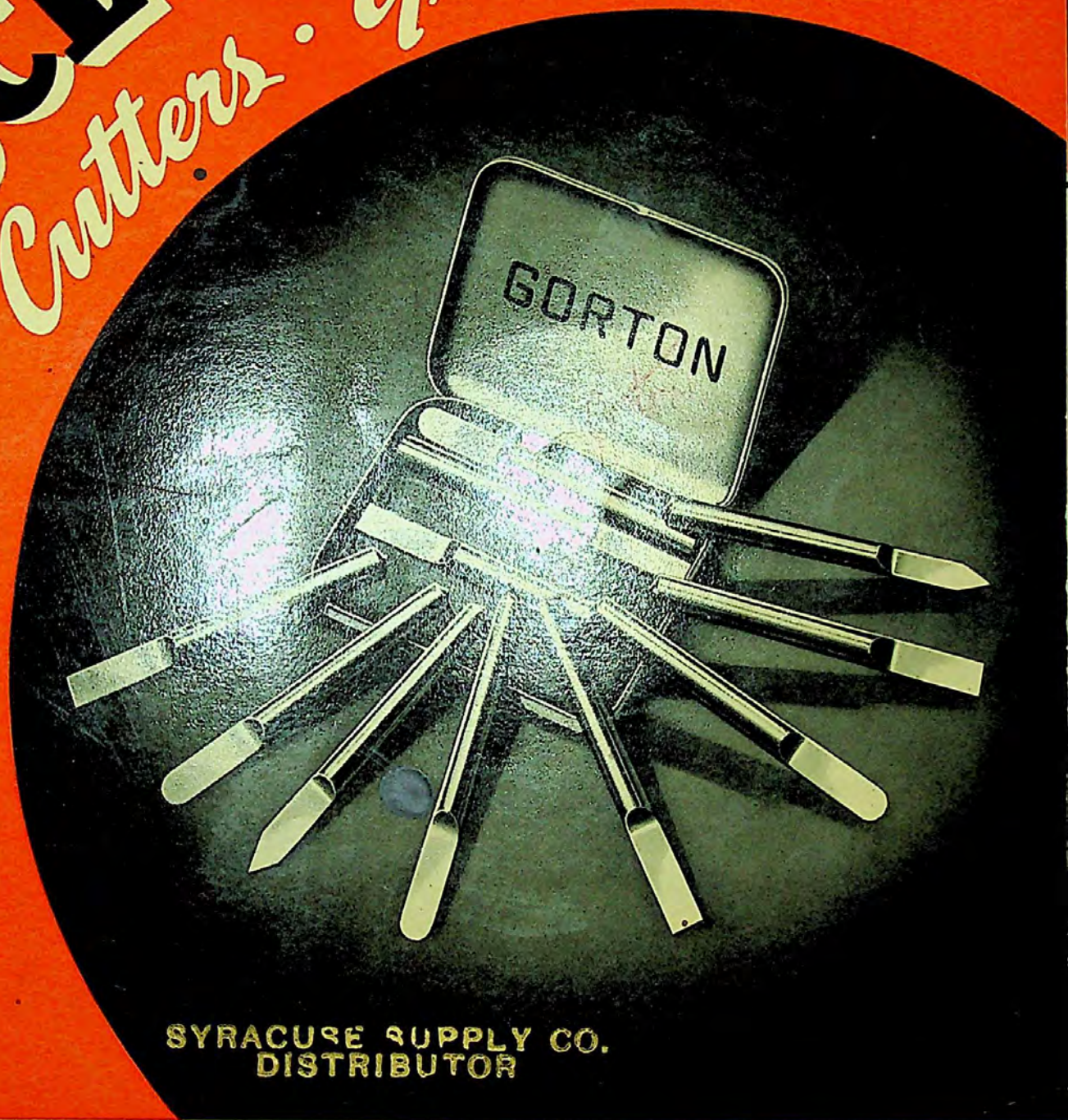


GORTON

#195

ACCESSORIES

cutters. Grinders



SYRACUSE SUPPLY CO.
DISTRIBUTOR

GEORGE **GORTON** MACHINE CO.

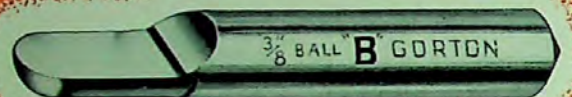
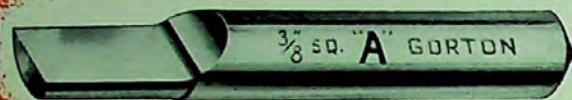
RACINE, WISCONSIN, U. S. A.

CATALOG 1317-E

GORTON Cutters

SINGLE FLUTE . . . STRAIGHT SHANK SUPER HIGH-SPEED STEEL

SUPER SPEED



FOR DIE AND MOLD WORK . . . on all high speed spindle milling machines and milling heads.

These GORTON **SUPER SPEED** End Mills are especially designed for use on GORTON Super-Speed Millers, Duplicators, and Pantographs; Kellers, Pratt & Whitney Die Sinkers and Profilers; Kearney & Trecker Rotary Die Millers; Reed-Prentice and Taylor-Fenn Vertical Mills; and Bridgeport, Ekland and Dalrae Milling Heads. We recommend their use on the above machines because of greater strength, higher speeds without burning, ease of regrinding to other shapes, easily resharpened, accurate to—.0005". These advantages, plus low initial cost and small breakage loss, result in savings of 50% to 75% over conventional cutter types. In ordering, give the number and add letter designating style desired—

"A" Square Nose, "B" Ball Nose, "C" Conical.

| No. | Dia. | Length of Cut | Whole Length | Price "A" Square Nose | Price "B" Ball Nose | Price "C" Conical |
|-----|-------|---------------|--------------|-----------------------|---------------------|-------------------|
| 100 | 1/10" | 3/8" | 1 1/2" | \$1.16 | \$1.32 | \$1.32 |
| 125 | 3/8" | 3/16" | 1 1/2" | 1.27 | 1.43 | 1.43 |
| 156 | 3/16" | 1/4" | 1 3/4" | 1.32 | 1.49 | 1.49 |
| 187 | 3/16" | 3/16" | 2" | 1.43 | 1.54 | 1.54 |
| 250 | 1/4" | 3/16" | 2 1/4" | 1.49 | 1.60 | 1.60 |
| 312 | 3/16" | 3/16" | 2 3/8" | 1.54 | 1.65 | 1.65 |
| 375 | 3/8" | 3/16" | 2 1/2" | 1.82 | 1.98 | 1.98 |
| 437 | 3/16" | 3/16" | 2 1/2" | 1.98 | 2.15 | 2.15 |
| 500 | 1/2" | 3/16" | 2 1/2" | 2.09 | 2.26 | 2.26 |

* Unless otherwise specified, conical cutters will be ground to 60° included angle with proper chip clearance. Other angles ground on request; specify **INCLUDED ANGLE** desired and width of tip.



TWO AND FOUR FLUTE MILLS

GORTON **SUPER SPEED** 2-Flute Short Type Medium Spiral Cutters provide great strength with smooth bottom cut. They are good for roughing, slotting, etc., and are preferred for some types of die and mold work. Experience shows that longer lengths than those listed cause excessive breakage.

Style "F" 4-Flute Fast Spiral Mill is unexcelled for side milling (profiling contours, etc.). The fast spiral provides continuous tooth contact, reducing chatter and breakage. Faster feeds are possible because the hollow ground teeth eject chips without clogging. Right hand spiral carries chips up from work, producing very smooth bottom cut. Shanks on all Style "F" cutters have flats for set screws.

In ordering, give the number and add letter designating style— as "D" Square Nose, "E" Ball Nose, "F" 4-Flute.

| No. | Shank & Cutter Dia. | Lgth. of Cut | Over-all Lgth. | Price "D" | Price "E" | Lgth. of Cut | Over-all Lgth. | Price "F" |
|-------|---------------------|--------------|----------------|-----------|-----------|--------------|----------------|-----------|
| 1250 | 3/8" | 3/8" | 1 1/4" | \$2.20 | \$2.42 | 3/8" | 2 1/16" | \$1.93 |
| 1562 | 3/16" | 3/8" | 1 3/8" | 2.20 | 2.42 | 3/8" | 2 1/16" | 1.93 |
| 1875 | 3/16" | 3/8" | 1 1/2" | 2.20 | 2.42 | 1/2" | 2 3/8" | 1.93 |
| 2500 | 1/4" | 1" | 1 3/8" | 2.20 | 2.42 | 3/8" | 2 1/2" | 1.93 |
| 3125 | 3/16" | 1" | 1 3/8" | 2.20 | 2.42 | 3/4" | 2 1/2" | 1.93 |
| 3750 | 3/8" | 1" | 2" | 2.31 | 2.53 | 3/4" | 2 1/2" | 1.93 |
| 4375 | 3/16" | 1 1/8" | 2 1/8" | 2.53 | 2.75 | 1" | 2 1/16" | 2.20 |
| 5000 | 1/2" | 1 1/8" | 2 1/8" | 2.97 | 3.19 | 1 1/4" | 3 1/4" | 2.48 |
| 6250 | 3/8" | 1 1/8" | 2 3/8" | 3.25 | 3.47 | 1 3/8" | 3 3/4" | 3.14 |
| 7500 | 3/4" † | 1 1/2" | 2 7/8" | 3.47 | 3.74 | 1 3/8" | 3 3/4" | 3.47 |
| 8750 | 3/8" | 1 3/4" | 3 3/8" | 4.07 | 4.35 | 1 3/8" | 4 1/8" | 4.18 |
| 1.000 | 1" | 2" | 3 3/4" | 4.62 | 4.84 | 2" | 4 1/2" | 4.84 |

Style "F" in sizes marked * have 3/8" shanks; † has 5/8" shank. All sizes are right-hand spiral right-hand cut.

DOUBLE END MILLS

2- and 4-Flute, High-Speed Steel

These are GORTON SUPER-SPEED all square nose, fast spiral, hollow flute mills with shanks flatted for set screws. These mills must be held in holders or chucks. (They are too long for holding in GORTON Collets.) In ordering, give number and letter, such as: "G" 2-flute, "H" 4-flute.

| "G" 2-flute—double end | | | | | "H" 4-flute—double end | | | | |
|------------------------|--------------|---------------|--------------|----------------|------------------------|---------------|--------------|----------------|--------|
| No. | Dia. of Mill | Dia. of Shank | Lgth. of Cut | Over-all Lgth. | Price | Dia. of Shank | Lgth. of Cut | Over-all Lgth. | Price |
| 12 | 1/8" | 3/8" | 3/8" | 3" | \$3.03 | 3/8" | 3/8" | 3 1/8" | \$3.03 |
| 15 | 3/32" | 3/8" | 7/16" | 3" | 3.03 | 3/8" | 7/16" | 3 1/8" | 3.03 |
| 18 | 3/16" | 3/8" | 7/16" | 3" | 3.03 | 3/8" | 1/2" | 3 1/8" | 3.03 |
| 25 | 1/4" | 3/8" | 1/2" | 3" | 3.03 | 3/8" | 5/8" | 3 3/8" | 3.03 |
| 31 | 3/16" | 3/8" | 3/16" | 3" | 3.03 | 3/8" | 3/4" | 3 3/8" | 3.03 |
| 37 | 3/8" | 3/8" | 3/16" | 3" | 3.03 | 3/8" | 3/4" | 3 3/8" | 3.03 |
| 43 | 7/16" | 1/2" | 13/16" | 3 3/8" | 3.85 | 1/2" | 1" | 4 1/4" | 3.85 |
| 50 | 1/2" | 1/2" | 13/16" | 3 3/8" | 3.85 | 1/2" | 1" | 4 1/4" | 3.85 |
| 62 | 5/8" | 5/8" | 1 1/8" | 4 1/2" | 4.73 | 5/8" | 1 3/8" | 5" | 4.73 |
| 75 | 3/4" | 3/4" | 1 1/8" | 5" | 4.73 | 3/4" | 1 5/8" | 5 5/8" | 4.73 |
| 87 | 7/8" | 7/8" | 1 1/8" | 5 1/2" | 6.88 | 7/8" | 1 3/8" | 6 1/4" | 6.88 |
| 10 | 1" | 1" | 1 3/8" | 5 3/8" | 7.88 | 1" | 1 3/8" | 6 1/2" | 7.98 |



SUPER SPEED
 REG. U.S. PAT. OFF.



PACKAGED GORTON CUTTERS

(Box of Six—One Size)

Identical with those shown and described on page 2 and above. In ordering, be sure to give the size and style desired.

See Discount Sheet for Packaged Discounts.

| SIZES | SINGLE FLUTE | | | 2 FLUTE | | 4 FLUTE AND DOUBLE END | | |
|-------|--------------|---------|---------|---------|---------|------------------------|---------|---------|
| | "A" | "B" | "C" | "D" | "E" | "F" | "G" | "H" |
| 1/16" | \$ 6.93 | \$ 7.98 | \$ 7.98 | | | | | |
| 1/8" | 7.65 | 8.69 | 8.69 | \$13.53 | \$14.91 | \$11.55 | \$18.15 | \$18.15 |
| 3/32" | 7.98 | 9.02 | 9.02 | 13.53 | 14.91 | 11.55 | 18.15 | 18.15 |
| 1/16" | 8.64 | 9.35 | 9.35 | 13.53 | 14.91 | 11.55 | 18.15 | 18.15 |
| 1/4" | 9.02 | 9.68 | 9.68 | 13.53 | 14.91 | 11.55 | 18.15 | 18.15 |
| 3/8" | 9.35 | 10.07 | 10.07 | 13.53 | 14.91 | 11.55 | 18.15 | 18.15 |
| 1/2" | 10.73 | 11.77 | 11.77 | 13.86 | 15.24 | 11.55 | 18.15 | 18.15 |
| 3/4" | 11.77 | 12.82 | 12.82 | 15.24 | 16.67 | SIZE AND PRICE | | |
| 1" | 12.49 | 13.53 | 13.53 | 17.60 | 19.09 | (BOX OF 6) | | |



DISCOUNT SHEET

This sheet should be placed at the bottom of page 3 of the GORTON ACCESSORIES Catalog.

Prices F. O. B. Racine — in accord with OPA Schedule of October 1, 1941.

| PAGE | DESCRIPTION | Discount Single Cutters | Discount Packaged Cutters | |
|--|---------------------------------------|-------------------------|---------------------------|--------|
| 2 and 3 | Single Flute Cutters..... | 30% | 35% | |
| 2 and 3 | 2 Flute Cutters..... | 25% | 30% | |
| 2 and 3 | 4 Flute Cutters..... | 20% | 20% | |
| 3 | Double End Mills..... | 20% | 20% | |
| 4 | Hardened and Ex. Long Cutter Blanks.. | | 30% | |
| 5 | GORTON Taper Shank Cutters..... | | 30% | |
| TUNGSTEN CARBIDE TIPPED CUTTERS QUANTITY SCHEDULE | | | | |
| 4 | Dia. | 2-4 | 5-9 | 10-24 |
| | 1/16" | \$4.04 | \$3.05 | \$2.86 |
| | 3/32" | 4.62 | 3.41 | 2.97 |
| | 1/8" | 6.36 | 5.45 | 4.95 |
| | 3/16" | 6.99 | 6.44 | 6.27 |
| | 1/4" | 7.59 | 6.16 | 5.61 |
| | | NET | NET | |
| SHARPENED TUNGSTEN CARBIDE RODS — QUANTITY SCHEDULE | | | | |
| 4 | Dia. | 2-4 | 5-9 | 10-24 |
| | 1/16" | \$5.07 | \$4.02 | \$3.73 |
| | 3/32" | 5.49 | 4.35 | 3.80 |
| | 1/8" | 5.97 | 4.86 | 4.14 |
| | 3/16" | 7.05 | 5.62 | 4.91 |
| | 1/4" | | | |
| | | NET | NET | |

- 1

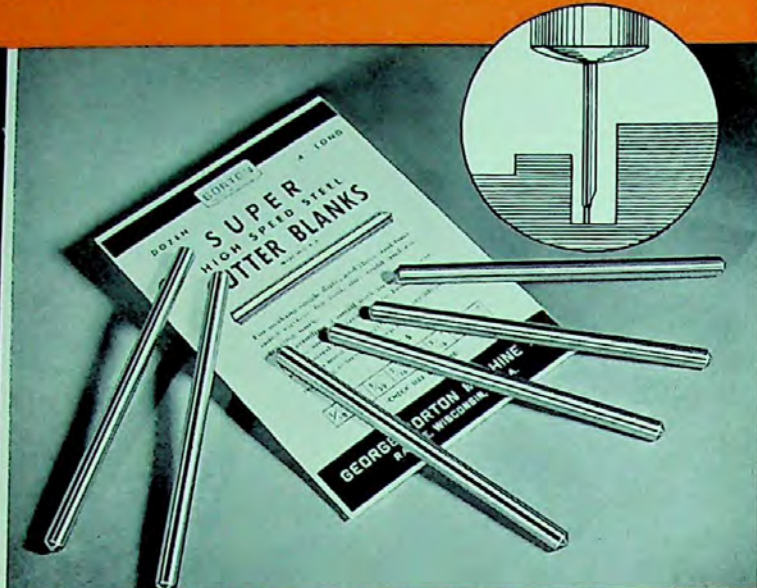
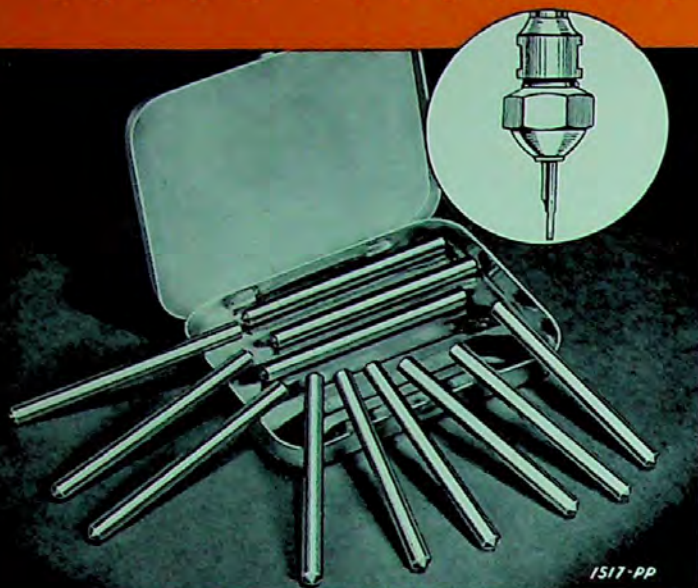
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All Other Prices in this Catalog are NET

Form 1317-Ee

SUPER HIGH-SPEED STEEL BLANKS



1S17-PP

HARDENED CUTTER BLANKS

Hardened cutter blanks, short length are used in any spring collet. The two smallest diameters 1/8" and 1/10" are ideally suited for use in Gorton Midget chucks shown on page 6. Body diameters are ground and are accurate to minus .0005". Their use is most economical because they are convenient on small, delicate work, and can easily be resharpened to any desired shape.

High Speed Steel Body dia. ground

High Speed Steel Body dia. ground

| Code word for 1 box (12 cutters) | Size | Price |
|----------------------------------|--------------|--------|
| MYOPATHY | 1/10"x1 1/2" | \$2.64 |
| MYRIORAMA | 3/16"x1 1/2" | 2.70 |

| Code word for 1 box (12 cutters) | Size | Price |
|----------------------------------|--------------|--------|
| YADYO | 5/32"x1 3/4" | \$2.86 |
| YAEBS | 3/16"x1 3/4" | 3.19 |

SUPER HIGH-SPEED STEEL... EXTRA LONG BLANKS

For work in deep cavities. Accurate to minus .0005", these long, hardened cutter blanks of high speed steel are indispensable. They may be used with any spring collet. By grinding notches in these blanks, the smaller sizes may be broken off to any desired length. These blanks are ground on the O. D. and ends have point centers. Packed in envelopes containing six blanks; not sold in smaller quantities.

| Code word for six blanks | Size | Price |
|--------------------------|----------|--------|
| TERTENANT | 1/10"x4" | \$2.37 |
| TERTULIO | 3/16"x4" | 2.64 |
| TERUNCIOUS | 5/16"x4" | 3.30 |
| TERZAVATE | 3/8"x4" | 3.52 |

| Code word for six blanks | Size | Price |
|--------------------------|----------|--------|
| TESAURERO | 1/4"x4" | \$3.96 |
| WYZOD | 5/16"x4" | 4.95 |
| WYZUF | 3/8"x4" | 5.67 |
| WYZZA | 1/2"x4" | 7.59 |

SHARPENED CUTTER BLANKS



SUPER High Speed Steel—1/10" or 1/8" diam. Shanks Only
(Use Code Word for 1/10" Shank—For 1/8" Shank add letter "X")

Same as short type blanks listed above, but with points sharpened on both ends to dimensions on chart below. In ordering, state whether high speed or special carbon steel is wanted, also shank diameter. Packed in box containing six cutters only . . . any size points; assorted if desired.

NET PRICE: Six cutters, high speed steel \$6.60

DIAMOND POINT CUTTERS



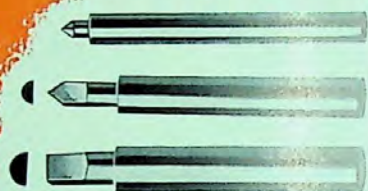
With GORTON Taper Shanks

No. 409-1 for marking hardened steel, glass, etc. Has standard GORTON Taper Shank. Diamond has six flats; point is 120 degrees included angle. Will take a cut .003" to .005" deep in hardened steel. Code Word MULIEBRITY. PRICE. \$31.35

No. 410-1—Same size and style as above, but with longer, more delicate point. Diamond has three flats. Point is 90 degrees included angle. Specially suited for bakelite and fibrous materials. Must NOT be used on steel. Code Word MULINAVA. PRICE. \$31.35

TUNGSTEN CARBIDE TIPPED CUTTERS

These are straight shank drill rods with pressed-in Tungsten Carbide tips. They are ideal for production work on abrasive materials such as bakelite, rubber, fibre, etc., as they can be operated at higher speeds with from 10 to 50 times the life of high speed steel. Overall length 2 1/4". When ordering, state whether square nose, conical, or 3- or 4-fluted tip is wanted. These cutters furnished ground to any angle desired with proper width of tip, if any, and the cutting edge diamond lapped.



Specify style of points.

| Code Word | Dia. of Tip | Dia. of Shank | Price* |
|-----------|-------------|---------------|--------|
| WYUTZ | 1/8" | 1/4" | \$4.62 |
| WYUVB | 3/16" | 1/4" | 5.61 |
| WYUXD | 3/16" | 5/16" | 8.15 |
| WYVAV | 1/8" | 3/8" | 8.15 |
| WYVIX | 1/4" | 3/8" | 9.14 |

TUNGSTEN CARBIDE BLANKS

Furnished in the four sizes listed, these rods are for the same types of work as described above. They are sharpened to suit the needs of the purchaser, and upon his direction. They may be ground to any angle desired with proper width of tip, if any, and the cutting edge diamond lapped. These blanks may be used with any straight shank collet.



Specify style of points.

| Code Word | Dia. | Length | Price* |
|-----------|-------|--------|--------|
| WYZAZ | 1/8" | 1" | \$6.16 |
| WYZBE | 5/16" | 1" | 6.66 |
| WYZDO | 3/16" | 1" | 7.22 |
| WYZEB | 1/4" | 1" | 8.48 |

*Prices include sharpening. See discount sheet for quantity price schedule.



SQUARE NOSE DRILL ROD CUTTERS

THESE CUTTERS WILL PRODUCE SQUARE BOTTOM AND GROOVES OF WIDTHS AS PER BELOW DIAMETERS THESE CUTTERS FIT NO. 21-1 COLLET AND ARE MADE TO ORDER PROMPTLY

| Piece Number | Cutter Point Dia. | Code word for six Cutters | Piece Number | Cutter Point Dia. | Code word for six Cutters |
|--------------|-------------------|---------------------------|--------------|-------------------|---------------------------|
| 1016-B | .015" | MUNONERA | 1016-L | .060" | MURUCUYA |
| 1016-C | .020" | MUNUSCOLI | 1016-M | .065" | MUSCHIOSO |
| 1016-D | .025" | MURADOR | 1016-N | .070" | MUSCIPULA |
| 1016-E | .030" | MURAGLIONE | 1016-P | .075" | MUSCOLETTO |
| 1016-F | .035" | MURAMENTO | 1016-R | .080" | MUSCOLINO |
| 1016-G | .040" | MURCHARAS | 1016-S | .085" | MUSCOSITY |
| 1016-H | .045" | MURCIANA | 1016-T | .090" | MUSEROLLE |
| 1016-J | .050" | MUREXIDES | 1016-U | .095" | MUSOLIERA |
| 1016-K | .055" | MURICINO | 1016-V | .100" | MUSTARIUS |

GORTON TAPER SHANK SINGLE FLUTE CUTTERS

Patent 1,935,555

For GORTON Pantograph Machines

Durable and Strong . . . Exceptional Performance . . . Low Cost Per Grind

The long flute assures maximum life and its uniform section insures even temperature conditions during heat treatment, reducing the risk of cracks and flaws.

Because there is no shoulder, cutter enters spindle far enough to insure a tight fit even in badly worn spindle. Flats are accurately ground to center, with approximately .002" of stock left above center to insure any amount of clearance desired; taper shank held to limits of $\pm .0005"$. Points are left blank for grinding to any desired shape. Packed in sealed metal boxes with hinged cover and corrugated bottom; six cutters to a box, one size only.

SUPER HIGH SPEED STEEL CUTTERS—6 in Red Label Box

| 6 Cutters Size No. | Diameter at Points | Length | Code Word | Price |
|--------------------|--------------------|-------------------|------------|--------|
| 1 | .10" | 1 $\frac{1}{2}$ " | VERANIA | \$9.08 |
| 2 | .15" | 1 $\frac{3}{4}$ " | VERBIGENUS | 9.08 |
| 3 | .24" | 1 $\frac{3}{4}$ " | VERCELLAE | 9.08 |

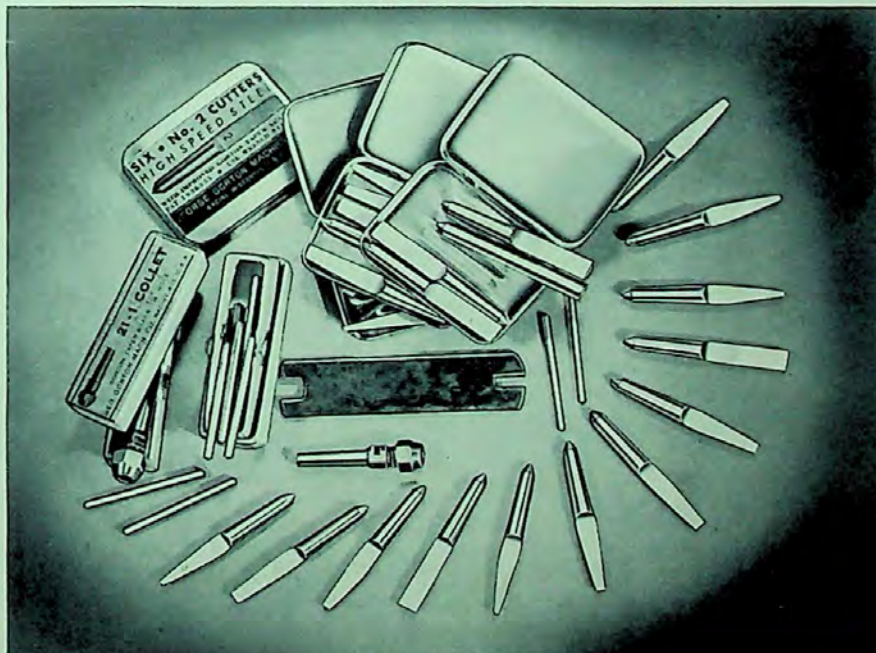
QUARTER ROUND TAPER SHANK CUTTERS (sometimes known as 90 degree cutters) High Speed steel only. Code Word YAELD. PRICE per box of six . . . \$11.28

SHARPENED GORTON TAPER SHANK CUTTERS can be furnished with points sharpened and having proper chip clearance. In ordering, be sure to specify width of tip, if any, also included angle desired. When no angle is specified, cutters will be ground to conical point of 60 degrees included angle, with proper chip clearance. State material to be cut.

PRICE for sharpening only, box of six cutters . . . \$1.43
Sharpening single cutters . . . \$.61

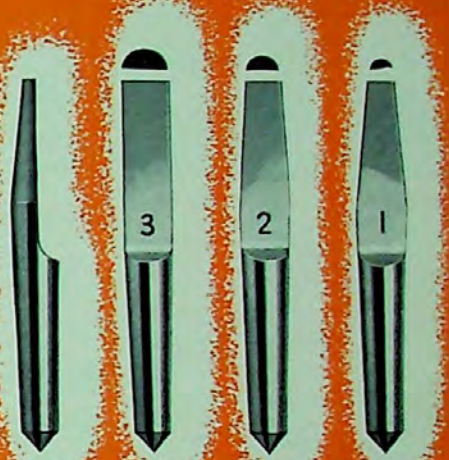
CUTTER WRENCH 8489-A is used with all GORTON Taper Shank Cutters. It has opening .27" and $\frac{1}{8}"$ for these cutters as well as for 21-1 and 21-2 Midget Chucks and Diamond Point Cutters. Code Word, VERMIEJO.

PRICE for extra wrenches, each . . . \$0.28



DIAMETERS AT POINTS

.24" .15" .10"



SUPER SPEED



ENGRAVER'S CUTTER SETS

(Shown at left)

Set 710-1—A complete assortment of cutters and small accessories for use with GORTON Pantograph Machines having GORTON Taper Shank Spindles is included in Engraver's Set 710-1. It is highly useful in all engraving work as well as for small work of various kinds.

This set consists of six each of GORTON Taper Shank Cutters, sizes 1, 2, and 3 in metal boxes; 24 cutters in all. Twelve each $\frac{1}{10}"$ and $\frac{1}{8}"$ diameter high speed steel cutter blanks; 24 blanks in all. One 21-1 Midget Chuck with GORTON Taper Shank, one 21-2 Midget Chuck with GORTON Taper Shank, and one cutter wrench 8489-A. Code Word WUZRE.
PRICE for complete set . . . \$32.40

Set 799-1 Same as above, but with 22-3 and 22-4 Midget Chucks having $\frac{3}{8}"$ straight shanks to fit any collet. Specially useful with all GORTON Duplicators, 3-2, 3-L, and 3-S Pantograph Machines and all high speed spindle machines and heads listed at top of page 2. Also includes Collet Adapter Bushing 6141-A with GORTON Taper hole and $\frac{3}{8}"$ O. D. Code Word YAARJ.
PRICE for complete set . . . \$34.10

Set 801-1—Same as Set 799-1, except Midget Chucks 22-5 and 22-6 and taper collet bushing have $\frac{1}{8}"$ shanks. For 3-F, 3-U, and 3-B Pantograph machines having collet type spindle. Code Word YADDOY. PRICE . . . \$34.10

GROUND TOOTH MILLS

High Speed Steel . . . Straight Shank

Ground from the solid after hardening, not file cut. These mills are a new type of shallow multi-tooth cutter, just as accurate, sharp, and true as milling cutters. (For other types, see page 2.) These mills are especially useful for finishing cuts with GORTON Duplicators or Pantograph Machines when working from stone composition models. The multiple teeth bite into the work with less pressure applied to tracer against model, and the continuous tooth contact greatly reduces wear of tracer against model.

Although especially adapted to smooth finishing of cast-iron mold and pattern work, these burrs are also useful for finishing steel dies and molds. All tools have 1/4" diameter shanks and measure 2 1/2" overall. Furnished in either Square or Ball nose. Square nose burrs regularly furnished without end cut . . . with end cut at slight extra cost. Order by letters.



1517-L

| Square Nose | Price | Ball Nose | Price | Cutter Dia. | Length of Cut |
|-------------|--------|-----------|--------|-------------|---------------|
| SA | \$1.54 | BA | \$1.60 | 1/8" | 1/2" |
| SB | 1.60 | BB | 1.71 | 3/16" | 1/2" |
| SC | 2.09 | BC | 2.15 | 1/4" | 1" |
| SD | 2.37 | BD | 2.42 | 5/16" | 1" |
| SE | 2.70 | BE | 2.75 | 3/8" | 1" |
| SG | 3.30 | BG | 3.41 | 1/2" | 1" |

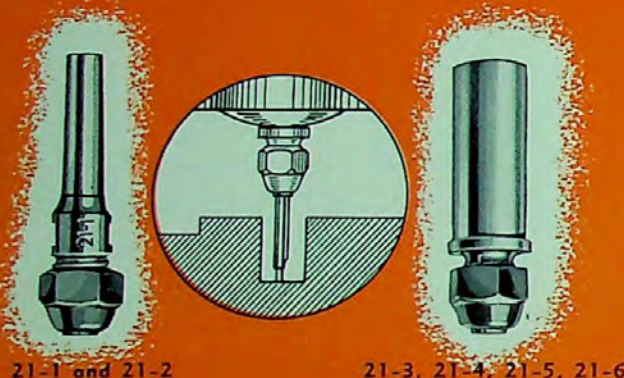
GORTON MIDGET CHUCKS

For Delicate Milling and Engraving

For holding 1/10" and 1/8" dia. cutter blanks listed on page 4. Blanks must be ground in place in the chuck to secure a perfectly true running cutter. These midget chucks have hardened nut, tempered body, and ground shank. Hole goes all the way through shank. The 1/8" dia. and 3/8" dia. straight shank chucks fit all spring collets and are indispensable for delicate milling and engraving in any machine as they provide sufficient extension for good visibility of work. (See cut at left, also top of page 4.)

| Chuck No. | Shank | Hole Diam. | Code Word | |
|-----------|--------------|------------|-----------|---|
| 21-1 | Gorton Taper | 1/10" | MOCETONAS | For all Gorton Pantograph Machines having Gorton taper shank spindle hole. |
| 21-2 | Gorton Taper | 1/8" | MONDIGLIA | |
| 21-5 | 3/16" Dia. | 1/10" | YADUZ | For all spring collets and Gorton 3-B, 3-F, 3-U Pantograph Machines with collet spindle nose. |
| 21-6 | 3/16" Dia. | 1/8" | YADVE | |
| 21-3 | 3/8" Dia. | 1/10" | VESAGUS | For all spring collets and Gorton 3-H, 3-S, 3-L, 3-X, 3-Z Pantograph Machines. |
| 21-4 | 3/8" Dia. | 1/8" | VESBIUS | |

PRICE, each \$2.90



21-1 and 21-2

21-3, 21-4, 21-5, 21-6

COLLET BUSHINGS

For Pantograph Machines

3/8" or 3/16" diameter body, slotted, with straight holes from 1/10" to 3/16" diameter for use in 3/8" and 3/16" spindle hole or collet.

| Hole Diam. | 3/16" Shank Numbers | 3/8" Shank Numbers | Hole Diam. | 3/16" Shank Numbers | 3/8" Shank Numbers |
|------------|---------------------|--------------------|------------|---------------------|--------------------|
| 1/10" | 9619-A | 10295-A | 2/10" | 9619-E* | 10295-E* |
| 1/8" | 9619-B | 10295-B | 7/32" | 9619-F | 10295-F |
| 5/32" | 9619-C | 10295-C | 1/4" | 9619-G | 10295-G |
| 3/16" | 9619-D | 10295-D | 5/16" | | 10295-H |

Collet bushings 9381 (3/8") and 6141-A (3/16") same as above, but solid with hole for Gorton taper shank cutters and tools.

*For adapting 2/10" tracing styles and grinding 2/10" styles in spring collets.

PRICE each for all bushings listed \$2.31

DRILL CHUCKS 420-1 AND 397-1

For Milling Machines and Duplicators — Models 8-D

(For Larger Models 8 1/2-D and 9-J, See Bottom Page 8)

Jacobs chucks in sizes 0"-1/4" and 0"-3/8", for use with 8-D machines. Fitted with special hardened and ground arbors interchangeable with standard GORTON Spring Collets. Complete with wrench.

| Specify on Order: | | Capacity | Code Word | Price |
|-------------------|------------|------------|------------|---------|
| Gorton No. | Jacobs No. | | | |
| 420-1 | 7 | 0" to 1/4" | YAASK | \$ 7.54 |
| 420-1 | 32 | 0" to 3/8" | TETRANDRIA | 11.88 |
| 694-1 | 34 | 0" to 1/2" | YAMIG | 13.35 |

For Pantograph Engraving Machines

397-1 — Jacobs No. O, Capacity 0" to 1/8", with special GORTON Taper Shank for Pantograph machines. Code, HUMBIRD. Price, \$9.41



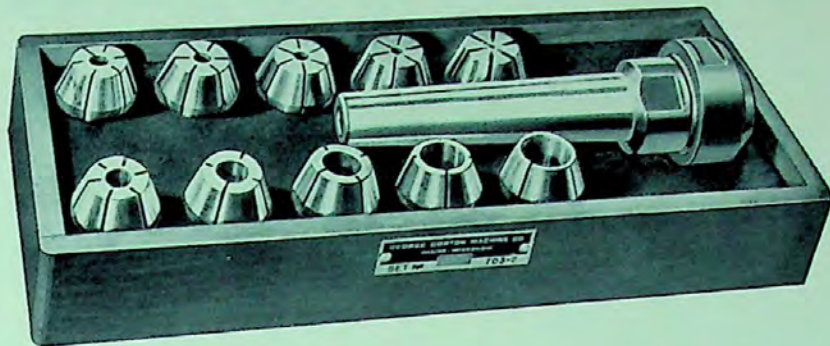
420-1



397-1

CHUCKS AND COLLETS

FOR DUPLICATORS AND MILLING MACHINES



COMPLETE SET IN BOX

These collet chucks are precision made and embody the latest design features, including hardened and ground threads and convenient wrench flats on the shanks. Strongly made of alloy steel, they are heat-treated and ground inside and out. Nuts are hardened and ground; nuts and collets are identical for both sizes listed. Collets are also ground.

Chuck 703-2 for 8½-D has No. 9 B&S shank tapped ½" 13-R.H. to fit standard draw bar. Complete with wrench and 10 collets listed at right. Code Word, WYNP, shipping weight 17 lbs. PRICE \$66.00

Same as above, with one collet only. Code Word WYERS, shipping weight 13 lbs. PRICE \$24.20

Chuck 471-2 for 9-J has No. 10 B&S shank tapped ⅝" 11-R.H. to fit standard draw bar. Complete with wrench and 10 collets listed at right. Code Word WYEWY, shipping weight 18 lbs. PRICE \$68.20

Same as above, with one collet only. Code Word WYEZB, shipping weight 14 lbs. PRICE \$26.40

746-2 for 8½-D with No. 3 Morse Taper complete with wrench and 9 bushings in M.M. Code Word YACSA, shipping weight 17 lbs. PRICE \$66.00

724-2 for 9-J with No. 4 Morse Taper complete with wrench and 8 bushings in M.M. Code Word YACTE, shipping weight 18 lbs. PRICE \$68.20

END MILL HOLDERS — For Single or Double End Mills

Holders will take both single end and double end mills. Set screw rests tightly against flats provided on shanks of 4-flute and double end mills, preventing cutters from pulling down.

| | Size | Code Word | Price |
|--|------|-----------|--------|
| No. 9 B & S Shank Holders Tapped ½" 13 R. H. | ⅜" | YAADT | \$6.11 |
| | ½" | YAAHY | 6.11 |
| | ⅝" | YAALC | 6.11 |
| | ¾" | YAALT | 7.15 |
| | ⅞" | YAAWN | 7.70 |
| | 1" | YABSE | 9.08 |

| | Size | Code Word | Price |
|---|------|-----------|--------|
| No. 10 B & S Shank Holders Tapped ⅝" 11 R. H. | ⅜" | YABAR | \$6.33 |
| | ½" | YABIT | 6.60 |
| | ⅝" | YABOJ | 6.88 |
| | ¾" | YAAMD | 7.15 |
| | ⅞" | YAANF | 7.70 |
| | 1" | YABVO | 9.08 |

B & S TAPER COLLETS — Special Threads

| For Machine | B&S Outside Taper | B&S Inside Taper | Threaded | Code Word |
|-------------|-------------------|------------------|----------|------------|
| 8-D | 7 | 4 | ⅜-16-RH | TIRAFUNDO |
| 8-D | 7 | 5 | ⅜-16-RH | TIRAMIRA |
| 8½-D | 9 | 7 | ½-13-RH | WYDHO |
| 9-J | 10 | 7 | ⅝-11-RH | TIRANNELLO |

All tools fitting these collet holes must have tang for removal. No. 7 outside taper collets are interchangeable with B & S spring collets. PRICE, each..... \$9.24

GORTON SPRING COLLET ADAPTERS

Complete with special draw-bar, for adapting GORTON Spring Collets to millers and duplicators. Hardened and ground inside and out. Standard equipment with above machines.

Adapter 702-1 has No. 9 B & S shank. Code Word ZIMBELLARE, PRICE, each... \$15.02

Adapter 472-1 has No. 10 B & S shank. Code Word TINTAMAR, PRICE, each... \$16.17

GORTON SPRING COLLET 6985 (Patent 1,889,653)

Alloy steel, hardened and ground. Exclusive design provides three driving flats, bearing against hardened pins in spindle or adapter, and larger taper bearing to resist severe side strains without oscillating. Used with the spring collet adapters listed above, these collets provide means for holding the low-cost GORTON Single Flute Cutters and End Mills close to the spindle nose, insuring greater accuracy. Included as standard equipment with all millers and duplicators. PRICE, each \$5.78 Intermediate and metric sizes, each... \$6.38

| Code Word | Sizes Hole Dia. | Code Word | Sizes Hole Dia. |
|-----------|-----------------|------------|-----------------|
| WYDUJ | 1/10" | TOPIARIA | 1/4" |
| WYEGH | 1/16" | TOPOLINO | 3/8" |
| TONSORIUM | 1/8" | TORACULUM | 3/8" |
| TONTISIMO | 5/32" | TORBIDARE | 7/8" |
| TOPETONES | 3/16" | TORBIDIATE | 1/2" |

Alloy steel—hardened all over. Ground hole.



Collet Chuck

| Code Word | Hole Dia. | Code Word | Hole Dia. |
|-----------|-----------|-----------|-----------|
| WYFAF | 1/8" | WYFOJ | 1/2" |
| WYFEG | 3/16" | WYFUK | 3/8" |
| WYFFA | 1/4" | WYGAG | 3/4" |
| WYFGE | 5/16" | WYGGG | 1" |
| WYFJO | 3/8" | WYGHE | 1" |

Collets in sizes listed above, each..... \$4.62
Intermediate or metric sizes..... \$5.23



End Mill Holder



Taper Collet



Collet Adapter



Gorton Spring Collet

REG. U.S. PAT. OFF.
TRADE MARK
GORTON
RACINE, WIS., U.S.A.

JIG BORING TOOLS

GORTON-WETMORE PRECISION BORING BARS

For All Jig Boring Machines and Accurate Production Work

A SPECIAL DEVELOPMENT—Rapid adjustment of tool (in and out) by screw graduated in thousandths . . . positive wedge-locking of cutting tool . . . wide adjustment range . . . rugged bar, well supported cutting tool . . . low cost cutting tools, easily replaced.

All bars are furnished with high speed steel cutting tools and have No. 9 or No. 10 B & S taper shanks, fitting 8½-D and 9-J GORTON Super-Speed Millers respectively.



At Right is Boring Bar Installed in Gorton 9-J Super-Speed Miller



BORING BAR SETS

Each Set consists of 4 GORTON-WETMORE precision Boring Bars (in diameters listed in second table below), 1 No. 6 Micrometer Boring Head, and B&S taper shank in proper size shown below. Set provides a complete range of boring tools for holes 1/8" to 2" dia. Boxed as shown.

| For Model | * Shank | Tool No. | Code | Price |
|-----------|---------|----------|-------|----------|
| 8½-D | 9 B&S | 789-1 | WYPUT | \$139.90 |
| 9-J | 10 B&S | 790-1 | WYRIT | 145.70 |

* Morse Tapers furnished at slight extra charge.



SPECIFICATIONS AND PRICES OF INDIVIDUAL BORING BARS

| Cutting Diameter | Bar Dia. | Bar Extension Beyond Shank | Bit Dia. | Shank | Tool No. | Code Word | Price | Extra Tool |
|------------------|----------|----------------------------|----------|---------|----------|-----------|---------|------------|
| 1/16" to 3/8" | 3/8" | 4 1/2" | 1/4" | #9 B&S | 773-1 | WYROV | \$26.55 | \$1.89 |
| | | | | #10 B&S | 774-1 | WYRRA | 27.56 | |
| 3/8" to 1 1/2" | 13/16" | 4 1/2" | 3/16" | #9 B&S | 775-1 | WYRSE | 26.77 | \$2.11 |
| | | | | #10 B&S | 776-1 | WYRVO | 27.77 | |
| 1 1/8" to 1 1/2" | 1" | 4 1/2" | 3/8" | #9 B&S | 777-1 | WYSAS | 29.33 | \$2.33 |
| | | | | #10 B&S | 778-1 | WYSET | 30.50 | |
| 1 1/2" to 2" | 1 3/8" | 4 1/2" | 1/2" | #9 B&S | 779-1 | WYSIV | 33.05 | \$2.67 |
| | | | | #10 B&S | 780-1 | WYSSA | 34.55 | |

#9 B&S taper shank tapped 1/2" 13 U.S.S. R. H. thread 1 1/4" deep.
#10 B&S taper shank tapped 5/8" 11 U.S.S. R. H. thread 1 3/8" deep

No. 6 MICROMETER BORING HEAD

For holes 1/4" to 1" diameter. Compact 1 1/4" x 1 1/4" body has no projecting parts. Head offsets 1/4" by means of micrometer screw, graduated in thousandths; 50 thousandths to a complete turn. Hardened holder has 3/8" hole for boring tools.

Each Head complete with B&S taper shank, 2 high speed Cutting Tools (sizes below), and Wrench, as shown at left.

| For Model | Shank | 2 Cutting Tools Included | Code | Price with Wrench | Extra Tools 3/8"x3" or 3/8"x4" |
|-----------|--------------------|--------------------------|-------|-------------------|--------------------------------|
| *8-D | Gorton Taper Arbor | 3/8"x3"; 3/8"x4" | YAMAD | \$21.00 | Ea. 90c |
| 8½-D | 9 B&S | 3/8"x3"; 3/8"x4" | WYPPA | 23.00 | Ea. 90c |
| 9-J | 10 B&S | 3/8"x3"; 3/8"x4" | WYPSO | 23.00 | Ea. 90c |

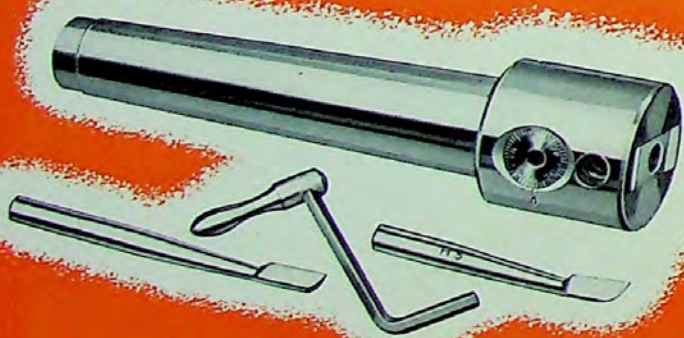
* Usable in other Millers with Adapters 702-1 and 472-1, page 7.

SELECTED DRILL CHUCKS—for Models 8½-D and 9-J

(For Smaller Models, 8-D—See Bottom Page 6)

Selected and furnished with certificate of accuracy . . . guaranteed to run within .003" on ground test plug 1 1/2" from end of chuck jaws. Chucks complete with hardened and ground B & S taper shank and wrench. No. 9 and No. 10 B & S taper shanks fit GORTON 8½-D and 9-J Millers respectively.

| Cap. | Shank | Tool No. | Code Word | Price |
|------------|--------------------------------|----------|-----------|---------|
| 0" to 3/8" | #9 B&S Threaded 1/2"—13 R. H. | 791-1 | WYTYO | \$12.76 |
| | #10 B&S Threaded 5/8"—11 R. H. | 792-1 | WYUCH | \$13.92 |
| 0" to 1/2" | #9 B&S Threaded 1/2"—13 R. H. | 793-1 | WYUFG | \$14.50 |
| | #10 B&S Threaded 5/8"—11 R. H. | 794-1 | WYUHM | \$15.60 |



PRECISION TRACING STYLES

FOR DUPLICATORS AND 3-DIMENSIONAL PANTOGRAPHS



Accuracy in die and mold duplication is only as close as the cutters and styles used. These styles are all accurately gauged and marked with the size. Quantity production makes these styles less expensive and more accurate than the inferior hand-made kind.

You can save needless and expensive cutter grinding by having

a complete assortment of tracing styles in sizes graduated to match available end mills. Additional savings result from buying complete sets.

All styles in sets listed below have hardened and ground shank, tracer point, and nose. Each style is .005" oversize for convenient matching with new end mills, which always cut oversize.

Set 680-1—Sizes from 1/10" to 3/8" by 1/32" steps, with 3/8" diameter straight shank. Set includes two each of the square nose sizes and one of each ball nose size—total of 30 styles mounted in convenient block as shown. This set is standard equipment with all Duplicators and 3-Dimensional Pantographs. Code Word VICTORINA, PRICE per set.....\$29.50

Sizes in SET 680-1 (For ordering individual styles).

| | | | | |
|-------|-------|-------|-------|-------|
| 1/10" | 1/8" | 3/16" | 1/4" | 5/16" |
| 3/8" | 7/16" | 1/2" | 9/16" | 5/8" |

Ball nose, Price each\$1.10
Square nose, Price each94

Set 757-1—Sizes from 1/16" to 1/4" in 1/32" steps with 3/8" diameter straight shank. Set includes two of each size square nose and one of each of the ball nose styles—30 styles in all, mounted in handy wood block as shown. Code Word WYPOS, PRICE per set....\$42.00

Sizes in SET 757-1 (For ordering individual styles)

| | | | | |
|-------|--------|-------|--------|--------|
| 1/16" | 1/8" | 5/16" | 1/2" | 7/16" |
| 9/16" | 13/16" | 5/8" | 21/32" | 11/16" |

Ball nose, Price each\$1.65
Square nose, Price each 1.27

Set 758-1—Sizes from 3/16" to 1" in steps of 1/32", with 1/2" diameter straight shank fitting Duplicators only, not Pantographs. Set includes one each of square nose and ball nose styles—total of 20 styles in convenient block as shown. Code Word WYRAR, PRICE per set\$42.00

Sizes in SET 758-1 (For ordering individual styles)

| | | | | |
|-------|-------|-------|--------|-------|
| 3/16" | 1/4" | 5/16" | 3/8" | 7/16" |
| 1/2" | 9/16" | 5/8" | 11/16" | 1" |

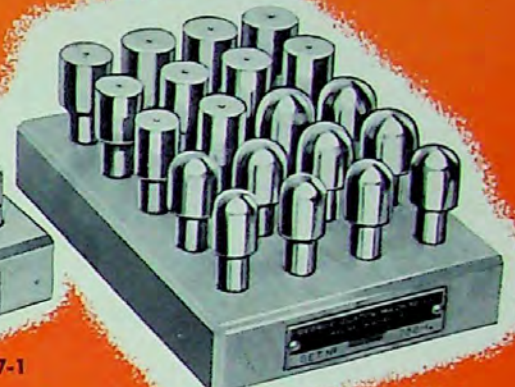
Ball nose, Price each\$2.31
Square nose, Price each 1.93



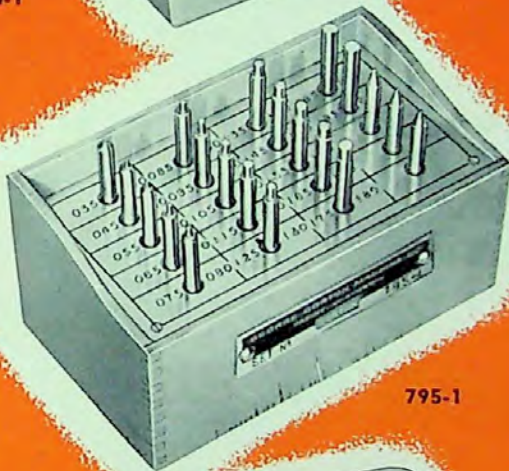
680-1



757-1



758-1



795-1



25-1



3253-A

FOR PANTOGRAPH MACHINES

Set 795-1

For use with square bottom groove, or relief copy on all Pantograph Machines. Each style is hardened and ground all over, both ends marked with diameter, in steps of .005". Total 17 styles ranging in size from .035" to .200" with three additional conical point styles, 3253-A, all having .200" shanks. Complete in box with plate showing sizes. Helps keep styles in order and immediately tells you when one is missing, easily accessible. Code Word YAACS.

PRICE complete\$34.60

Set 25-1

One set of rollers and style complete as shown at left. For use with square bottom groove and relief copy on all Pantograph Machines. Style is 2/10" diameter with 1/10" diameter end to fit hole in rollers, which are made to outside diameters of .3, .4, .5, .6, .7 and .8 inch as marked. Every piece hardened and ground all over. Code Word GUTTURAL, PRICE, complete in box, per set\$17.30

No. 3253-A

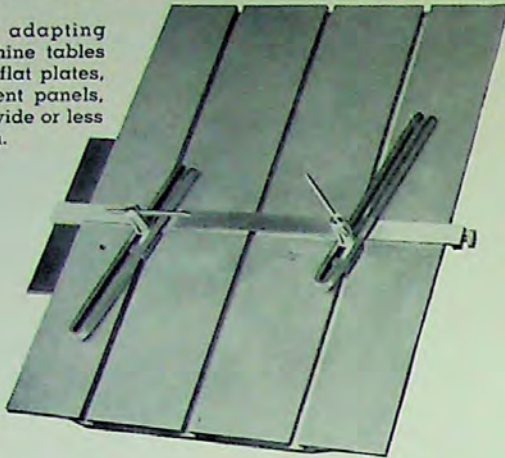
For use with V-groove copy on all Pantograph Machines. 2/10" diameter x 3 1/8" long with 90 degree included point. Hardened and ground all over. Code Word HUMANITY, PRICE each. \$.75

COPY (TYPE) HOLDERS

Copy holders on this page are interchangeable on all GORTON Pantograph Machines.

AUXILIARY TABLE 209-1

IDEAL FOR adapting standard machine tables to hold large, flat plates, signs, instrument panels, etc., from 20" wide or less and any length.



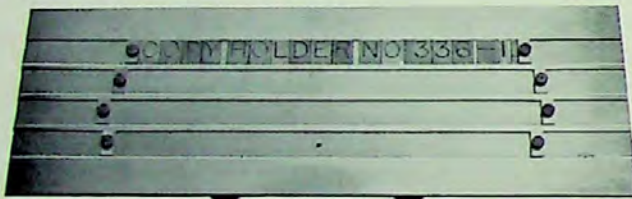
Work is quickly adjusted along T-square and clamped. The T-square is adjustable to any part of plate for squaring up work. Fits GORTON Pantograph Machines 3-F and 3-U, also 1-A, 1-D, 1-G, 1-J, also 3-A, 3-D, 3-G, 3-J.

DIMENSIONS: Complete as shown, being 18" wide x 24" long, with three 3/8" T-slots milled from the solid, one T-square, two work clamps, and four bolts and nuts. Net weight 85 lbs.; boxed 115 lbs. Code Word MOCHADURA, PRICE each..... \$71.50

SUB-BASE 6200-A—Equips Table 209-1 for use with all GORTON, or other make, Pantograph and Milling Machines. Shipping weight 25 lbs., Code Word for Sub-base 6200-A, VOLAGIN. PRICE each \$17.60

NOTE: Sometimes additional clamps are desired for this table, or for use on 8-2 Copy Holder. For one clamp only, as shown with table, complete with T-slot bolt. Shipping weight 2 lbs. Code Word VOGHERAL, PRICE each..... \$3.47

BEVELED GROOVE HOLDERS FOR STANDARD COPY-TYPE

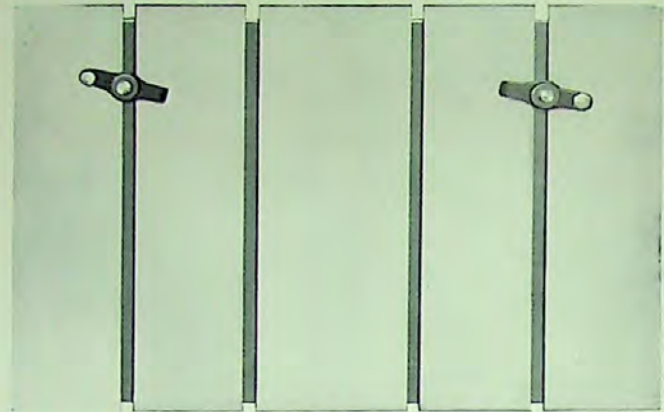


| Copy Holder No. | Grooves for Beveled Blanks | No. of Grooves | Total Width of Copy Holders | Total Length | Shipping Weight | Code Word | Price |
|-----------------|----------------------------|----------------|-----------------------------|--------------|-----------------|-----------|---------|
| 683-1 | 5/8" | 5 | 4 1/2" | 16" | 11 lbs. | VITELLIA | \$40.40 |
| 4-1 | 1 1/4" | 3 | 4 1/2" | 16" | 11 lbs. | GULOSITY | 32.35 |
| 159-1 | 1 1/4" | 4 | 6" | 22" | 21 lbs. | MODERIAMO | 38.10 |
| *336-1 | 1 1/4" | 4 | 9" | 24" | 30 lbs. | MOLDURABA | 45.10 |
| 337-1 | 1 1/4" | 6 | 9" | 24" | 30 lbs. | MOLCIAMO | 56.60 |
| 7-1 | 2 1/2" | 2 | 5 1/2" | 16" | 11 lbs. | GUNNERY | 28.90 |
| *684-1 | 2 1/2" | 3 | 9" | 24" | 30 lbs. | VITERBON | 40.40 |
| 5-1 | 3 1/2" | 1 | 4 1/2" | 16" | 11 lbs. | GUMMOUS | 25.40 |
| 6-1 | 4 1/2" | 1 | 5 1/2" | 16" | 11 lbs. | GUMPTION | 25.40 |

*Has flat face on each side of holder to permit use as flat plate holder, as illustrated above. All other holders have grooves only. Two stops are supplied for each groove in all copy holders listed above, as shown in illustration, but no copy. Made of nickel semi-steel castings with beveled grooves or T-slots machined from the solid. Carefully gauged to size.

EXTRA COPY STOPS for copy holders in all of the groove sizes listed above are carried in stock. PRICE per pair, any size. \$.99

FLAT PLATE COPY HOLDERS



No. 8-2—10 1/2" wide x 16" long with four 3/8" T-slots milled from the solid. Complete with two No. 22-1 Table Dogs as shown above. Shipping weight 23 lbs. Code Word MOLLICELLO.

PRICE each..... \$45.10

No. 36-1—16" wide x 24" long, like 8-2 above, but a plain, flat plate without T-slots. Four U clamps 3561-A are included. Especially useful with auxiliary table 209-1. Net weight 37 lbs., boxed 50 lbs. Code Word MODORRARON, PRICE each. \$44.00

No. 316-1—18" wide x 24" long, like 8-2 above, but with three 3/8" T-slots, and two No. 22-1 Table Dogs. Construction similar to Table 209-1 at left. Ship. weight 30 lbs. Code YADAT. PRICE each. \$60.00

COPY DIAL HOLDERS



No. 33-1, for all 10" copy dials. Complete as above with indexing pawl. Shipping weight 12 lbs. Code Word MOCHILER, PRICE each..... \$32.45

No. 52-1, for all 16 1/4" copy dials. Complete as above with indexing pawl. Shipping weight 22 lbs. Code Word MODELADO, PRICE each..... \$41.80

SERIAL NUMBERING HOLDERS AND COPY STRIPS



No. 150-1, complete as shown with 7 copy strips 7/8" wide. Each strip has ten index holes and an indexing plunger on holder engages same. Unless otherwise specified, each strip will be engraved 0 to 9 with GORTON face, 10-1 sunk V-groove numerals 3/4" high. Any other face can be used in the same height provided it does not exceed the width of 10-1 numerals. GORTON condensed inclined Gothic or square Gothic may be used. (See Copy Catalog.) Extra strips may be obtained at any time with any style numerals engraved thereon. Shipping weight 15 lbs. Code Word MODULAMEN, PRICE each..... \$95.70

No. 448-1, same as 150-1 above, but each strip 1/2" wide and engraved with EXTRA CONDENSED GOTHIC face 3/4" high, No. 91-1. The faces listed for 150-1 holder above cannot be used with this unless they are engraved smaller than 3/4" high. Shipping weight 10 lbs. Code Word VITISATOR, PRICE each. \$95.70

NOTE: Holders can also be furnished with numeral slot on a radius instead of straight as above.

Additional copy strips for either of above (set of 7) PRICE. \$38.50

BELTS

REG. U. S. PAT. OFF.
TRADE MARK
GORTON
RACINE, WIS., U.S.A.



ENDLESS LINEN BELTS FOR GORTON PANTOGRAPH MACHINES*

Through years of experimental work with various types of belting on GORTON Pantograph machines, we have found that the round, endless linen belts are far superior to round rubber, round leather, and treated fabric belts. Not only do these tightly woven belts last longer, but because of their lightness they do not fly off the pulleys at high speeds nor do they set up any vibration, such as belts of heavier materials do.

| Pantograph Machines | Motor Drive Belt Size | Code Word and Price | | Cutter Spindle Belt Size | Code Word and Price | | NOTES |
|------------------------------|-----------------------|---------------------|--------|--------------------------------------|----------------------|------------|--|
| 3-A, 3-D, 3-G, 3-J, 3-F, 3-U | 1/4" dia. x 84" | VEINTES | \$.77 | 3/16" dia. x 52" | VEGLIA | \$.52 | Spec. wide gap 3-D and 3-J also 3-F, 3-U requires 3/16" x 82" cutter spindle belt. Code Word VATRONUS. Price..... 59c |
| 3-X, 3-R, 3-Z | 3/8" dia. x 79" | *VEDIUS | 1.74 | 3/16" dia. x 62" 3/16" dia. x 56" | *VEGETIUS VEJERIS | .81 .81 | 3-X and 3-R require the two belts marked* 3-Z requires all three belts. |
| 3-H Tire Mold Mach. | | | | 3/16" dia. x 132" | VATINIUS | 1.74 | |
| 3-K Matrix Mach. | 1/4" dia. x 79" | VAUCLUSE | .77 | 3/16" dia. x 52" | VEGLIA | .52 | Same as cutter spindle belt for 3-A, 3-D, 3-G, 3-J Machines |
| 3-S | 3/8" dia. x 10'-3" | VECHIRES | 2.77 | 3/16" dia. x 79" | VAUCONICUS | 1.16 | |
| 1-S | 3/16" dia. x 76 1/2" | VECTONES | 1.33 | 3/16" dia. x 86" | VECTIUS | 1.33 | |
| 3-B 3-Dimen. Mach. | 1/4" dia. x 9'-4" | VATICANUS | 1.05 | 3/16" dia. x 52" | VASILIPOT | .58 | |
| 3-L 3-Dimen. Mach. | 3/8" dia. x 86" | VELIBRIO | 1.74 | 3/16" dia. x 70" | VELINUM | .87 | |

Special length belts require 2 weeks to furnish. Sold only in 1/2 doz. lots.

Belt Lengths for Old Model Pantograph Machines Having Motor Pulley Diameters Indicated Below

| Pantograph Machines | Motor Pulley Dia. | Belt Size | Code Word and Price | Pantograph Machines | Motor Pulley Dia. | Belt Size | Code Word and Price |
|---|----------------------------------|---|--|---------------------|----------------------------------|--|---|
| 1-A, 1-C, 1-G, 1-H, 1-G Matrix Machine | 3 1/2" 6" 7 1/2" 9 1/2" | 3/16" dia. x 9'-9" 3/16" dia. x 10'-0" 3/16" dia. x 10'-3" 3/16" dia. x 10'-6" | VANNIUS \$.84 VARANES .92 VARDAEI .92 VARIABRA .92 | 1-D, 1-J, 1-T | 3 1/2" 6" 7 1/2" 9 1/2" | 3/16" dia. x 10'-6" 3/16" dia. x 10'-9" 3/16" dia. x 11'-0" 3/16" dia. x 11'-3" | VARIABRA \$.92 VASHNI .92 VASATAE 1.01 VASARHELY 1.01 |

*Minimum Billing on Belts \$1.00.

Belts For Graduating Machines

| Machine | Power Feed Belt Size | Code Word | Price |
|---------|----------------------|-----------|--------|
| 687-1 | 3/16" x 52" | VEGLIA | \$.52 |



Rubber V-Belts for Gorton Millers and Cutter Grinders

Cutter Grinder Belts

| Model | Belt Length | Code Word | Price |
|----------------|--------------|------------|--------|
| 265-4 265-5 | 1/4" x 24.4" | TINTABA | \$.72 |
| 375-1 | 1/4" x 26.6" | TINQUISARA | .94 |
| 375-2 | 1/4" x 33.5" | VELITRAE | 1.43 |

Milling Machine Belts

| Model | Belt Length | Code Word | Price |
|-------------------------------|----------------|------------|--------|
| *18-D | 1/2" x 56" | VELABRUM | \$1.74 |
| 8 1/2-D | 1 1/16" x 70" | VELIOCASSI | 2.37 |
| 9-J | 1 5/16" x 79" | VELITES | 3.85 |
| 9-J with Ser. No. to 12320 | 1 1/16" x 80" | VELENA | 2.81 |
| 8-D Univ. | 5/8" x 53 1/4" | VELANIUS | 2.04 |

*Standard 8-D Vertical with standard spindle assembly but equipped with special spindle pulley and motor pulley and 3500 RPM motor to give maximum spindle speeds of 12,000 RPM uses two belts, endless linen 3/8" diameter x 58" and 3/8" diameter x 53". Only one belt is used at a time, but two lengths are necessary to fit all pulley steps on account of extreme speeds and belt stretch. PRICE each.....**\$1.28**
†8-D Vertical with special spindle assembly No. 521-1 including special pulleys and motor to give maximum spindle speeds 15,000 RPM use one endless linen belt 3/8" diameter x 52". Code Word VEGLIA, PRICE each.....**\$.52**

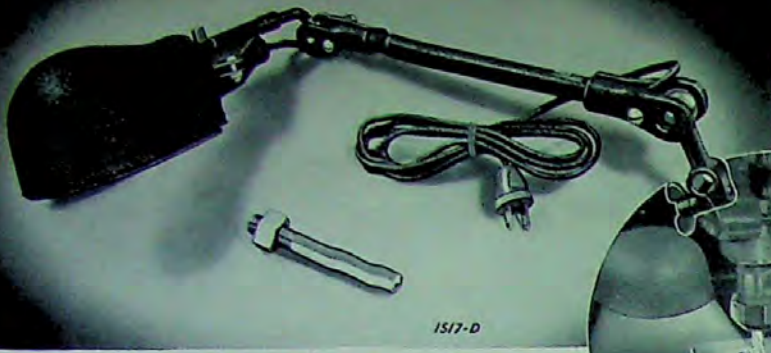
MACHINE LAMPS

NEW . . . IMPROVED

Set 419-1 consists of a pair (to eliminate shadows) of lamps for attachment to any GORTON Miller or Duplicator. Strong and simple and completely universal. Clamp bracket with $\frac{1}{8}$ " hole fits extension studs for quick attachment without drilling holes in machine. Total length extended, 22 $\frac{1}{4}$ ". Complete with socket switch, plug, and wiring. Shipping weight 6 lbs., Code Word for pair of lamps TETRAEDER, PRICE . . . \$15.90

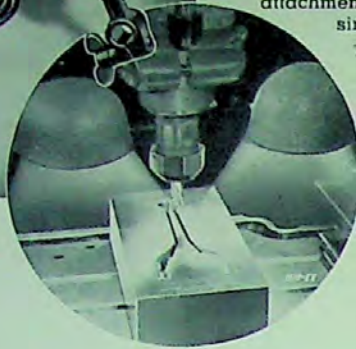
682-1 for all GORTON Pantograph Machines. Same as above, but 31 $\frac{3}{8}$ " long. Shipping weight 4 lbs., Code Word VIRIPLACA. PRICE one lamp complete . . . \$9.20

419-2 for GORTON 375-2 Grinders is identical with 419-1 above, but one lamp only. Shipping weight 3 lbs., Code Word WYJIL, PRICE . . . \$8.25



1517-D

Oil-proof Neoprene cord and socket. New switch impervious to chips . . . attractive gray ripple finish . . . fibre shield over shade prevents burns. Stud shown in large illustration permits lamp to be attached to any machine by drilling and tapping only one hole. (All GORTON machines equipped with stud. Specify if stud is desired for attaching lamp to other equipment.)



CHIP BLOWER 418-1

For use on machines where work must be kept clear of chips and no air pressure is available. Has $\frac{1}{8}$ " hole with wing screw clamp for fastening to extension studs on all GORTON Millers and Duplicators. Can also be mounted on other machines in this manner. Powered with 110, 220 or 440 Volt ball bearing motor. Bearings are sealed in dust-proof mountings and require no lubrication. An adjustable lever controls the volume and a flexible hose with nozzle is provided, also cord, switch, and plug. Please specify voltage desired, also if attachment stud is needed. Shipping weight 14 lbs., Code Word TETHYDANS, PRICE complete . . . \$44.00

ADJUSTABLE FORMING GUIDES

SAVE EXPENSIVE MACHINING OF FORMING GUIDES WITH THESE QUICKLY ADJUSTABLE GUIDES

For all GORTON Pantograph Machines . . . interchangeable with standard solid blocks furnished with machines. The spring steel plate is curved to any radius, either concave or convex, by means of adjusting screws . . . case-hardened body . . . hardened screws. 3" long, 2" wide, $\frac{3}{4}$ " thick. Radii from 1 $\frac{5}{8}$ " to a flat surface are possible.

No. 556-1, convex guide, $\frac{1}{2}$ " thick to make use of full vertical spindle movement. Complete with five extra plates. Code Word VITRICUS, PRICE . . . \$8.80

No. 557-1, concave guide, $\frac{3}{4}$ " thick to make full use of the vertical movement of the spindle. Complete with five extra plates. Code Word VOCONTIA, PRICE . . . \$8.80

Extra plates . . . \$1.10

No. 696-1, one guide same as 557-1 above except larger. 4 $\frac{3}{4}$ " long x 2 $\frac{1}{2}$ " wide x $\frac{3}{4}$ " thick. Code Word WYPAP, PRICE. \$14.50

CRAYON FILLER

For same use as paste filler below, and easier to use, but not as permanent. Best quality bronze powder impregnated with paraffin composition. Gold crayon, Code Word TRASAPEVA, PRICE each . . . \$1.76

Silver crayon, Code Word TRASCEGLIO, PRICE each . . . \$1.76

Other colors assorted, 1 ea. Black, White, Green, Yellow, Red, Blue; or all one color. Specify colors wanted. 6 colors for . . . \$1.49

PASTE FILLER

For filling instrument panels, etc., is chalk white and will not fade. Can be rubbed in by hand and hardens in a few hours. If too dry, can be softened by a few drops of water. Will not flake or chip out . . . in screw-top jar. $\frac{1}{2}$ -lb. jar white paste filler, Code Word MUNGIMOS, PRICE . . . \$1.76

IMPRESSION PUTTY

For taking impressions of dies and molds. Much stiffer than plastiline. Holds its shape when pulled from mold. Keep in warm place, not hot, and knead with hands before taking impression, then moisten mold with breath or sprinkle with powdered chalk or graphite. $\frac{1}{4}$ lb., Code Word VISURGIS, PRICE . . . \$1.05

TABLE DOG 22-1

For securing work or copy on all machines, workholders, and copyholders having $\frac{3}{8}$ " T-slots. Dog and set screw case-hardened. Complete as shown with 1 $\frac{3}{8}$ " bolt. Code Word GUTTER, PRICE each . . . \$1.10



NEW *Safe-T-Slot* NUT SETS

- 1** *Faster set-ups* because nuts need not be removed from T-slots . . . studs are changed only for work of different heights.
- 2** *Safety for accurately finished jobs and die-block surfaces*, with smooth, carefully cornered hold-down straps furnished.
- 3** *Saves you money* because it is unnecessary to purchase assorted length T-slot bolts; you use inexpensive studs only—length adjustable.
- 4** *Safety for costly precision machines* because long surface on nuts makes it impossible to score or gouge inside of T-slots or permanently distort table tops which frequently happens when old style bolts are pulled too tight.

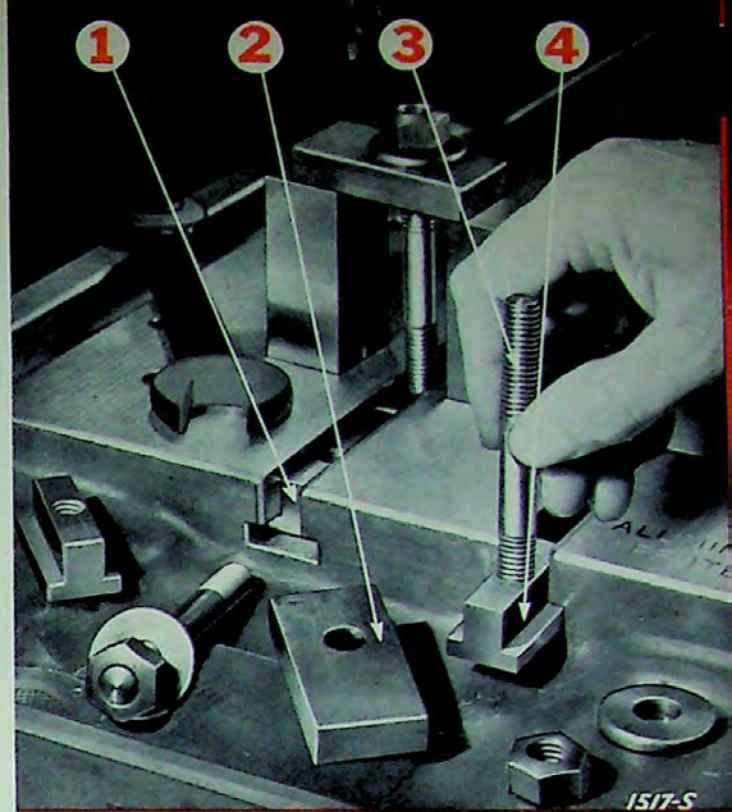
Tongues—Rust-resisting finish . . . carefully gauged to size . . . studs are chrome molybdenum with finished, case-hardened straps, washers, and hex nuts.

COMPLETE SETS OF T-SLOT NUTS, STUDS, STRAPS

All 4 Sets Furnished with Handy Stand
To Hold Parts in Place, As Shown at Right.

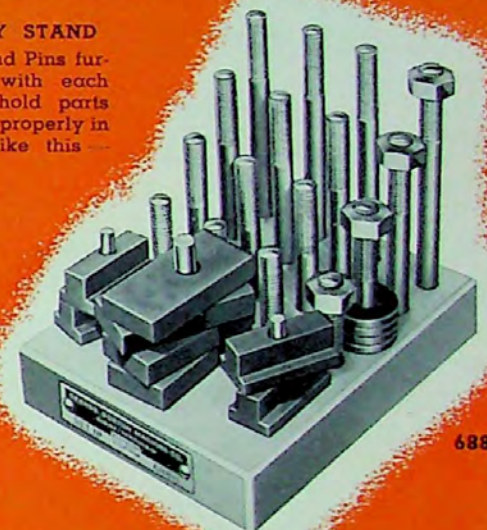
Each Set consists of 4 T-slot Nuts and 4 Studs (in sizes and lengths listed below), also 4 case-hardened, smooth-finished Straps, 4 Hex Nuts and Washers—complete with Stand.

| Set No. | T-Slot Size | Stud Length | Shipping Weight | Code | Price |
|---------|-----------------|---|-----------------|-------|---------|
| 689-1 | $\frac{3}{8}$ " | $2\frac{1}{8}$ " ; $3\frac{1}{8}$ " ; $4\frac{1}{8}$ " ; $5\frac{1}{8}$ " | 6 lbs. | WYKKA | \$ 6.15 |
| 688-1 | $\frac{1}{2}$ " | 3" ; 4" ; 5" ; 6" | 10 lbs. | WYKEL | 7.15 |
| 796-1 | $\frac{5}{8}$ " | 3" ; 4" ; 5" ; 6" | 12 lbs. | WYVZO | 8.31 |
| 797-1 | $\frac{1}{2}$ " | 4" ; $5\frac{1}{4}$ " ; $6\frac{1}{2}$ " ; 8" | 15 lbs. | WYWIZ | 11.55 |

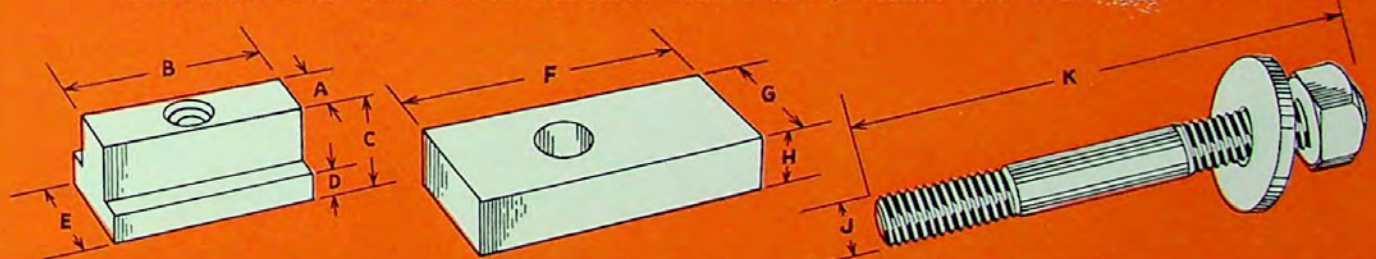


HANDY STAND

Block and Pins furnished with each Set to hold parts upright, properly in place, like this—



DIMENSIONS AND *PRICES FOR ORDERING SINGLE NUTS, STRAPS AND STUDS



| T Slot Nuts | | | | | |
|---|------------------|------------------|-------------------|-------------------|--------|
| A | B | C | D | E | Price |
| $\frac{23}{64}$ " for $\frac{3}{8}$ " Slots | $1\frac{1}{2}$ " | $\frac{3}{16}$ " | $\frac{7}{32}$ " | $\frac{5}{8}$ " | \$0.30 |
| $\frac{31}{64}$ " for $\frac{1}{2}$ " Slots | $1\frac{3}{4}$ " | $\frac{3}{4}$ " | $\frac{13}{64}$ " | $\frac{7}{8}$ " | .35 |
| $\frac{39}{64}$ " for $\frac{5}{8}$ " Slots | 2" | 1" | $\frac{3}{8}$ " | $1\frac{1}{8}$ " | .44 |
| $\frac{51}{64}$ " for $\frac{1}{2}$ " Slots | $2\frac{1}{4}$ " | 1" | $\frac{13}{32}$ " | $1\frac{3}{16}$ " | .55 |

| Straps | | | |
|------------------|------------------|-----------------|--------|
| F | G | H | Price |
| $2\frac{1}{4}$ " | 1" | $\frac{3}{8}$ " | \$0.35 |
| $2\frac{1}{2}$ " | $1\frac{1}{4}$ " | $\frac{1}{2}$ " | .41 |
| $2\frac{1}{2}$ " | $1\frac{3}{4}$ " | $\frac{1}{2}$ " | .41 |
| $3\frac{1}{4}$ " | $1\frac{3}{4}$ " | $\frac{3}{4}$ " | .48 |

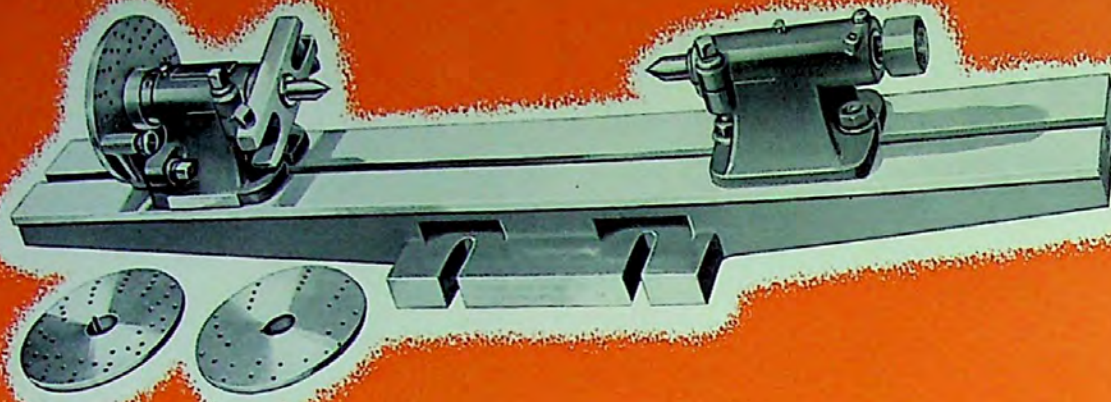
| Studs | | |
|------------------|------------------|--------|
| J | K | Price |
| $\frac{1}{8}$ " | $2\frac{1}{8}$ " | \$0.17 |
| | $3\frac{1}{8}$ " | .18 |
| | $4\frac{1}{8}$ " | .24 |
| | $5\frac{1}{8}$ " | .31 |
| $\frac{1}{16}$ " | 3" | .19 |
| | 4" | .23 |
| | 5" | .29 |
| $\frac{1}{16}$ " | 6" | .35 |

| Studs | | |
|-----------------|------------------|--------|
| J | K | Price |
| $\frac{1}{2}$ " | 3" | \$0.20 |
| | 4" | .26 |
| | 5" | .35 |
| | 6" | .43 |
| $\frac{3}{4}$ " | 4" | .31 |
| | $5\frac{1}{4}$ " | .42 |
| | $6\frac{1}{2}$ " | .52 |
| | 8" | .62 |

Tongues held to plus .010" all dimensions.

*Minimum Billing \$1.00.

INDEX CENTERS 281-2



FOR ALL PANTOGRAPH AND MILLING MACHINES

For engraving rolls 6" diameter x 27" long or smaller. Complete as above, for attachment to all GORTON, or other make, Pantograph and Milling Machines. A 1/2" T-slot running the length of table permits any desired adjustment of centers. Complete with bolts, wrench and three index plates each with four circles of holes spacing as follows: Plate No. 1—6, 7, 8, 9. Plate No. 2—

10, 11, 12, 14. Plate No. 3—15, 16, 18, 20. Net weight 100 lbs., boxed 150 lbs. Code Word MODOLIAMO. PRICE.....\$225.50

INDEX CENTERS 281-1 ONLY

Same as above but without long table shown. Net weight 35 lbs., boxed 45 lbs. Code Word MOGLIETA. PRICE.....\$150.70

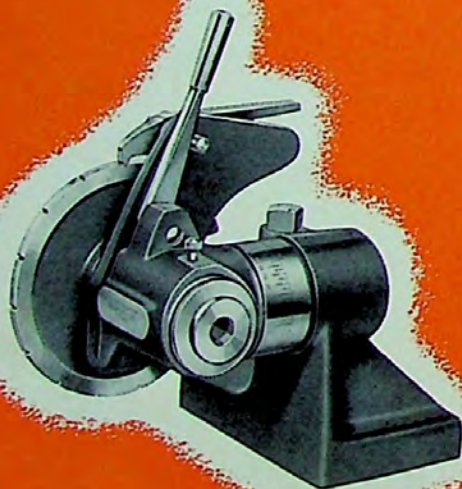


INDEXING WORK HOLDER 53-1 (PLAIN)

For all GORTON, or other make, Pantograph and Milling Machines. This holder will hold and index for milling or engraving, numeral wheels, roll stamps, etc., 1/4" to 6" diameter and any width of face. Work is mounted on a simple fitting and held on nose of hollow spindle with draw bar. Complete as shown with two T-slot nuts and 4" diameter index dial having 10 notches, unless otherwise specified. Index dials can be furnished from stock with any desired number of index notches, from 10 to 36, at no extra charge. Dials are quickly changed by removing nut.

Spindle is hardened and ground and provided with quick clamping lever and indexing pawl as shown. Net weight 11 lbs., boxed 18 lbs. Code Word MODIGLIONE. PRICE. \$50.60

| | | | |
|-----------------------|--------|--------------------------|--------|
| Blank Dials | \$5.50 | 20, 25, or 30 notches. . | \$7.70 |
| 10 or 15 notches..... | \$6.60 | 35 to 50 notches..... | \$8.80 |



INDEXING WORK HOLDER 256-1 (UNIVERSAL)

Same as 53-1 Holder above but has, in addition, a swivel joint graduated to 90 degrees, allowing work spindle to be swiveled and clamped in any position from vertical to horizontal, thus permitting the engraving or milling of beveled dials, collars, rings, etc., which cannot be done with plain holders (in addition to accomplishing all that can be done with plain holder).

Same construction as 53-1 Holder above except for swivel joint. Index dials, clamp lever, and index pawl are interchangeable with 53-1 Holder. Net weight 13 lbs., boxed 20 lbs. Code Word MODIFICARA. PRICE.....\$68.20

MACHINE VISES

PLAIN VISE 283-1

For all Milling and Pantograph Machines. With slotted sides as shown for clamping to machine table. Maximum opening of jaws $3\frac{1}{8}$ "; width $2\frac{3}{4}$ "; depth $1\frac{7}{8}$ ". Overall height $3\frac{1}{8}$ ". Length of base $7\frac{1}{4}$ ". Strongly made with hardened jaws. Complete with extra jaw and T-slot nuts and studs. Net weight 10 lbs., boxed 14 lbs., Code Word HUMAN. PRICE\$10.40

FLANGED VISES 5F and 7F

5-F Flanged Vise for all GORTON Millers and Duplicators, also large size Pantograph Machines. Jaws $5\frac{7}{8}$ " wide, $1\frac{7}{8}$ " deep. Maximum opening 3"—total height $3\frac{7}{8}$ ". Work-holding surfaces are faced with removable hardened and ground steel plates. Complete with handle. Weight boxed 49 lbs., Code Word VOLVAE. PRICE.....\$44.00

7-F Flanged Vise, same as 5-F above, except larger. Jaws $7\frac{1}{4}$ " wide, $1\frac{3}{4}$ " deep. Maximum opening $4\frac{1}{4}$ "—total height $3\frac{3}{4}$ ". Weight boxed 80 lbs., Code Word WYUJN. PRICE.....\$100.00

FLANGED SWIVEL VISES 5FS and 7FS

These vises are of the same size and construction as those described above, with the addition of swivel bases which are attached to the vise bodies, permitting the vises to be used in milling at any angle on a horizontal plane.

| No. | Code Word | Wt. Boxed | Price |
|------|-----------|-----------|----------|
| 5-FS | WYUPT | 62 lbs. | \$64.00 |
| 7-FS | WYUSY | 120 lbs. | \$123.00 |

PRECISION STAMP AND TYPE VISE 559-1

For Pantograph Machines. Holds rectangular stamps or type any size from $\frac{3}{8}$ " to 1" and in any length up to 4". Opposite side of the vise-block has a "V" for holding rounds up to $1\frac{1}{2}$ " diameter. Clamp dog on this side may be used for holding larger sized rectangular stamps. Adjustable stop locates stamp for height. Construction of clamp dog permits swinging away from slot for cleaning with brush. Wing nut at side holds stamp or type blank squarely against slot when tightening clamp dog. Made of one solid piece of steel, hardened. Slots have two accurately ground faces . . . bottom relieved and ground. Sides milled to receive straps for clamping to machine table. Held to .001" limits for accurate work. $5\frac{1}{4}$ " long x 4" high x $2\frac{3}{4}$ " wide. Weight 16 lbs., boxed 21 lbs., Code Word VOLANDUM. PRICE.....\$46.20

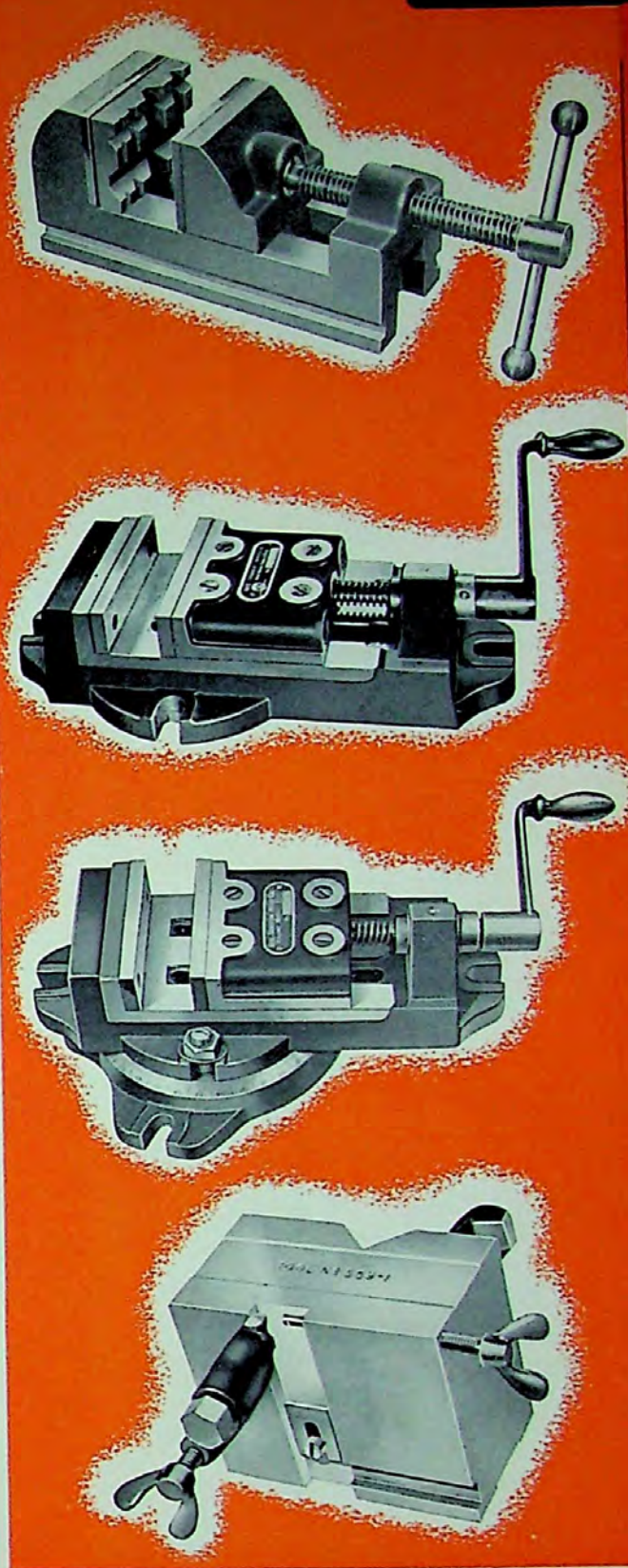
GORTON SERVICE

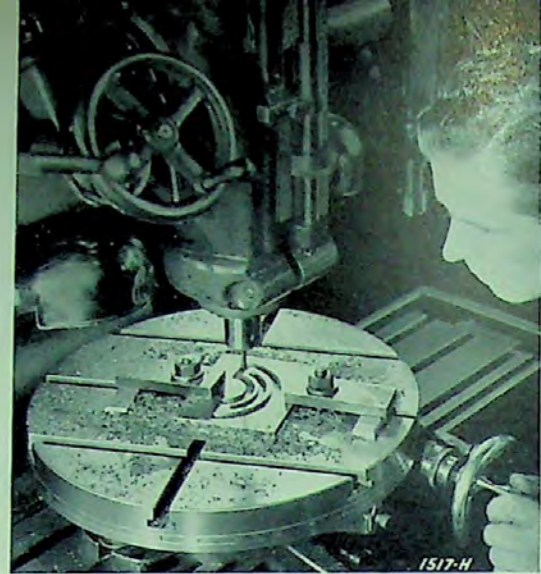
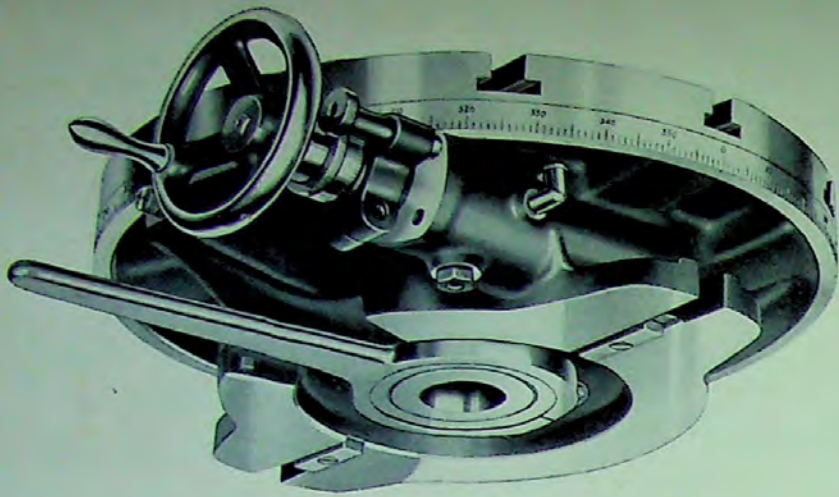


It is our conviction that accessories, cutters, grinders, and other tools used for die and mold work and in the tool room are of just as much importance as the machines on which they are used. It is for this reason that we have constantly been developing GORTON Accessories as well as machines for a period of more than forty-nine years.

GORTON Accessories and Machines are protected by more than fifty United States patents in addition to many foreign patents. In this catalog you will find

many cutters, end mills, engraving tools, etc., packaged in convenient wood blocks and permanent, substantial boxes. Good tools deserve good care, and the method we are following of offering many of these accessories in packages is sure to meet with the whole-hearted approval of superintendents, foremen, and machinists alike. Use this catalog in ordering accessories. 24-hour service is given on over 90% of all orders received, inasmuch as it is our policy to stock all items listed except in certain cases where special items or special orders are involved.





15" Table on Gorton Miller.

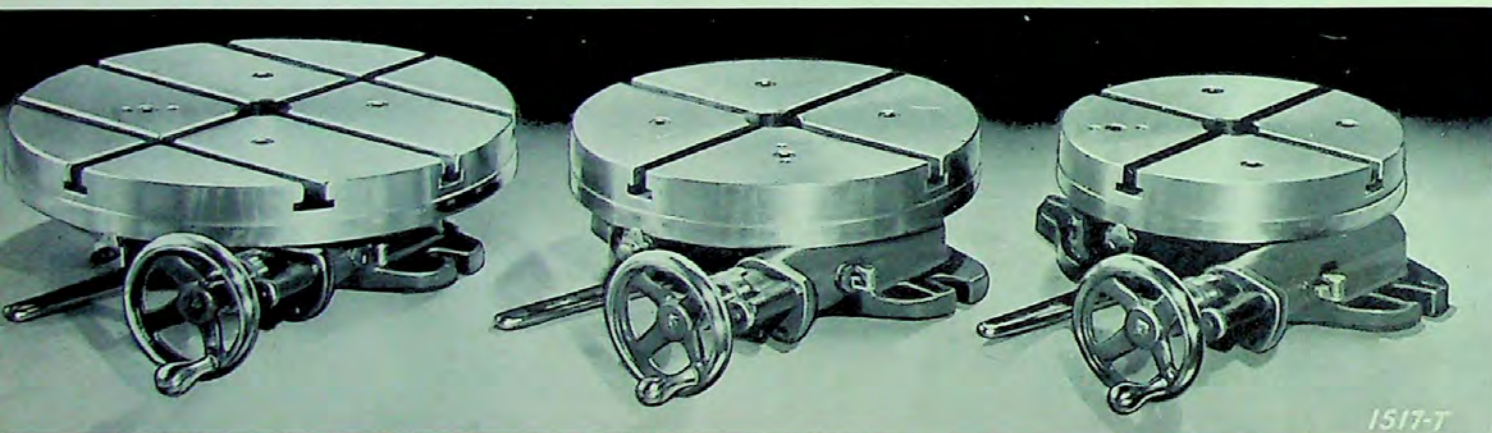
**EXTRA
VALUE
CIRCULAR
TABLES**

GORTON Circular Tables are now available in three sizes, ranging from 10" to 15" diameter. Each of these tables represents one of the greatest values in the entire line of GORTON accessories . . . compare specifications and prices.

Each table features simple, positive adjustment of all vital parts . . . all adjustments easily accessible from outside . . . accurately graduated in degrees . . . adjustable index finger . . . centering hole to facilitate set-ups . . . T-slots milled from the solid, held to close limits . . . all bearings hand-scraped or ground . . . adjustable graduated dial on worm wheel . . . worm threads hardened and ground . . . accuracy of table assured during its lifetime through provisions which compensate for wear on table bearings, worm wheel, and worm shaft . . . mechanism dust-proof, totally enclosed, running in oil . . . worm can be detached to permit hand turning of table during set-up . . . weight permits frequent set-ups from one machine to another without removing work from the table and re-setting . . . tongues fit $\frac{1}{2}$ " or $\frac{3}{8}$ " T-slots.

Here is a real precision tool room circular table in three sizes at a price every shop can afford. It is sturdy enough for production work and its price is made possible only because of economical quantity production and elaborate tooling. Compare the following six points with any other circular tables at any price.

1. Table surface accurate within .0005", indexing to 5 minutes or less.
2. Entire mechanism totally enclosed, dust-proof, running in oil.
3. Hard, long-wearing, semi-steel castings, hardened and ground alloy steel parts, T-slots milled from solid, socket head cap screws, milled graduations, engraved numerals.
4. Precision-hardened and ground thread worm.
5. Stiff base flanges, thick table, heavy ribs under T-slots, wide taper-bearing surfaces.
6. Simple, positive adjustments on outside of table with compensation for wear so that table will always retain original accuracy.
7. Each table has maximum adaptability and will accommodate a wide range of work. Especially convenient for frequent set-ups.



1517-T

SPECIFICATIONS FOR ALL GORTON CIRCULAR TABLES

Height $4\frac{1}{8}$ "; T-slots $\frac{1}{2}$ " wide; tongues fit $\frac{1}{2}$ " or $\frac{3}{8}$ " T-slots; tables graduated in degrees; sixty turns of hand wheel equal one complete table revolution; hand wheel graduated to five minutes.

| | |
|----------------------------|-----------------|
| 15" TABLE No. 215-1 | |
| Diameter | 15" |
| Weight | 110 lbs. |
| Weight, boxed | 145 lbs. |
| Code Word | TESTUDINAL |
| PRICE | \$224.40 |

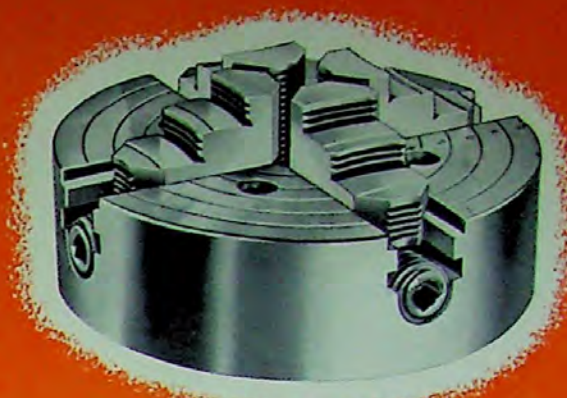
| | |
|----------------------------|-----------------|
| 12" TABLE No. 756-1 | |
| Diameter | 12" |
| Weight | 100 lbs. |
| Weight, boxed | 127 lbs. |
| Code Word | WYOLP |
| PRICE | \$216.70 |

| | |
|----------------------------|-----------------|
| 10" TABLE No. 755-1 | |
| Diameter | 10" |
| Weight | 80 lbs. |
| Weight, boxed | 95 lbs. |
| Code Word | WYPIR |
| PRICE | \$205.70 |

CIRCULAR TABLE CHUCK 1908

CHUCK 1908, ideal for use with the 10", 12", and 15" circular tables. This 8" diameter Skinner steel body independent chuck is easily fastened to the tables with a special centering plug and four bolts furnished with chuck. Four reversible jaws, each with four chucking surfaces, have a maximum capacity of 8 1/4" diameter and a minimum of 3/8". Height of jaws, top to bottom 2 1/8", top to face of chuck 1 1/8". Hole for long stock, 1 1/4" dia. This chuck is adapted to production and manufacturing work as well as die and stamp cutting on round work and bar stock. Weight boxed 39 lbs., Code Word WYWOB. PRICE each.....\$83.60

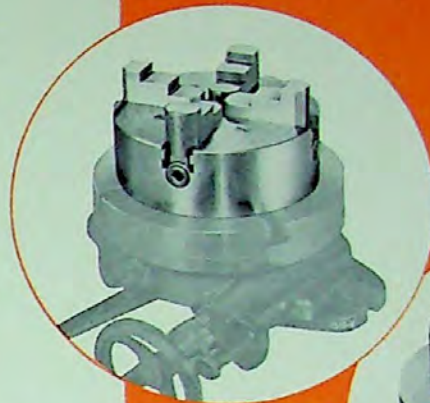
CHUCK 3908, Skinner 8-inch, 3-Jaw Universal, Self-centering, complete with centering plug. Weight boxed 44 lbs. Code Word YAMEF. PRICE...\$108.00



Chuck 1908

UNIVERSAL CHUCK 685-1

A 4" Skinner Universal Chuck, similar to Chuck 1908 above except 3-jaw-type, furnished with two sets of three jaws and a special face plate 6" diameter for attaching to Universal Circular Table 204-1. This chuck and face plate are accurately centered on 204-1 table by means of a center boss which mates with hole in center of table and secured by means of the four tapped holes in table top described above. This chuck has hand-fitted parts, hardened steel bearings, and jaws tested for accuracy. Height of jaws, top to bottom 1 3/8", top to face of chuck 45/64". Hole for long stock, 1 1/8" dia. Shipping weight 6 lbs., Code Word VOGESUS. Price each...\$44.00



Chuck 685-1 on 6" Table

6" UNIVERSAL TABLE 204-1

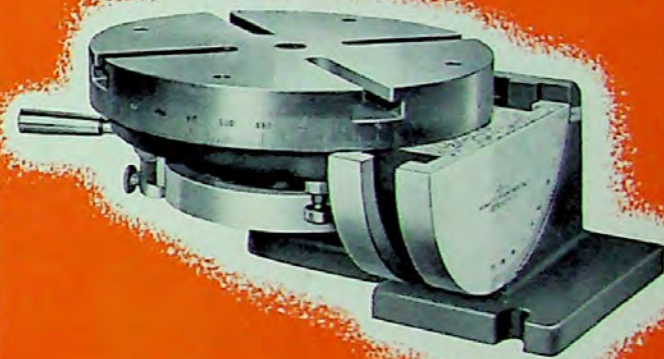
Designed for general all around small instrument and tool work. Work table is 6" diameter, accurately graduated to 360 degrees; has four 3/8" T-slots milled from solid. Can be revolved by hand and clamped in position by lever. 1/2" hole in center of table permits centering work; bottom of hole is tapped 1/2" N.C. for holding down work with screw or draw bar. Overall table height (horizontal position) 3 3/8". Four holes in table top are tapped 1/4" N.C. for use in attaching Universal Chuck 685-1 listed above.

SWIVEL, graduated through 90 degrees, permits table to be set at any angle from vertical to horizontal and revolved while in these positions. Front edge of base is machined for squaring up work with machine table.

INDEX DIAL on bottom of spindle on which table rotates; desired graduations or index points for letter cutting can be laid out with pencil lines on paper band and clipped around spindle, then indexed by means of pawl. Index dials can be furnished with any desired number of notches on special order at slight additional cost but such work can best be done with holders 53-1 or 256-1 on page 14. Table complete as shown with index band holder, clamp, 25 index bands, 2 3/8" T-slot bolts and nuts, and one wrench. Shipping weight 25 lbs., Code Word MONDATORE. PRICE each.....\$149.60



Chuck 1908 on 10" Table



204-1 Table

9" CIRCULAR TABLE 335-1

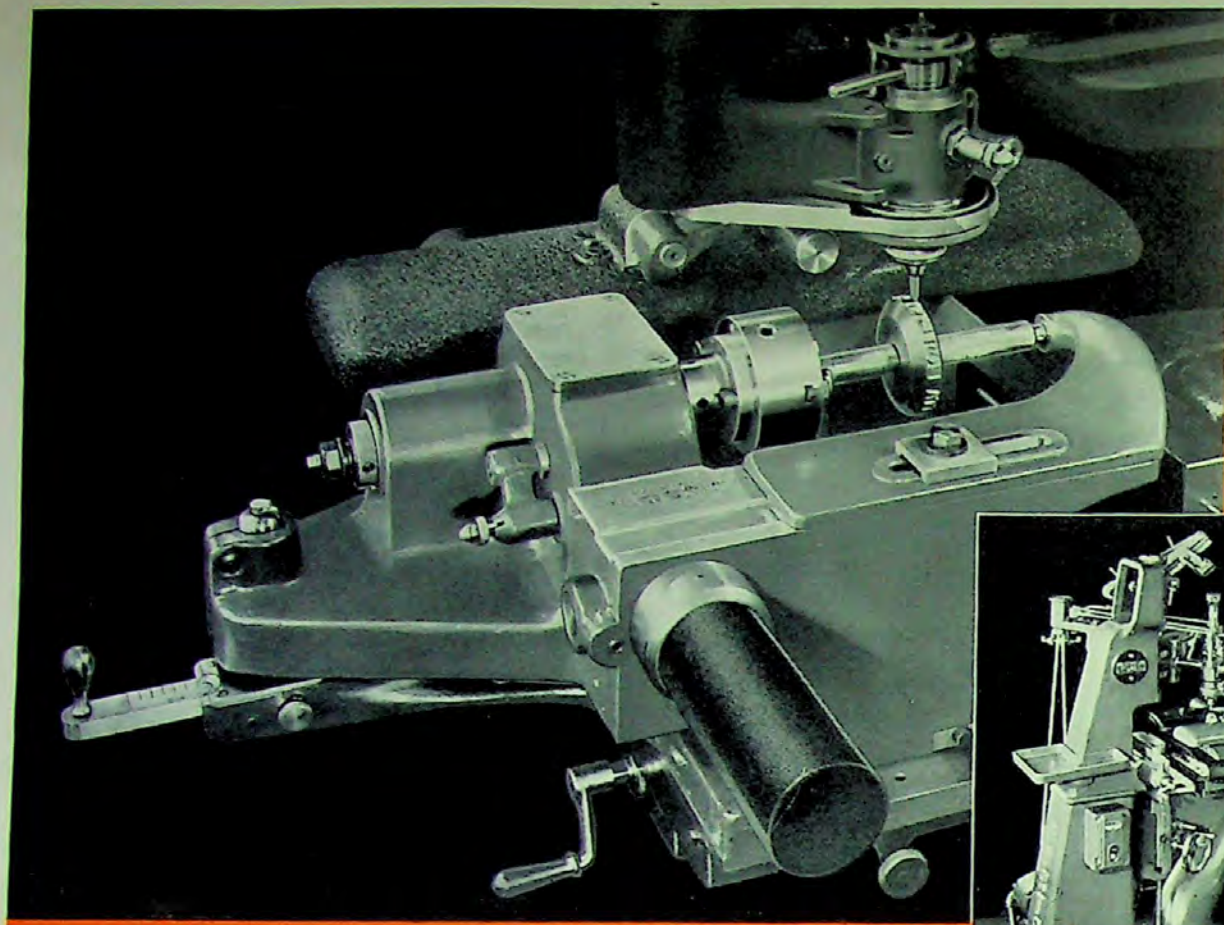
For all Pantograph or Milling Machines. Table working surface is 9 1/4" diameter with four 3/8" T-slots milled from solid. Overall table height 3 1/2". Outer rim extends 3/8" beyond base of table and is accurately notched with 360 notches; engraved numbers at every tenth notch, 0 to 350 degrees. Table can be turned by hand and held with indexing pawl in any one of the 360 notches, or clamped in addition with hand lever for heavier cutting. Table has center hole threaded 1" N.C. for centering or clamping work if desired. Complete as shown with eight 3/8" T-slot bolts and wrench. Shipping weight 50 lbs., Code Word MOLECOLE. PRICE each.....\$121.00

INDEXING DIAL HOLDER 331-1

Same as 9" Circular Table above but without T-slots. Specially designed for engraving transit limbs and similar dials. Table is 10" diameter. Workholder nose in center, 1 1/4" diameter, extends 1/8" above table for centering with 1" N.C. threaded hole for holding down work with screw or draw bar. Unless otherwise specified, table will have 36 index notches. Any additional number to 360 can be furnished at additional cost. Shipping weight 48 lbs., Code Word MOGANGAS. PRICE each.....\$74.80



335-1 Table



At left: Showing Roll Attachment installed on 3-B Machine, with former chip apron removed for clearer view.

Below: Showing Roll Attachment installed on a 3-B GORTON Pantograph machine.



ROLL ATTACHMENTS

For Models 3-U, 3-Z, 3-B, 3-L PANTOGRAPH MACHINES ONLY

Completely AUTOMATIC Rotation—2 Sizes Available

- ★ The Most Practical and Successful Method Yet Devised for Rapidly Engraving Rolls from FLAT Master Copy.
- ★ Produces ACCURATE Engraving Completely Around Periphery of Rolls of Any Size Within Capacity of Attachment.
- ★ Simplified, Precision Performance—No Gears to Change—No Forming Guide Needed—No Undercutting.

OTHER Exclusive Patented GORTON FEATURES—

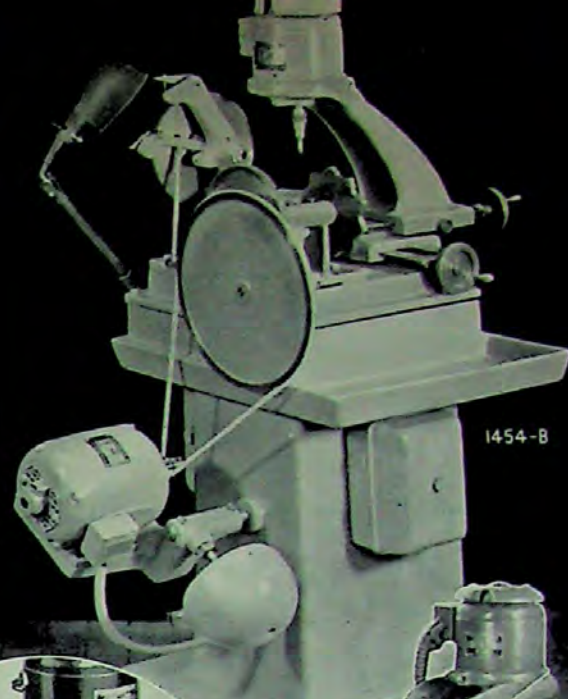
1. EASILY MOUNTED ON LATE MODEL GORTONS—on all Models 3-U and 3-L shipped since 1940—and Models 3-B and 3-Z which were specified upon order to be equipped to take roll attachment. Any machines not already so equipped, can be arranged to take the roll attachment. Consult factory for required changes.
2. CORRECT SPEED OF ROTATION for reproducing copy completely around rolls of any diameter is provided by built-in compensating mechanism, quickly set by a single scale graduated in sixteenth inches (shown at left above). Eliminates need of change gears—permits accurate engraving for infinitely varying roll diameters.
3. NO FORMING GUIDE REQUIRED—the roll is rotated automatically by the lateral movement of tracing style over copy.
4. CUTTER ALWAYS AT RIGHT ANGLES—to the roll surfaces—eliminates all chance of the undercutting often caused by using a forming guide for too large a surface at one setting.
5. WIDTH OF CHARACTERS VARIABLE—Sunk characters, having a uniform line the same width as the cutter point used, may be extended or condensed along the circumference of the roll simply by setting the scale for a diameter smaller or larger than the actual diameter of the roll.
6. INSTALLED IN FIVE MINUTES—The base of the Roll Attachment is clamped to the work table and upper part of the cutter head of the Pantograph through a special attachment. The Roll Attach-

ment may be set up in approximately five minutes. Master or copy is set up and the machine set for required reduction same as for flat work.

7. A HIGH PRECISION INSTRUMENT—Gorton Roll Attachments are completely ball bearing; the hardened precision-ground slides rolling on a stream of balls. Adjustable screws remove all play and compensate for wear. Locking screws protect the slides during shipment and when not in use. The main body of aluminum provides greater sensitivity. All parts are completely protected from dirt and chips.

SPECIFICATIONS AND SHIPPING DATA

- No. 727-1. For Models 3-U, 3-Z, 3-B and 3-L. Small size ROLL ATTACHMENT, accommodates rolls 3/4" to 3" dia. and up to 7" in length, which can be engraved completely around and along length in one setting. With special attachments, longer rolls may be accommodated. Dimensions: 10" high x 20" x 20". Approx. net weight, 90 lbs.; boxed, 125 lbs. Code, WYJAJ, PRICE (without chuck) \$687.00
- No. 5403. Chuck, complete with Adapter, as shown in large photo above. Capacity 0" to 2 7/8" dia. Ship. wt. 5 lbs. 11 oz. Code, YAMFE, Fits Roll Attachment 727-1 only. PRICE EXTRA \$36.00
- No. 750-1. For Models 3-Z and 3-L only. Large size ROLL ATTACHMENT accommodates rolls from 1 1/2" to 6" dia. and up to 12" in length, which can be engraved completely around and along length in two settings. With special attachments, longer rolls may be accommodated. Dimensions: 13" high x 26 1/2" x 27 1/2". Approx. net weight, 130 lbs.; boxed, 170 lbs. Code, YAEGY, PRICE (without chuck) \$935.00
- No. 5406. Chuck, complete with Adapter—similar to Chuck shown in large photo above, but larger capacity 0" to 5 1/4" dia. Ship. wt. 13 lbs. Code, YAMHO. Fits Roll Attachment 750-1 only. PRICE EXTRA . . . \$53.00



125 GRADUATIONS
IN 60 SECONDS



200 GRADUATIONS
IN 80 SECONDS



SIDE SERRATED IN
4 MINUTES

1682-A



CLOSE-UP OF JOB—
GRADUATING 1 3/8" DIAL
With Automatic Indexing
Controlling Accuracy of
Spacing and Varying
Length of Lines.



(A) VARIABLE SPEED UNIT



(B) EXTENSION SPINDLE

FOR GRADUATING, SERRATING OR NOTCHING DIALS, DISCS, CYLINDERS ON PERIPHERY, ON FACE, OR ANY ANGLE UP TO 90°

GRADUATING MACHINE 687-1 with FAST-POSITIVE-Automatic INDEXING

CAPACITY:

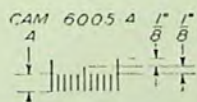
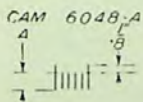
- ★ Graduates Dials 1/8" to 7" in diameter x 2 1/2" maximum face, or up to 2 1/2" diameter with 5" face, or up to 5" dia. with 4" face.
- ★ Lines may be varied alternately—as every tenth line longer, or fifth and tenth, etc.
- ★ AUTOMATIC INDEXING for 25 to 650 Divisions Within 360° (Less Than 25 Divisions Only by Hand Indexing).

VERSATILITY:

A notched master index dial controls number of graduations on work and a cam regulates length and sequence of long and short graduations, as required. When setting up different jobs, cam and master index dial can be quickly changed.

NOTCHED MASTER DIALS: The number of notches on the dial determines the maximum number of graduations it will index. With proper feed adjustment, the same dial will also index any other number of graduations which can be divided equally into the number of notches.

CAMS: One cam is required for each dial having a different arrangement of graduations. Two styles of standard cams are carried in stock, for cutting graduations as shown below. Cam No. 6048-A cuts two lengths of lines, cam No. 6005-A cuts three lengths. The Graduating Machine can be adjusted to obtain any length from 0" to 3/8" for the shortest lines (with either cam). These short lines are indicated at left with dimensions "A."



The length of the cam itself regulates lengths of the other lines and these cannot be changed without substituting a special cam. The maximum length of line cut with any cam is 1/8". To determine proper cam and fitting we should have prints showing

complete details of job to be graduated, sizes of holes and lines required to be cut. Send sample if possible.

SIMPLIFIED OPERATION

Mounted on a simple fitting, work is held with a draw bar. Cutter spindle is then positioned with work, and for depth of cut, by micrometer dials graduated in

thousandths. After mounting correct master index dial and cam, operator starts machine. The machine does the rest.

Indexing is entirely AUTOMATIC, fast, positive. A stop on the index wheel eliminates the risk of spoiling work. This simple GORTON device stops the indexing movement at any pre-determined point of the circumference desired.

STANDARD EQUIPMENT

Graduating machine 687-1, as shown above, with single speed, 1/8 HP, 1725 RPM spindle motor, 1/8 HP drive motor and starters; collet; cutter arbor; 5 circular cutters; draw bar. Wired, complete with lamp and pedestal. In ordering, be sure to specify choice of master index dial and cam (listed below), also motor voltages desired. Net weight 775 lbs., boxed 900 lbs. Code, WYKAK. PRICE (without index dial and cam) \$927.00

SPECIFY ON ORDER For MASTER INDEX DIALS: state number of notches desired—200 to 360 notches, \$21.00. Under 200 notches, \$16.00 (Above prices apply only to divisions easily obtainable—unusually odd divisions at extra cost).

For STANDARD CAMS—state details of job, length of lines, etc. Also send sample if possible. PRICE, each \$30.00

EXTRA CIRCULAR CUTTING SAWS—Specify sizes:—.005", .007", .010", .015", .020". PRICE, each \$1.10

OPTIONAL EQUIPMENT which can be substituted at extra cost—(For machines already in use, the following equipment may also be furnished at \$25.00 additional to prices listed below).

2-SPEED SPINDLE RANGE gives 3425 and 1725 RPM., making 687-1 machine more universal, capable of cutting both ferrous and non-ferrous materials. Code, WYKNO. PRICE EXTRA for 2-SPEED Equipment. \$30.00

No. 807-1. VARIABLE SPEED UNIT, as shown above at (A), equipping 687-1 machine with 3 spindle speeds of 900, 1800, 3600 RPM. Code, YACUX. PRICE EXTRA \$125.00

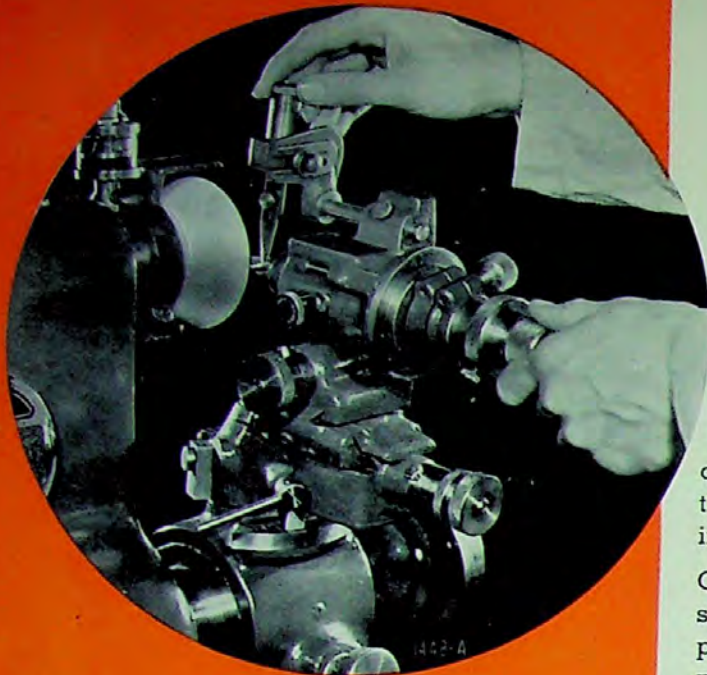
No. 983-1. HORIZONTAL HIGH SPEED SPINDLE, approx. 10,000 RPM for operating small diameter end mills required for certain types of graduated lines on face of aluminum and similar soft material dials. Code, YACZY. PRICE EXTRA \$50.00

No. 984-1. EXTENSION SPINDLE, as shown above at (B), for above machines. Permits graduing flat surface dials of larger diameter, up to 8". Code, YACWO. PRICE EXTRA \$75.00

REG. U.S. PAT. OFF.
TRADE MARK
GORTON
RACINE, WIS., U.S.A.

GORTON CUTTER GRINDER 375-2

PATENT NO. 1,920,073



Grinding a spiral flute cutter with GORTON
Universal Tool Head 717-1



1448-E

375-2 GORTON Cutter Grinder with Tool Head 717-1
and Floor Pedestal

**Provides Economy and Precision for
Small End Mill Grinding**

SIMPLE . . . RAPID . . . ACCURATE

The accurate, precision work required of small end mills and cutters is possible only through the use of good tools properly ground. It is for this type of work that the GORTON 375-2 Cutter Grinder was designed. Its features and construction result from working with small tools for more than forty-nine years, consequently it represents the utmost in efficiency and simplicity for small cutter grinding.

CUTTING REQUIREMENTS . . . to get the best results from small tools, they must be carefully chosen, operated at the proper speeds, and be properly ground. *All three are necessary.*

FEATURES . . . the 375-2 Cutter Grinder is a modern precision grinder, compact and rigidly built of the best materials. Completely ball bearing equipped; all bearings dust-proof, running in oil. Simple, positive adjustments for wear are provided at all vital points.

The highly practical, money-saving single flute cutters described on the first pages of this catalog cannot be ground properly on ordinary cutter grinders. For this reason it is important that one of these 375-2 grinders be used with GORTON Super-Speed Milling Machines, Duplicators, and Pantographs. Speed and precision result in savings which quickly offset cost. Instruction book gives complete details as to proper way of grinding various shapes and sizes of cutters.

WHAT THE 375-2 WILL DO

The 375-2 GORTON Cutter Grinder will grind any of the cutters listed on pages 2, 3, 4, and 5 of this catalog up to 5/8" diameter shank. It will also grind cutters with 2, 3, or 4 flutes. By using diamond impregnated wheels (interchangeable with standard wheels), carbide cutters may be ground to any of these shapes and sizes.

HOW TO ORDER

For grinder 375-2 with standard equipment as listed on next page, but without tool head or pedestal, use Code Word WYHIK. PRICE.....**\$318.00**

If pedestal for floor mounting (shown at left) is desired, add Code Word WYIBD. PRICE.....**\$46.00**

In ordering, select proper tool head and add code word to above. Please state voltage for DC motor or voltage, phase and cycles for AC motor.

GENERAL SPECIFICATIONS

SPINDLE: Cartridge type, quickly removable as a unit . . . super-precision ball bearings . . . oil filter . . . dust seals. Mounts 4" cup grinding wheels or diamond impregnated wheels. (See page 23.)

DRIVE: V-belt from standard 1/4 HP, 1725 RPM horizontal motor . . . dynamically balanced . . . on vibrationless rubber mounts. All completely enclosed in base . . . readily accessible by removing cover.

TOOL HEAD SUPPORT: Sliding telescope sleeve, completely shielded . . . dust-proof . . . lubricated from central oil reservoir. Carries ball bearing counterbalanced base with hardened taper stud for attaching tool heads. Provides for right or left hand feed by operator to wheel. Can be clamped in any position. Cross-feed hand wheel in front provides for feeding across face of wheel instead of swinging by hand, if desired, for multi-flute grinding and wheel dressing. Feed in and out from wheel, 2/8".

STANDARD EQUIPMENT

One wheel truing diamond 7566-A, one wheel spindle wrench 8489-A, one grinding wheel, Code Word TIMONCITAS, unless otherwise specified (see page 23), one rubber belt, one 1/4 HP, 1725 RPM motor with driving pulley and starter attached and wired ready for use, one machine lamp 419-2, and one instruction book.

NOTE: When a universal tool head 717-1 is purchased, a flaring cup grinding wheel, Code Word WYLEM, is furnished in addition to the straight cup grinding wheel, Code Word TIMONCITAS, indicated on page 23.

TOOL HEADS (Shown on opposite page 20)

Universal Head 717-1 for Duplicator and 3-Dimensional Pantograph

This head will grind single flute cutters as listed on page 2 in any size up to and including 5/8" shank, and with square, conical, or ball nose. Any predetermined angle, radius, or diameter may be obtained with any shape or clearance. A tooth rest provides for multi-flute cutters as listed at bottom of page 2. Index dial and plunger permits grinding cutters with 1, 2, 3, or 4 flutes; graduated 180 degrees. Micrometer dials on all adjustments. Precision collet sleeve, dust-sealed, takes spring collets 1/10, 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8" capacity; also adapter 6925-A which is required for GORTON Taper Shank Cutters (page 5). One collet in any size specified, or adapter 6925-A is included with tool head as standard equipment. For additional collets and adapter 6925-A, see page 23. Code Word WYHLO. PRICE \$248.00

NOTE: Special sleeves can be furnished to accommodate Single or Double End Mills up to 1" diameter, if such mills have flat on shank for securing with set screw.

Tool Head 716-1 for Pantograph Work

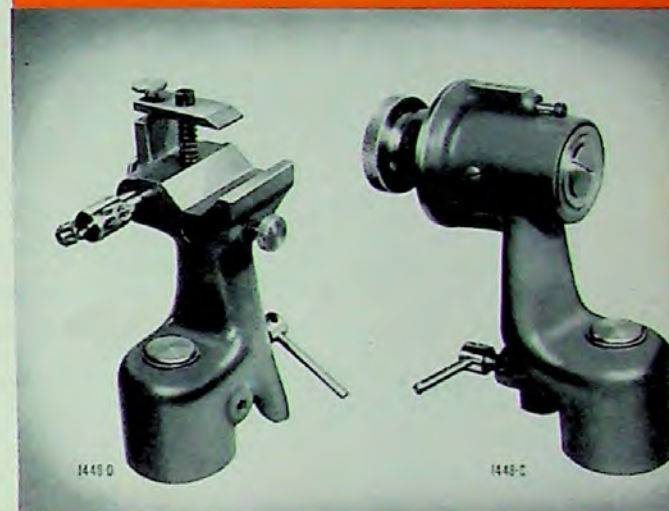
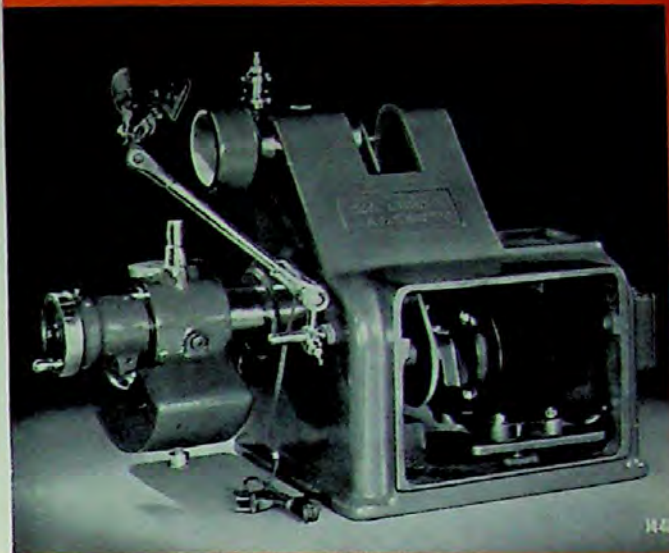
Recommended for use with 2-Dimensional Pantograph Machines. Grinds single flute cutters, except ball nose, in any size up to and including 5/8" diameter shank. Any predetermined angle, radius, or diameter may be obtained with any shape or clearance. Index plunger and dial provides for grinding 1, 2, 3, or 4 sides or flats. Collet sleeve takes spring collets up to 5/8", also adapter 6925-A for GORTON Taper Shank Cutters (page 5). One collet in any size specified, or Adapter 6925-A is included with tool head as standard equipment. Code Word WYHOL. PRICE each \$69.00

V Block Tool Head 737-1 for High Precision Pantograph Work

For holding 3-F, 3-U, also 3-A, 3-G Matrix machine spindles. This head is required only on an unusual installation, where extreme accuracy is necessary. It consists of a V-block as in illustration of 738-1. This holds the machine cutter spindle with cutter inserted, so that cutter may be ground without removal from its spindle. In ordering, state machine for which head will be used. Code Word WYIGF. PRICE each . . . \$44.00

Rear view of 375-2 Grinder, bench mounted, with tool head removed, also belt cover and motor compartment cover removed.

TRADE MARK
GORTON
RACINE, WIS., U.S.A.



V-Block Tool Head 738-1.

Plain Tool Head 716-1.

V Block Tool Head 738-1 for High Precision Pantograph Work

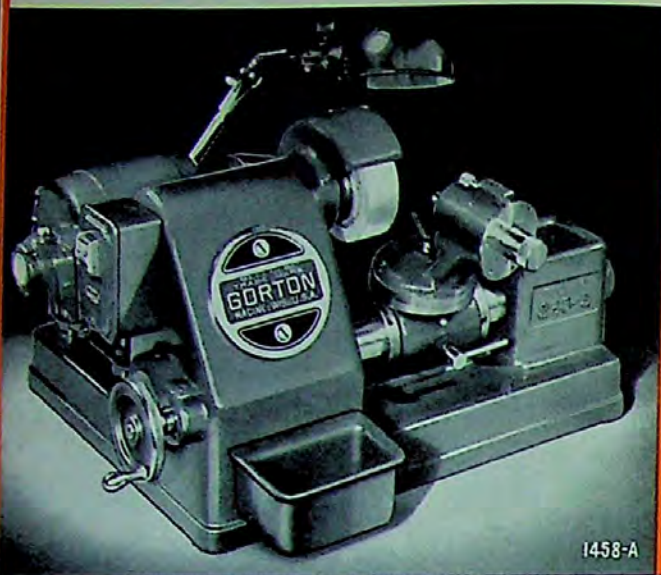
For holding 3-L, 3-Z, 3-X, and 3-K spindles, otherwise same specifications as V-Block Head 737-1 described at left. In ordering state machine for which head will be used. Code Word WYIRT. PRICE each \$44.00

Shipping Data

Height overall with pedestal, 52"; without pedestal, 22". Floor space (with or without pedestal) 25" x 30". Shipping weight, boxed for foreign or domestic shipment with pedestal 700 lbs., without pedestal 425 lbs. Size box with pedestal, 56" high x 28" x 35" total 32 cu. ft.; without pedestal, 28" high x 28" x 35" total 16 cu. ft.

GORTON Accessories and Machines have been constantly developed and improved for over 49 years. They are protected by more than 50 U. S. patents, in addition to foreign patents.

CUTTER GRINDER 265-5



265-5 Grinder with 333-1 Tool Head.

In designing the 265-5 Cutter Grinder, GORTON has provided an inexpensive machine capable of precision-grinding on the single flute cutters used with GORTON Pantograph Machines. This grinder is an accurate tool of the very best materials and workmanship. It has the same cutter capacity (up to $\frac{3}{8}$ " shank) and will do much the same work—except ball-nose and multi-flute cutter grinding—as the larger 375-2 Cutter Grinder. For this reason it is not suited for use with the Duplicators and 3-Dimensional Pantograph Machines. It is completely satisfactory for use with all other types of pantograph machines, of any size, particularly the GORTON 3-U, 3-F, 3-Z, and 3-X machines.

With radius attachment 426-2, described below (in addition to the regular tool head), ball-nose cutters of the single flute type only can be ground. This attachment is not recommended, however, for extremely accurate radius grinding.

SPECIFICATIONS

The spindle of the 265-5 Cutter Grinder is hardened and ground in tapered bronze bearing with adjustable taper end thrust and contained in a cartridge-type sleeve.

It is driven by a V-belt from standard $\frac{1}{4}$ HP, 1725 RPM horizontal motor mounted on vibrationless rubber bushings.

Tool heads are supported on a rocking head mounted on completely dust-proof sliding telescope sleeve.

STANDARD EQUIPMENT

Wheel truing diamond, 7566-A, one V-belt 24.4" long, one style grinding arm; one grinding arm; one grinding wheel (Code Word TINCIONARE, unless otherwise specified); one cutter wrench, one wheel nut wrench No. 5422-A, one machine lamp, 419-2; one $\frac{1}{4}$ HP, 1725 RPM motor, suitable manual starter and driving pulley, and one instruction book.

DIMENSIONS AND WEIGHT

Overall height 13", working space 16" x 22". Weight complete with tool head 120 lbs. Boxed for shipment 160 lbs., making a box 14" x 22" x 28", or 5 cu. ft. Code Word TIBICINA. PRICE, without tool head.....\$133.00

In ordering, refer to the above code word and also the code word of the desired tool head, and give voltage of DC motors, and voltage, phase, and cycles of AC motors.

Complete instructions for the grinding of cutters are contained in the instruction book.



V-Block Tool Head 267-1.



Tool Head 276-1.

TOOL HEADS

Tool Head 333-1 . . . For Gorton Taper Shank Cutters

This head is shown in the grinder illustration upper left. It has a hardened and ground, plain bearing spindle holding GORTON taper shank cutters (page 5). An index plunger and dial provide for indexing 1, 2, 3, or 4 sides or flats. This head is recommended for use with all GORTON Pantograph Machines using taper shank cutters. Code Word MOHIENTA. PRICE\$57.00

Tool Head 276-1 . . . For Straight Shank Cutters

This head is shown in small cut. It takes the same spring collets used in 375-2 Grinders, in $\frac{1}{16}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$ inch capacities; also Adapter 6925-A which is required for GORTON Taper Shank Cutters. One collet in any size specified, or Adapter 6925-A, will be included with head as standard equipment. For additional collets and Adapter 6925-A, see page 23. This head is recommended for all straight shank cutter grinding on all Pantograph and Milling Machine cutters where no radius or multi-flute grinding will be required. It is most frequently used with 3-Z, 3-X Pantograph Machines and 8-D Vertical Millers, also with Adapter 6925-A on all GORTON Taper Shank Cutters as used in 3-F, 3-U Pantograph Machines. Code Word MOINANTE. PRICE.....\$63.00

V Block Tool Head 267-1 . . . For 3-U, 3-F, Also Older 3-G Spindles

This head is shown in small cut. It consists of a V-block for holding the cutter spindles on above machines for grinding cutters in place in the spindle. This head is used only on special applications requiring extreme accuracy. It is not recommended for general use. (In ordering, advise machine for which head will be used.) Code Word MOINILLON. PRICE\$44.00

V Block Tool Head 699-1

Same specifications as 267-1 V-Block Head above, but intended for 3-X and 3-Z removable spindles and 3-L machine spindles. (In ordering, advise machine for which head will be used.) Code Word WYLME. PRICE\$57.00

Radius Attachment 426-2 . . . For Grinding Ball Nose Cutters

Mounted in place of regular tool heads on a taper stud which screws into the tapped hole used to clamp regular head. Takes same collets as Tool Head 276-1 and grinds single flute ball-nose cutters in all sizes accommodated with this head as stated. Complete with taper stud. Code Word WYLOP. PRICE\$44.00

GRINDING WHEELS

FOR 375-1 AND 375-2 CUTTER GRINDERS

The straight cup wheel shown at right is supplied as standard equipment on all 375-2 Cutter Grinders and is used for grinding all GORTON Single Flute Cutters. Wheel specifications: 4" outside diameter x 1 1/4" deep x 1/2" face x 3/8" back and 1/4" hole. Shipping weight 1 lb.

The flaring cup wheel is supplied with Universal Tool Head 717-1 for grinding multiple flute and spiral flute cutters. Specifications: 4"—3" outside diameter x 1 3/8" deep x 1/4" face x 3/8" back with 1/8" hole. Shipping weight 1 lb.

| Grade | Straight Cup Code Word | Price | Flaring Cup Code Word | Price |
|-------------------|------------------------|--------|-----------------------|--------|
| ALUNDUM 3860 M6BE | TIMONCITAS | \$1.93 | WYLEM | \$2.31 |
| ALUNDUM 3880 M6BE | TIMONEASEN | 1.93 | WYLLA | 2.31 |

FOR 265-4 AND 265-5 CUTTER GRINDERS

Straight cup wheels with the same dimensions as for Cutter Grinder 375-2 with the exception of having a 1 1/2" hole. Flaring cup wheels cannot be used on these grinders.

| Grade | Straight Cup Code Word | Price |
|-------------------|------------------------|--------|
| ALUNDUM 3860 M6BE | TINCIONARE | \$1.93 |
| ALUNDUM 3880 M6BE | TINGITANO | 1.93 |

WHEEL FOR OLD STYLE PANTOGRAPH MACHINES

These wheels are supplied either with or without the GORTON Taper Shank shown at right. For use with old style grinding arms on 1-A, 1-D, 1-G, 1-J Pantograph Machines and with Attachment 288-1 for all Pantograph Machines having spindle for GORTON Taper Shank Cutters. Mounted wheels are as shown. Specifications: 3" diameter x 1/2" thick with 1/4" hole. Face is beveled 30 degrees. Shipping weight 10 oz.

| No. | Grade | Code Word for Mounted Wheel | Price | No. For Wheel Only | Price |
|------|-------------------|-----------------------------|--------|--------------------|--------|
| 26-1 | ALUNDUM 3880 M6BE | MOLINISMO | \$3.52 | 3300-A | \$1.43 |
| 26-2 | ALUNDUM 3860 M6BE | MOLINITOS | 3.52 | 3300-B | 1.43 |

NOTE: Use code word for mounted wheel with shank. For wheel only, use numbers.

WHEEL TRUING DIAMOND 7566-A

For use with all GORTON as well as other makes of cutter grinders. Has a 3/8" shank to fit any standard 3/8" collet, and also a GORTON Taper Shank on end to fit any grinder head or holder fitting GORTON Taper Shank Cutters. Furnished as standard equipment with Cutter Grinders 265-5 and 375-2. Code Word VIBO. PRICE each.....\$5.50

GRINDER COLLETS For All Gorton Cutter Grinders

These standard spring collets fit all GORTON 375-2 and 375-1 Cutter Grinders and Cutter Grinders 265-4 and 265-5 when equipped with Tool Head 276-1. PRICE each\$4.62
Intermediate and Metric Sizes, PRICE each.....\$4.95

| Code Word | Hole Diameter | Code Word | Hole Dia. |
|------------|---------------|-----------|-----------|
| WYORV | 1/8" | WYOWB | 7/8" |
| WYOVS | 3/8" | WYOZD | 3/8" |
| VESTILUM | 1/10" | VIADRUS | 3/8" |
| VESTINI | 3/8" | VIALIS | 3/8" |
| VESULUSIA | 5/8" | VIASMA | 3/8" |
| VETTIUS | 3/8" | VIBIDIA | 1/2" |
| VETULONIA* | 2/10" | VOLTURNO | 3/8" |
| VETURIA | 1/4" | VIBIONES | 3/8" |

*The 2/10" size is specially made for grinding Pantograph tracing styles and should always be included with grinding equipment for Pantograph machines using this size style.

GRINDER COLLET ADAPTER 6925-A

For grinding GORTON Taper Shank Cutters in GORTON Cutter Grinders 375-1 and 375-2 or in 365-4 and 265-5 grinders having 276-1 tool heads. Adapters are hardened and ground inside and out. Shipping weight 1 lb., Code Word VIBIUS. PRICE each.....\$11.55

DIAMOND WHEELS — Resinoid-Bonded for Faster Grinds, Finer Finish With Special Heat Dissipating Aluminum Composition Back.

For tungsten-carbide grinding and finishing and lapping, where a fine finish is desired. Fast cutting wheels easily and quickly produce an exceptionally fine finish on the cutting edge. Tools lapped on these wheels result in savings because of a greatly improved cutting edge which gives longer life and higher production on many types of work. Stocked in cup form, these wheels come in two grades: coarse and fine. They are 3" diameter x 1 1/2" thick x 3/8" wide rim. Can be furnished with either 1/8" or 1 1/2" arbor hole. When ordering for Gorton Cutter Grinders 375-1 and 375-2, specify 1/8" hole; or for Grinders 265-4 and 265-5, specify 1 1/2" hole. The 1/8" hole wheels are interchangeable with the wheels listed for the 375-1 and 375-2 Grinders; the 1 1/2" hole wheels are interchangeable with the wheels listed for the 265-4 and 265-5 Grinders and may be used without changing from standard spindle speeds. We recommend using good quality thin oil on face of wheel.

| Grit | Depth of Diamond | Bond | Code | Price |
|------------|------------------|----------|-------|---------|
| 100 COARSE | 1/8" | Resinoid | YAMKY | \$24.90 |
| 320 FINE | 3/8" | Resinoid | YAMOH | 24.90 |



RECOMMENDED GRADES

All wheels listed at top of this page are stocked in the two grades which we have found most suitable for GORTON Cutter Grinders. These grades are ALUNDUM 38-60 M6BE; medium grain and hardness, for general grinding, supplied as standard equipment on cutter grinders . . . and ALUNDUM 38-80 M6BE; the same hardness as the first grade but with finer grain, used for grinding extremely small, delicate cutter points where very little stock is to be removed.





HAVE YOU THESE NEW GORTON BOOKLETS?

You will find them filled with practical ideas for enlarging the usefulness of your Gorton Machines and improving operating methods.