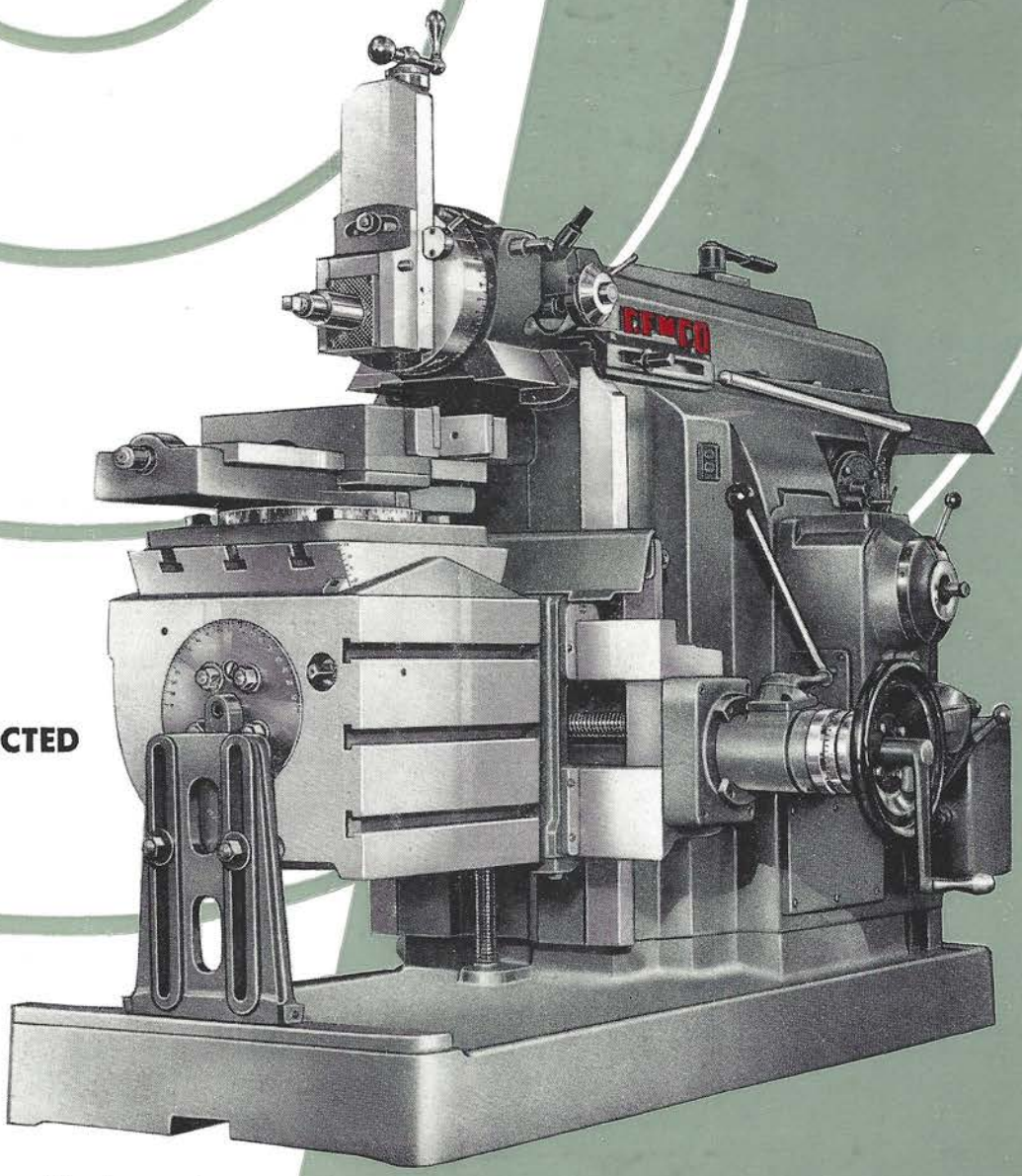
GEMCO

Multi Purpose
CRANK SHAPERS



LUBRIGARD PROTECTED

Products of

GEMCO SHAPER COMPANY

ST. LOUIS 16, MISSOURI, U. S. A.

Producers of Precision Equipment

GEMCO

GUARANTEE

The performance, accuracy, material, and workmanship of Gemco Shapers are guaranteed by the manufacturer.

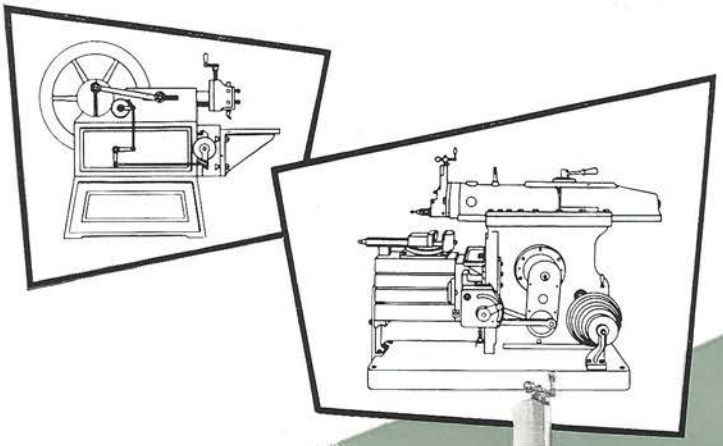
All parts, given normal and proper usage, are guaranteed for a period of one year. If proven to be defective in material or workmanship, they will be replaced free of charge.

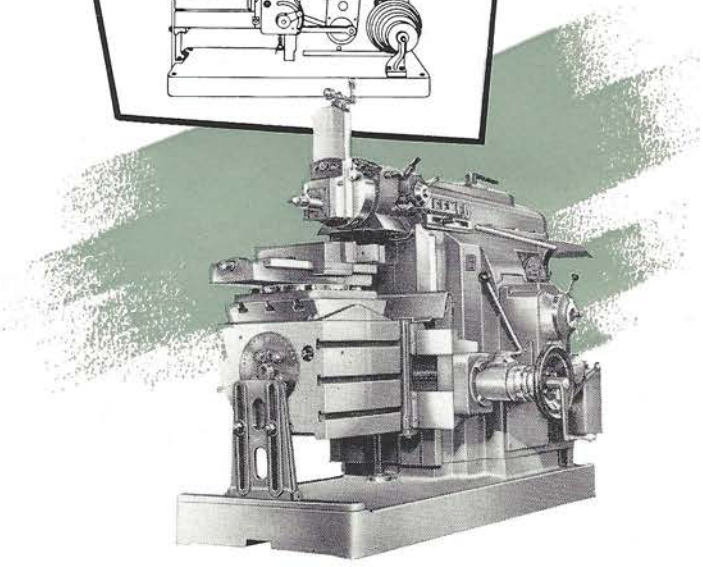
GEMCO SHAPER CO.
ST. LOUIS 16, MISSOURI, U. S. A.

PRINTED IN U.S.A. 2500 57

GEMCO

MULTI-PURPOSE SHAPERS





The forerunner of the modern Crank Shaper was introduced in 1836 by James Nasmyth, the foremost English tool builder of his time. He called it the Nasmyth Steel Arm. Perhaps it is appropriate that the name of the tool was also changed because improvements in later years have changed the construction of the machine to such an extent that almost the only feature in common with the prototype is the reciprocating cutting motion common to all machines of this type.

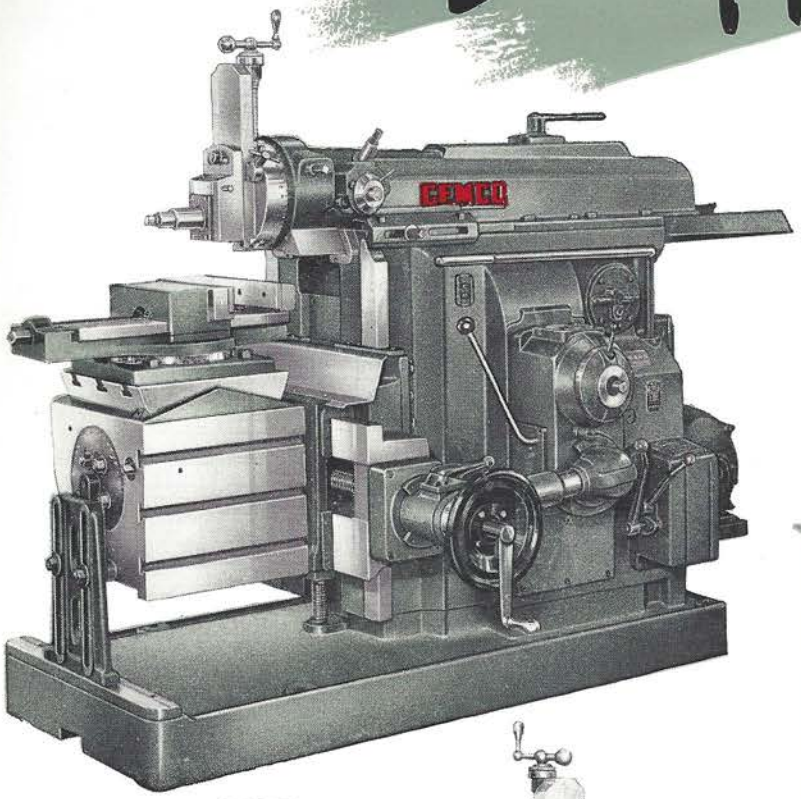
THE EFFICIENCY AND ACCURACY ESSENTIAL TO PRESENT DAY INDUSTRIAL PRACTICE REQUIRES THAT THE MODERN SHAPER HAVE THE FOLLOWING QUALIFICATIONS:

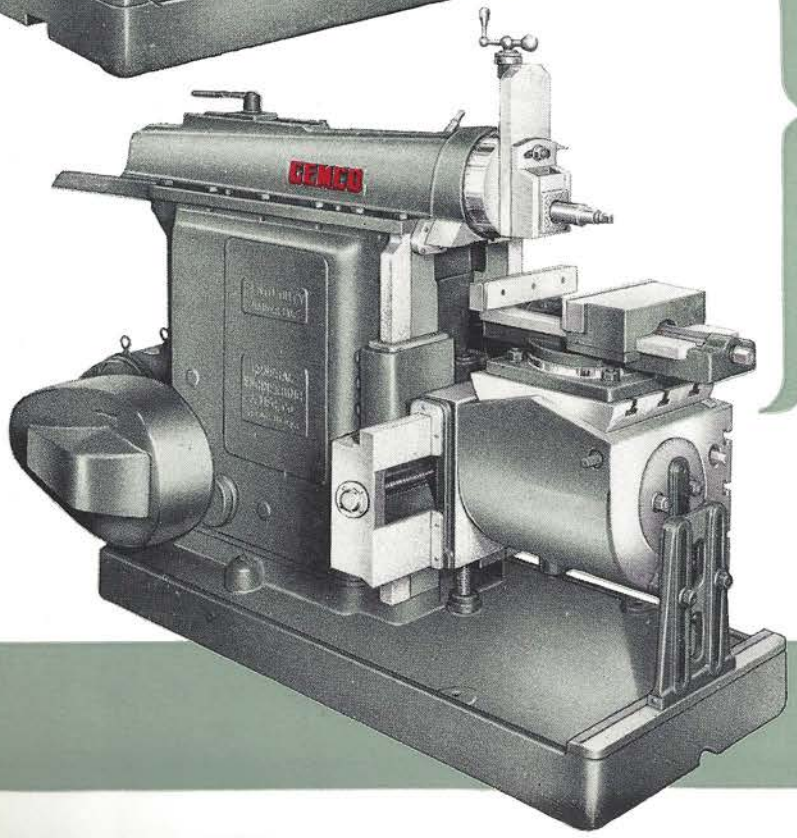
- The design must be sturdy and powerful. Controls must be placed with due respect to convenience to assure speed and ease of operation.
- Precise workmanship must be used in the construction of the Shaper, since no Shaper will produce greater precision than that which is built into the unit itself.
- The performance of the Shaper must be such that it can be used under the most severe service conditions over long periods of time without loss of accuracy. Provision must be made, however, to take up wear at all important points so that the original accuracy can be restored after wear does occur.
- Safety features must be incorporated to protect the machine and the operator.
- A full line of accessories should be available to provide the maximum versatility when necessary.

This catalog portrays the GEMCO Multi-purpose Crank Shaper in its latest development, but constant effort is being exerted in research to obtain a still higher degree of perfection.

A Size and Type OF GEMCO

MULTI-PURPOSE CRANK SHAPER TO TAKE CARE OF EVERY REQUIREMENT





UNIVERSAL TYPE SHAPERS

Sizes 16" heavy duty to 36" standard duty, with Universal table, are equipped with front table support. In 16" and 20" sizes, front table support is furnished with horizontal and vertical power rapid traverse to the table. Recommended for tool and die work and general machine shop work requiring frequent changes or angular settings.

CHARACTERISTIC FEATURES:

Force feed lubricating system with oil piped under pressure to all principal bearing surfaces, circulating pump, oil filter, visible oil feeding stations, patented "Lubrigard" safety mechanism.

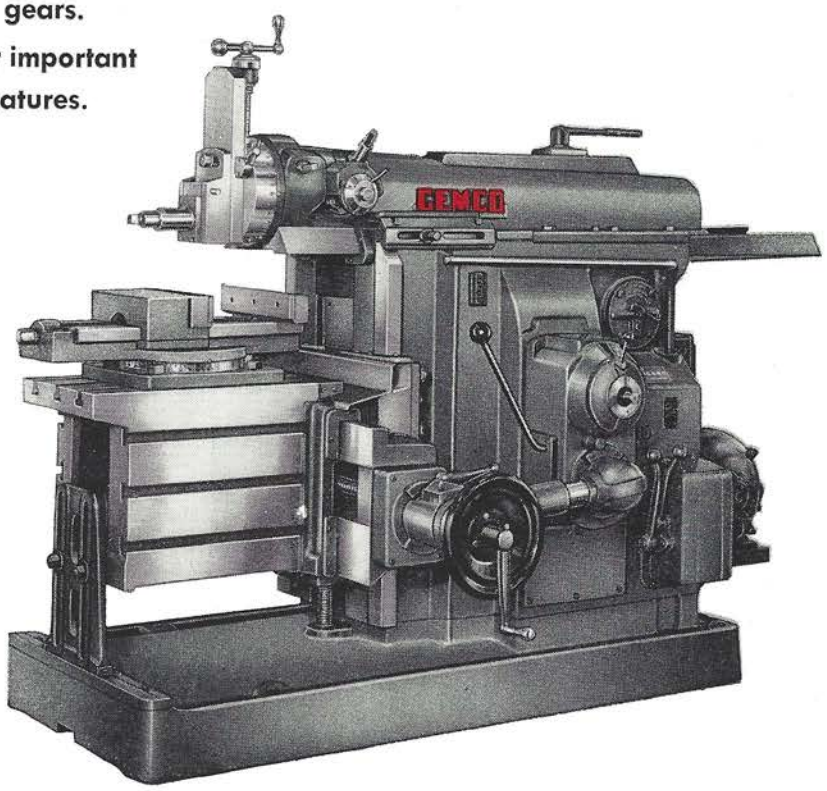
Powerful ram with extra large sliding surfaces and bearings.

Wide range feeding mechanism.

Flood lubricated transmission gears.

Twin type bull gears.

And many other important and desirable features.



PRODUCTION TYPE SHAPERS

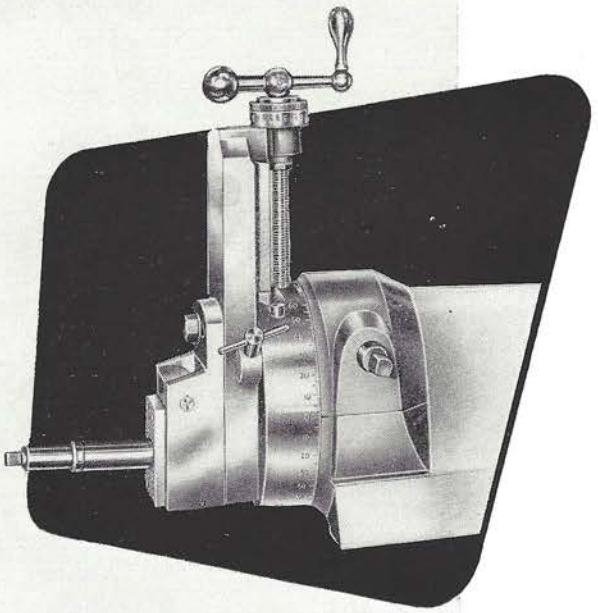
Sizes 16" heavy duty to 36" standard duty, with separate table and apron, are furnished with front table support. Available with horizontal and vertical power rapid traverse to the table. Recommended for general machine shop use and heavy production work.

PLAIN TYPE SHAPERS

(Discontinued)

Available only in sizes 16" heavy and 20" standard duty. Equipped with plain table and furnished with or without front table support. Horizontal and vertical rapid traverse to the table is optional. Recommended for average machine shop use and light production work.

Important Features



TOOL HEAD

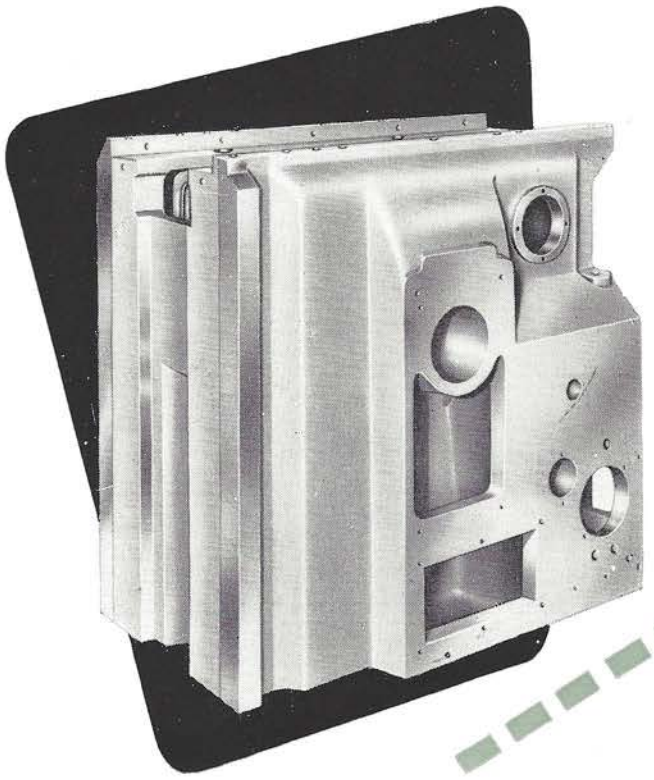
A powerful clamp controlled by a single stud, located on the operator's side of the ram head, locks the tool head in any desired angular position. The tool head body is graduated in degrees reading 60° either side of zero. "V" ways guide the tool slide in the body and a taper gib is provided to maintain adjustment. A positive tool slide lock, located on the operator's side, insures that the tool slide will not creep when under heavy pressure. The tool slide spindle is provided with a large graduated collar calibrated in thousandths of an inch.

RAM

A V-type ram with wide guides, which provide an exceptionally large area of bearing contact with the column ways, is employed in GEMCO Shapers. Made of high tensile, close-grain, semi-steel, the ram is very deep, long and well-ribbed to effectively resist distortion under load. The ways are precision ground. The rocker arm clamp and positioning spindle carried within the ram permit quick positioning in relation to the work piece.

CROSSRAIL

Box-shape construction, massive and well ribbed for rigidity, is also employed in the crossrail. Full length, squared vertical ways of the column serve as guides for the crossrail and two vertical clamping bars with one clamping stud and four binding studs each retain the crossrail on the ways. The binding studs are permanently adjusted for minimum sliding clearance so that it is necessary to loosen only one clamping nut on each side to move the crossrail vertically. Generous bearing surfaces on the rail itself insure rigidity for the table. A full length, adjustable wedge type gib is used to compensate for wear on the load carrying surfaces of the crossrail. A large elevating screw supports the crossrail through a special worm gear driven nut, mounted on a ball thrust bearing. The worm gear drive is protected from the ingress of chips by a metal guard. The horizontal feed screw and elevating shaft are mounted in single and double row ball bearings to provide for radial and thrust loads.

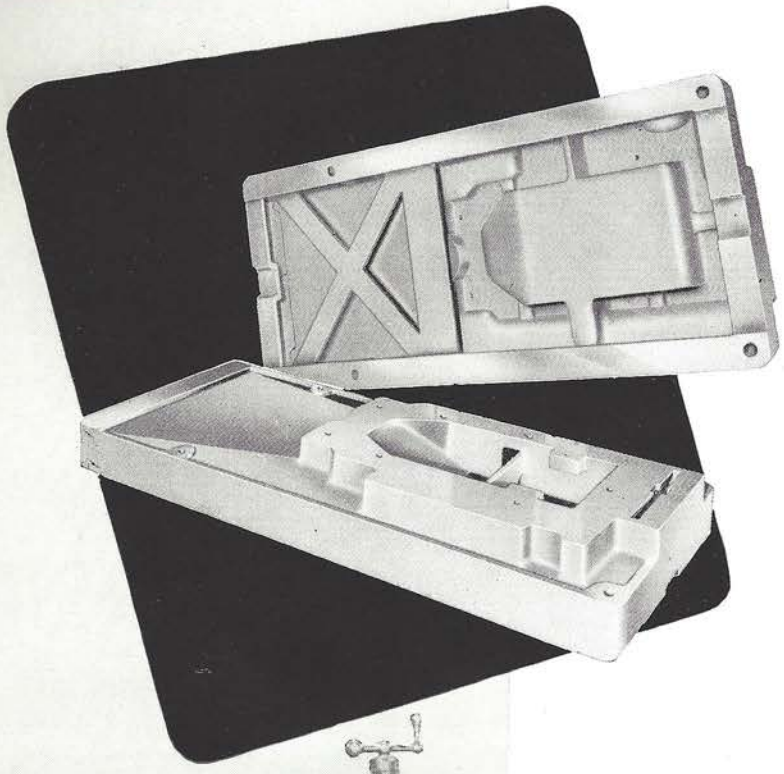


COLUMN

Proper proportion is an absolute essential in column design to insure maximum and lasting stability for heavy cuts and high speed operation. The column, made of semi-steel, is massive and extremely wide, and it is reinforced and braced by numerous ribs properly placed for maximum rigidity.

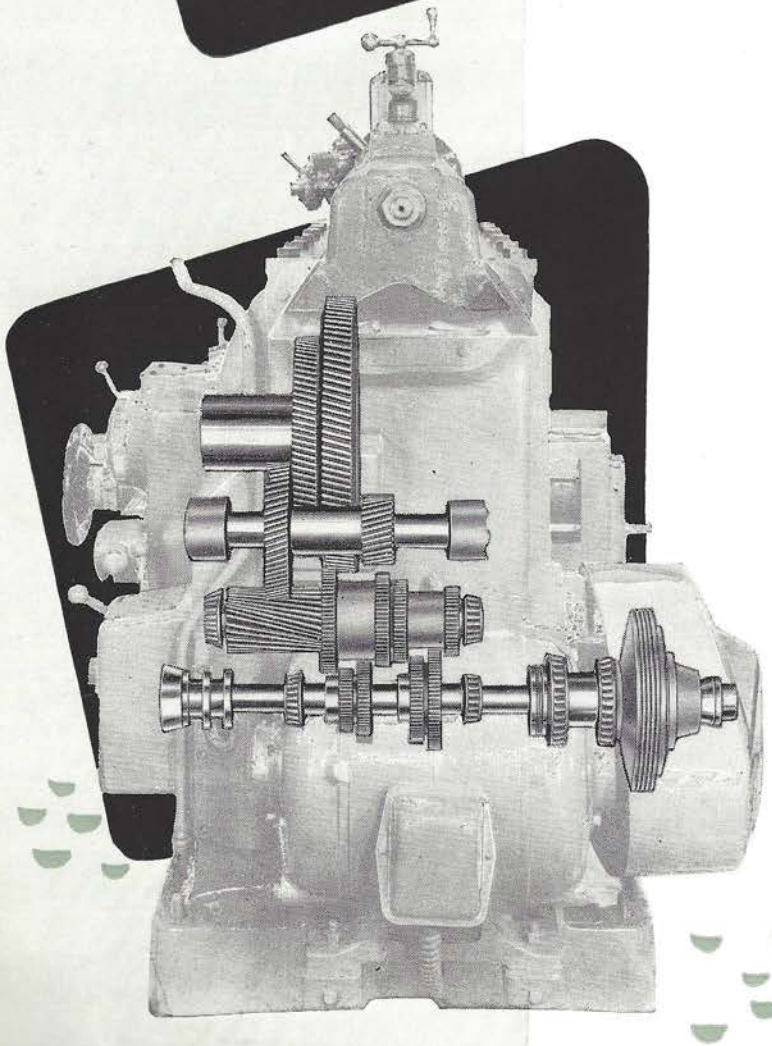
The walls are tied more closely together than is possible with old style dish type construction; yet the design provides for installing all transmission gears within the column. The vertical guides for the crossrail are extremely wide and of full length. Separate V shaped ram gibs, precision ground, are bolted securely to the column to positively align the ram on the column ways. The left hand gib is adjustable, therefore full length bearing remains constant at all times even though adjustment for wear may, in time, become necessary.

A large one-piece, completely removable, inspection plate is provided on the left hand side of the column.



BASE

Massive construction of the base gives the exceptional rigidity necessary for heavy roughing cuts or precision finishes over the entire range of feeds and speeds. A sturdy, single piece casting, it contains large internal ribs to resist deflection. Proper distribution of weight provides a low center of gravity. Full length machined support pads, give added firmness to the entire machine and facilitate mounting in a level position. Integral with the base is the oil reservoir for the lubricating system. A rib is provided around the entire outer edge of the base to catch chips — and any possible oil drippings.



GEARING SCHEMATIC

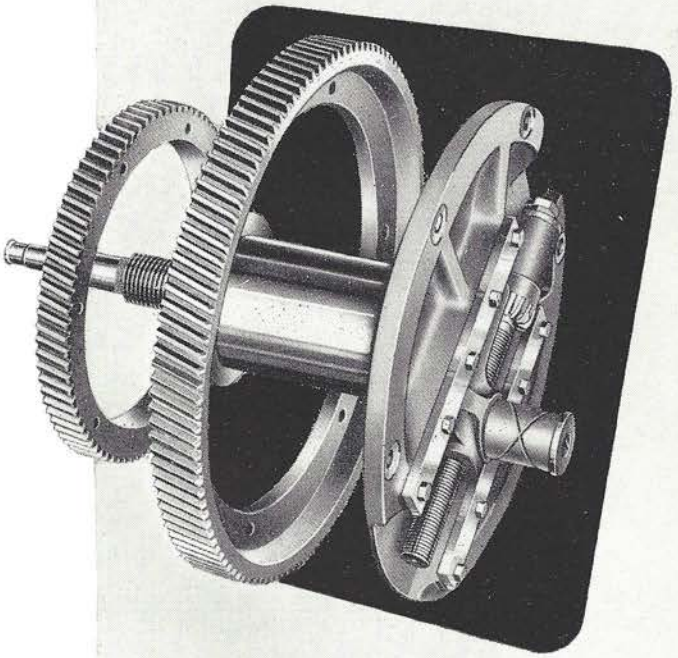
TRANSMISSION

The entire gear drive of the machine is located within the column. Transmission gear shafts are made of heat-treated alloy steel, splined, ground for accuracy, and supported throughout by Timken Roller Bearings. The main or drive shaft carries at one end the oversize "Twin Disc Clutch". At the other end is the friction brake which permits instant stopping of the ram movement. Both the clutch and brake are actuated by the main operating lever. All transmission gears are made of heat-treated alloy steel, accurately cut and shaved to a precision finish. Through a back gear arrangement, which is standard equipment on all GEMCO Shapers, eight speeds of the ram are readily and easily selected by positioning the transmission and/or back gear control levers.

BULL GEAR ASSEMBLY

The main or bull gear drive is of twin type. The assembly consists of a semi-steel hub and two bull gears, each of different diameter with teeth of the same helix angle. A patented device found only in GEMCO Shapers is used to keep the drive pinion for the helical gears in a locked position. The large bull gear meshes with the drive pinion to obtain the four low speeds. The small bull gear meshes with another gear turning on the same common shaft with the pinion and provides the four higher ram speeds. The life of the main gear drive is greatly lengthened by this method of construction, since wear is divided between two gears rather than on one alone.

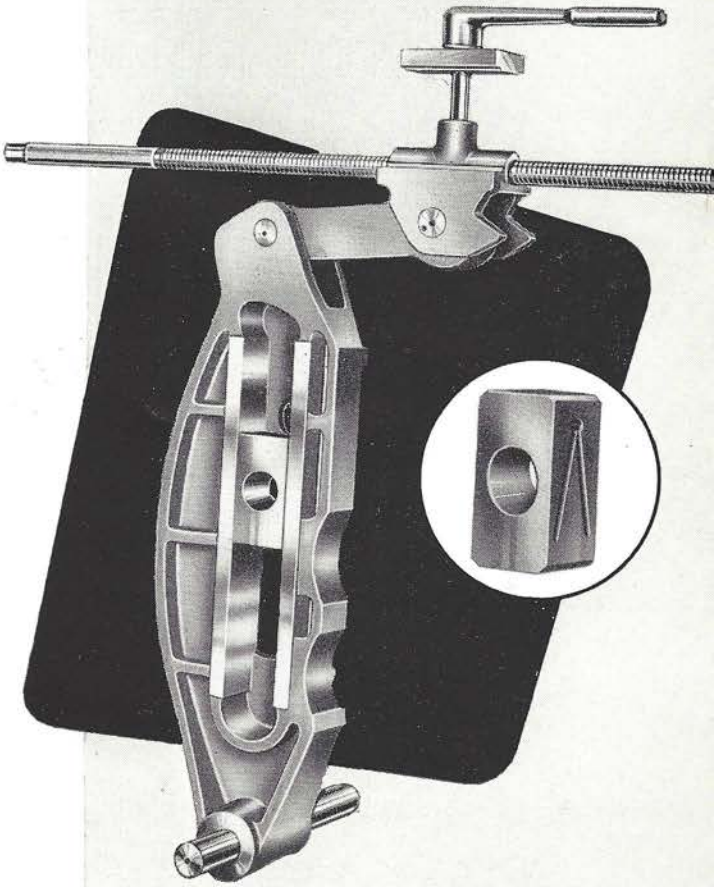
This construction also provides lower linear gear speeds at high ram speeds resulting in minimum gear noise and chatter. In addition to the two bull gears, the hub carries the stubby crank pin, slide and stroke adjusting mechanism. The hub itself rotates in the extra large bearing integral with the side wall of the column.

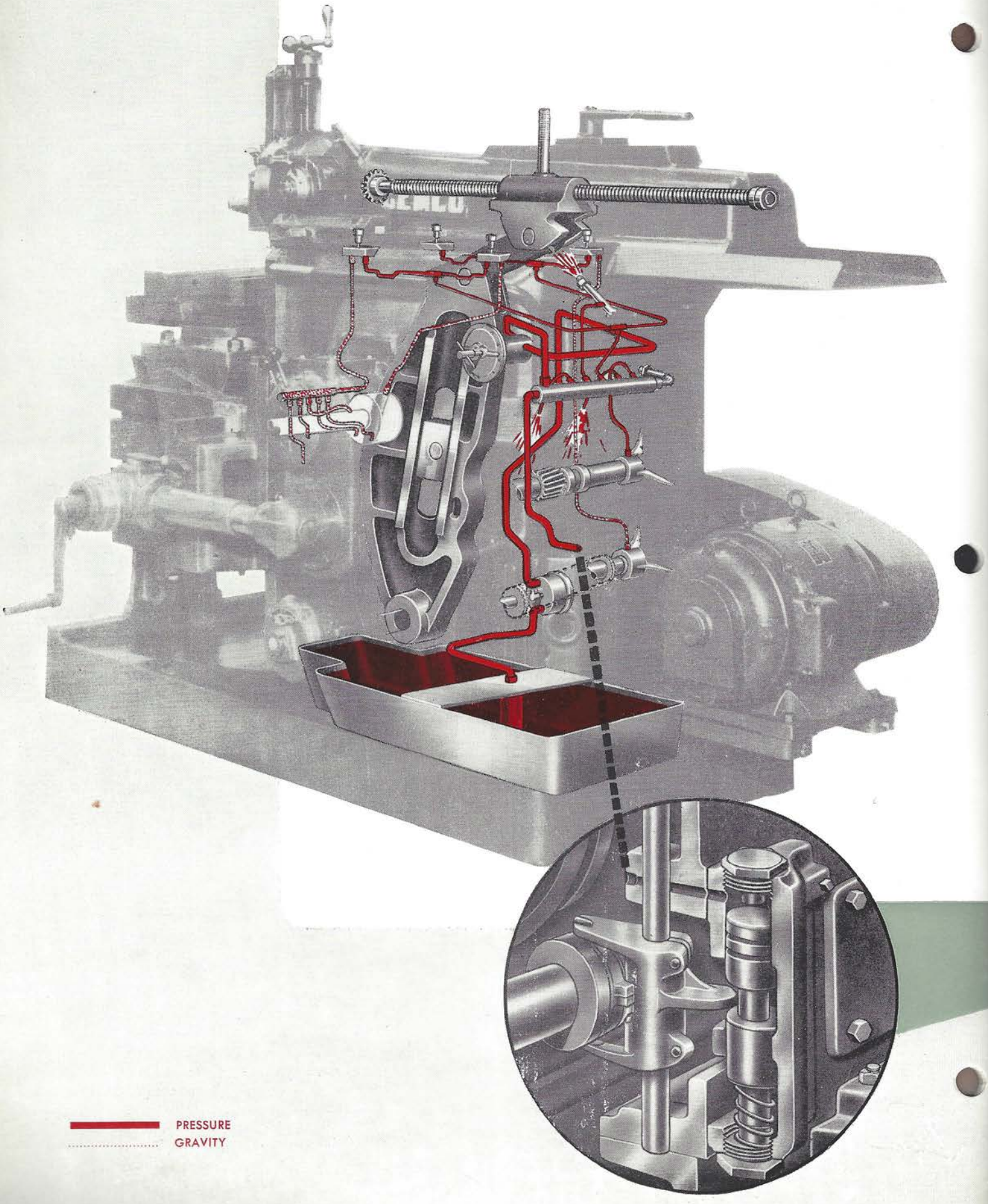


ROCKER ARM

The rocker arm, an important part of the drive mechanism, is constructed of high tensile semi-steel strongly ribbed and braced. Its weight is supported by the fulcrum or shaft near the bottom of the column which is journaled in both column walls. Connection between the rocker arm and ram is provided through a specially designed link.

The highly finished sliding surfaces are generous and provide a very large bearing surface for the crank block. The block is made of hardened and ground alloy steel and is extra large to minimize wear. Long experience has proven this construction to be the most satisfactory. Proper adjustment of wear by the use of gibs is impossible because of eventual uneven wear caused by the wide variation of the stroke length.




PRESSURE
GRAVITY

Lubrication System

Lubrication is of advanced type, forced feed, "Lubrigard" protected, with circulating pump. The self-priming gear pump is located above the oil reservoir of the base. The supply of oil passes from the reservoir through a primary filter to the pump, then through the secondary mechanical filter. The filtered oil is continually forced, under pressure, to the main distributing header and carried from there through copper tubing to all principal sliding surfaces and main bearing.

The pump remains in operation while the main drive pulley of the machine is rotating. Both the pump and mechanical filter are readily accessible for inspection or cleaning and may be removed without disturbing pipe connections. All Timken bearings and gears are flood lubricated. A jet of oil is pumped against the wick lined chamber of the ram connecting link where the oil is automatically filtered and conducted to the link bearing and journals. Part of the jet is deflected to supply a bath of oil to the crank pin, crank block, and sliding surfaces of the rocker arm. Oil is forced to four oil ducts located in the ram gib and flows from there by gravity through felt pads to all ram ways. Special non-removable fittings permit inspection of this continuous flow of oil.

Surplus oil flows by gravity to the feed unit, rapid traverse mechanism, clutch pulley bearings, lower rocker arm bearing, and other points, finally gathering in the oil reservoir to be re-circulated.

Lubrigard

The "LUBRIGARD" is a safety feature found exclusively on GEMCO Multi-Purpose Shapers. Its function is to prevent the main control lever of the machine from being shifted into operating position if a deficiency occurs in the lubricating system. The "Lubrigard" works automatically; it is not dependent upon the operator's care.

The "LUBRIGARD" will prevent the ram from being started:

1. **In event the oil supply in reservoir is insufficient;**
2. **Should pressure in the system be below the minimum required;**
3. **Should a leak or failure of the oil pressure system occur;**
4. **Should the filter become clogged;**
5. **Should the drive pulley rotation be incorrect.**

Unilateral Table Control

Table Control unilaterally grouped on the operator's side of all GEMCO Shapers is a convenient and time saving feature. It provides complete control for all movements of the work table whether they be manual, set to a predetermined working feed or motivated by power rapid traverse.

A simple gearing arrangement, used in conjunction with a slideable shaft, is located at the end of the crossrail and selects either horizontal or vertical travel.

It is not necessary to move to the other side of the machine to position the work table in a vertical direction.

The position of two controls, the handwheel (Fig. 1) and the directional feed lever (Fig. 2), determines the direction of the travel.

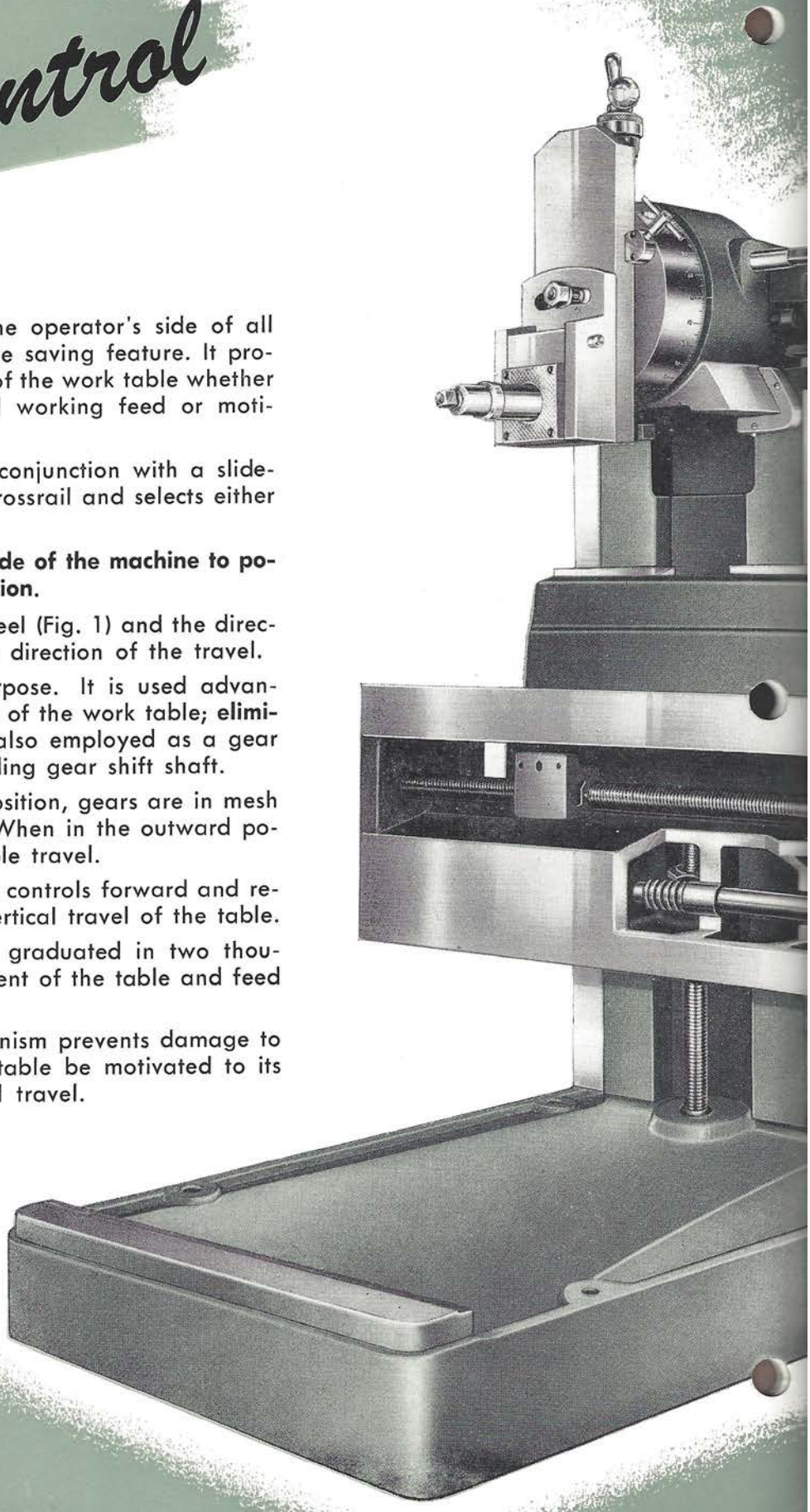
Handwheel (figure 1) serves a dual purpose. It is used advantageously for minute manual adjustments of the work table; **eliminates groping for a crank handle.** It is also employed as a gear shift control as it is integral with the sliding gear shift shaft.

When the handwheel is in the inward position, gears are in mesh for horizontal travel of the work table. When in the outward position, gears are in mesh for vertical table travel.

The directional feed control lever (Fig. 2) controls forward and reverse direction of both horizontal and vertical travel of the table.

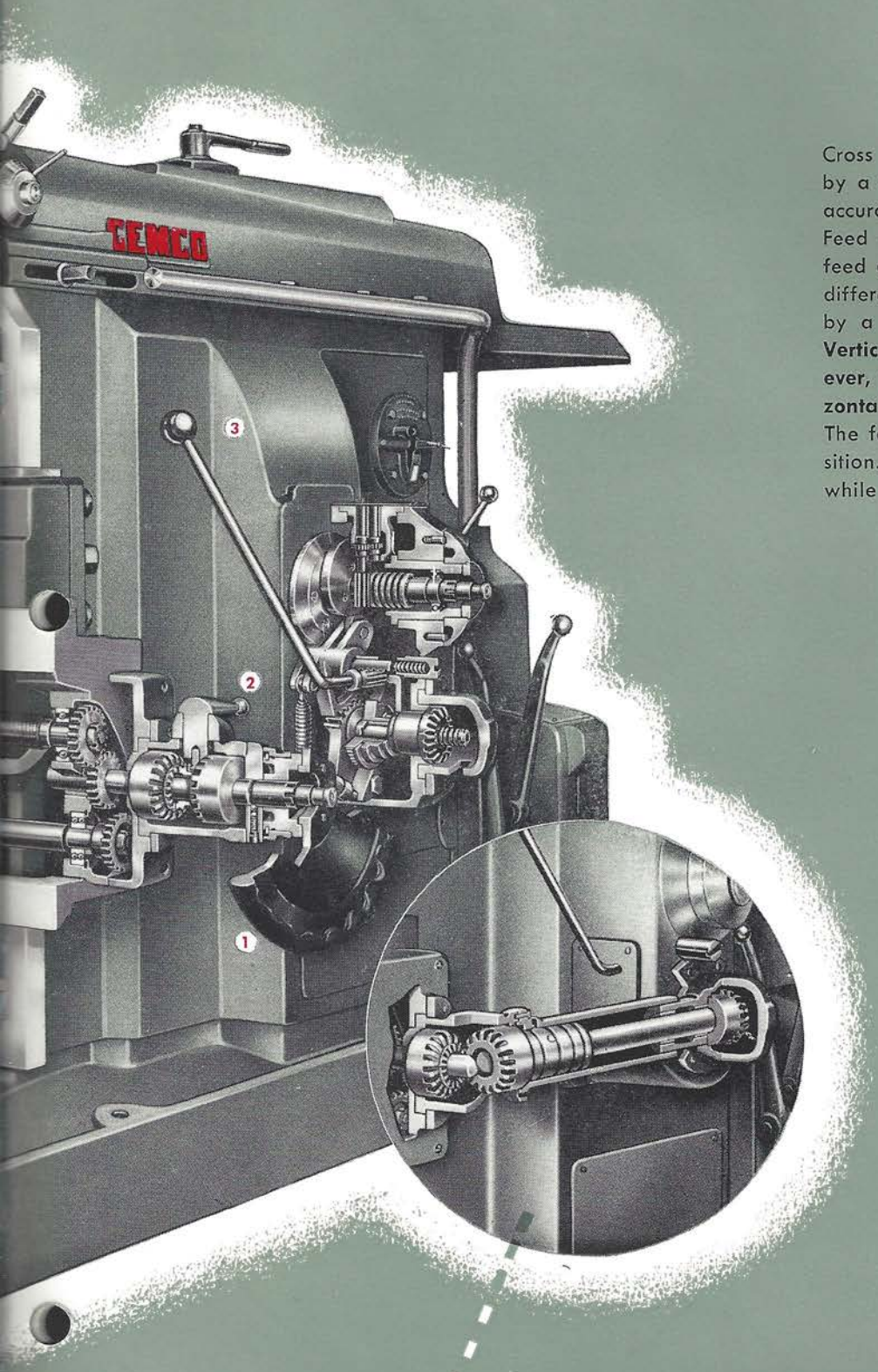
An extra large adjustable friction dial, graduated in two thousandths of an inch, indicates the movement of the table and feed setting.

A safety clutch in the table drive mechanism prevents damage to the machine or work piece should the table be motivated to its extremity in either horizontal or vertical travel.



RAPID TRAVERSE

When rapid positioning of the table is desired, irrespective of direction of travel, the power rapid traverse can be quickly engaged. The control lever (figure 3), when positioned outward, engages the rapid traverse mechanism in a direction **opposite** to the direction of power feed, thereby insuring protection to the machine and any work piece. Release of lever (figure 3) immediately disengages the power rapid traverse mechanism and re-engages the power feed.



CUTAWAY VIEW OF CONNECTING DRIVE BETWEEN FEED BOX AND CROSS RAIL

FEED MECHANISM

Cross feed to the table is actuated intermittently by a driving cam and ratchet movement which is accurately timed with the return stroke of the ram. Feed control is obtained by simply moving the feed adjusting lever to any one of eighteen (18) different feeds from .010″ to .180″ as indicated by a large easy-to-read dial.

Vertical feed to the table may be obtained. However, the vertical feed is ½ of the normal horizontal feed.

The feed adjusting lever is self-locking in any position. Readjustment of the feed can be made while the ram is in motion.

STROKE ADJUSTMENT

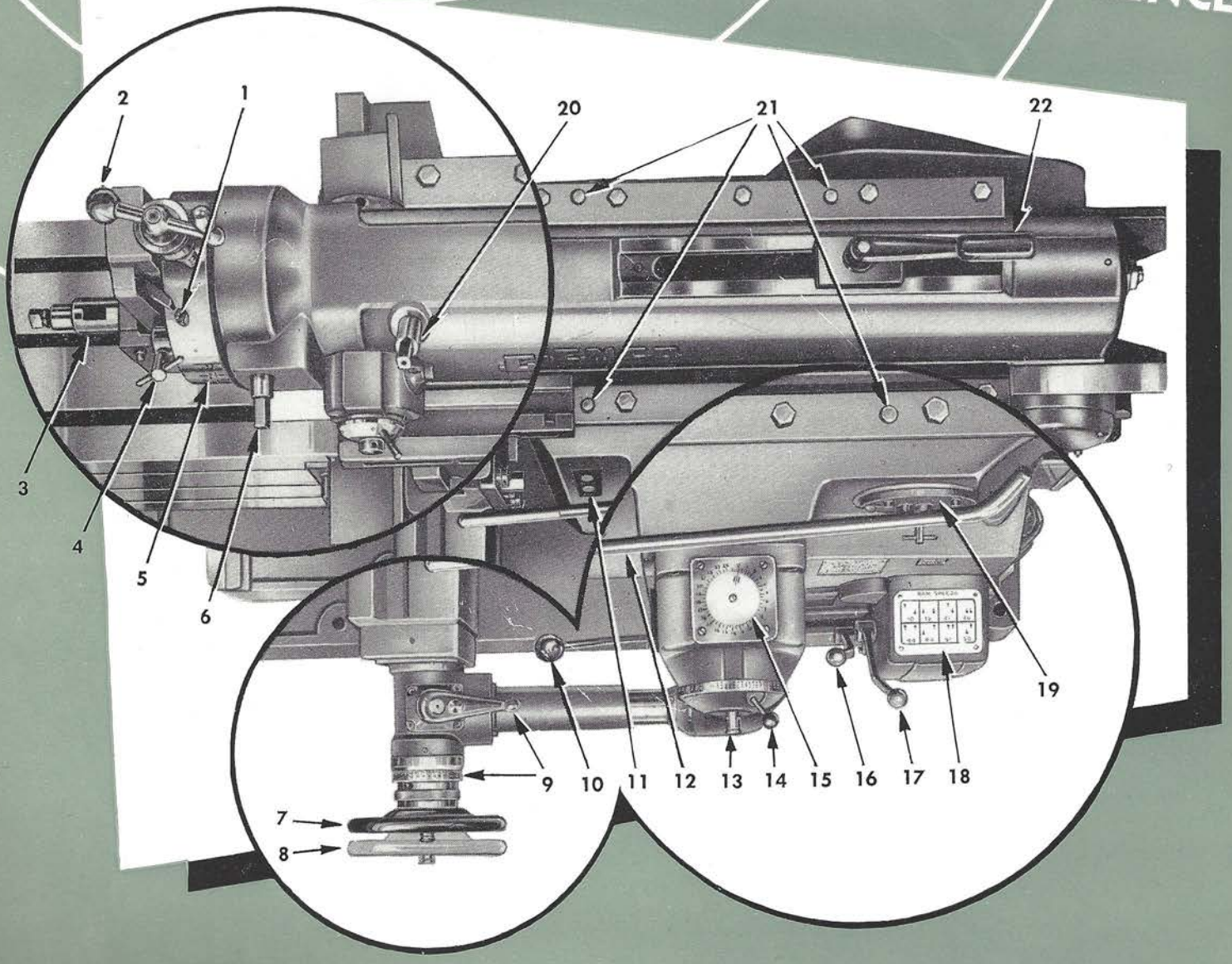
Adjustment of the stroke is made by placing the crank over the rounded shaft projecting from the feed mechanism housing. Slight inward pressure on the crank permits turning clockwise to increase, or counter-clockwise to decrease, the ram stroke. A large direct reading dial readily indicates the length of stroke. Withdrawal of the crank **automatically** and **positively** locks the stroke setting. The hand crank, instead of the hand wheel, can also be employed to manually feed the work table.

Centralized Controls

EASE

SPEED

CONVENIENCE

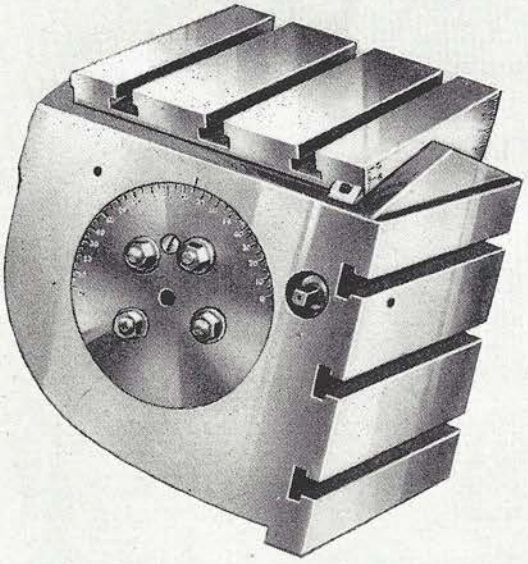


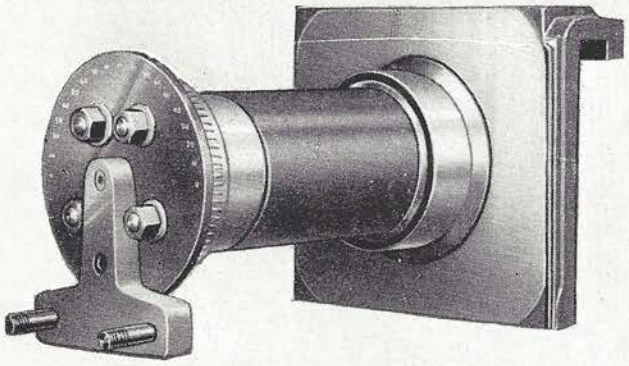
Centralized Controls

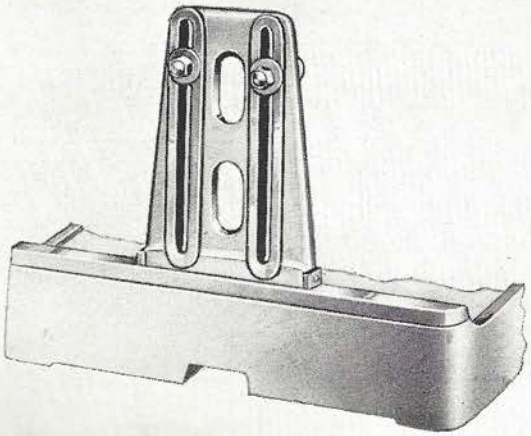
Controls of GEMCO Shapers are arranged for the greatest possible speed and convenience to the operator. All dials, which are large and easy to read, control levers, control buttons, and handles, are within easy reach or view of the operator.

1. Adjusting screw for gib of tool slide.
2. Feed spindle lever of tool head.
3. Tool post and clapper of tool head.
4. Positive locking device for tool slide.
5. Tool head base graduated.
6. Stud for operating clamping means of tool head.
7. Hand wheel to facilitate horizontal table adjustments.
8. Hand wheel (as illustrated by 8), engages gears for vertical table travel.
9. Directional feed control lever. Movement of table indicated by large dial calibrated in .002".
10. Lever for control of rapid traverse.
11. Start and stop push button for drive motor.
12. Main control lever for ram movement.
13. Shaft for operating stroke adjustment mechanism.
14. Feed adjusting lever and dial for direct reading.
15. Stroke indicator dial and pointer for direct reading.
16. Shift lever for high-speed gear of transmission.
17. Shift lever for back gears of transmission.
18. Ram speed selector chart, indicates relative position of shift levers 16 and 17.
19. Mechanical filter.
20. Stud for operating ram positioning spindle.
21. Inspection fittings for lubrication of ram gib.
22. Lever for clamping rocker arm linkage to ram.

Tables FOR ALL PURPOSES







UNIVERSAL SHAPERS

For tool and die work, experimental laboratories and model shops where angular work setups are required. GEMCO offers a complete line of Universal Shapers from 16″ to 36″ stroke. The versatility of this unit permits economical machining of a wide range of variable flat and compound angular surfaces.

The chief characteristic of the Universal Shaper is that it has two tables, or working surfaces.

THE REVOLVING OR SOLID TABLE may be rotated or adjusted 360°, or completely around its axis, and is used for shaping flat and plain angular work. Any angular setting can be secured without interference that necessitates removal of the table support as the control for revolving the table is placed on the side rather than the front of the assembly.

A large dial plate (graduated in degrees) is affixed to the table trunnion and clearly indicates the angular setting. The extremely large table trunnion, a projecting part of the apron or saddle, provides the bearing surfaces for the revolving table.

THE TILTING TOP may be used in combination with the revolving table for performing compound angular machining. Angular adjustment of the tilting top is 15° in either direction of the plane of the table axis.

Stops on the tilting top and on the revolving table enable a quick, approximate positioning of both tables to a horizontal plane. A very effective clamping means holds the table absolutely rigid in any position. The entire Universal table mechanism is guarded to prevent the entrance of chips and dirt.

THE TABLE SUPPORT for the Universal table consists of the support and a bracket securely clamped together. As the bracket in turn is mounted directly to the trunnion, the setting remains stationary with full table support constantly maintained. Once the vertical position of the table has been made, the revolving table can be set quickly and easily to any desired degree **without disturbing the table support.** The table support slides on an accurately machined rail located at the front of the base. The rail is detachable from the base and, therefore, can be easily removed for reworking should it become necessary.

PRODUCTION SHAPERS

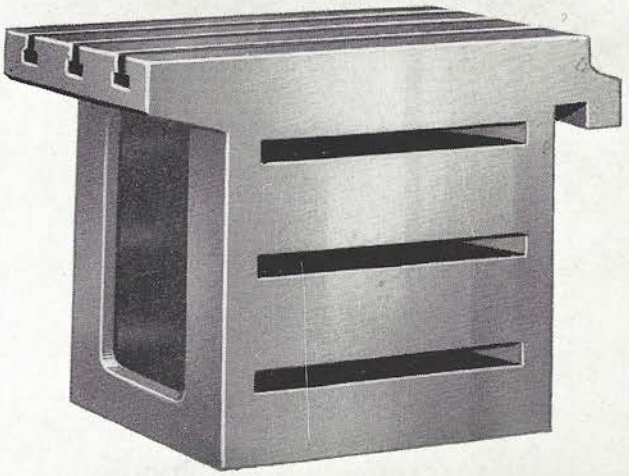
For general machine shop use and heavy production work, GEMCO has available a complete line of Production Shapers from 16″ to 36″ stroke. The characteristic of this table design is that the table and the apron are separate. The table therefore, can be easily removed from the apron by withdrawing four (4) bolts. Large, cumbersome work can be bolted directly to the apron for machining. The table is provided with accurately machined T-slots, not only on the top or working surface, but on both sides as well. A front table support is furnished as standard equipment with each Production Shaper.

PLAIN SHAPERS

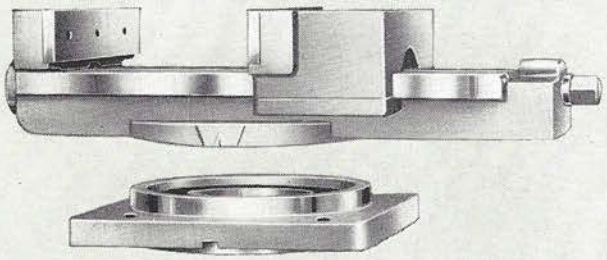
(Discontinued)

For a fast utility machine to perform a wide variety of work, GEMCO offers Plain Shapers in stroke size of 16″ to 20″. Industrial schools will find this unit ideal for use in training purposes. The table on the plain Shaper is cast integral with the apron. The table top or working surface is provided with accurately machined, full length T-slots. Slots are also provided in both sides of the table to clamp work at those points when necessary. A table support is optional equipment on Plain Shapers.

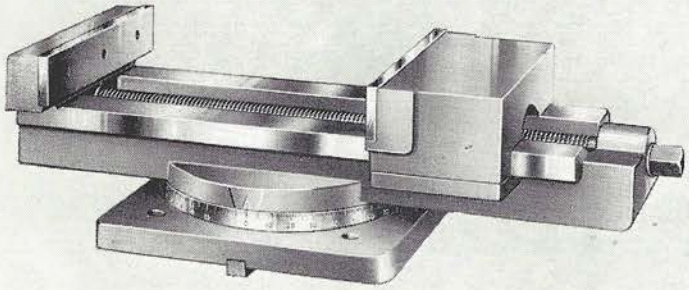
The table support for Production and Plain Shapers is clamped directly to the table. As the support slides on an accurately machined rail attached to the front of the base, it is always directly under the plane of deflection and assures maximum rigidity for the table at all times.



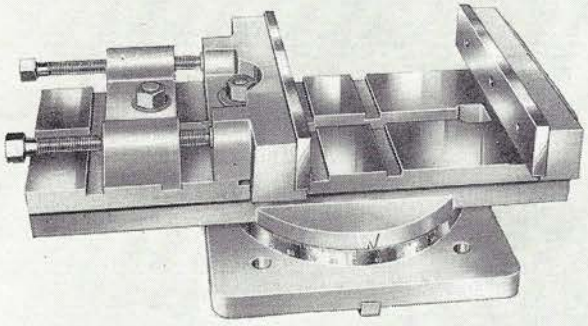
Vises



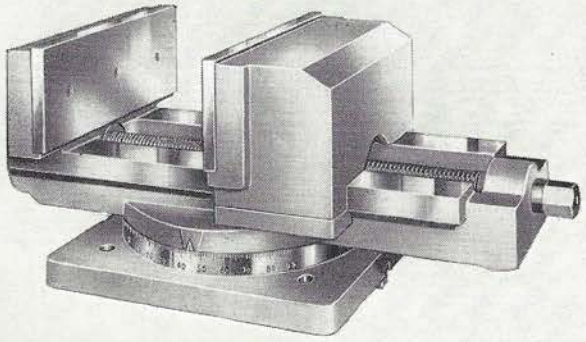
STANDARD SINGLE SCREW VISE



SPECIAL SINGLE SCREW VISE



DOUBLE SCREW VISE



MOULD MAKERS VISE

VISES

A variety of sizes and types of vises are available for use with GEMCO Shapers (see specifications). Single or double screw vises are furnished as standard equipment with each shaper purchased. A mould makers vise or a special large opening vise can be furnished at slight additional cost.

Either vise is extremely powerful and of ample range. Vise jaws are faced with ground tool steel liners.

The vise body rotates in a heavy base. The base has two sets of graduated readings to 90° either side of zero. Two index marks are spaced at 180° so that the angle can be read quickly, irrespective of the vise position.

By employing a clamping ring, in conjunction with the vise body, tightening of the four T-bolts in the base clamps the vise securely to the table and provides a positive lock against rotation.

GEMCO

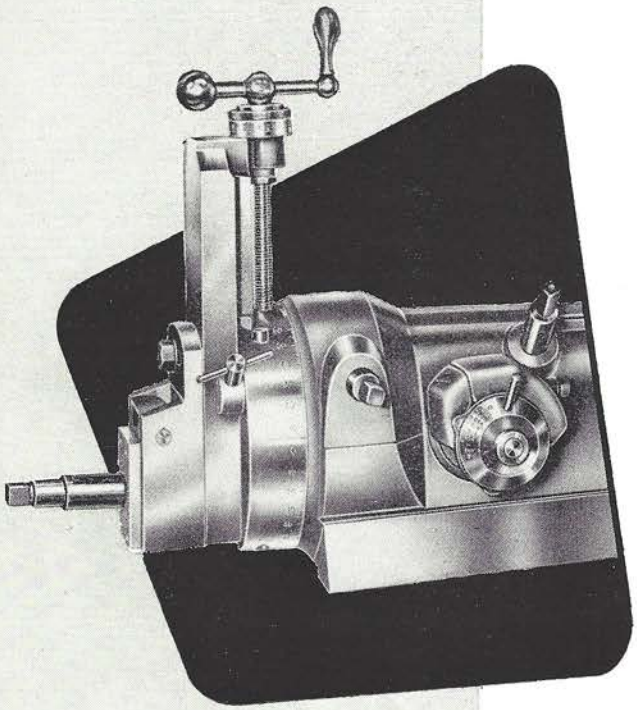
SPECIFICATIONS AND DIMENSIONS

PLAIN, PRODUCTION & UNIVERSAL SHAPERS

SIZES	16 HY.	20 STD.	20 HY.	24 STD.	24 HY.	28 STD.	28 HY.*	32 STD.	32 HY.*	36 STD.
RAM										
STROKE LENGTH	16¾"	20¾"	20¾"	24¾"	24¾"	28¾"	28¾"	32⅜"	32¾"	36¾"
STROKES PER MIN.	11-140	11-140	10-130	10-130	9-120	9-120	9-120	9-120	8-102	8-102
NO. OF CUTTING SPEEDS	8	8	8	8	8	8	8	8	8	8
BEARING WIDTH	11¼"	11¼"	11¼"	11¼"	13"	13"	13"	13"	13"	13"
BEARING LENGTH IN COLUMN	32¾"	32¾"	36½"	36½"	43½"	43½"	45½"	45½"	47½"	47½"
TABLE										
PLAIN TABLE TOP										
PLAIN TABLE DEPTH										
PROD. TABLE TOP	14x17"	14x20"	14x21"	14x24"	16x24"	16x28"	16x28"	16x32"	16x32"	16x36"
PROD. TABLE DEPTH	16"	16"	16"	16"	18"	18"	18"	18"	18"	18"
UNIV. TILTING	15x14"	15x14"	15x14"	15x14"	15x22½"	15x22½"	15x22½"	15x22½"	15x22½"	15x22½"
UNIV. SOLID	16x14½"	16x14½"	16x14½"	16x14½"	16¾x22⅝"	16¾x22⅝"	16¾x22⅝"	16¾x22⅝"	16¾x22⅝"	16¾x22⅝"
PLAIN & PROD. TABLE TO RAM (MAX.)	17½"	17½"	17½"	17½"	20"	20"	20"	20"	23"	23"
PLAIN & PROD. TABLE TO RAM (MIN.)	3½"	3½"	3½"	3½"	4"	4"	4"	4"	4"	4"
UNIV. TABLE TO RAM (MAX.)	16½"	16½"	16½"	16½"	20½"	20½"	20½"	20½"	23½"	23½"
UNIV. TABLE TO RAM (MIN.)	2½"	2½"	2½"	2½"	4½"	4½"	4½"	4½"	4½"	4½"
TABLE TO RAM TILT TOP (MAX.)	16½"	16½"	16½"	16½"	18½"	18½"	18½"	18½"	21½"	21½"
TABLE TO RAM TILT TOP (MIN.)	2½"	2½"	2½"	2½"	2½"	2½"	2½"	2½"	2½"	2½"
HORIZ. TRAVEL	24"	24"	24"	24"	30"	30"	30"	30"	30"	30"
CROSS FEED RANGE	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180	.010-.180
FEEDS NO.	18	18	18	18	18	18	18	18	18	18
VERTICAL TRAVEL	14"	14"	14"	14"	16"	16"	16"	16"	19"	19"
VERTICAL FEED RANGE	.0008-015	.0008-015	.0008-015	.0008-015	.0007-012	.0007-012	.0007-012	.0007-012	.0007-012	.0007-012
TOOL HEAD										
VERT TRAVEL	8"	8"	8"	8"	9"	9"	9"	9"	9"	9"
LARGEST TOOL SIZE	¾x1½"	¾x1½"	¾x1½"	¾x1½"	1x1¾"	1x1¾"	1x1¾"	1x1¾"	1x1¾"	1x1¾"
VISES (Single Screw)										
SIZE OF JAWS	2⅜x12"	2⅜x12"	2⅜x12"	2⅜x12"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"
OPENING OF JAWS	14"	14"	14"	14"	17½"	17½"	17½"	17½"	17½"	17½"
VISES (Double Sc.)										
SIZE OF JAWS	2⅜x12"	2⅜x12"	2⅜x12"	2⅜x12"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"	3⅛x15"
OPENING OF JAWS	14"	14"	14"	14"	17½"	17½"	17½"	17½"	17½"	17½"
VISES (Mold Makers)										
SIZE OF JAWS	5x12"	5x12"	5x12"	5x12"	6⅛x15"	6⅛x15"	6⅛x15"	6⅛x15"	6⅛x15"	6⅛x15"
OPENING OF JAWS	14"	14"	14"	14"	17½"	17½"	17½"	17½"	17½"	17½"
VISES — Special										
SIZE OF JAWS	2⅜x12"	2⅜x12"	2⅜x12"	2⅜x12"						
OPENING OF JAWS	18"	18"	18"	18"						
ACCESSORIES (Power Downfeed)										
RANGE	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036	.006-.036
POWER RAPID TRAVERSE										
HORIZONTAL INCHES PER MIN.	157"/min.	157"/min.	143"/min.	143"/min.	152"/min.	152"/min.	152"/min.	152"/min.	143"/min.	143"/min.
VERTICAL INCHES PER MIN.	10.47"/min.	10.47"/min.	12"/min.	12"/min.	10.1"/min.	10.1"/min.	10.1"/min.	10.1"/min.	9.55"/min.	9.55"/min.
INDEX CENTERS										
CENTER TO CENTER	14"	14"	14"	14"	16"	16"	16"	16"	16"	16"
SWING (MAX.)	10½"	10½"	10½"	10½"	10½"	10½"	10½"	10½"	10½"	10½"
CIRCULAR FEED OR CONCAVE ATTACH.										
SHAPING RADIUS MAX.	10"	10"	10"	10"	12"	12"	12"	12"	12"	12"
SHAPING RADIUS MIN.	8"	8"	8"	8"	9"	9"	9"	9"	9"	9"
FEED AT MIN. SHAPING RAD.	.026-.154	.026-.154	.026-.154	.026-.154	.025-.147	.025-.147	.025-.147	.025-.147	.025-.147	.025-.147
FEED AT MAX. SHAPING RAD.	.032-.192	.032-.192	.032-.192	.032-.192	.033-.196	.033-.196	.033-.196	.033-.196	.033-.196	.033-.196
EXTENDED HEAD										
LENGTH	13¾"	13¾"	13¾"	13¾"	16"	16"	16"	16"	16"	16"
SHAPING RAD. (MAX.) (WITH 2½ TOOL OVERHAND)	5½"	5½"	5½"	5½"	5½"	5½"	5½"	5½"	5½"	5½"
SHAPING RAD. MIN.	3½	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"	3½"
FEED AT MAX. SHAPING RAD.	.017-.105	.017-.105	.017-.105	.017-.105	.014-.089	.014-.089	.014-.089	.014-.089	.014-.089	.014-.089
FEED AT MIN. SHAPING RAD.	.011-.067	.011-.067	.011-.067	.011-.067	.009-.057	.009-.057	.009-.057	.009-.057	.009-.057	.009-.057
SUPPLEMENTARY TABLE										
LENGTH	30"	30"	30"	30"	45"	45"	45"	45"	45"	45"
WIDTH	25"	25"	25"	25"	28"	28"	28"	28"	28"	28"
THICKNESS	4"	4"	4	4"	4½"	4½"	4½"	4½"	4½"	4½"
JIB CRANE										
CAPACITY										
MOTOR DRIVE										
MOTOR N.E.M.A. H.P.	3-5	3-5	5-7½	5-7½	7½-10	7½-10	7½-10	7½-10	10-15	10-15
MACH. PULLEY RPM.	570	570	520	520	550	550	550	550	520	520
MOTOR SPEED RPM.	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800
WEIGHT LBS. (Approx.)										
PLAIN										
PROD.	4700	4750	4850	4900	7600	7650	7800	7850	8100	8150
UNIV.	5100	5100	5200	5200	8100	8100	8250	8250	8550	8550
ADD FOR STD. POLY. PHASE	3 HP 127 lbs.		5 HP 174 lbs.		7½ HP 260 lbs.		10 HP 350 lbs.		10 HP 350 lbs.	
SQUIRREL CAGE 1750 RPM. MOTOR	5 HP 174 lbs.		7½ HP 260 lbs						15 HP 405 lbs.	
ADD FOR CRATE	450 lbs.		450 lbs.		700 lbs.		750 lbs.		750 lbs.	
ADD FOR EXPORT BOXING	750 lbs.		750 lbs.		1200 lbs.		1300 lbs.		1300 lbs.	
CU. FT. BOXED	190		190		300		315		315	
DIMENSIONS										
LENGTH	90"		90"		116"		122"		122"	
WIDTH	56"		56"		58"		58"		58"	
HEIGHT	65"		65"		77"		77"		77"	

* NOTE: 28" and 32" Heavy Duty Gemco Shapers have been discontinued.

Accessories

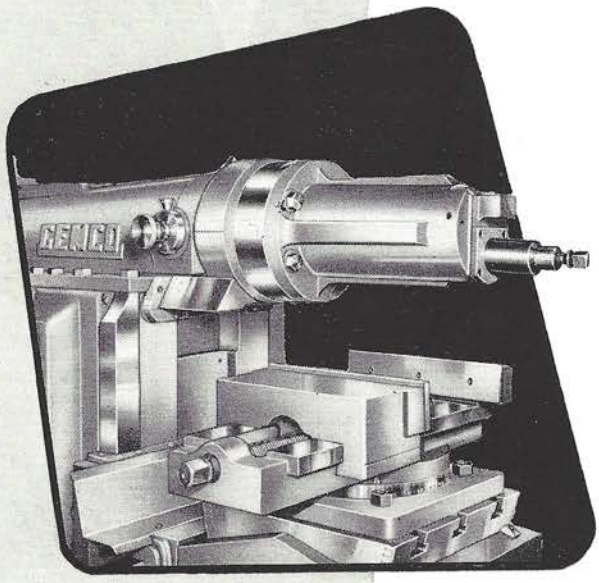


POWER DOWN FEED

All GEMCO Shapers can be equipped with power down feed to the tool head. This mechanism provides six automatic feeds ranging from .006" to .036", moves the tool downward on the return stroke of the ram and may be operated at any angle to which the tool head is set.

The feed is set by moving the feed selector within a small arc and is indicated by a direct reading dial.

An overload clutch protects the mechanism when the tool head has reached the limit of its travel. The down feed is further protected from damage by automatic disengagement of the mechanism in the event the ram is permitted to overtravel.



CONCAVE ATTACHMENT AND EXTENDED HEAD

The concave attachment may be used separately or in conjunction with the extended head depending upon the type of work to be machined. It consists of a worm gear drive actuated by the power down feed mechanism. By coupling the concave to the down feed mechanism, range of six feed changes is possible. The amount of feed is governed by the radius of the tool travel.

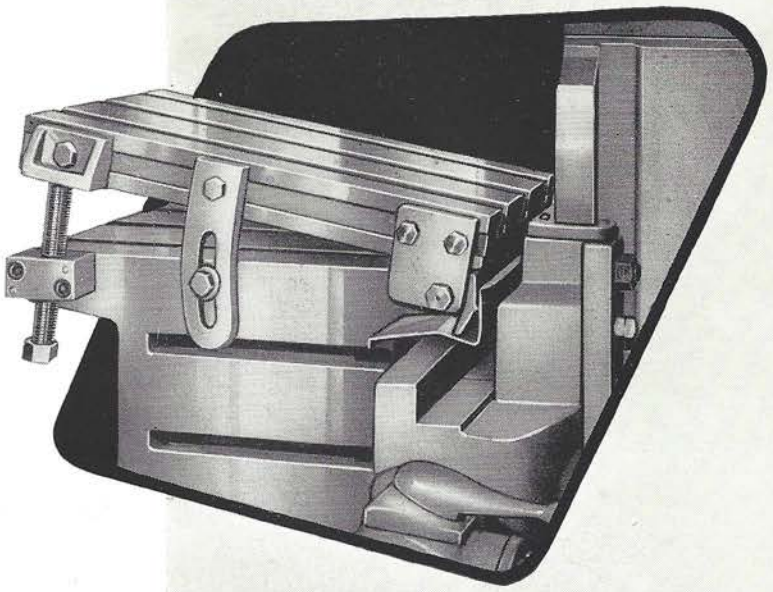
A convenient knob located on the left side of the ram permits engagement or disengagement of this accessory.

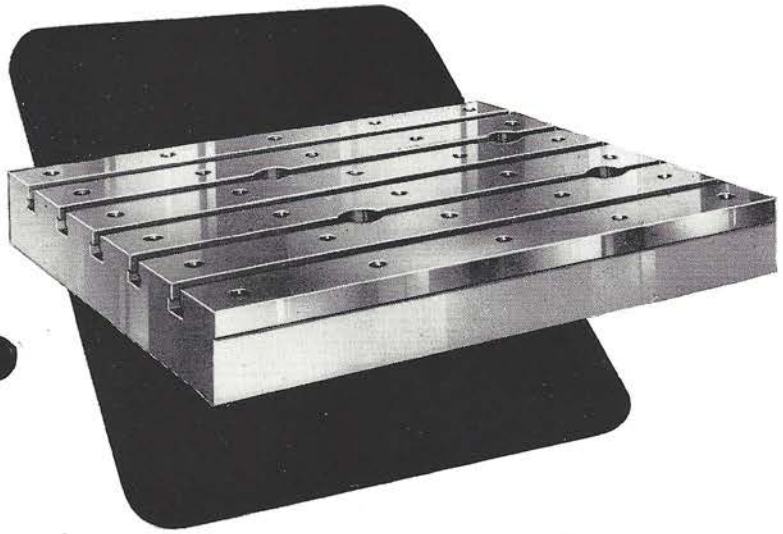
Down feed and concave feed do not operate simultaneously for when one is employed, the other must be disengaged.

TILTING TABLE TOP

An auxiliary tilting top is very desirable for performing limited angular work as it eliminates a great deal of set-up time necessary in blocking and clamping work pieces into proper position. For those who do not have use for a Universal table, the tilting table top is ideal as it may be used in conjunction with a Plain or Production type shaper.

The tilting table top is hinged to the regular table and may be raised or lowered by screws located at the front end of this table. Clamping screws are provided to hold it securely at the proper angle.





INDEX CENTERS

Centers are excellent for dividing operations required in splining, fluting, gear cutting and squaring of shafts. Two sizes are available. (See specifications.)

The base of the center is held to the work table by T-bolts and a fitted key insures proper alignment with the ram.

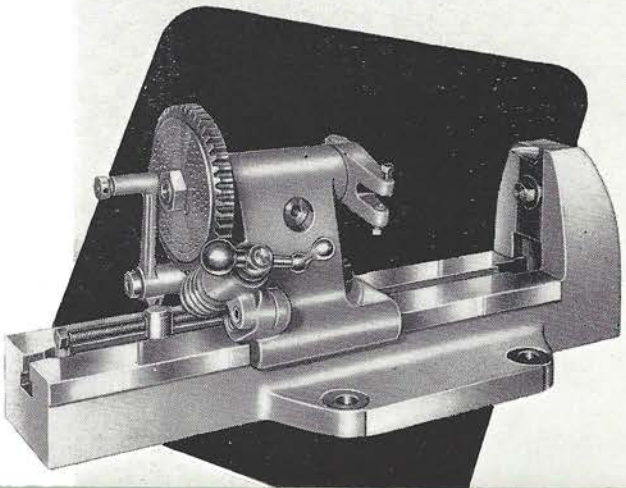
The dividing head support is securely locked by bolts which travel in the T-slot of the index center base. The adjustable center is operated by a ball crank.

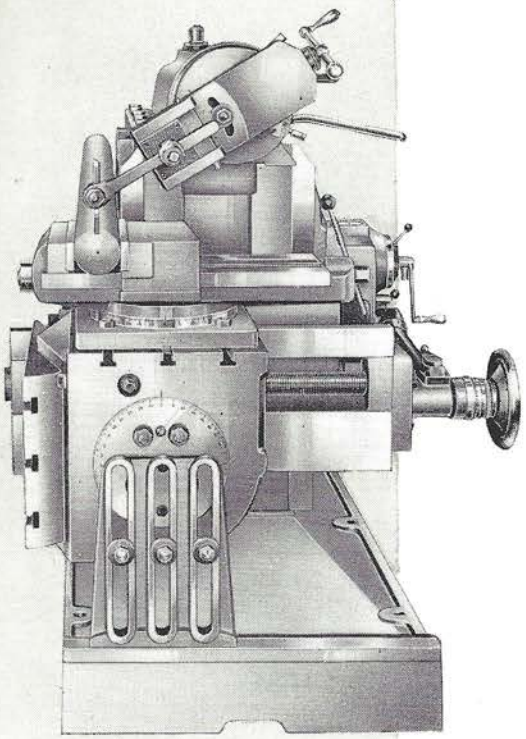
Each index center is equipped with an index plate containing four (4) circles of indexing devices of 30, 40, 44 and 50 holes which are engaged by a lock pin attached to the moveable head.

SUPPLEMENTARY TABLE

A supplementary or extension table can be mounted on the solid top of the Production table. It is held in place by four T-bolts through the T-slots of the table. Proper alignment with the ram is accomplished by a key in the underside of the supplementary table fitted to the center T-slot of the solid table.

All principal surfaces are precision ground. To facilitate clamping, reamed holes are provided on the lands between each of five T-slots contained in the table. Heavy ribbing on the underside of this accessory insures maximum rigidity in its use. It accommodates a wide range of work and makes possible the holding of large or more cumbersome work pieces which cannot be held in the vise or clamped to the regular table. Two sizes of this table are available. (See specifications).



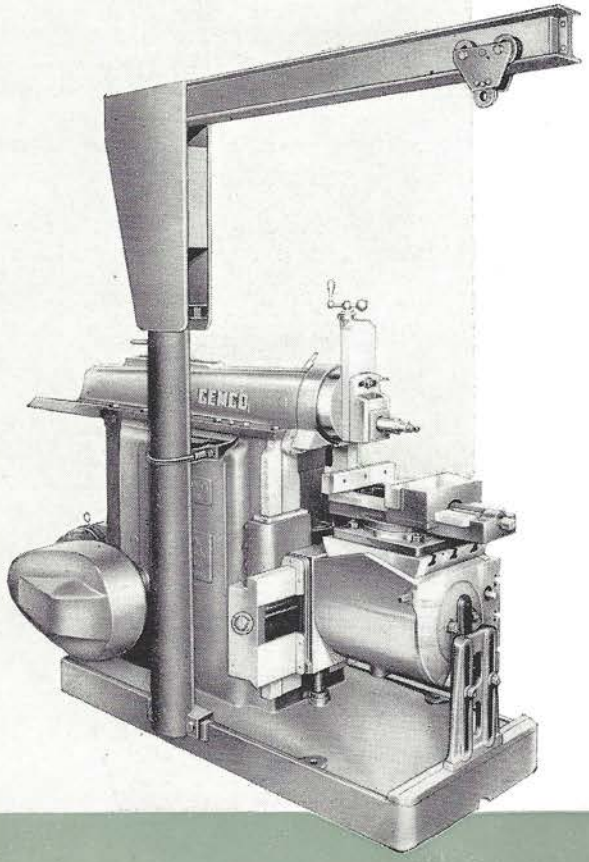


KEYSEATING

GEMCO Shapers omit the throat required to pass a shaft through the machine, employed to facilitate machining keyways in shafts. Both the rocker arm and the column are materially strengthened by this omission. A practical method for performing such machining is illustrated and this method has a decided advantage, since there is practically no limit to the size of shaft that can be machined.

POWER RAPID TRAVERSE

The power rapid traverse on GEMCO Shapers combine both horizontal and vertical power travel to the work table. This attachment is described more fully on the center spread.



JIB CRANE

A jib crane with a maximum capacity of 2,000 pounds is available for use with shapers, 24" heavy or larger. A trolley to which any standard chain block can be attached is furnished. (Discontinued)

Any accessories not herein illustrated, will be quoted upon special request.

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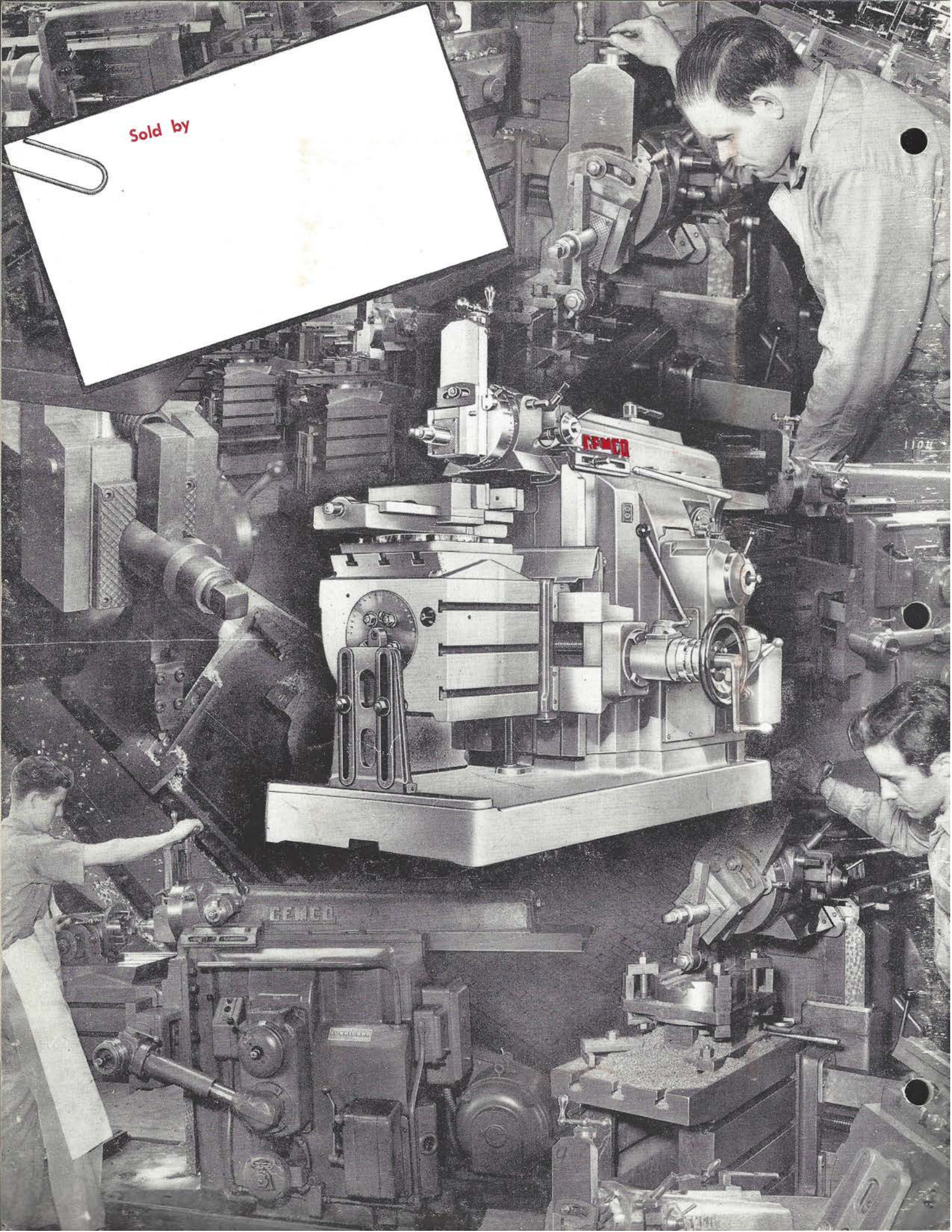
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