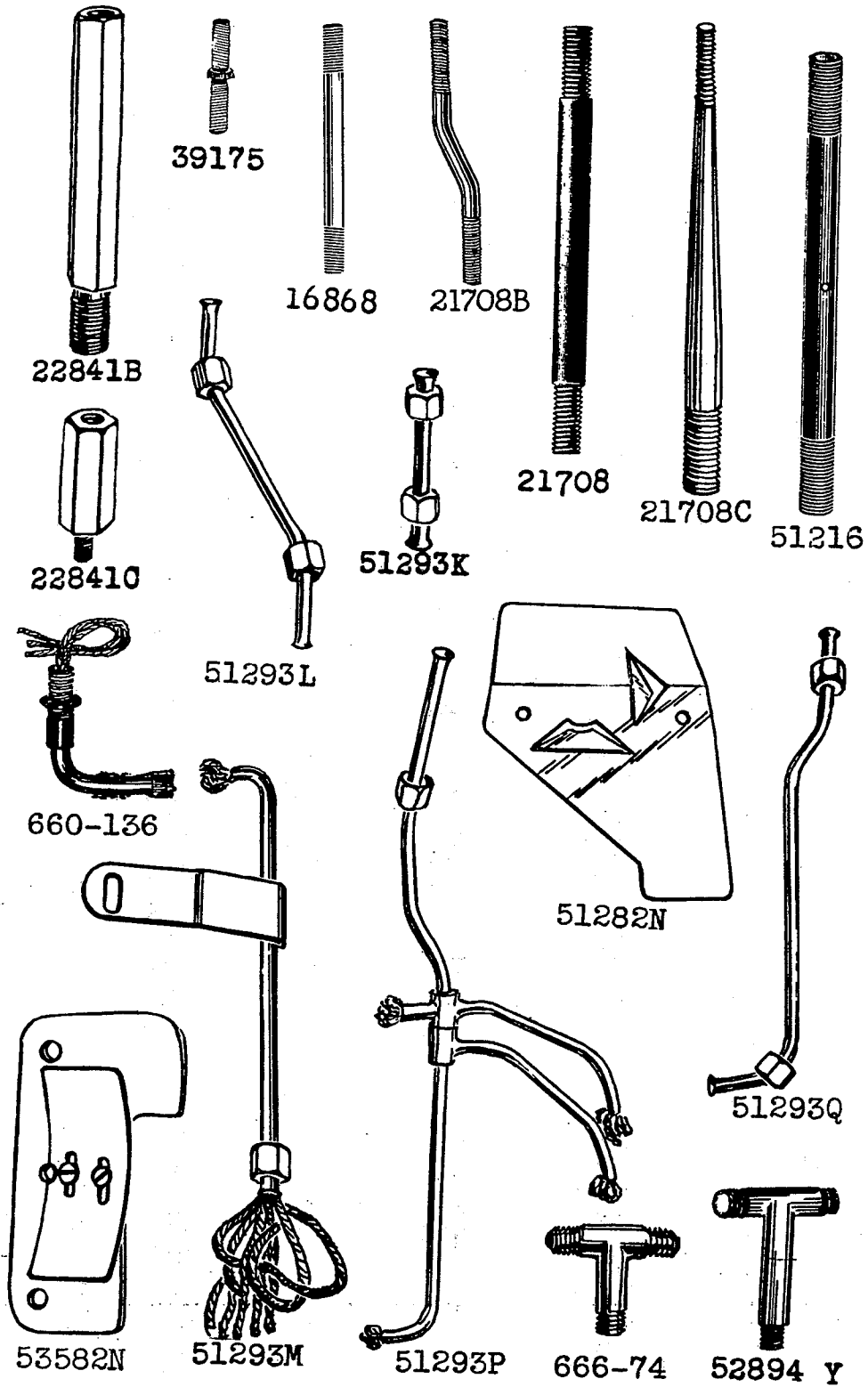
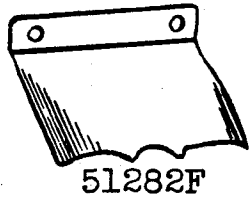
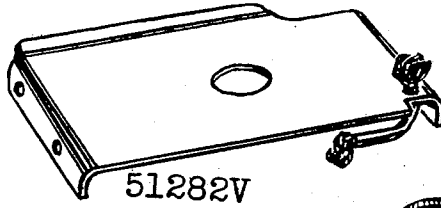


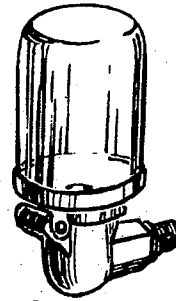
Plate 47 - One-half Size



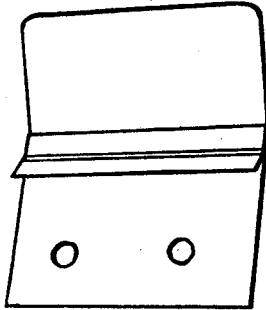
51282F



51282V



666-77



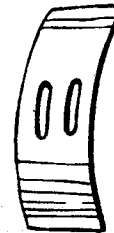
51782



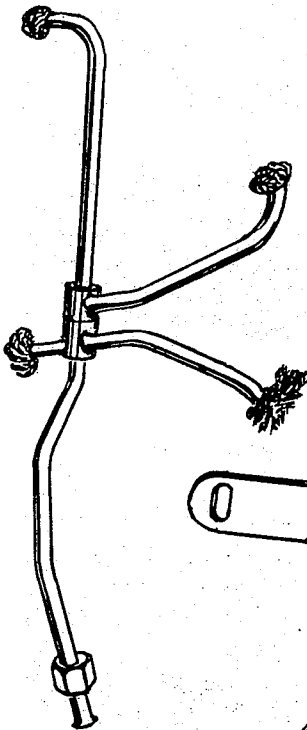
52882 D



52795



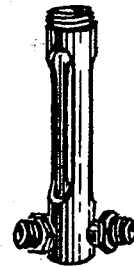
52782H



51293R



35788B



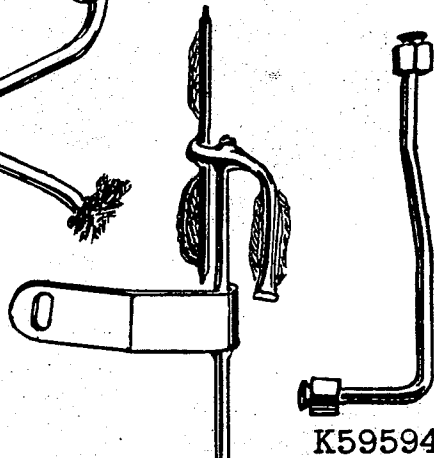
52895 G



51743G



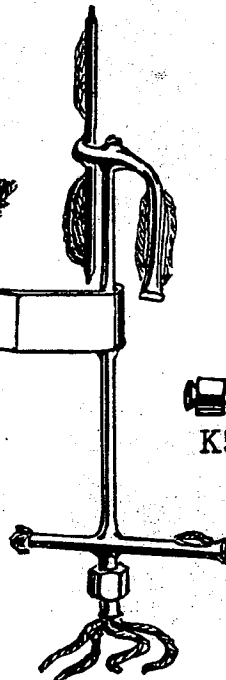
660-94



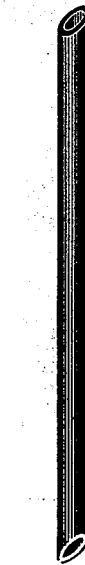
K59594



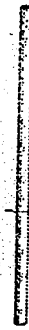
52894 J



51293N

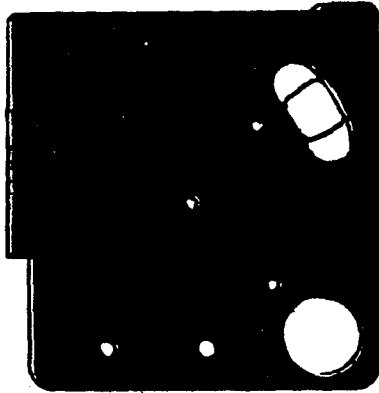


51293A



666-29

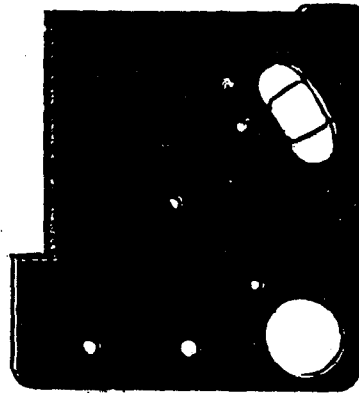
Plate 48 - One-half Size



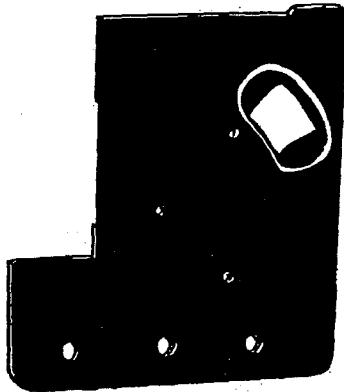
51281J  
Specify  
Minor  
Symbol



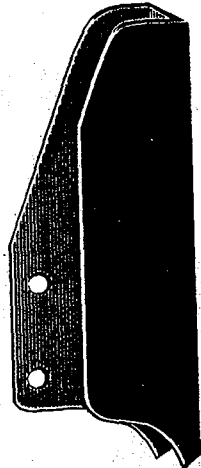
51991



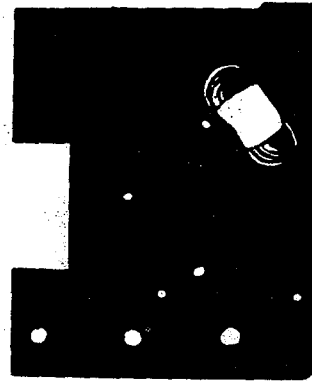
51281H  
Specify  
Minor  
Symbol



51281M-155



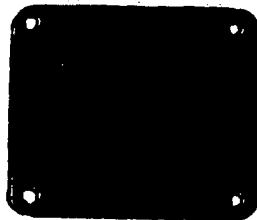
51291



K59923



51282B

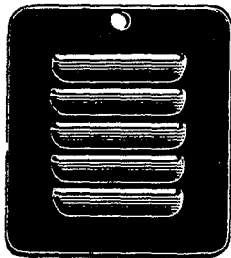


51282T

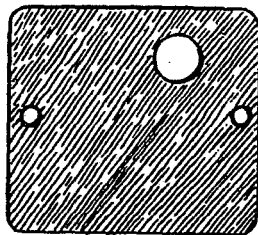


53582H

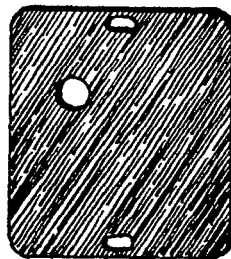
Plate 49 - One-half Size



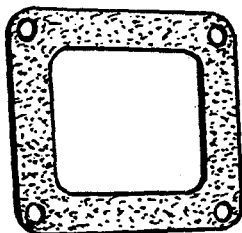
51282



51282 H



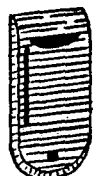
52882 B



51282U



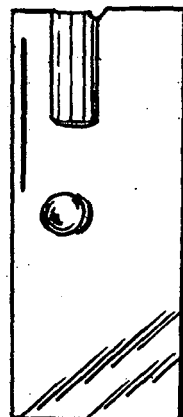
51775A



51202



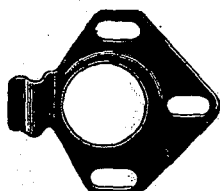
52802A



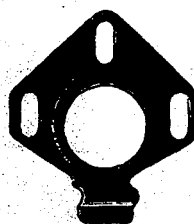
51202 A



51281G



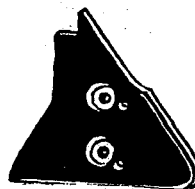
51281F



K59488



21104 E



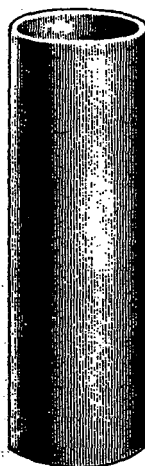
52864E



43294D



660-81

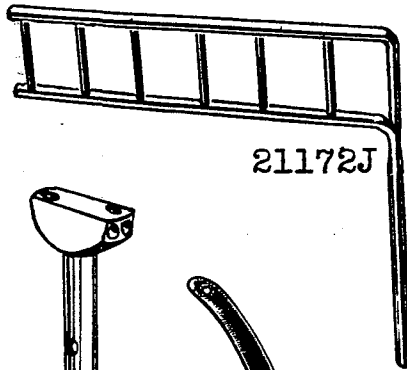


21355



21104 C

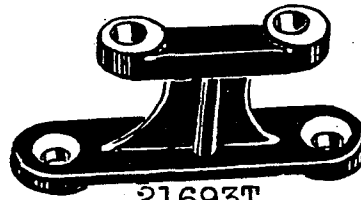
Plate 50 - One-half Size



21172J



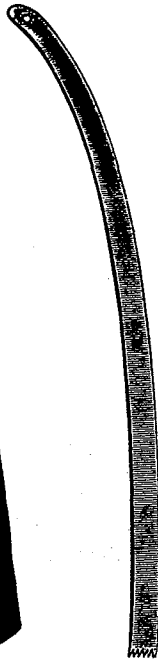
21693K



21693T



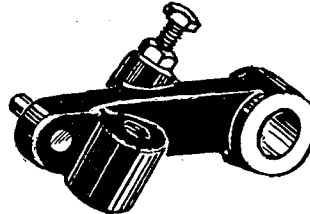
21172K



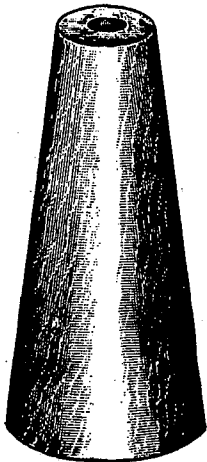
23279D



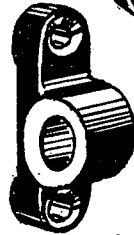
9271



21693G



21145



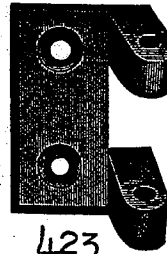
21693D



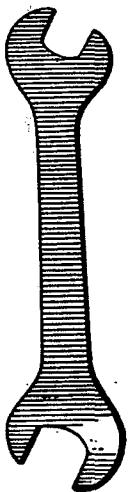
21693F



118B



423



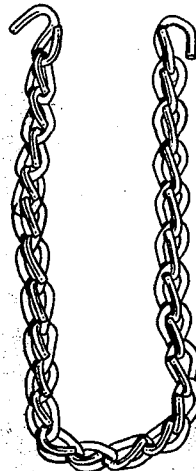
21388R



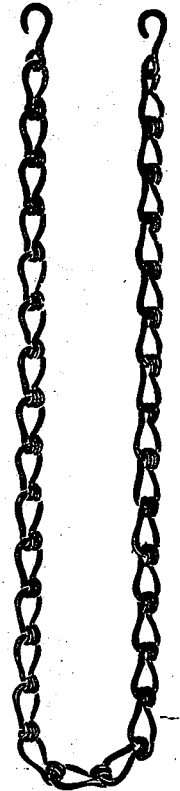
21388N



21388



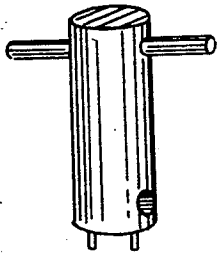
421 C  
SPECIFY  
LENGTH



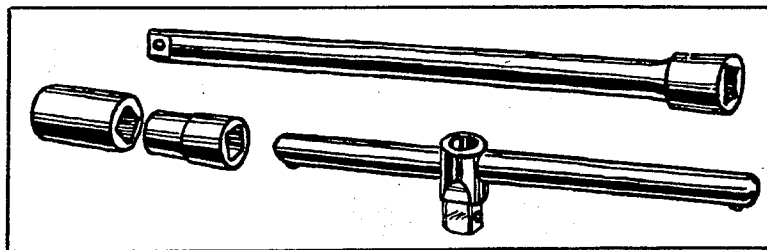
421



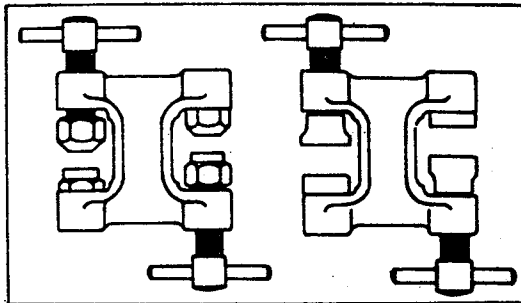
Plate 51 - One-half Size



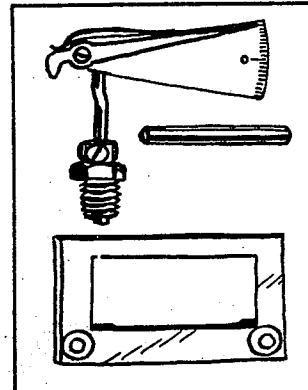
21388Z



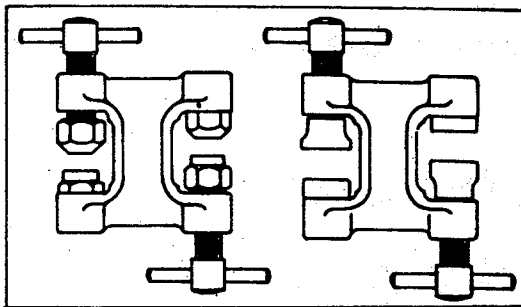
21388AE



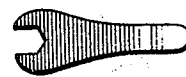
21227HH



21227R



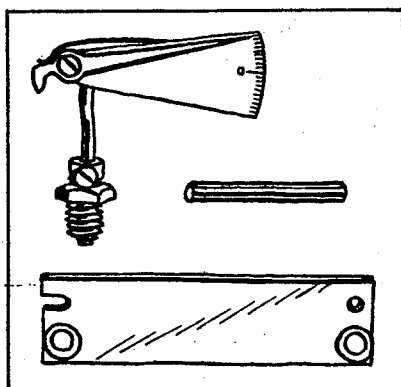
21227HK



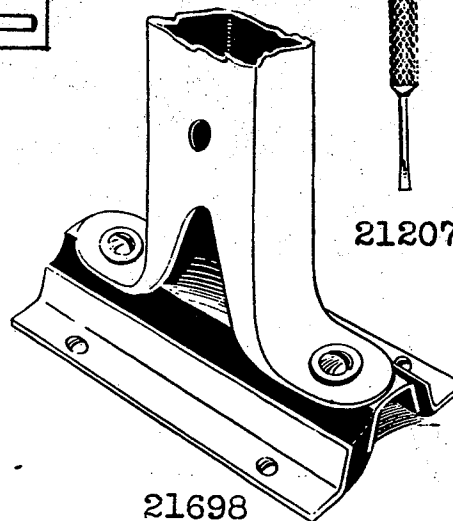
116



21207



21227AC



21698  
Specify Length