

### CLAYTON & LAMBERT For Gasoline Top Fill



Non-corrosive sturdy steel tank, coated both inside and out through a tin lead hot dip method. Full sized bronze burner with super heating vein produces a hot blue flame 6 inches long. Automatic pump with single spring check

valve. Cool bakelite handle and removable burner hook. Filled by removing pump. Safety features.

Diameter 4 1/4 inches. Height over all 9 7/8 inches.

#### Capacity One Quart

Each ▲ Each  
6-800-G X11D25★.....\$16.90  
One in ctn. Wt. ctn. 4 lbs.

### TURNER For Gasoline



#### Special Economy

All joints furnace brazed. Cast bronze burner produces hot blast in all weather. Oversized drip cup positioned for quick generation.

Detachable cleaning needle for automatic adjustment and orifice cleaning. Solid wood tank handle and ribbed valve wheel designed for a sure grip and to remain cool in operation. Sprayed bronze steel tank, top fill.

#### Capacity One Quart

Each ▲ Each  
6-T15-G X8D00.....\$11.95  
One in ctn. Wt. ctn. 4 lbs.

### BERNZ-O-MATIC

For laying asphalt tile, spot burning weeds, starting fires, leading gutters, and sweating copper fittings.

Extra large flame, big enough to sweat large copper soil pipe fittings. Hot enough for brazing.

Flame cuts back instantly when button is released. Brass burner unit assures years and years of dependable use.

Each ▲ Each  
F7350G (TX65) X6D60.....\$9.84  
One in box. Wt. box 4 lbs.

## BLOW TORCHES

### BERNZ-O-MATIC

Convenient and economical for many uses in the home, work shop or trade. Lights instantly without priming or preheating. Burns in any position at 2300 degrees F. up to 10 hours burning time.

High quality steel fuel cylinder with safety valve, fully loaded with Propane Gas and ready to operate. Pencil flame type burner unit. Threaded aluminum head with control valve screwed to top of fuel chamber. Non-clogging orifice. Cleans itself in 30 seconds. Length of cylinder 10 inches. Diameter 2 3/4 inches. Over all length 16 1/2 inches.

#### No Filling—No Spilling

Each ▲ Each  
F7380G (TX10) X4D65★.....\$6.95  
One in box. Wt. box 2 3/4 lbs.

## FUEL CYLINDERS

### For No. TX10 Blow Torches

Each ▲ Each  
F7379G (TX9) X1D33★.....\$1.94  
FX7379G (TX9) X1D33★—(Case lots 12)  
Twelve in ctn. Wt. ctn. 26 lbs.

#### Direct Shipment

#### Torches No. TX10—Lots of 36

#### Refills No. TX9—Lots of 48

May be Shipped Direct from Factory, Rochester, N. Y., with Full Freight Allowed to Destination.

Cannot be Assorted for Quantity

NOTE—Cannot be Shipped by Parcel Post.

## BURNER UNITS

### For No. TX10 Blow Torches

#### Pencil Flame Type

#### For Concentrated Heat

Each ▲ Each  
F7377G (TX1) X3D50...\$5.26  
One in box. Wt. box 1/8 lb.

#### General Utility

#### For Enveloping Flame

Each ▲ Each  
F7378G (TX2) X3D50...\$5.26  
One in box. Wt. box 1/8 lb.

### BERNZRITE

Approved by Underwriters' Laboratories.

#### Features:

1. Instant lighting propane cylinder.
2. Positive "easy-action" regulating knob.
3. Turn on cylinder—no extra locking devices.
4. Plated steel burner.

In a self-selling package.

Bernzrite Torches also operate on Bernz-o-matic propane cylinders.

Each ▲ Each  
F7356G (BZ210) X3D80...\$5.69  
One in display box.  
Twenty-four in ctn. Wt. ctn. 68 lbs.

### BERNZ-O-MATIC



Approved by Underwriters' Laboratories, Inc.  
Three color display package with acetate window, sells on sight.

Pencil burner makes it ideal for jewelry making, antiquing furniture, wire splicing, etc.

Utility burner is suited for copper sweat fitting, bending, tubing and heavy duty soldering.

Flame Spreader—Adapts torch for burning paint, tiling floors.

Soldering Tip—Converts it for electrical repairs, mending toys.

Quantity	Kit Contains:	Retail Each
1	F7377G-TX1 Pencil burner unit	\$.526
1	1352-BU Utility burner head and orifice	1.95
1	F9515G-TX300 Flame spreader	1.00
1	F9516G-TX400 Soldering tip (small—Use with TX1)	1.75
1	F7379G-TX9 Bernz-o-matic disposable fuel cylinder	1.94
	Regular Retail Price	\$13.35

Per Kit ▲ Per Kit  
F7373G (TX888) X5D95★.....\$11.90  
One kit in box. Twelve in ctn. Wt. ctn. 50 lbs.

### BERNZ-O-MATIC



#### Carry-All

Torch and accessories for home or shop—sweating copper tubing, paint removing, soldering, tile setting, lighting charcoal fires, etc.—in a handsome metal, all-purpose carrying case.

Kit includes one each of the following:

Cylinder	\$1.94
Pencil Burner Unit	5.26
Utility Burner Head	1.95
Soldering Tip	1.75
Flame Spreader	1.00
Flint Sparklighter	.30
Regular Price	\$12.20

Per Kit Per Kit  
F7381G (TX25) X6D65.....\$9.95  
Twelve kits in ctn. Wt. ctn. 62 lbs.



## BLOW TORCHES

## SUPREME—FLAT TANK

For Gasoline

Top Fill



Designed for hard to get at places.

Tank drawn from heavy gauge sheet steel, bottom brazed to tank shell. Cannon type burner, cast from special alloy bronze. Needle—valve square

shoulder seat or valve shaft prevents orifice enlargement. Slender pin type cleaning needle automatically cleans orifice. Black bakelite valve wheel, stays cool. Pump has blow-proof construction. Long stroke and positive action for ample pressure quickly. Check valve completely enclosed. Steel handle with hardwood pistol grip. Pump, burner and filler inlets brazed into place. Tank and burner cup finished in gilt with red enameled handle.

## Capacity One Pint

Each ▲Each  
6-61-G X8D10.....\$13.50

One in ctn. Wt. ctn. 4 lbs.

## CLAYTON &amp; LAMBERT

For Gasoline

Top Fill



Non-corrosive sturdy steel tank, coated both inside and out through a tin lead hot dip method. Full sized bronze burner with super heating vein produces a hot blue flame 6 inches long. Automatic pump with single spring check

valve. Cool bakelite handle and removable burner hook. Filled by removing pump. Safety features.

Diameter 4 1/4 inches. Height over all 9 7/8 inches.

## Capacity One Quart

Each ▲Each  
6-800-G X11D25★.....\$16.90

One in ctn. Wt. ctn. 4 lbs.

TURNER  
For GasolineGeneral Utility  
Tank-top Fill

Unsurpassed for the occasional user, for farm, home and shop work. Cast bronze burner produces hot blue blast in any weather.

Seamless tank construction of terne-coated (rust-resistant) steel, with eye-appealing sprayed bronze finish.

Detachable cleaning needle for automatic adjustment. Ribbed valve wheel built for sure grip.

## Capacity One Quart

Each ▲Each  
6-T16-G X9D00.....\$13.50  
One in ctn. Wt. ctn. 4 1/4 lbs.



## Special Economy

All joints furnace brazed. Cast bronze burner produces hot blast in all weather. Oversized drip cup positioned for quick generation.

Detachable cleaning needle for automatic adjustment and orifice cleaning. Solid wood tank handle and ribbed valve wheel designed for a sure grip and to remain cool in operation. Sprayed bronze steel tank, top fill.

## Capacity One Quart

Each ▲Each  
6-T15-G X8D00.....\$11.95  
One in ctn. Wt. ctn. 4 lbs.



## BERNZ-O-MATIC



## Trade-In Plan

Give \$1.00 allowance on any old torch toward TX888 "Trade-in" package. Sell the free TX10 torch for \$5.95 and get back the \$1.00 allowed on each of the six TX888 Kits.

## "Trade-in" Pak includes:

Qty.	Item	Each
6	TX888 Torch Kits with special "Trade-in" wrapper.....	\$8.88
1	Free TX10 Torch.....	5.95
1	Dealer Merchandising kit containing Ad mats and window banner.	

Per Deal Per Deal  
61-TX8500-G X35D70.....\$53.28

One deal in ctn. Wt. ctn. 25 1/2 lbs.

## BERNZRITE

Approved by Underwriters' Laboratories

## Features:

1. Instant lighting propane cylinder.
2. Positive "easy-action" regulating knob.
3. Turn on cylinder—no extra locking devices.
4. Plated steel burner.

In a self-selling package.

Bernzrite Torches also operate on Bernz-o-matic propane cylinders.

(BZ210)

Each ▲Each  
F7356G X3D80.....\$5.69

One in display box. 24 in ctn. Wt. ctn. 68 lbs.

STAR ★ DENOTES BEST SELLER



**BLOW TORCHES****BERNZ-O-MATIC**

Convenient and economical for many uses in the home, work shop or trade. Lights instantly without priming or preheating. Burns in any position at 2300 degrees F. up to 10 hours burning time.

High quality steel fuel cylinder with safety valve, fully loaded with Propane Gas and ready to operate. Pencil flame type burner unit. Threaded aluminum head with control valve screwed to top of fuel chamber. Non-clogging orifice. Cleans itself in 30 seconds. Length of cylinder 10 inches. Diameter  $2\frac{3}{4}$  inches. Over all length  $16\frac{1}{2}$  inches.

**No Filling—No Spilling**

(TX10)

Each **F7380G X4D65★**.....▲ Each \$6.95One in box. Wt. box  $2\frac{3}{4}$  lbs.**FUEL CYLINDERS****For No. TX10 Blow Torches**

(TX9)

Each **F7379G X1D33★**.....▲ Each \$1.94**FX7379G X1D33★**—(Case lots 12)

Twelve in ctn. Wt. ctn. 26 lbs.

**Direct Shipment****Torches No. TX10—Lots of 36****Refills No. TX9—Lots of 48**

May be Shipped Direct from Factory, Rochester, N. Y., with Full Freight Allowed to Destination.

**Cannot be Assorted for Quantity****NOTE—Cannot be Shipped by Parcel Post.****BURNER UNITS****For No. TX10 Blow Torches****Pencil Flame Type****For Concentrated Heat**

(TX1)

Each **F7377G X3D50**.....▲ Each \$5.26One in box. Wt. box  $\frac{1}{8}$  lb.**General Utility****For Enveloping Flame**

(TX2)

Each **F7378G X3D50**.....▲ Each \$5.26One in box. Wt. box  $\frac{1}{8}$  lb.**BLOW TORCH KITS****BERNZ-O-MATIC****Carry-All**

Torch and accessories for home or shop—sweating copper tubing, paint removing, soldering, tile setting, lighting charcoal fires, etc.—in a handsome metal, all-purpose carrying case.

Kit includes one each of the following:

Cylinder.....	\$ 1.94
Pencil Burner Unit.....	5.26
Utility Burner Head.....	1.95
Soldering Tip.....	1.75
Flame Spreader.....	1.00
Flint Sparklighter.....	.30

Regular Price.....\$12.20

(TX25)

Per Kit

**F7381G X6D65**.....\$9.95

Per Kit

Twelve kits in ctn. Wt. ctn. 62 lbs.

**BLOW TORCHES****BERNZ-O-MATIC**

For laying asphalt tile, spot burning weeds, starting fires, leading gutters, and sweating copper fittings.

Extra large flame, big enough to sweat large copper soil pipe fittings. Hot enough for brazing.

Flame cuts back instantly when button is released. Brass burner unit assures years and years of dependable use.

(TX65)

Each **F7350G X6D60**.....▲ Each \$9.84

One in box. Wt. box 4 lbs.

**TORCH KIT****BERNZ-O-MATIC**

Approved by Underwriters' Laboratories, Inc.

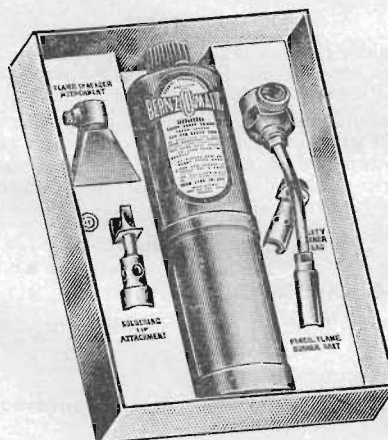
Three color display package with acetate window, sells on sight.

Pencil burner makes it ideal for jewelry making, antiquing furniture, wire splicing, etc.

Utility burner is suited for copper sweat fitting, bending, tubing and heavy duty soldering.

**Flame Spreader**—Adapts torch for burning paint, tiling floors.

**Soldering Tip**—Converts it for electrical repairs, mending toys.



Quantity

Kit Contains:

Retail

1	F7377G—TX1 Pencil burner unit.....	\$ 5.26
1	1352—BU Utility burner head and orifice.....	1.95
1	F9515G—TX300 Flame spreader.....	1.00
1	F9516G—TX400 Soldering tip (small—Use with TX1).....	1.75
1	F7379G—TX9 Bernz-o-matic disposable fuel cylinder.....	1.94

Regular Retail Price.....\$13.35

Per Kit

**F7373G X5D95★ (TX888)**.....▲ Per Kit \$11.90

One kit in box. Twelve in ctn. Wt. ctn. 50 lbs.

**STAR ★ DENOTES BEST SELLER**

4-44-B

1-14-59

SHAPLEIGH HARDWARE COMPANY, ST. LOUIS

TORCH DISPENSER DISPLAY

Bernz-O-Matic -- Panoramic

Per Display

FX-TX6510-G

X23D25

Per Display

\$41.70

One display in carton. Wt. Ctn. 31 Lbs.



**PANORAMIC**  
4-44C  
1-14-59

# TORCH DISPENSER DISPLAY



This Display Features  
**BOB CROSBY** who says:

*"This torch is terrific...  
every homeowner like  
myself should have one!"*

- Uses 1 sq. foot of space
- Torches and FREE display shipped completely assembled—ready to use
- Adapted to increase impulse sales in Tool, Paint, Plumbing, Floor Covering, Do-it-yourself departments
- 360° Visibility • Field tested
- Beautiful 4-color Display with photographs illustrating torch uses taken on location
- Display Size: 23 $\frac{3}{8}$ " high, 12" wide



Model TX-6510

Shipping Weight 31 lbs. • Packed 1 to Carton

**BUY FIVE TX-10 TORCHES  
GET ONE FREE!**

Pays a Fabulous

**44% PROFIT**

**"PANORAMIC" SELLS FROM ANY ANGLE**

**HERE'S YOUR DEAL**

BUY 5 BERNZ-O-MATIC TX-10 MASTER TORCHES—YOUR COST . . . **\$23.25**

RECEIVE FREE  
1 BERNZ-O-MATIC TX-10 MASTER TORCH  
\$ 6.95 RETAIL VALUE

**RETAIL RETURN . . . \$41.70**

**YOUR PROFIT**  
**\$18.45**

**PAYS YOU A 44% PROFIT**

**BERNZ-O-MATIC**

**BERNZ-O-MATIC**

OTTO BERNZ CO., INC. • ROCHESTER, N. Y.



## EXTRA PARTS FOR BERNZ-O-MATIC BLOW TORCHES

### SPARK LIGHTERS



For quick lighting of torches.

Each ▲Each  
**F9519G (TX405) D2C0**.....\$0.30  
 Loose. Wt. each 2 ozs.

### SOLDERING TIPS



For sheet metal work and heavy duty soldering.

Each ▲Each  
**F9517G (TX401) X1D30**.....\$1.95  
 One in box. Wt. box 6 ozs.



For soldering wires and other close electrical work.

Each ▲Each  
**F9516G (TX400) X1D17**.....\$1.75  
 One in box. Wt. box 3 ozs.

### FLAME SPREADERS



Provides wide flame for burning off old paint, furniture finishing and floor laying.

Each ▲Each  
**F9515G (TX300) D7C0**.....\$1.00  
 One in box. Wt. box 4 ozs.

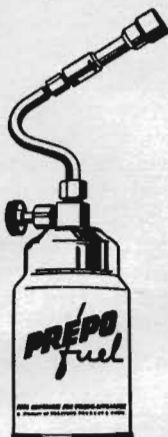
### FLOOR STANDS



For firmly holding torch in upright position.

Each ▲Each  
**F9518G (TX410) D8C5**.....\$1.25  
 One in box. Wt. box 7 ozs.

## TORCH BASE KITS



### Standard

Contains:

Quantity	Item
1 650	Torch base
1 F9255G (613)	Utility burner
1 F7374G (690)	Fuel tank

### Complete Kit

Per Kit ▲Per Kit  
**F7376G (601) X3D98★**.....\$5.95  
**FX7376G (601) X3D98★**—(Case lots 12)  
 One in ctn., twelve in case. Wt. case 18 lbs.

## FUEL TANKS



Self-pressurizing hydrocarbon blend. Non-poisonous and non-toxic. In seamless steel tanks.

Each ▲ Each  
**F7374G (690) D4C6★**.....\$0.69  
**FX7374G (690) D4C6★**—(Ctn. lots 6)  
 Six in ctn. Wt. ctn. 4½ lbs.

## ACCESSORIES FOR BLOW TORCHES

### PREPO

### PAINT REMOVER TIPS



For Use with 613 Burner

Each ▲Each  
**F9527G (620) D8C4**.....\$1.25  
**FX9527G (620) D8C4**—(Case lots 12)  
 One in ctn., twelve in case. Wt. case 3 lbs.

### SOLDER TIPS



### Diamond Point

For use with 612 or 613 burners.

Each ▲Each  
**F9528G (621) X1D30**.....\$1.95  
**FX9528G (621) X1D30**—(Case lots 12)  
 One in ctn., twelve in case. Wt. case 2½ lbs.

## CONVERSION ADAPTER AND FILTER UNIT

For use with 612 or 613 burners.

Each ▲Each  
**F9530G (652) D3C4**.....\$0.50  
**FX9530G (652) D3C4**—(Case lots 12)  
 One in ctn., twelve in case. Wt. case ¾ lb.

### ORIFICE

For F9526G-615 Burner

Each ▲Each  
**F9522G (635) D3C4**.....\$0.50  
 One in box. Wt. box ¼ lb.



## ELECTRIC SOLDERING IRONS

## DRAKE



Designed for household and radio work. Highest quality nichrome wire wound on amber mica. Fully nickel plated. Listed as standard with Underwriters Laboratories. Complete with 6-foot heater cord, rubber plug and soldering iron stand.  $\frac{3}{8}$ -inch adjustable plug tip. Consumes 100 watts. Operates on 110 to 120 volts, A. C. or D. C. Length over all 13 inches.

Each  $\Delta$  Each  
F7361G (325) X3D46.....\$6.50  
One in box. Wt. box  $1\frac{1}{2}$  lbs.



Recommended for light, medium work. Highest quality nichrome wire used in porcelain element. Fully nickel plated. Has  $\frac{3}{8}$ -inch removable copper tip. Specially designed radiating fins keep handles cool. Complete with 6-foot heater cord, rubber plug and 7-inch soldering iron stand. Operates on 110-120 volts, A. C. or D. C. and consumes 100 watts. Listed as standard by the Underwriters Laboratories. Length over all 13 inches.

Each  $\Delta$  Each  
F7369G (701) X2D24.....\$4.20  
One in box. Wt. box  $1\frac{1}{4}$  lbs.



An ideal iron for light soldering in automotive work.

Highest quality nichrome wire used in porcelain element. Comfortable wood handle with metal ferrule. Large radiator type cooling fins keep handle cool.  $\frac{3}{8}$ -inch tip. Length over all 13 inches.

Complete with 6 foot heater cord, rubber plug and small stand.

Operates on 110 to 120 volts, A. C. or D. C. and consumes 60 watts.

Each  $\Delta$  Each  
F7367G (700) X1D97.....\$3.70  
One in box. Wt. box 1 lb.



Excellent for light household and general purpose radio work. Listed as standard with Underwriters' Laboratories.

Nichrome porcelain element.  $\frac{3}{8}$  inch tip. Complete with stand. Cord 6 feet long, with rubber plug. Length over all  $10\frac{1}{2}$  inches.

Operates on 110-120 volts, A. C. or D. C., 60 watts.

Each  $\Delta$  Each  
F7359G (315) X1D49★.....\$2.80  
One in box. Wt. box 1 lb.



Extra hot iron for service men.

Highest quality nichrome wound on amber mica.  $\frac{3}{8}$ -inch tip. Black enameled wood handle. Gun metal finish. Large radiator type cooling fins keep handles cool.

Complete with 6 foot heater cord, rubber plug and large stand.

Operates on 110 to 120 volts, A. C. or D. C. and consumes 125 watts.

Each  $\Delta$  Each  
F7362G (326) X3D72.....\$7.00  
One in box. Wt. box 2 lbs.

## LENK



## Super DeLuxe

Heavily chrome plated swaged tube. Special alloy copper standard tip. Metal clad heating element encased in sturdy metal jacket. Sure grip handle with sturdy rubber covered cord, resists wear, moisture and oil. Eliminates "short" trouble and adds years of service. Fin type heat dissipators. Ruggedly built.

Operates on A. C. or D. C. 110-120 volts.

Each	Tip Diam., in.	Len., in.	Watts	Box, lbs.	$\Delta$ Each
	(730)				
F7366G X1D88★	$\frac{3}{8}$	$12\frac{1}{2}$	80	$\frac{3}{4}$	\$3.15
	(740)				
F7368G X2D10★	$\frac{3}{4}$	$13\frac{3}{8}$	110	1	3.49
	(750)				
F7370G X2D94★	$\frac{7}{8}$	$13\frac{3}{4}$	150	$1\frac{1}{8}$	4.89
One in box.					



## Super DeLuxe

New compact sales catching yellow and black display board for the counter. Free booklets of tips on soldering.

Heavily chrome plated swaged tube. Special alloy copper standard tip. Metal clad heating element encased in sturdy metal jacket. Sure grip handle with sturdy rubber covered cord, resists wear, moisture and oil. Eliminates "short" trouble and adds years of service. Fin type heat dissipators Ruggedly built.

Contents:					
Quan- tity	Nos.	Tip Diameter, inches	Length, inches	Watts	$\Delta$ Each
1	730	$\frac{3}{8}$	$12\frac{1}{2}$	80	\$3.15
1	740	$\frac{3}{4}$	$13\frac{3}{8}$	110	3.49
1	750	$\frac{7}{8}$	$13\frac{3}{4}$	150	4.89

Operates on A. C. or D. C. 110-120 volts.

## Three Soldering Coppers

Per Asst.  
FX-CB9S-G X6D90★

One asst. in ctn. Wt. ctn. 4 lbs.

## LENK



## Instant IH Heat

Tough, long life case of laminated phenolic resin-impregnated cloth plastic. Special alloy adjustable swivel tip, permits any angle soldering. Advanced transformer design, melts solder in  $3\frac{1}{2}$  seconds. Long life, heavy duty 180 watt transformer. Positive trigger. Automatically focussed light always follows work. Perfectly balanced. Cool handle. Length over all 11 inches.

Operates on A. C., 110 volts, 180 watts.

Each  $\Delta$  Each  
F7398G (501) X8D65★.....\$12.98

Wt. each  $1\frac{1}{4}$  lbs.

One in display ctn., twelve in case

Wt. case 24 lbs.

## LENK



## Gun Grip

The perfect tool for all soldering purposes. Solders in any position with three special tips straight, 45°, 90° and heavy duty.

Tube chrome plated over nickel and copper with U. L. approved 3000 cycle, 6 foot heater cord with unbreakable rubber plug. Long life heating element. Spring construction cushions pressure for delicate work, keeps gun grip handle cool, protects handle and unit and insure perfect soldering. Built-in stand for resting iron.

Complete with four tips and tip bushing. Size  $9\frac{1}{2} \times 4\frac{3}{4}$  inches.

Operates on A. C. or D. C. 110-120 volts.

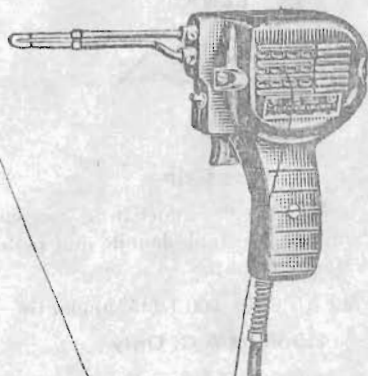
Each  $\Delta$  Each  
F7364G (504) X3D60 75 1 \$6.00

One in box.



## ELECTRIC SOLDERING GUN

WEN



Working hot in less than five seconds. Silver plated tip and connectors to insure positive electrical contact.

Extra long (removable) tip. Extra long reach tip and long life heavy gauge steel nose tip. Built-in spotlight angled to focus light on work without shadow.

High impact shatter-proof plastic handle and case. Hi-luster ebony black finish.

### Specifications:

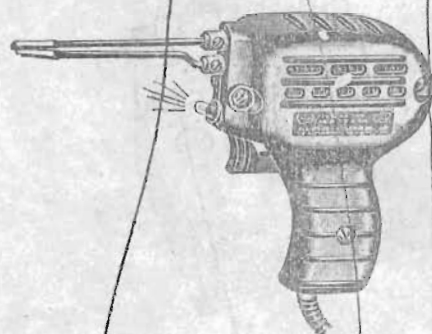
110-120 volts, 60 cycles A.C. only, 2 amperes maximum. 6 foot Prenex cord with molded plug. U. L. approved.

Over all length without tip 4½ inches. With tip 9 inches. Over all height 6¼ inches.

(288)

Each F7445G X6D64 ▲ Each \$9.95

One in box. Three in ctn. Wt. ctn. 10 lbs.



### The Quick-Hot

Working hot in 2½ seconds. Cools quickly when trigger is released.

Extra long narrow new type steel nose lifetime tip. Built-in spotlight angled to focus light on work at tip. Cherry red sturdy plastic handle and case. Six foot Prenex cord and molded plug.

Length without tip 5 inches.

Operates on A.C., 60 cycle.

(199)

Each F7424G X5D30★ ▲ Each \$7.95

One in display box. Wt. box 2¼ lbs.

### TIPS

For F7424G (199) Soldering Iron

(19B4)

Each F7425G D3C3 ▲ Each \$0.50

One in envelope. Wt. envelope 1 oz.

## ELECTRIC SOLDERING IRONS

DRAKE



Designed for household and radio work. Highest quality nichrome wire wound on amber mica. Fully nickel plated. Listed as standard with Underwriters Laboratories. Complete with 6-foot heater cord, rubber plug and soldering iron stand. ⅝-inch adjustable plug tip. Consumes 100 watts. Operates on 110 to 120 volts, A. C. or D. C. Length over all 13 inches.

Each (325) ▲ Each \$6.50  
F7361G X3D46  
One in box. Wt. box 1½ lbs.



Recommended for light, medium work. Highest quality nichrome wire used in porcelain element. Fully nickel plated. Has ⅝-inch removable copper tip. Specially designed radiating fins keep handles cool. Complete with 6-foot heater cord, rubber plug and 7-inch soldering iron stand. Operates on 110-120 volts, A. C. or D. C. and consumes 100 watts. Listed as standard by the Underwriters Laboratories. Length over all 13 inches.

Each (701) ▲ Each \$4.20  
F7369G X2D24  
One in box. Wt. box 1¼ lbs.



An ideal iron for light soldering in automotive work.

Highest quality nichrome wire used in porcelain element. Comfortable wood handle with metal ferrule. Large radiator type cooling fins keep handle cool. ⅝-inch tip. Length over all 13 inches.

Complete with 6 foot heater cord, rubber plug and small stand.

Operates on 110 to 120 volts, A. C. or D. C. and consumes 60 watts.

Each (700) ▲ Each \$3.70  
F7367G X1D97  
One in box. Wt. box 1 lb.



Excellent for light household and general purpose radio work. Listed as standard with Underwriters' Laboratories.

Nichrome porcelain element. ⅝ inch tip. Complete with stand. Cord 6 feet long, with rubber plug. Length over all 10½ inches.

Operates on 110-120 volts, A. C. or D. C., 60 watts.

Each (315) ▲ Each \$2.80  
F7359G X1D49★  
One in box. Wt. box 1 lb.

DRAKE



Extra hot iron for service men.

Highest quality nichrome wound on amber mica. ⅝-inch tip. Black enameled wood handle. Gun metal finish. Large radiator type cooling fins keep handles cool.

Complete with 6 foot heater cord, rubber plug and large stand.

Operates on 110 to 120 volts, A. C. or D. C. and consumes 125 watts.

Each (326) ▲ Each \$7.00  
F7362G X3D72  
One in box. Wt. box 2 lbs.

## STANLEY HANDYMAN



For light, intermittent soldering jobs in the home, garage or service shop.

Compressed pure copper tips. Nichrome heating element solidly embedded in electrical insulating materials. Cool comfortable wood handle. Six foot cord and plug. Length 12 ins.

Each	Diam. Tip in.	Watts	Wgt. Each lbs.	▲ Each
	(420)			
F7416G X2D67	½	60	⅞	\$4.30
	(435)			
F7418G X3D73	¾	80	1⅝	5.60
One in box				



## ELECTRIC SOLDERING IRONS

## LENK



## Super DeLuxe

Heavily chrome plated swaged tube. Special alloy copper standard tip. Metal clad heating element encased in sturdy metal jacket. Sure grip handle with sturdy rubber covered cord, resists wear, moisture and oil. Eliminates "short" trouble and adds years of service. Fin type heat dissipators. Ruggedly built.

Operates on A. C. or D. C. 110-120 volts.

Tip  
Diam., Lgth., Wt.  
in. in. Watts lbs.

Each	★	Tip	Wt.	Each
		Diam., Lgth., in.	in. Watts lbs.	
F7366G X1D88	(730)	3/8 12 1/2	80 3/4	\$3.15
F7368G X2D10	(740)	3/4 13 3/4	110 1	3.49
F7370G X2D94	(750)	7/8 13 3/4	150 1 1/2	4.89

One in box



## Super DeLuxe

New compact sales catching yellow and black display board for the counter. Free booklets of tips on soldering.

Heavily chrome plated swaged tube. Special alloy copper standard tip. Metal clad heating element encased in sturdy metal jacket. Sure grip handle with sturdy rubber covered cord, resists wear, moisture and oil. Eliminates "short" trouble and adds years of service. Fin type heat dissipators. Ruggedly built.

## Contents:

Quantity	Nos.	Tip Diameter, inches	Length, inches	Watts	List Each
1	730	3/8	12 1/2	80	\$3.15
1	740	3/4	13 3/4	110	3.49
1	750	7/8	13 3/4	150	4.89

Operates on A. C. or D. C. 110-120 volts.

## Three Soldering Coppers

Per Asst.

F7X-CB95-G X6D90 ★

One asst. in ctn. Wt. ctn. 4 lbs.

## LENK



## Instant IH Heat

Tough, long life case of laminated phenolic resin-impregnated cloth plastic. Special alloy adjustable swivel tip, permits any angle soldering. Advanced transformer design, melts solder in 3 1/2 seconds. Long life, heavy duty 180 watt transformer. Positive trigger. Automatically focussed light always follows work. Perfectly balanced. Cool handle. Length over all 11 inches.

Operates on A. C., 110 volts, 180 watts.

(501)

Each F7398G X6D65★

Wt. each 1 1/4 lbs.

One in display ctn., twelve in case.

Wt. case 24 lbs.

## LENK



## Gun Grip

The perfect tool for all soldering purposes. Solders in any position with three special tips straight, 45°, 90° and heavy duty.

Tube chrome plated over nickel and copper with U. L. approved 3000 cycle, 6 foot heater cord with unbreakable rubber plug. Long life heating element. Spring construction cushions pressure for delicate work, keeps gun grip handle cool, protects handle and unit and insure perfect soldering. Built-in stand for resting iron.

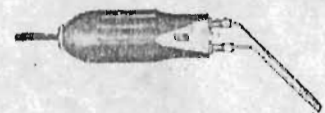
Complete with four tips and tip bushing. Size 9 1/2 x 4 3/4 inches.

Operates on A. C. or D. C. 110-120 volts.

Each	Watts	Weight Box, lbs.	▲Each
F7364G X3D60 (504)	75	1	\$6.00
F7365G X4D20 (555)	125	1 1/4	7.00

One in box

## LENK



## Easy Grip

Instant heating—melts solder in 5 1/2 seconds. Bakelite body. Comfortable handle and perfect balance. Automatic light.

Complete with 1 No. 560-1 (45° angle) tip.

110 Volts A.C. Only

Packed in counter display carton.

Length 6 1/2 inches

Complete with 6 foot attached cord.

(560)

Each F7358G X4D65

▲Each \$6.98

One in box. Twelve in ctn. Wt. ctn. 15 lbs.

## SOLDERING KIT

## LENK

## UL Approved



Complete kit in self-selling display. For all general home and shop soldering.

## Kit Contains:

Quantity	Item
1	Pistol grip 80-watt soldering iron with all-purpose tip, heavy duty neoprene cord and sturdy Lenk heating element.
1	Lenk "Little Giant" liquefied petroleum instant lighting torch, throw-away fuel container equipped with safety valve.
3	Kind of solder—For all soldering needs, acid core, rosin core, special formula aluminum.
1	Complete instruction booklet. Steel wool for proper cleaning.

Per Kit F7442G X4D00 (45K)

▲Per Kit \$5.98

One in box, twelve in ctn. Wt. ctn. 24 lbs.



## ELECTRIC SOLDERING KITS

WELLER



250-Watt

Everything required for hundreds of homecraft and hobby jobs.

Kit Contains:

250-watt gun—instant heat and dual spotlight features.

Long-life soldering tip—designed for tight difficult places.

Handy smoothing tip—for heat-sealing and mending plastic articles.

Special cutting tip—cuts plastic cleanly, removes hard putty from broken windows.

Tip interchange wrench.

Kester solder—general purpose acid core.

How-to-do-it booklet.

Sturdy metal case.

120 Volts, 60 Cycles, A. C. Only

Per Kit F7352G (8250AK) X9D97.....\$14.95  
Three kits in ctn. Wt. ctn. 21 lbs.

## ELECTRIC SOLDERING GUNS

WELLER



250-Watt

For home repairs, electrical jobs, hobbycraft, etc. Instant heat. Dual spotlights. Streamlined design reaches tight, difficult spots. Rugged plastic housing. On and off trigger switch. With long life, low cost replaceable soldering tip.

120 Volts, 60 Cycles, A. C. Only

Each F7355G (8250A) X8D64.....\$12.95  
Three in ctn. Wt. ctn. 12 lbs.

## ELECTRIC SOLDERING KITS

WELLER



"Expert" Dual Heat—90/125 Watts

Complete set of equipment for fast, efficient soldering.

Kit Contains:

90/125-watt gun—instant heat and dual spotlight features.

Long-life soldering tip—designed for tight, difficult places.

Soldering aid—for making tight wire twists and opening old soldered joints.

Wire soldering brush.

All-purpose solder.

Heavy cardboard storage case.

120 Volts, 60 Cycles, A. C. Only

Per Kit F7354G (8200K) X5D30.....\$7.95  
Six kits in ctn. Wt. ctn. 19 lbs.

## ELECTRIC SOLDERING GUN TIPS

WELLER

Per Pkg.			For Guns, Nos.	Per Pkg.
F7423G (8125)	D2C5		8200	\$0.35
F7425G (7250)	D3C5		8250A	.50
F7424G (7135)	D2C5		8100	.35

Two tips in pkg., 25 pkgs. in box. Wt. box 1 lb.

## FIRE POTS

CLAYTON &amp; LAMBERT



Equipped with quick detachable coil unit. Easy to start and simple to operate in any kind of weather. Generates a large powerful blast flame which quickly melts a pot of solder or babbitt. Designed to handle a full 6-inch metal pot. Burns gasoline.

Tank is drawn from heavy gauge seamless steel, hot dipped in a molten alloy which forms a protection against rust

inside and out. Broad base with sturdy uprights. All fitting are inserted under heavy hydraulic pressure. Proper size pump for working pressure, positive action and long wear.

For Gasoline—Capacity One Gallon

Each 6-22A-G X21D35.....\$32.00  
One in ctn. Wt. ctn. 13 3/4 lbs.

## SOLDERING COPPERS



Regular Pattern, Pointed  
Without Wood Handles

Each	Length Overall, ins.	Size Rod, in.	Wt. lbs. Each	
F7340G (1/8 LB)	D2C8	9	3/8	1/8 \$0.45
F7341G (1/4 LB)	D3C8★	10	3/8	1/4 .60
F7342G (1/2 LB)	D6C1★	10	3/8	1/2 .95
F7343G (3/4 LB)	D9C2★	11 1/2	3/8	3/4 1.40
F7344G (1 LB)	D9C4★	12	3/8	1 1.45
F7345G (1 1/2 LB)	X1D35★	13	1/2	1 1/2 2.00
F7346G (2 LB)	X1D75	14	1/2	2 2.65

Loose

## SOLDERING COPPER HANDLES



Select Hardwood

Well seasoned. Shaped to fit the hand. Smooth wax finish, bored. Length 4 3/4 inches.

Each	Diam., ins.	For Soldering Copper No.	Wt. Ctn., lbs. Each
(SCH1)			
F5292G	D0C9	1 1/4 1 to 2 lbs.	5 1/4 \$0.15
(SCH2)			
F5293G	D1C0	1 3/8 3 lbs. & larger 6 3/4	.15

Thirty-six in ctn.



**SOLDERING LIQUID****ALLEN**

For all metals except aluminum or stainless steel.

Double strength. Makes strong dependable joints. No gumming, fumes, or corrosion. Non-evaporating. High electrical conductivity. Easy to work with.

In 4-oz. Screw Top Bottles

Each **FX-A4-J D1C6★** ..... Each \$0.25

Twelve in ctn. Wt. ctn. 4 lbs.

**Sold Only In Full Cartons**

**SOLDER****NEW YORK SOLDER CO.****Handi-Tube**

Air-tight container, every unit remains permanently saleable. Container may be used for storage of small parts such as nails, screws, etc. after solder is removed.

Size  $1\frac{1}{4}$  ozs.

**Acid Core**

Per Ctn. (12) **F7412J (HTAS) X1D20** ..... Each \$0.15

**Rosin Core**

Per Ctn. (12) **F7431J (HTRS) X1D20** ..... Each \$0.15

Twelve tubes in ctn. Wt. ctn. 25 lbs.

**SOLDER****GARDINER****Airline Solder****20-80 Grade**

An acid core solder made especially to meet competition. Built to proven specifications and gives good results. Recommended for general work. Solders all metals with the exception of aluminum and certain of its alloys. Contains 20% tin, 80% lead.

Per Lb.			Size	Spool	Per
			Core	lb.	lb.
<b>F7403J (GSL1) D7C2★</b>	Acid	1	\$1.10		
<b>F7404J (GSL5) D6C9</b>	Acid	5	1.05		

One spool in box

**GARDINER**

**Self-Fluxing**  
**For General Soldering**

Used by mechanics, repairmen, manufacturers, tinsmiths, farmers, householders, etc. Standard gauge.

Contains 40% tin, 60% lead.

**40-60 Grade**

Per	Size	Diam.,	Spool, About,	Feet,	Per
Pound	lb.	in.	lb.	lb.	Core Pound
<b>F7399J X1D00★</b>	1	$\frac{1}{8}$	30	Acid	\$1.50
	(GA1)				
<b>F7400J D9C8</b>	5	$\frac{1}{8}$	30	Acid	1.50
	(GA5)				
<b>F7401J X1D03</b>	1	$\frac{3}{32}$	45	Rosin	1.55
	(GR1)				

One spool in box



For electrical and other small work. Solders seams rapidly, without waste. 10 gauge. Continuous length.

**(W5)**

Per Pound	Parts Tin	Parts Lead	Pounds on Spool	Per Pound
<b>F7417J D7C4★</b>	30	70	5	\$1.20

STAR ★ DENOTES BEST SELLER

**SOLDER****KESTER****Aluminum Solder**

Made from cored solder. The solder is cored with a special patented flux. Can be used to repair all articles made of aluminum. Coil of solder and small piece of steel wool in each can.

$\frac{3}{32}$ -lb. Coils  
10 Cans

Per ctn. (10) **F7397J (AKS) X2D33** ..... Per can \$0.35

Ten cans in ctn. Wt. ctn.  $1\frac{1}{2}$  lbs.

**Sold Only In Full Cartons**

**KESTER****TV-Radio Solder**

**"Resin-Five" Flux Core**

Solder in the practical round wire size of .062 inch ( $\frac{1}{16}$  inch). Ideal for serviceman's kit, for everything electrical or electronic.



Per Ctn. (10) **F7443J (KTV) X1D67** ..... Each \$0.25

Ten in ctn. Wt. ctn.  $2\frac{1}{2}$  lbs.

**Sold Only in Full Cartons**

**KESTER**

**Metal Mender**  
**40-60 Grade**

Hollow wire filled with a soldering flux. Made from pure tin and lead. Solder tube is a series of cells, therefore no excess flux can flow from remaining cells. Contains 40% tin, 60% lead. Can be used without soldering iron. Especially well adapted for automobile repair work.

$\frac{3}{16}$ -lb. Coils

Per Ctn. (10) **F7410J (KMM) X1D67★** ..... Per Can \$0.25

Ten cans in ctn. Wt. ctn.  $2\frac{1}{2}$  lbs.

**Sold Only in Full Cartons**



**SOLDER****KESTER****Self-Fluxing  
40-60 Grade**

Hollow wire filled with a soldering flux. Made from pure tin and lead. Solder tube is a series of cells, therefore no excess flux can flow from remaining cells. Diameter  $\frac{1}{8}$  inch. Can be used without soldering iron.

Especially well adapted for automobile repair work. Contains 40% tin, 60% lead.

Per Pound	Size Roll	Per Roll
<b>F7408J (KA)</b>	<b>X1D10★ Acid</b>	<b>1 \$1.65</b>
Lots of 100 lbs. asstd.	<b>X1D00★</b>	
<b>F7409J (KA5)</b>	<b>X1D05 Acid</b>	<b>5 7.95</b>
Lots of 100 lbs. asstd.	<b>D9C5</b>	
<b>F7411J (KR)</b>	<b>X1D10★ Rosin</b>	<b>1 1.65</b>
Lots of 100 lbs. asstd.	<b>X1D00★</b>	

One roll in box

**SHAPLEIGH'S BOSS**

Highest grade for first class work. Insures bright, strong, well bonded joint. Contains 50% tin, 50% lead. In  $1\frac{1}{8}$ -lb. bars.

Per lb.	Per Pound
<b>F7396J (5050)</b>	<b>D9C0★ \$1.35</b>

Commercial. For large seams and heavy work. Also a high grade wiping solder. Contains 40% tin, 60% lead. In  $1\frac{1}{8}$ -lb. bars.

Per lb.	Per Pound
<b>F7395J (4060)</b>	<b>D7C6 \$1.15</b>

Gross case wt. 113-115 lbs.

Net case wt. 104-106 lbs.

**SOLID SAL AMMONIAC****SPECO**

Fused into a solid cake as hard as marble without a binder or undesirable foreign substance. Unaffected by atmosphere. Will not rust tools in kit, nor slack. Contains many times its bulk of crude Sal Ammoniac.

Per Cake	Size Cake, lb.	Per Cake
<b>F7388G (SA<math>\frac{1}{2}</math>)</b>	<b>D3C0★</b>	<b><math>\frac{1}{2}</math> \$0.45</b>
<b>F7389G (SA1)</b>	<b>D4C5</b>	<b>1 .68</b>

One cake in pkg.

**SOLDERING PASTE****KESTER**

A homogeneous or non-varying paste. All fluxing ingredients are finely divided and uniformly distributed.

High grade flux body with viscosiforming process for greater efficiency.

In 2-oz. Cans

Per Ctn.	Per Ctn.
<b>F7387J (K2)</b>	<b>X1D10 \$1.65</b>

Sold Only in Full Cartons

**BURNLEY**

One of the most popular brands on the market. It offers the surest method of permanent solder.

Per Can	Size Can, ozs.	Per Can
<b>F7385J (BSP2)</b>	<b>D1C0★</b>	<b>2 \$0.15</b>
Lots of 36	<b>D0C9<math>\frac{1}{2}</math></b>	
Twelve in ctn. Wt. ctn. 2 lbs.		
<b>F7386J (BSP4)</b>	<b>D1C7</b>	<b>4 .25</b>
Lots of 36	<b>D1C6</b>	
Thirty-six in ctn. Wt. ctn. 18 lbs.		

**ANTI-FRICTION METAL****MAGNOLIA**

For all steady high speed and heavy pressure. Particularly economical in installations subject to extremes of grit and dirt. For 90 percent of all lined bearings—up to 6,000 R. P. M.

A graphite-treated metal with extremely high anti-friction qualities. Runs cool, pours as freely as water, and requires remarkably little oil. Tensile strength 15,000 lbs. per square inch at 68 degrees Fahrenheit.

Suggested pouring range 825° to 900 Fahrenheit, depending on size of bearings.

Per Pound	Per Pound
<b>F7391J (32)</b>	<b>D4C6★ \$0.70</b>
In bars of approximately 7 lbs.	

In boxes of 8 or 16 bars—8 bars net weight 56 lbs., shipping weight 60 lbs. 16 bars net weight 112 lbs., shipping weight 117 lbs.

**Note:** When ordering—state number and specify quantity of bars in box

STAR ★ DENOTES BEST SELLER

**BABBITT METALS**

True economy in the use of babbitt metal is determined by the service given, rather than the cost per pound. Service is determined by the length of time a bearing will continue to wear without deterioration. This desirable quality is dependent upon the higher percentages of copper, tin and antimony used. It is therefore important to select only high grade metal.

**LONGWEAR**

(REGISTERED)

Longwear babbitt. An ideal copper hardened babbitt for lining bearings, such as on flour mills, brick and clay plants, mixers, road machinery, tractors, line shafting, conveyors, and similar bearings.

**LONGWEAR**

Per Pound	Per Pound
<b>F7413J</b>	<b>N-D4C1★ \$0.65</b>
<b>FX7413J</b>	<b>N-D4C1 (Case lots 55 lbs)</b>

Unit bars 4 lbs.

Net case 52-55 lbs. Gross case 58-61 lbs.



XCD babbitt. A fine well balanced alloy. Moderately priced. For bearings operating at medium speeds, pressures, and temperatures.

Per Pound	Per Pound
<b>F7419J (XCD)</b>	<b>N-D3C1 \$0.50</b>
<b>FX7419J (XCD)</b>	<b>N-D3C0 (Case lots 55 lbs.)</b>

Unit bars  $6\frac{1}{2}$  lbs.

Net case 52-55 lbs. Gross case 58-61 lbs.



A low priced babbitt for slow speeds and light pressures. Made to standard formula for this grade.

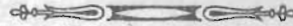
Per Pound	Per Pound
<b>F7390J (4)</b>	<b>N-D2C7★ \$0.40</b>
<b>FX7390J (4)</b>	<b>N-D2C5 (Case lots 55 lbs.)</b>

Unit bars  $6\frac{1}{2}$  lbs.

Net case 52-55 lbs. Gross case 58-61 lbs.



# GENERAL TAP INFORMATION



Recent developments in manufacturing have resulted in several new classifications of taps, in addition to the old method of classifications by type: Such as hand taps, nut taps, machine screw taps, etc.

Because of the increase in the use of high speed steels and the development of thread grinding, taps are further divided into classifications as follows:

- Carbon steel cut thread taps.
- High speed steel cut thread taps.
- High speed steel "Tru-Lede" commercial ground thread taps.
- High speed steel precision ground thread taps.

On account of the limited demand at this time high speed steel precision ground taps will not be carried in stock in any type.

The individual problem will largely govern the class of tap to be used. Selection of the proper tap to use is dependent on many factors, such as the kind of materials to be tapped, speed of operations, length of thread, depth of hole and the desired tolerance.

In the matter of tolerance, the individual manufacturer is at liberty to make the selection of a fit best suited to his particular requirements. However, the recommendations of the national Screw Thread Commission in general usage today definitely establishes four distinct classes of screw thread fits. Two of these, Class 2 for free fit and Class 3 for medium fit, are in most common use.

The following description of the classes of taps mentioned above will serve to give the purchaser a general idea of what tap will fill his requirements.

## CARBON STEEL TAPS

Taps made of carbon steel, when used under normal conditions, will produce holes, in the majority of cases, within the National Screw Thread Commission's Class 2 tolerances. Carbon steel taps are entirely suitable for work to these limits, where the speed and the material warrant the use of carbon steel tools.

## HIGH SPEED STEEL CUT THREAD TAPS

High speed steel cut thread taps are made to the same thread dimensions as carbon steel taps, and are generally used when alloy steels and greater speed of operation make the use of carbon steel taps uneconomical. When used under normal conditions these taps will, in the majority of cases, produce threaded holes within National Screw Thread Commission's Class 2 tolerances.

## HIGH SPEED STEEL "TRU-LEDE" COMMERCIAL GROUND THREAD TAPS

These taps, identified by a single ring around the shank and by the name "Tru-Lede" are ground in the threads after hardening, which insures a true lead and a thread accuracy not found in cut thread taps.

They are held to a pitch diameter tolerance of .001 inch, and a lead tolerance of plus or minus .0003 inch in one inch of thread.

The shanks of "Tru-Lede" taps are also ground concentric with the threads, and this prevents the taps from wobbling and cutting oversize because of eccentricity. This one feature alone will save many tapped pieces, which a "Not Go" gauge would reject for no other reason than that the tap did not run true with the spindle.

When used under normal conditions, these taps will produce Class 2 National Screw Thread Commission fits.

## SCREW THREAD DESIGNATIONS

Recognizing the need for a standard system of screw thread designation, there has been adopted the "National Screw Thread Series" recommended by the National Screw Thread Commission, as follows:

- N. C.—Indicating American National Coarse Thread—formerly known as "U. S. S."
- N. F.—Indicating American National Fine Thread—formerly known as "S. A. E."
- N. P. T.—Indicating American National Taper Pipe Thread—formerly known as "Briggs' Standard."



## TAP AND DIE SETS

ACE

Highest quality tools, ideal for mechanics or home owners. Neatly arranged in hardwood, hinged cases with separate depressions for each unit.



## Combination

## N. C. and N. F. Thread

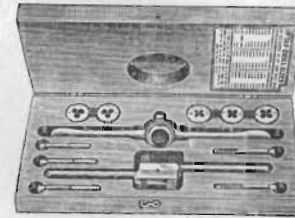
Set consists of one 10-inch adjustable die stock. One 7½-inch adjustable tap wrench, 10 round one-inch outside diameter dies, 10 bolt taps and one ⅛-inch pipe tap and die.

## Die and Tap Size

N. C.	Size, inches....	¼	⅝	¾	1	1½
	Threads to inch.	20	18	16	14	13
N. F.	Size, inches....	¼	⅝	¾	1	1½
	Threads to inch.	28	24	24	20	20

Per Set **F7802G (4G) X9D90★**..... ▲Per Set \$16.50

One set in box. Wt. box 6 lbs.



## N. C. Threads

Set consists of one 9-inch die stock, one 7½ inch adjustable tap wrench, 5 round one-inch outside diameter dies and 5 bolt taps.

## Die and Tap Sizes

Size, inches.....	¼	⅝	¾	1	1½
Threads to inch....	20	18	16	14	13

Per Set **F7854G (H1) X5D37★**..... ▲ Per Set \$8.95

One set in box. Wt. box 2¼ lbs.

## N. F. Threads

Set consists of one 9-inch die stock, one 7½-inch adjustable tap wrench, 5 round one-inch outside diameter dies and 5 bolt taps.

## Die and Tap Sizes

Size, inches.....	¼	⅝	¾	1	1½
Threads to inch ...	28	24	24	20	20

Per Set **F7855G (H2) X5D37**..... ▲ Per Set \$8.95

One set in box. Wt. box 2¼ lbs.



# STANDARD HAND TAPS

## GREENFIELD

### Taper Taps



(303TNC)

Factory No. 303

National Coarse (NC) Thread

(Specify Diameter and Thread Wanted)

Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8667G	D7C3	$\frac{3}{16}$	24	4	26	$2\frac{3}{8}$	$\frac{1}{8}$	\$1.10
F8668G	D7C3	$\frac{1}{4}$	20	4	7	$2\frac{1}{2}$	$\frac{3}{8}$	1.10
F8669G	D8C1	$\frac{5}{16}$	18	4	F	$2\frac{3}{16}$	$\frac{5}{8}$	1.25
F8670G	D9C4	$\frac{3}{8}$	16	4	$\frac{5}{16}$	$2\frac{15}{16}$	$\frac{3}{4}$	1.45
F8671G	X1D15	$\frac{7}{16}$	14	4	U	$3\frac{5}{16}$	$\frac{3}{4}$	1.75
F8672G	X1D34	$\frac{1}{2}$	13	4	$2\frac{7}{16}$	$3\frac{3}{8}$	1	2.05
F8673G	X1D53	$\frac{9}{16}$	12	4	$3\frac{1}{16}$	$3\frac{19}{32}$	$\frac{3}{4}$	2.30
F8674G	X1D89	$\frac{5}{8}$	11	4	$1\frac{7}{32}$	$3\frac{13}{16}$	1	2.85
F8675G	X2D70	$\frac{3}{4}$	10	4	$2\frac{1}{32}$	$4\frac{1}{4}$	$1\frac{5}{8}$	4.05
F8676G	X3D59	$\frac{7}{8}$	9	4	$4\frac{11}{16}$	$4\frac{11}{16}$	$2\frac{3}{8}$	5.40

(303TNF)

National Fine (NF) Thread

(Specify Diameter and Thread Wanted)

Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8678G	D7C3	$\frac{1}{4}$	28	4	3	$2\frac{1}{2}$	$\frac{3}{8}$	\$1.10
F8679G	D8C1	$\frac{5}{16}$	24	4	I	$2\frac{3}{32}$	$\frac{5}{8}$	1.25

## Carbon Steel

### Plug Taps

(303PNC)

National Coarse (NC) Thread

(Specify Diameter and Thread Wanted)

Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8645G	D7C3	$\frac{3}{16}$	24	4	26	$2\frac{3}{8}$	$\frac{1}{8}$	\$1.10
F8646G	D7C3	$\frac{1}{4}$	20	4	7	$2\frac{1}{2}$	$\frac{3}{8}$	1.10
F8647G	D8C1	$\frac{5}{16}$	18	4	F	$2\frac{3}{16}$	$\frac{5}{8}$	1.25
F8648G	D9C4	$\frac{3}{8}$	16	4	$\frac{5}{16}$	$2\frac{15}{16}$	$\frac{3}{4}$	1.45
F8649G	X1D15	$\frac{7}{16}$	14	4	U	$3\frac{5}{16}$	$\frac{3}{4}$	1.75
F8650G	X1D34	$\frac{1}{2}$	13	4	$2\frac{7}{16}$	$3\frac{3}{8}$	1	2.05
F8651G	X1D53	$\frac{9}{16}$	12	4	$3\frac{1}{16}$	$3\frac{19}{32}$	$\frac{3}{4}$	2.30
F8652G	X1D89	$\frac{5}{8}$	11	4	$1\frac{7}{32}$	$3\frac{13}{16}$	1	2.85
F8653G	X2D70	$\frac{3}{4}$	10	4	$2\frac{1}{32}$	$4\frac{1}{4}$	$1\frac{5}{8}$	4.05

(303PNF)

National Fine (NF) Thread

(Specify Diameter and Thread Wanted)

Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8656G	D7C3	$\frac{1}{4}$	28	4	3	$2\frac{1}{2}$	$\frac{3}{8}$	\$1.10
F8658G	D9C4	$\frac{3}{8}$	24	4	Q	$2\frac{15}{16}$	$\frac{3}{4}$	1.45

Up to  $\frac{1}{2}$ -inch, twelve in a box.  $\frac{9}{16}$  to 1-inch, six in box.

We show standard thread for each size tap listed. Special sizes are subject to special prices. Left hand taps are special. If other than standard is wanted, we will ship from factory only, F. O. B., Greenfield, Mass., N. F. A.



## STANDARD HAND TAPS

GREENFIELD  
Bottoming Taps303BNC  
National Coarse (NC) Thread  
(Specify Diameter and Thread Wanted)

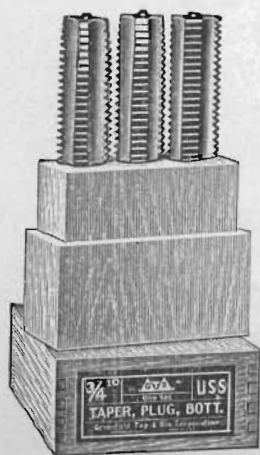
Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8624G	D7C3	$\frac{3}{16}$	24	4	26	$2\frac{3}{8}$	$\frac{1}{8}$	\$1.10
F8625G	D7C3	$\frac{1}{4}$	20	4	7	$2\frac{1}{2}$	$\frac{3}{8}$	1.10
F8626G	D8C1	$\frac{5}{16}$	18	4	P	$2\frac{23}{32}$	$\frac{5}{8}$	1.25
F8627G	D9C4	$\frac{3}{8}$	16	4	$\frac{5}{16}$	$2\frac{15}{16}$	$\frac{3}{4}$	1.45
F8628G	X1D15	$\frac{7}{16}$	14	4	U	$3\frac{5}{32}$	$\frac{3}{4}$	1.75
F8629G	X1D34	$\frac{1}{2}$	13	4	$2\frac{7}{64}$	$3\frac{3}{8}$	1	2.05
F8631G	X1D72	$\frac{5}{8}$	11	4	$1\frac{17}{32}$	$3\frac{3}{16}$	1	2.60

303BNF  
National Fine (NF) Thread  
(Specify Diameter and Thread Wanted)

Each		Diameter, inch	Threads to inch	Number of Flutes	Tap Drill, Size	Length Over All, inches	Weight Box, lbs.	▲ Each
F8635G	D7C3	$\frac{1}{4}$	28	4	3	$2\frac{1}{2}$	$\frac{3}{8}$	\$1.10
F8636G	D8C1	$\frac{5}{16}$	24	4	I	$2\frac{23}{32}$	$\frac{5}{8}$	1.25
F8637G	D9C4	$\frac{3}{8}$	24	4	Q	$2\frac{15}{16}$	$\frac{3}{4}$	1.45
F8638G	X1D15	$\frac{7}{16}$	20	4	$2\frac{5}{64}$	$3\frac{5}{32}$	$\frac{3}{4}$	1.75
F8639G	X1D34	$\frac{1}{2}$	20	4	$2\frac{29}{64}$	$3\frac{3}{8}$	1	2.05

Up to  $\frac{1}{2}$  inch, twelve in a box.  $\frac{5}{16}$  to 1 inch, six in box.

## STANDARD HAND TAPS

GREENFIELD  
In Sets of ThreeCarbon Steel  
Four FlutesEach set consists of three hand taps  
—one each, taper, plug and bottoming.National Coarse Thread  
(NC)  
(Specify diameter and thread wanted)

Per Set of 3		Diam. inch	Threads to inch	Tap Drill, Size	Length, inches	Wt. Box, ozs.	▲ Per Set
F8506G	X2D19	$\frac{1}{4}$	20	7	$2\frac{1}{2}$	2	\$3.30
F8507G	X2D43	$\frac{5}{16}$	18	F	$2\frac{23}{32}$	$3\frac{1}{2}$	3.65
F8509G	X3D45	$\frac{7}{16}$	14	U	$3\frac{5}{32}$	5	5.20

One set in wood box



## STANDARD MACHINE SCREW TAPS

### GREENFIELD



High Speed Steel  
Cut Thread  
National Coarse (NC) Thread  
6305PMSNC-Plug  
(Specify gauge and thread wanted)

Each		Screw Gauge Nos.	Threads to inch	Diam., inch	Top Drill, Size	Number of Flutes	Length Over All, inches	Weight Pkg. ozs.	Each
F8735G	D9C1	6	32	.138	35	3	2	3	\$1.40
F8736G	D9C1	8	32	.164	29	4	2 1/8	3	1.40
F8737G	D9C2	10	24	.190	25	4	2 3/8	4	1.40
F8738G	D9C7	12	24	.216	16	4	2 3/8	4	1.50

Twelve in pkg.

## STANDARD MACHINE SCREW PLUG TAPS

### GREENFIELD



Carbon Steel  
(305)  
(Specify gauge and thread wanted)

Each		Screw Gauge Nos.	Threads to inch	Thread	Diam., inch	Drill Nos.	Number of Flutes	Length Over All, inches	Weight Box, ozs.	Each
F8611G	D5C8	4	40	NC	.112	44	3	1 7/8	1 1/2	\$0.90
F8613G	D5C2	6	32	NC	.138	36	3	2	3	.80
F8614G	D5C2	8	32	NC	.164	29	4	2 1/8	3	.80
F8615G	D5C8	10	24	NC	.190	25	4	2 3/8	4	.90
F8616G	D5C8	10	32	NF	.190	21	4	2 3/8	4	.90
F8617G	D6C6	12	24	NC	.216	16	4	2 3/8	4	1.00

(303P)

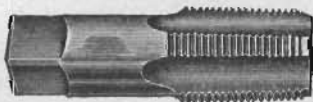
(Specify diameter and thread wanted)

F8646G	D7C3	1/4	20	NC	1/4	7	4	2 1/2	6	1.10
F8656G	D7C3	1/4	28	NF	1/4	3	4	2 1/2	6	1.10
F8647G	D8C1	5/16	18	NC	5/16	F	4	2 3/8	9	1.25
F8657G	D8C1	5/16	24	NF	5/16	I	4	2 3/8	9	1.25
F8648G	D9C4	3/8	16	NC	3/8	5/16	4	2 15/16	12	1.45
F8658G	D9C4	3/8	24	NF	3/8	Q	4	2 15/16	12	1.45

Twelve in box.

## TAPER PIPE TAPS

### GREENFIELD



Carbon Steel  
American National Taper (NPT) Thread  
For use in socket, monkey or tap wrench  
(320)

(Specify Size Wanted)

Each		Pipe Size, ins.	Threads to inch	Number of Flutes	Drill Size	Length, inches	Weight Box, lbs.	Each
F8597G	X1D11	1/8	27	4	11/32	2 1/8	1 3/8	\$1.70
F8598G	X1D33	1/4	18	4	7/16	2 1/8	1 1/2	2.00
F8599G	X1D78	3/8	18	4	9/16	2 1/8	1 1/2	2.65
F8600G	X2D40	1/2	14	4	45/64	3 1/8	1 1/2	3.60
F8601G	X3D70	3/4	14	5	51/64	3 1/4	1 1/2	5.60
F8602G	X5D54	1	11 1/2	5	1 1/8	3 3/4	7/8	8.35

1/8 to 1/4 in. twelve in box. 3/8 and 1/2 in. six in box.

3/4 in. and larger one in box.

Items marked ✕ not carried in stock. Can only be furnished by shipping direct from factory F.O. B. Greenfield, Mass. N. F. A.



## TAP AND REAMER WRENCHES

ACE



Quick action, sure grip. Can be taken apart for cleaning.

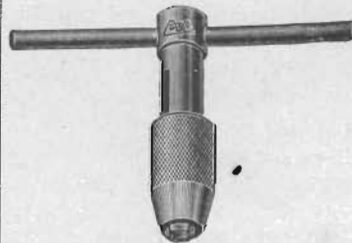
Drop forged steel. Knurled handle grips. Hardened jaws. Polished nickel finish. Length 9 inches.

Capacity 4x36 to 1/2 inch taps inclusive.

Each ▲ Each  
**F8264G (88) X1D26★**..... \$2.10

Six in box. Wt. box 3/8 lb.

## TAP WRENCHES GREENFIELD



Carbon Steel

Highest quality steel throughout, highly polished. Knurled sleeve. One piece split jaws hardened and tempered.

### With Stationery "T" Handles

Each			For Hand Plug Taps, in.	For Machine Screw Taps, ins.	Length, ins.	Wt. Box, lbs.	Each
<b>F8265G</b>	(329)	<b>X1D32</b>	1/16 to 1/4	0 to 14	2 1/2	3/16	\$2.00
<b>F8266G</b>	(333)	<b>X2D21</b>	1/4 to 1/2	No. 14	3 5/8	1/2	3.35

One in box

### With Ratchet and Sliding "T" Handle

The sliding handle enables the user to completely rotate the wrench when working in close quarters where the rigid handle would not have sufficient space to turn.

Each			For Hand Plug Taps, in.	For Machine Screw Taps, ins.	Length, ins.	Wt. Box, lbs.	Each
<b>F8267G</b>	(338)	<b>X4D24</b>	1/16 to 3/32	0 to 14	4	3/8	\$6.40

One in box

Items marked ✱ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Elyria, Ohio. Full Freight Allowed.

STAR ★ DENOTES BEST SELLER



## PIPE TOOL POWER DRIVES

RIDGID



"400"

Turns the pipe for your hand pipe tools. A real work saver. Easily portable. Bolts to bench or sets up as a stand.

Rugged alloy case. Ridgid patented speed chuck with replaceable insert jaws, rocker action. Self-centering work holder in rear that turns with pipe. Sealed in lubrication. Universal motor,  $\frac{1}{2}$  horsepower, forward or reverse. Operates on A. C., 110 volts, 25-60 cycle.

**Capacity:**

$\frac{1}{8}$  to 2-inch Pipe— $\frac{1}{4}$  to  $1\frac{1}{2}$ -inch Bolts

**With Steel Legs  
Tray and Fittings**

**Dimension:**

Height over all 42 inches. Height from floor to center of chuck  $37\frac{1}{4}$  inches. Height from floor to top of tray 24 inches. Length of tray  $20\frac{1}{2}$  inches. Width of tray, at front 24 inches, at rear  $20\frac{1}{2}$  inches. Spread of legs, at front 46 inches, at rear  $29\frac{1}{2}$  inches, from front to rear 48 inches.

Each

✦400A with kit "C"—G X305D00

Packed in two ctns. Wt. ctns. 183 lbs.

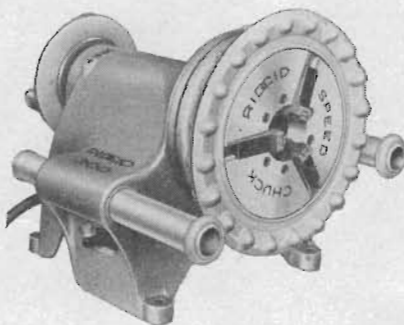
**Without Legs, Tray or Fittings**

Height  $12\frac{1}{2}$  inches. Width: front  $19\frac{3}{4}$  inches, rear  $17\frac{3}{4}$  inches. Length  $21\frac{1}{2}$  inches.

Each

✦400A-G X285D00

One in ctn. Wt. ctn. 152 lbs.



"300"

**Heavy Duty— $\frac{1}{8}$  to 2-Inch Capacity**

One-piece lightweight cast aluminum housing. One-piece all-metal handwheel. Steel tubing centerless ground drive shaft. Full size main bearings with grease fittings. Heat treated hardened gears.

Ridgid patented speed chuck with replaceable insert jaws—rocker action. 3-jaw, universal type rear centering device turns with chuck. Two heavy duty sliding tool support bars.

Heavy duty, universal, reversible motor develops up to  $1\frac{1}{2}$  H.P.—longer commutator, easily removed, large brushes. Heavy duty, bump-proof switch with protected switch lever and positive stop between forward and reverse. 15-foot oil-resisting power cord.

One gallon Ridgid cutting oil and two Allen wrenches included.

**Capacity**

$\frac{1}{8}$  to 2-inch Pipe and Conduit.

$\frac{1}{4}$  to 2-inch Bolts and Rod.

$2\frac{1}{2}$  to 12-inch Pipe (with Auxiliary Equip.)

115-120 Volts, 25-60 Cycles,

Single Phase, AC-DC

(Specify with or without stand)

Each

Wt., lbs.

**With Stand (Integral Folding Tray and Legs)**

✦300-G X226D50

128

**Without Stand**

✦300-G X199D50

100

One in ctn.

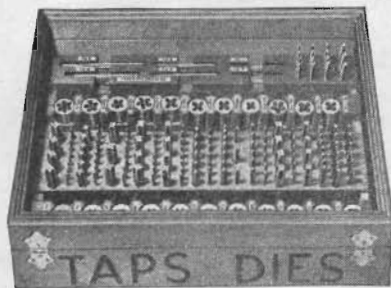
Items marked ✦ not carried in stock. Can only be furnished by shipping direct from factory. F. O. B. Elyria, Ohio. Freight allowed on 100 lbs.

STAR ★ DENOTES BEST SELLER



## TAP AND DIE DISPLAY

## ACE SELF SELLER



Contains an assortment of popular sizes of taps, dies, screw extractors, die stocks and tap wrenches.

Attractively and efficiently displayed in a hinged glass cover cabinet with storage compartment in the back with hinged door for extra stock. Practically dust-proof. Counter space required 18x13 inches.

All made of carbon steel. Solid dies, 1 inch O. D. Well made and will give excellent service.

Consists of:

Quantity Taps	▲Each	Size	Quantity Dies	▲Each
6	\$0.35	4x36	3	\$0.49
6	.35	4x40	3	.49
6	.35	5x40	3	.49
6	.35	6x32	4	.49
6	.35	8x32	4	.49
6	.40	10x24	3	.49
6	.40	10x32	3	.49
4	.40	12x24	3	.49
3	.40	14x20	3	.49
5	.45	1/4x20	4	.49
4	.55	3/16x18	3	.49
4	.65	3/8x16	3	.49
3	.70	1/2x14	3	.49
3	.85	3/4x13	3	.49
4	.40	3/16x32	3	.49
4	.45	1/4x28	3	.49
4	.55	3/16x24	3	.49
4	.65	3/8x24	3	.49
3	.70	1/2x20	3	.49
3	.85	3/4x20	3	.49
4	.64	1/8 Pipe	3	.49
4	.82	1/4 Pipe	2	.55

Quantity	Nos.	Items	▲Each
2	9	Die Stocks	\$0.70
1	25	Die Stocks	2.50
3	1E	T Tap Wrenches	.60
1	1 1/2E	T Tap Wrenches	.85
2	2E	T Tap Wrenches	1.10
3	21	Tap and Reamer	.75
2	88	Tap Wrenches	2.50
4	2	Screw Extractors	.30
4	3	Screw Extractors	.35
4	4	Screw Extractors	.40
3	5	Screw Extractors	.45

## 195 Tools

Each	▲Each
FX-196-G X61D94	\$103.24
One in ctn. Wt. ctn. 32 lbs.	

## OPEN STOCK

For Ace Tap and Pipe Displays

## SOLID ROUND DIES



Good quality steel, diameter 1 inch outside. American National threads. Right hand thread. Will cut a clean thread and give excellent service.

## Non-Adjustable

## National Coarse Thread

Each		Cutting Size, in.	Threads per inch	Weight Box, ozs.	▲Each
F9109G	D2C9★	3/16	24	5 1/2	\$0.49
F9110G	D2C9★	1/4	20	5	.49
F9111G	D2C9★	5/16	18	5	.49
F9112G	D2C9★	3/8	16	4 1/2	.49
F9113G	D2C9★	7/16	14	4	.49
F9114G	D2C9	1/2	13	4	.49
Six in box					

## National Fine Thread

Each		Cutting Size, in.	Threads per inch	Weight Box, ozs.	▲Each
F9102G	D2C9	3/16	32	5 1/2	\$0.49
F9103G	D2D9★	1/4	28	5	.49
F9104G	D2C9★	5/16	24	5	.49
F9105G	D2C9★	3/8	24	4 1/2	.49
F9106G	D2C9	7/16	20	4	.49
F9107G	D2C9★	1/2	20	4	.49
F9108G	D2C9★	1/2	24	4	.49
Six in box					

## Machine Screw Sizes

Each		Basic Outside Diam., in.	Threads per inch	Weight Box, ozs.	▲Each
F9117G	D2C9	.112	36	6	\$0.49
F9118G	D2C9★	.138	32	6	.49
F9119G	D2C9★	.164	32	6	.49
F9120G	D2C9★	.190	24	6	.49
F9121G	D2C9★	.190	32	5 1/2	.49
F9122G	D2C9	.216	24	5 1/2	.49
F9123G	D2C9	.242	20	5 1/2	.49
Six in box					

## SOLID ROUND PIPE DIES



Good quality steel, diameter 1 inch outside. Right hand thread. Will cut a clean thread and give excellent service.

## Non-Adjustable

## N.P.T. Tapered Thread (APD)

Each		Cutting Size, in.	Threads per inch	Weight Box, ozs.	▲Each
F9115	D2C9★	1/8	27	5	\$0.49
F9116	D3C3★	1/4	18	5	.55
Six in box					

## HAND PLUG TAPS



High carbon alloy steel, heat treated. Clean accurate threads. American National thread form. Right hand threads.

## National Coarse Thread

Each		Cutting Size, in.	Threads per inch	Weight Box, ozs.	▲Each
F8589G	D2C4★	3/16	24	2 1/2	\$0.40
F8590G	D2C7★	1/4	20	3	.45
F8591G	D3C3★	5/16	18	4	.55
F8592G	D3C9★	3/8	16	6	.65
F8593G	D4C2	7/16	14	9	.70
F8594G	D5C1	1/2	13	12	.85
Six in box					

## National Fine Thread

Each		Cutting Size, in.	Threads per inch	Weight Box, ozs.	▲Each
F8555G	D2C4★	3/16	32	2 1/2	\$0.40
F8556G	D2C7★	1/4	28	3	.45
F8557G	D3C3★	5/16	24	4	.55
F8558G	D3C9★	3/8	24	6	.65
F8559G	D4C2	7/16	20	9	.70
F8560G	D5C1	1/2	20	12	.85
F8561G	D5C1	1/2	24	9	.85
Six in box					



## OPEN STOCK

For Ace Tap and Die Displays

### MACHINE SCREW TAPS



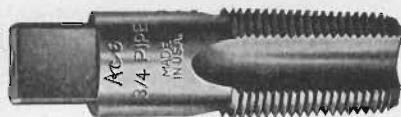
American National thread form. Right hand threads.

#### National Coarse Threads (AMS)

Each		Screw Gauge, ins.	Threads to inch	Diam., in.	Length, inches	Weight Box, ozs.	▲Each
F8562G	D2C1	4	36	.112	1 $\frac{7}{8}$	1 $\frac{1}{2}$	\$0.35
F8563G	D2C1★	6	32	.138	2	1 $\frac{1}{2}$	.35
F8564G	D2C1★	8	32	.164	2 $\frac{1}{8}$	2	.35
F8565G	D2C4★	10	24	.190	2 $\frac{3}{8}$	2 $\frac{1}{2}$	.40
F8567G	D2C4	10	32	.190	2 $\frac{3}{8}$	2 $\frac{1}{2}$	.40
F8566G	D2C4	12	24	.216	2 $\frac{3}{8}$	3	.40
F8568G	D2C4	14	20	.242	2 $\frac{1}{2}$	3 $\frac{1}{2}$	.40

Six in box

### PIPE TAPS



American National thread form. Right hand thread.

#### N. P. T. Tapered Thread (HPT)

Each		Pipe, in.	Threads per inch	Weight Box, lbs.	▲Each
F8606G	D3C8★	$\frac{1}{8}$	27	$\frac{3}{4}$	\$0.64
F3607G	D4C9	$\frac{1}{4}$	18	1 $\frac{1}{2}$	.80
F8608G	D6C0	$\frac{3}{8}$	18	2	1.00
F8609G	D9C0	$\frac{1}{2}$	14	3 $\frac{1}{2}$	1.51

Twelve in box

### SCREW EXTRACTORS



For quick and easy removal of broken set and cap screws, studs, stay bolts, pipe fittings, etc.

Scientifically treated tough alloy steel. Practically unbreakable.

Each		Diam. Shank, inch	Point	Size Drill	Length, inches	Weight Box, ozs.	▲Each
F8549G	D1C8★(A2)	$\frac{3}{16}$	.080	No. 35	2 $\frac{3}{8}$	3	\$0.30
F8550G	D2C1★(A3)	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{5}{32}$	2 $\frac{11}{16}$	4	.35
F8551G	D2C4★(A4)	$\frac{5}{16}$	$\frac{3}{16}$	$\frac{7}{32}$	2 $\frac{7}{8}$	9	.40
F8552G	D2C7★(A5)	$\frac{1}{16}$	$\frac{1}{4}$	1 $\frac{9}{64}$	3 $\frac{3}{8}$	18	.45

Twelve in box

### DIE STOCKS



Drop forged. Without guides. Rugged construction for long service.

Length over all 9 inches. Holds dies 1 inch diameter outside. Threading range No. 6 to  $\frac{1}{2}$  inch.

(9)

Each		▲Each
F7792G	D4C2★	\$0.70

Twelve in box. Wt. box 4 $\frac{1}{2}$  lbs.



Drop forged steel. With adjustable guide for the full range. Nickel plated. Holds dies 1 inch outside diameter. Threading range  $\frac{1}{4}$  to  $\frac{3}{4}$  inch. Length over all 10 inch.

(25)

Each		▲Each
F7790G	X1D50	2.50

Twelve in box. Wt. box 7 lbs.

### TAP WRENCHES



High quality steel throughout. Nickel plated body and blued nuts. Sliding T handle with spring tension to hold handle in any desired position. Knurled sleeve.

Each		Tap Size	Lgth., ins.	Weight Box, lbs.	▲Each
F8251G	D3C6 (0E)	0 to 8	2 $\frac{1}{4}$	1 $\frac{1}{2}$	0.60
F8252G	D3C6★ (1E)	0 to 10	2 $\frac{3}{8}$	5	.60
F8253G	D5C1★ (1 $\frac{1}{2}$ E)	12 to $\frac{5}{16}$ in.	2 $\frac{7}{8}$	1 $\frac{1}{2}$	.85
F8254G	D6C6 (2E)	$\frac{1}{4}$ to $\frac{1}{2}$ in.	3 $\frac{1}{2}$	5	1.10

Twelve in box



Cadmium plated carbon steel. Straight handle. Will hold taps or reamers from  $\frac{3}{16}$  to  $\frac{5}{8}$  inch. Length 7 $\frac{1}{2}$  inches.

(21)

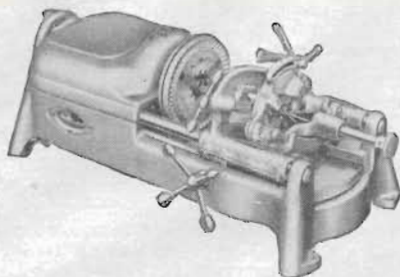
Each		▲Each
F8257G	D4C5★	\$0.75

Twelve in box. Wt. box 4 $\frac{1}{2}$  lbs.



## PIPE AND BOLT THREADING MACHINES

RIDGID



No. 500-A



On Wheel Stand

**Compact Pipe Workshop**  
**Threads—Cuts—Reams**  
**Capacity, 1/8 to 2 inch Pipe, 1/4 to 2 inch Bolts**  
**Wrenchless Speed Chuck**

Positive grip holds pipe, conduit or rod without slipping—forward or reverse. Quick-opening die heads adjust to size right in machine. Threading, cutting and reaming operate independently of each other and swing out of way when not in use. Short pipe can be chucked from front. Efficient right-hand, lathe-type operation and easy-to-read length gauge give fast, accurate tool control.

## BENCH MODEL WITH STANDARD EQUIPMENT

Without Die Heads, Dies or Stand

Equipment Includes:

Roller-type cut-off with self-centering full-floating cutter—1/8 to 2 inch capacity. Five-Flute cone reamer—1/8 to 2 inch capacity. Universal type single phase, 1/2 H. P. Motor, reversible at switch, 25-60 cycle, A. C. or D. C. 15-foot Oil resistant cord—Plugs into any light socket. Reversible vane-type pump. Lathe-type adjusting handle to move carriage and gauge. Three Allen type wrenches. One tube grease. Three gallons Ridgcoil. One extra cutter wheel.

Each  
 ✦500A-G X450D00

One in crate. Wt. crate 315 lbs.

## ACCESSORIES FOR NO. 500A MACHINE

How to Figure Price on Complete Machine

The No. 500A machine listed is a bench model with **standard equipment** as described but **without die heads, dies, stand or other accessory**.

For complete machine **select and order die heads, dies and stand** from listings below and **Add to price of No. 500A machine**.

NOTE—Show department letter "G" on all orders.

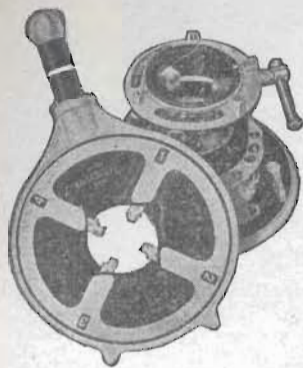
PIPE LEG STANDS		DUAL DIE HEADS (LESS DIES)		BOLT DIE HEADS (LESS DIES)	
Per Kit		Wt. lbs.	Each	Each	
Set of 4 Legs Only			✦1/4x3/8 in. X21D85	✦Small (1/4 to 1 inch) X25D40	
✦L-1-G	X8D50	17	✦1/2x3/4 in. X21D85	✦Large (1 1/8 to 2 inch) X25D40	
Stand with Tray			DUAL PIPE DIES		
✦2-T-G	X22D50	37	Per Set		
Stand with Tray and Two 16 inch Steel-Rimmed Wheels			✦1/4x3/8 in., R.H. X7D15	BOLT DIES	
✦3-S-G	X33D00	63	✦1/2x3/4 in., R.H. X7D15	(Specify Size)	
Stand with Tray and Two 16 inch Rubber-Tired Wheels			✦High Speed, R.H. X13D20	Per Set	
✦4-R-G	X41D00	66	✦1/2x3/4 in., L.H. X13D50	✦N.C. (USS) or N.F. (SAE) 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8 or 1 1/2 inch X8D80	
QUADRI DIE HEADS (LESS DIES)			✦1/2x3/4 in., HS, L.H. X15D00	✦N.C. (USS) 1 3/4, 2 in. X11D00	
Adjustable for 1, 1 1/4, 1 1/2, 2 inch pipe			MONO DIE HEADS (LESS DIES)		
Each			9 Sizes, 1/8 to 2 inch (Specify Size)	✦High Speed X13D20	
✦RH or LH	X29D20		Each	✦LH (Alloy Steel) X15D00	
QUADRI PIPE DIES			✦RH or LH	✦LH (High Speed) X17D20	
Per Set				✦5 1/2 TP1 (Disc. USS 1 5/8 In.) X15D40	
✦RH	X8D80		MONO PIPE DIES		
✦LH	X15D00		9 Sizes, 1/8 to 2 inch (Specify Size)	American National (Alloy Steel)	
✦RH High Speed	X13D20		Per Set	✦8TP1, 1 1/8-2 1/2 inch X15D40	
✦LH High Speed	X17D50		✦RH	✦12TP1, 1 1/2-2 1/2 inch X15D40	
			✦RH, High Speed	✦16TP1, 1 3/16-2 1/2 inch X15D40	
			✦LH		
			✦LH, High Speed		
			Conduit Dies available same price as R.H. Pipe Dies.		

Items marked ✦ not carried in stock. Can only be furnished by shipping direct from factory. Full Freight allowed on 100 lbs. or more excluding oil. F. O. B. Elyria, Ohio.



## PIPE THREADING TOOLS

## RIDGID



Self Contained Die Stocks

Cut perfect threads on iron, steel, brass or copper pipe and conduit. One set of dies. Closed chaser slots on die face can't stretch. Pull of handle directly over chasers, no cock or wobble. Thumb lever releases dies for quick back-off. Handy stand-up feet. No bushings. Automatic cam type work holder.

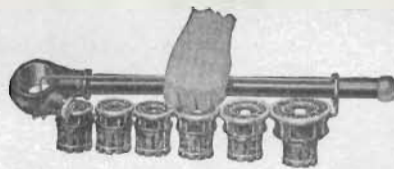
Rugged steel and malleable construction with drop forged hardened steel cam plate work holder. Chaser dies of high speed steel are precision cut.

Adjustable to 1, 1¼, 1½ and 2 inch pipe.

Ratchet with cam type work holder.

Length over all 32 inches.

Each Each  
**F7815G (65RC) X48D00**..... \$72.00  
 One in ctn. Wt. ctn. 23 lbs.



Handy ratchet dies that save time and work.

Steel ratchet head and handle with convenient carriers. Rugged steel and malleable dies. Separate set of steel chaser dies quickly removed for regrinding or reversed for close to wall threads.

## With Exposed Ratchet

Die heads lock in or release by pull of ratchet knob.

For ¼, ⅜, ½, ¾ and 1 inch pipe. Length over all 22¼ inches.

Each Each  
**F7798G (00R) X32D30**..... \$48.50  
 One in ctn. Wt. ctn. 11¼ lbs.

For ½ and ¾ inch pipe. Length over all 22¼ inches.

Each Each  
**F7799G (00R2) X15D00★**..... \$22.00  
 One in ctn. Wt. ctn. 8 lbs.

For ½, ¾, 1 and 1¼ inch pipe. Length over all 27½ inches.

Each Each  
**F7818G (111R) X30D80★**..... \$46.25  
 One in ctn. Wt. ctn. 21¼ lbs.



Three Way

Convenient compact threaders with alloy steel chaser dies, quickly removed for regrinding or reversed for close to wall threads.

Each die head on center and handles projecting from either side, produces a perfectly balanced tool.

Strong steel and malleable construction. High Speed steel chaser dies, precision cut.

	For	Weight	
	Pipe,	Ctn.,	
Each	in.	lbs.	Each
<b>F7857G (R31A)</b>	<b>X18D95</b>	½, ¾, 1	11 \$28.50
		One in ctn.	

## PIPE DIES

## RIDGID

## Alloy Steel

Set consists of four segments.

Per Set	Size, ins.	Will Fit Nos.	Weight Box, ozs.	Per Set
<b>F8972G (R½)</b>	<b>X3D95</b>	½	00R, 11R, 0R, 11R, 30A, 31A	2½ \$5.95
One set in box:				

## Alloy Steel

Set consists of four segments

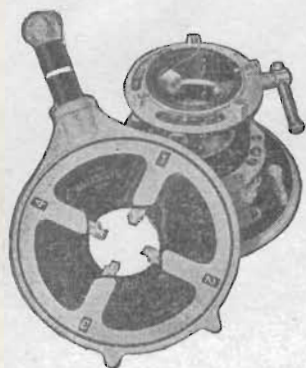
Per Set	Size, ins.	Will Fit Nos.	Weight Box, ozs.	Per Set
<b>F8973G (R¾)</b>	<b>X3D95</b>	¾	00R, 111R, 0R, 11R, 30A, 31A	2½ \$5.95
<b>F8974G (R1)</b>	<b>X4D75</b>	1	00R, 111R, 0R, 11R, 31A	4 7.15
One set in box:				

High Speed Steel  
 For No. 65RC Pipe Threading Tools  
 Set consists of four segments.



## PIPE THREADING TOOLS

## RIDGID



## Self Contained Die Stocks

Cut perfect threads on iron, steel, brass or copper pipe and conduit. One set of dies. Closed chaser slots on die face can't stretch. Pull of handle directly over chasers, no cock or wobble. Thumb lever releases dies for quick back-off. Handy stand-up feet. No bushings. Automatic cam type work holder.

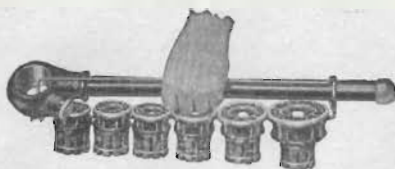
Rugged steel and malleable construction with drop forged hardened steel cam plate work holder. Chaser dies of high speed steel are precision cut.

Adjustable to 1, 1¼, 1½ and 2 inch pipe.

Ratchet with cam type work holder.

Length over all 32 inches.

Each	Each
<b>F7815G (65RC) X48D00</b> .....	\$72.00
One in ctn. Wt. ctn. 23 lbs.	



Handy ratchet dies that save time and work.

Steel ratchet head and handle with convenient carriers. Rugged steel and malleable dies. Separate set of steel chaser dies quickly removed for regrinding or reversed for close to wall threads.

## With Exposed Ratchet

Die heads lock in or release by pull of ratchet knob.

For ¼, ⅜, ½, ¾ and 1 inch pipe. Length over all 22¼ inches.

Each	Each
<b>F7798G (00R) X32D30</b> .....	\$48.50
One in ctn. Wt. ctn. 11¼ lbs.	

For ½ and ¾ inch pipe. Length over all 22¼ inches.

Each	Each
<b>F7799G (00R2) X15D00★</b> .....	\$22.00
One in ctn. Wt. ctn. 8 lbs.	

For ½, ¾, 1 and 1¼ inch pipe. Length over all 27½ inches.

Each	Each
<b>F7818G (111R) X30D80★</b> .....	\$46.25
One in ctn. Wt. ctn. 21¼ lbs.	



## Three Way

Convenient compact threaders with alloy steel chaser dies, quickly removed for regrinding or reversed for close to wall threads.

Each die head on center and handles projecting from either side, produces a perfectly balanced tool.

Strong steel and malleable construction. High Speed steel chaser dies, precision cut.

	For	Weight
	Pipe,	Ctn.,
	in.	lbs.
Each	Each	Each
<b>F7857G (R31A) X18D95</b>	½, ¾, 1	11 \$28.50
One in ctn.		

## PIPE DIES

## RIDGID

## Alloy Steel

Set consists of four segments.

Per Set	Size, ins.	Will Fit Nos.	Weight Box, ozs.	Per Set
<b>F8972G (R1½) X3D95</b>	½	00R, 11R, 0R, 11R, 30A, 31A	2½	\$5.95
One set in box				

## Alloy Steel

Set consists of four segments

Per Set	Size, ins.	Will Fit Nos.	Weight Box, ozs.	Per Set
<b>F8973G (R¾) X3D95</b>	¾	00R, 111R, 0R, 11R, 30A, 31A	2½	\$5.95
<b>F8974G (R1) X4D75</b>	1	00R, 111R, 0R, 11R, 31A	4	7.15
One set in box				

## High Speed Steel

For No. 65RC Pipe Threading Tools

Set consists of four segments.

Per Set	Size, ins.	Will Fit Nos.	Weight Box, ozs.	Per Set
<b>F8938G (65/12) X5D95</b> .....				\$8.95
One set in box. Wt. box ½ lb.				

STAR ★ DENOTES BEST SELLER



## PIPE THREADING TOOLS

TOLEDO



Carbon Steel

Ratchet

A small compact threader, consisting of ratchet handle for holding a series of die heads. Head includes a ratchet gear that forms a bushing for the size of pipe being threaded; cuts standard size threads of full taper, accurately and without undue effort. Complete outfit includes die heads, for threading pipe; to change from one size to the other, simply pull on the pawl button, allowing one head to drop out and another to be inserted.

Ratchet stock with 5 die heads for threading pipe  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  inch; length over all  $16\frac{1}{2}$  inches; diameter of die heads  $2\frac{1}{8}$  inches.

Per Set Per Set  
F7859G (T00) X32D95.....\$49.42

One set in ctn. Wt. ctn.  $9\frac{1}{2}$  lbs.



Carbon Steel

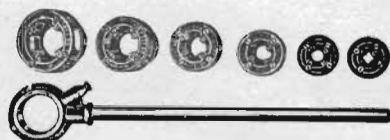
Ratchet

A small compact threader, consisting of ratchet handle for holding a series of die heads. Head includes a ratchet gear that forms a bushing for the size of pipe being threaded; cuts standard size threads of full taper, accurately and without undue effort. Complete outfit includes die heads, for threading pipe; to change from one size to the other, simply pull on the pawl button, allowing one head to drop out and another to be inserted.

Ratchet stock with 4 die heads for threading pipe  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1 and  $1\frac{1}{4}$  inch; length over all 24 inches; diameter of die heads  $2\frac{1}{2}$ ,  $3\frac{1}{4}$ ,  $3\frac{3}{4}$  inches.

Per Set Per Set  
F7860G (T11) X32D65★.....\$49.00

One set in ctn. Wt. ctn. 13 lbs.



Carbon Steel

Ratchet,  $\frac{1}{2}$  inch to 2 inch Capacity

Light and compact and reaches the difficult corner jobs; threads pipe easily and produces perfect taper threads.

Die heads are changed instantly by pulling the ratchet pawl knob; die segments can be removed when dull and be easily reground or replaced.

Complete tool consists of the ratchet handle,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  and 2 inch die heads with dies; length over all  $28\frac{1}{2}$  inches.

Per Set Per Set  
FX-T12-G X63D20★.....\$94.80

One set in ctn. Wt. ctn.  $26\frac{1}{4}$  lbs.

## PIPE THREADING TOOLS

TOLEDO

Carbon Steel

EXTRA DIES

Set consists of four segments—WILL NOT BREAK SETS.

Per Set		Size, ins.	(TD)	Will Fit Stock No.	Wt. Box, lbs.	Set
F8999G	X4D20	$\frac{3}{8}$		T00, T11, T12, T30	$\frac{1}{8}$	\$6.30
F9000G	X4D20	$\frac{1}{2}$		T00, T11, T12, T30, T31	$\frac{1}{8}$	6.30
F9001G	X4D20	$\frac{3}{4}$		T00, T11, T12, T30, T31	$\frac{3}{16}$	6.30

One set in box

EXTRA DIES

Carbon Steel

For Nos. T1A and T1R—Set consists of four segments. Will not break sets.

Per Set		Size, in.	Per Set
F9007G	(EDT1A1) X4D30	$1\frac{1}{4}$	\$6.45

Loose. Wt. set  $\frac{3}{8}$  lb.

## PIPE THREADING TOOLS

TOLEDO



Three Way Threading Devices

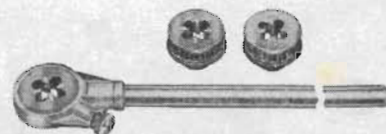
Carbon Steel

The smallest, lightest and easiest of all tools of such character to operate. The tool bodies are about the size of a baseball, each die head being "On Center", the handles projecting from either side, thus producing a perfectly balanced tool. Right hand threading.

Each		For Pipe, in.	Ctn., lbs.	Each
F7864G	(T31) X20D10	$\frac{1}{2}$ , $\frac{3}{4}$ , 1	7	\$30.15

One set in ctn.

CAPEWELL



Armstrong

Drophead ratchet type, full professional quality. For  $\frac{1}{2}$  and  $\frac{3}{4}$  inch pipe sizes.

No adjusting necessary—tool steel dies are cast as an integral part of simplified drophead. Ample chip clearance is provided.

Malleable iron ratchet collar with removable handle contains a positive, two-way non-slip ratchet action for fast, easy pipe threading.

Length of handle 24 inches.

Each		Each
F7841G	(GS1) X12D85.....	\$19.25

One in ctn. Wt. ctn.  $7\frac{3}{4}$  lbs.

EXTRA HEADS

Complete drop heads for FX-GS1-G. Pipe threading tools. Complete with integral dies.

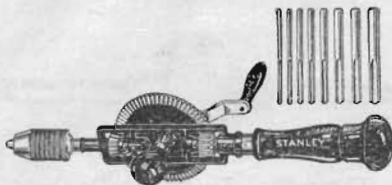
Each		Size, in.	Each
F9010G	X4D25	$\frac{3}{8}$	\$5.95
F9011G	X4D25	$\frac{1}{2}$	5.95
F9012G	X4D25	$\frac{3}{4}$	5.95

One in box. Wt. box  $1\frac{3}{4}$  lbs.



## HAND DRILLS

## STANLEY

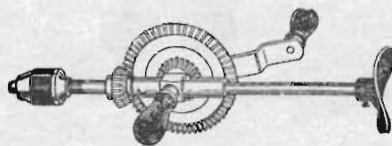


## One Speed

Malleable iron black enameled frame. Solid steel orange enameled large gear, with cut gears. Steel drive pinion and equalizer idler pinion. Steel nickel plated crank. Black enameled tropical wood handles and removable knob. Hollow end handle with screw cap for drill points. Nickel plated ferrules. Bright finish knurled steel  $\frac{3}{8}$ -inch chuck with three jaws for round shanks. Length 13 $\frac{1}{2}$  inches.

Complete with 8 drill points,  $\frac{1}{16}$  to  $\frac{1}{4}$  inch.  
Each  $\blacktriangle$  Each  
F5953G (624) X7D00 ..... \$10.50  
One in box. Wt. box 2 $\frac{1}{2}$  lbs.

## STANLEY DEFIANCE

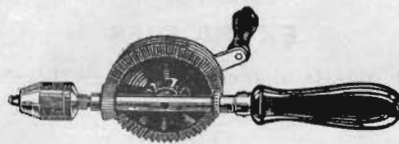


Three-jaw chuck takes round shank drills up to  $\frac{1}{2}$ -inch. Steel frame. Machine cut gear and pinion. Natural color handles. Bright red gear and breast plate and bright steel parts.

Two speeds, high and low, are quickly changeable. Length 16 inches.

Each  $\blacktriangle$  Each  
F5960G (1247 $\frac{1}{2}$ ) X6D20 ..... \$9.30  
One in box. Wt. box 4 $\frac{1}{2}$  lbs.

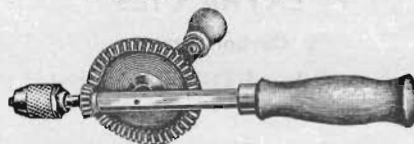
## STANLEY DEFIANCE



Solid gray iron wide flange gear and two steel pinions with machine cut teeth. All steel frame. Three-jaw steel chuck,  $\frac{1}{4}$ -inch capacity. Natural color solid handles. Steel parts nickel plated with polished chuck and red gear. Length 11 $\frac{1}{2}$  inches.

Each  $\blacktriangle$  Each  
F5959G (1221) X2D63 ..... \$3.95  
One in box. Wt. box 1 $\frac{1}{4}$  lbs.

## STANLEY HANDYMAN

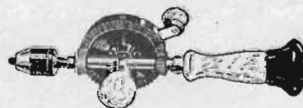


Hexagon steel frames. Smooth running gears and single pinions. Three-jaw chucks with  $\frac{1}{4}$ -inch capacity. Natural color hardwood handles and knobs. Red gears. Bright steel parts. Length 12 inches.

## Solid Handle and Knob

Each  $\blacktriangle$  Each  
F5957G (H1214) X2D00★ ..... \$2.98  
One in box. Wt. box 1 $\frac{1}{8}$  lbs.

## STANLEY HANDYMAN



Solid gray iron wide flange, gear and two steel pinions with machine cut teeth. All steel frame. Three-jaw steel chuck,  $\frac{1}{4}$ -inch capacity. Natural wood color knobs and hollow handle with large red screw cap and eight drill points. Steel parts nickel plated with polished chuck and red gear. Length 11 $\frac{1}{2}$  inches.

## With Eight Drill Points

Each  $\blacktriangle$  Each  
F5958G (H1220) X3D29★ ..... \$4.95  
One in box. Wt. box 1 $\frac{1}{4}$  lbs.



## BIT BRACES

SHAPLEIGH'S  
TRADE MARK

Ratchet

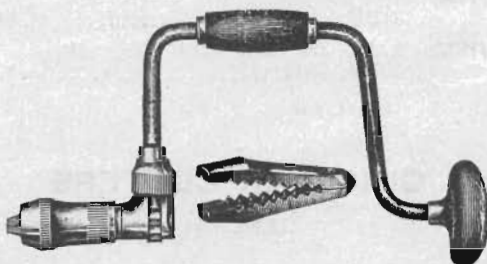
## Nickel Plated—Hardwood Trim

Knurled chuck. Full steel clad, ball bearing head. Open ring ratchet. Spring alligator pattern, forged steel jaws.

Sweep 10 inches.

Each  
F3329G (A6) X3D99★.....\$5.98  
Two in ctn. Wt. ctn. 6¼ lbs.

## KLICKER



Ratchet

Polished steel sweep and thimble. Long sleeve. Alligator pattern jaws. Red stained hardwood head and handle. Size sweep 10 inches.

Each  
F5918G (110K) X3D00★.....\$4.50  
Six in box. Wt. box 12½ lbs.

## EXTRA JAWS

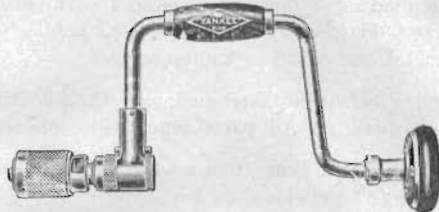
For SHAPLEIGH'S Braces Nos. S1321, S1322, S1323, S1324, S1710, S1810 and S1950.

Per Pair  
F5916G (S8) D7C5.....\$1.15  
Loose. Wt. pair 1¾ ozs.

For No. 732 and 731 braces.

Per Pair  
F5909G (KK9) D8C5.....\$1.30

## YANKEE



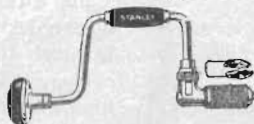
Has the famous "Yankee" ratchet. Works easily and without noise. Will not break. Ratchet case is dust and moisture proof. Pawls of tool steel, hardened and tempered. Quick, positive shifter. Quick centering ball bearing chuck holds any bit, round, square or taper up to ½-inch diameter, accurately. The opening in end of chuck takes square bit shanks ⅝-inch across corners, used in large auger bits, but chuck will not hold larger round shanks than ½-inch diameter.

Handle and knob of hard rubber, will not warp, shrink, crack or bind. Patented sweep handle eliminates excessive play. Size sweep, 10 inches.

Knob is full clad and is screwed on socket with heavy thread, not dependent on three small screws, cannot be loosened or pulled off.

Each  
F5928G (2101/10) X10D93.....\$16.40  
Two in ctn. Wt. ctn. 8½ lbs.

## STANLEY



Box Ratchet

Extra heavy steel sweep. Steel clad head turns freely on ball bearing and longwearing bronze bushing. Selected cocobolo head and handle. Threaded handle collars. Strong, sturdy box ratchet. Nut and cotter pin lock entire chuck in place. Improved forged and hardened Universal jaws hold straight shank bits and drills from ⅜ to ½ inch and taper shanks as large as Clarks No. 2 expansive bit. Nickel plated mirror finish.

			Wt.	
			Sweep,	Box,
			ins.	lbs.
Each				▲ Each
F5922G (923/10)	X8D23	10	6½	\$12.50
Two in box				

## EXTRA JAWS

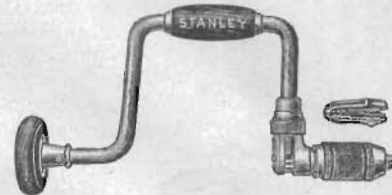
Universal Type, for No. 813 series and Nos 923 8-10-12 Brace.

Per Pair  
F5906G (813NJ) D7C6.....\$1.15  
Wt. pair 2 ozs.

Spring alligator type. Malleable iron, cyanide hardened. For No. 813 Series and No. 945-10 brace.

Per Pair  
F5907G (813OJ) D6C3.....\$0.95  
Loose. Wt. pair 2 ozs.

## STANLEY



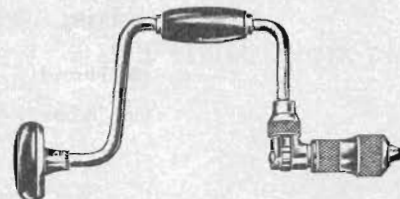
Open Ratchet

Heavy steel sweep. New style ball bearing head. Native hardwood head and handle finished in glossy black. Open ratchet. Malleable iron spring alligator jaws, cyanide hardened. High grade nickel plated finish.

## Sweep 10 Inches

Each  
F5924G (945) X5D16.....\$7.75  
Two in box. Wt. box 5½ lbs.

## STANLEY HANDYMAN



Selected natural finish hardwood, metal clad, ball bearing head. Hardwood handle. Large steel chuck. Strong, open ratchet. Hardened spring alligator jaws. Hold ordinary size taper shank bits as well as small and medium size drills. Polished, nickel plated and buffed. Size of sweep, 10 inches.

Each  
F5927G (H1250) X4D12★.....\$6.19  
Six in box. Wt. box 16½ lbs.

## BIT EXTENSIONS

KEEN KUTTER



For boring through floors, walls, etc., where an ordinary bit will not reach. Most useful to electricians and plumbers.

Solid socket type. No jaws or springs to become lost or out of order. Shank is forced into socket and pinned by tightening the adjusting nut. Left thread on the knurled adjusting nut tends to tighten the bit in the socket when boring. Will take No. 2 expansive bit. Will follow ⅞-inch bit or larger. Full polished.

			Wt.	
			Lgth,	Box,
			ins.	lbs.
Each				▲ Each
F6296GK (KE15)	X2D35	15	2	\$3.50
F6297GK (KE18)	X2D40★	18	2½	3.60

Three in box

STAR ★ DENOTES BEST SELLER



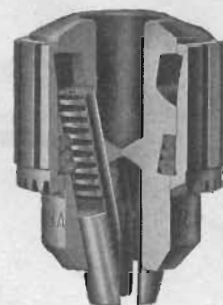
## JACOBS CHUCKS



These chucks are designed to meet varied requirements of modern machine practice. They can be used for drilling machines and portable drills and by means of threads, arbors and adapters for work and tool holding on lathes, grinders, milling and other metal and woodworking machines.

Hardened steel body, accurately machined, milled and heat treated for increased strength and wearing qualities. All parts practically unbreakable.

The new method of thread generation assures increased grip and faster generation. Jaws are easily opened and closed by key.



(Showing Interior Construction)

### Light Duty Models—Key Type

Plain bearing correctly balanced for sensitive drilling.

#### For Threaded Spindles

Each	Capacity, ins.	No. of Taper Hole	Length Over All, ins.	Diam., ins.	Wt. Box, lbs.	▲ Each
(B)						
F6455G X5D90★	0 to 1/4	{ 3/8 in. 24 Thread }	1 1/8	3 1/16	1/4	\$8.85
(33B)						
F6464G X7D90	5/16 to 1/2	{ 1/2 in. 20 Thread }	2 11/16	1 13/16	1	11.85
One in box						

### CHUCK KEYS

#### For Jacobs Chucks

Each	For Chuck Nos.	▲ Each
F6444G D4C0 (JK0)	0.....	\$0.60
F6445G D4C0★ (JK1)	1, 1A, 1B, 1BB, 1BS.....	.60
F6446G D5C8 (JK2)	2, 2A, 2B, 2AD.....	.87
F6447G D6C7 (JK3)	3, 3A, 3B, 3AE, 6, 6A-2A, 6A-33, 6B, 6AE, 14, 34, 34B, 54B, 55B, 56B, 58B.....	1.00
F6448G D8C4 (JK4)	4, 16, 18, 36, 36B, 59B.....	1.25
F6450G D4C9 (JK7)	7, 7B, 7-1A, 7D, 7BB, 255.....	.74
F6451G D5C4 (JK30)	8 1/2, 30, 30B, 30BB, 30-1A, 30D, 31BB.....	.81
F6452G D5C8 (JK32)	9, 11, 32, 32B, 32BB, 33, 33B, 33BB, 381.....	.87

Loose

## DRILL CHUCKS

### JACOBS



#### Rubber-Flex Hex-Key

#### Threaded Model

Designed especially for popular priced tools.

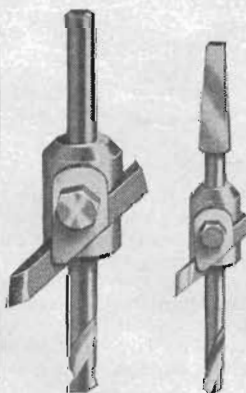
Hardened steel body, accurately machined, milled and heat treated. Threaded body which screws into a threaded hole in the spindle. Rubber-flex collet. Rugged one piece construction. Toggle like self tightening action. Nickel molybdenum alloy steel jaws, internally ground after moulding.

#### Specifications:

Nos.	For Drill Nos.	Holds Drill, in.	Diam. in.	Thread Dimensions	Length, in. Open Close	Weight Box, lbs.	▲ Each
F6471G-6141	HU1-518	0 to 1/4	1 1/8	3/8x24	2 1/16 1 3/4	4	\$3.40
D3C3 1/4%							
F6471G	X2.D27 (6141)						
One in box							

## HOLE CUTTERS

### CLARK



Round Shank Square Bit  
Stock Shank

For cutting clean holes quickly and easily in steel, brass, hard rubber, aluminum, fibre, plastics, wood and problem materials.

Shank and pilot drill high quality heat-treated steel. Blade is standard square, high speed steel lathe bit—can be easily resharpened, replaced or ground to special shape for wood forming.

Hardened steel lug with hexagon head bolt for securing blade.

#### Adjustable

#### Round Shank

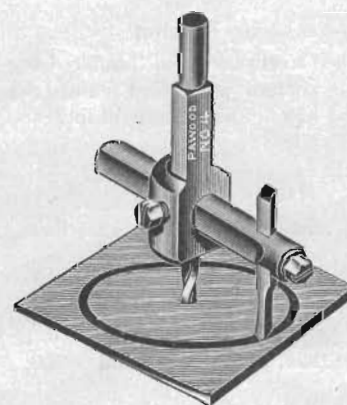
For electric drills, drill presses, portable motor and hand drills.

Each	Cut Holes, inches	Thickness Capacity in Metals, in.	Shank and Pilot Drill Size, inch	Length, inches	Wt. Box, lbs.	▲ Each
F6000G X3D00★	5/8 to 1 1/2	1/8	1/4	4 3	\$4.50	
F6002G X3D83★	1 to 2 1/2	3/8	3/8	5 9	5.75	

Note—Deeper holes can be cut in plastics, wood and compressed materials.

## CIRCULAR CUTTERS

### GENERAL



#### Adjustable

For cutting round holes in sheet steel, brass plastic, wood, etc.

Sturdy construction. Combination square and 1/4 inch round shank. Cuts holes from 1/8 to 4 inches diameter.

Each	▲ Each
F5999G (4) X1D42★	\$2.34
One in box. Wt. box 1/2 lb.	



## DRILL CHUCKS

JACOBS



### Rubber-Flex Hex-Key Threaded Model

Designed especially for popular priced tools.

Hardened steel body, accurately machined, milled and heat treated. Threaded body which screws into a threaded hole in the spindle. Rubber-flex collet. Rugged one piece construction. Toggle like self tightening action. Nickel molybdenum alloy steel jaws, internally ground after moulding.

#### Specifications:

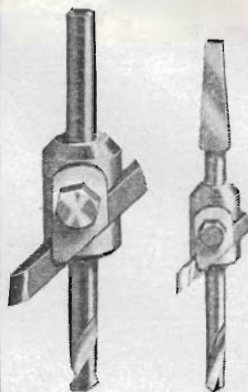
Nos.	For Drill Nos.	Holds Drill, in.	Diam. in.	Thread Dimen-sions	Length, in. Open	Close
F6471G-6141	HU1-518	0 to 1/4	1 1/8	3/8x24	2 1/8	1 1/4

D3C3 1/8%	Each	Weight Box, lbs.	▲ Each
F6471G	X2D27 (6141)	4	\$3.40

One in box

## HOLE CUTTERS

CLARK



Round Shank Square Bit  
Shank Stock Shank

For cutting clean holes quickly and easily in steel, brass, hard rubber, aluminum, fibre, plastics, wood and problem materials.

Shank and pilot drill high quality heat-treated steel. Blade is standard square, high speed steel lathe bit—can be easily resharpened, replaced or ground to special shape for wood forming.

Hardened steel lug with hexagon head bolt for securing blade.

#### Adjustable

#### Round Shank

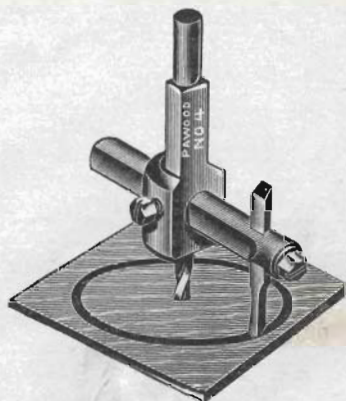
For electric drills, drill presses, portable motor and hand drills.

Each	Cut Holes, inches	Thickness Capacity in Metals, in.	Shank and Pilot Drill Size, inch	Length, inches	Wt. Box, lbs.	▲ Each
	(100)					
F6000G	X3D00★	5/8 to 1 1/2	1/8	1/4	4 3	\$4.50
	(101)					
F6002G	X3D83★	1 to 2 1/2	3/8	3/8	5 9	5.75

Note—Deeper holes can be cut in plastics, wood and compressed materials.

## CIRCULAR CUTTERS

GENERAL



#### Adjustable

For cutting round holes in sheet steel, brass plastic, wood, etc.

Sturdy construction. Combination square and 1/4 inch round shank. Cuts holes from 3/8 to 4 inches diameter.

Each	▲ Each
F5999G (4) X1D42★	\$2.34

One in box. Wt. box 1/2 lb.



**EXPANSIVE BITS**KEEN  KUTTER**Stem and Head One Piece Solid Forging**

Forged from the highest grade tool steel. Specially oil tempered. Head and cutters sharpened and finished by hand. Single thread on screw for quick, easy starting. Cutter is held securely by top plate and screw and is accurately adjusted by screw on side. Full polished finish. Complete with two cutters.

Each	Size	Cuts Hole, ins.	Wt. Box, lbs.	Each
	(KCS)			
F6029GK	X2D27★	Small $\frac{5}{8}$ to $1\frac{1}{4}$	$\frac{3}{8}$	\$3.40
	(KCL)			
F6028GK	X2D55★	Large $\frac{7}{8}$ to 3	$\frac{3}{4}$	3.80
		One in box		

**EXTRA CUTTERS**

Each	For Nos.	Cuts ins.	Each
F6049GK	D5C7 (KC1)	KCS $\frac{5}{8}$ to $1\frac{1}{8}$	\$0.90
F6051GK	D6C7 (KC2)	KCS $1\frac{1}{8}$ to $1\frac{3}{4}$	1.00
F6053GK	D8C0 (KC3)	KCL $\frac{7}{8}$ to $1\frac{3}{4}$	1.25
F6055GK	D8C7 (KC4)	KCL $1\frac{3}{4}$ to 3	1.30
		Twelve in box. Wt. box $\frac{1}{2}$ lb.	

SHAPLEIGH

**CLARK'S PATTERN**

Forged steel. Full polished. Cutters are interchangeable, with all properly made Clark Pattern Bits.

Small size. With cutters No. 01 and 02. Cutters cut  $\frac{1}{2}$  to  $1\frac{1}{2}$  inches.

Each	(B2)	Each
F3333G	X1D80★	\$2.70
	Twelve in box. Wt. box 3 lbs.	

Large size. With cutters Nos. 03 and 04. Cutters cut  $\frac{1}{8}$  to 3 inches.

Each	(B1)	Each
F3332G	X2D15★	\$3.25
	Twelve in box. Wt. box 9 lbs.	

**CONNECTICUT VALLEY****The Hobbyist**

Diamond point for centering. Equi-spaced flats on shank provide firm contact with jaws on chuck to prevent slippage.

Contains:

No. 1, or Small Cutter—Bores holes  $\frac{1}{2}$  to  $\frac{3}{8}$  inch diameter.

No. 2, or Large Cutter—Bores holes  $\frac{7}{8}$  to  $1\frac{1}{2}$  inch diameter.

For best results use in drills with  $\frac{3}{8}$  H.P. Cutters are kept sharp with any  $\frac{1}{2}$  inch round 2nd. cut file. Overall length  $6\frac{1}{4}$  inches.

Size Range  $\frac{1}{2}$  to  $1\frac{1}{2}$  inch  
Diameter of Shank— $\frac{1}{4}$  inch

Each	(220)	Each
F5972G	X2D15	\$3.25
	One in plastic tube. Twelve tubes in ctn. Wt. ctn. 3 lbs.	

**EXPANSIVE BITS****Micro-Dial**

Micrometer dial adjustment and positive lock device. Drop forged from special bit steel and heat treated full length. All parts carefully machined to within proper tolerances. Cutting edges are machined and sharpened for clean easy boring. Screw points designed with proper pitch, cut clean and sharp for the right pulling power. Fully polished.

Each	Bore, ins.	Lgth., ins.	Wt. Box, lbs.	Each
	(M21)			
F6030G	X2D27	$\frac{5}{8}$ to $1\frac{3}{4}$	$7\frac{1}{2}$	$\frac{3}{8}$ \$3.40
	(M22)			
F6031G	X2D54★	$\frac{7}{8}$ to 3	$8\frac{1}{2}$	$\frac{9}{16}$ 3.80
		One in box		

**EXTRA CUTTERS****For Micro-Dial Expansive Bits**

Each	For Expansive Bit Nos.	Wt. Each, oz.	Each
F6034G	D4C4 (21S)	M21 $\frac{1}{2}$	\$0.66
F6035G	D5C5 (22S)	M21 $\frac{3}{8}$	.82
F6036G	D6C2 (23L)	M22 $\frac{2}{3}$	.92
F6037G	D7C7 (24L)	M22 $\frac{3}{4}$	1.14
		Loose	

**STANLEY HANDYMAN**

Simple positive adjustment for size of hole. Wedging action holds cutter firm.

Tempered tool steel body. Two interchangeable hardened tool steel cutters. Tapered square shank with red tang.

Cuts holes  $\frac{7}{8}$  to 3 inches.

Each	(129)	Each
F6069G	X2D39	\$3.59
	One in box. Wt. box $\frac{1}{2}$ lb.	

**EXPANSIVE BITS**

CLARK'S



Tool steel. Adjusted by one screw. Cutters are bevel on edge to hold them rigid and prevent slipping. Single thread screw. Carefully ground, sharpened and tempered with two cutters.

**Mirror Polished****Small Size**

Each	Cutter Cuts, inches	Wt. Box, lbs.	Each
	(P2)		
F6033G	X1D90	$\frac{1}{2}$ to $\frac{3}{8}$ — $\frac{7}{8}$ to $1\frac{1}{2}$	$\frac{1}{4}$ \$2.85

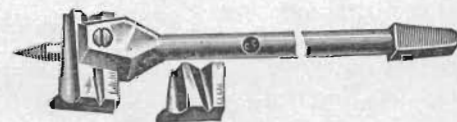
**Large Size**

Each	Cutter Cuts, inches	Wt. Box, lbs.	Each
	(P1)		
F6032G	X2D30★	$\frac{1}{2}$ to $1\frac{3}{4}$ — $1\frac{3}{4}$ to 3	$\frac{5}{8}$ 3.45
		One in box	

**EXTRA CUTTERS**

For Nos. F6033G-PZ, F6032-P1, F3333G-B2 and F3332-B1 Expansive Bits.

Each	Cuts, ins.	Wt. Box, ozs.	Each
F6042G	D4C4 (CC1)	$\frac{1}{2}$ to $\frac{7}{8}$ $1\frac{1}{2}$	\$0.65
F6043G	D5C3 (CC2)	$\frac{7}{8}$ to $1\frac{1}{2}$ 2	.80
F6044G	D6C0 (CC3)	$\frac{7}{8}$ to $1\frac{3}{4}$ 4	.90
F6045G	D7C3 (CC4)	$1\frac{3}{4}$ to 3 9	1.10
		Twelve in box	

**ROBERT H. CLARK**

Chrome-Moly steel with square shank. Two heat treated chromium vanadium steel blades with easy to read calibrations for quick, accurate adjustments. Standard  $\frac{1}{4}$ -28 heat treated set screw. Self clearing lead screw. Positive lock.

Cuts in hard or soft wood.

Each	Lgth., inches	Cutter Cuts, inches	Wt. Box, lbs.	Each
		(250)		
F6024G	X2D32	$7\frac{3}{4}$ $\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{1}{4}$	\$3.49
		(251)		
F6025G	X2D58★	$8\frac{1}{4}$ $\frac{3}{8}$ to 3	$\frac{1}{2}$	3.89
		One in box, twenty-four in case		

**EXTRA CUTTERS**

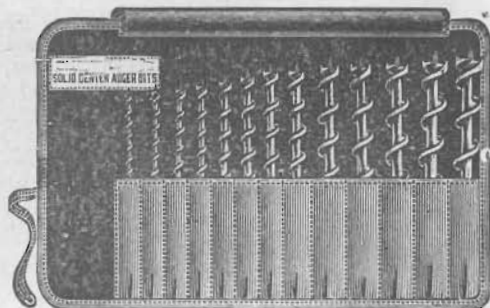
Each	Type Blade	Cut, ins.	Wt. Each, ozs.	Each
F6041G	X1D00 (251S)	Short $\frac{3}{8}$ to $1\frac{1}{2}$	$\frac{1}{2}$	1.50
F6040G	X1D16 (251L)	Long $1\frac{1}{2}$ to 3	$\frac{3}{4}$	1.75
		Loose		



## AUGER BITS

## IRWIN PATTERN—Solid Center

Forged throughout from one solid piece of highest grade tool steel. Highly polished twist and shank. Natural forged steel finish square. Double cutter extension lip; sizes  $\frac{3}{16}$  to  $\frac{11}{16}$ . Bit is wrapped in moistureproof cellophane, protecting it against rust. The head is guarded with a natural color cork, assuring the head is not damaged and in perfect cutting condition.



KEEN KUTTER

## Sets in Rolls

Handy protective cloth roll of heavy durable black duck, with red binding. Dimensions when closed 11½ inches long, 3½ inches in diameter.

Contains 6 bits, one each 4, 5, 6, 8, 10 and 13/16ths inch.

(KSR116)

Per Set ▲ Per Set  
**F5993GK X4D90**..... \$7.35

One set in roll. Wt. roll 1 lb.

Contains 9 bits, one each 4, 5, 6, 7, 8, 10, 12, 14 and 19/16ths inch.

(KSR9)

Per Set ▲ Per Set  
**F5991GK X7D70★**..... \$11.60

One set in roll. Wt. roll 3 lbs.

Contains 13 bits, one each 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 19/16ths inch.

(KSR13)

Per Set ▲ Per Set  
**F5992GK X11D40★**..... \$17.15

One set in roll. Wt. roll 4 lbs.



KEEN KUTTER

## Straight Sizes

## F6112GK-(KS)—Specify Size

Each Size, inch		Av. Lgh. Twist, in.	Av. Lgh. Over All, ins.	Wt. Box, lbs.	▲ Each
5/16	D6C7★	3 5/8	7 1/2	1 1/2	\$1.00
3/16	D6C7★	3 1/2	7 3/8	5/8	1.00
9/16	D6C7★	3 5/8	7 3/4	3/4	1.00
7/16	D7C0★	3 3/4	7 7/8	7/8	1.04
8/16	D7C2★	3 7/8	8	1	1.08
9/16	D7C5	3 7/8	8 1/8	1 1/8	1.12
10/16	D7C8★	4	8 1/4	1 1/4	1.16
11/16	D8C2	4 1/8	8 3/8	1 1/2	1.22
12/16	D8C3★	4 1/4	8 1/2	1 1/16	1.24
13/16	D8C8	4 3/8	8 5/8	1 3/4	1.32
14/16	D9C1★	4 1/2	8 3/4	1	1.36
15/16	X1D00	4 5/8	8 7/8	1	1.50
16/16	X1D02★	4 3/4	9	1 3/8	1.52
17/16	X1D18	4 3/4	9	1 1/4	1.76
18/16	X1D18	4 7/8	9 1/4	1 5/8	1.76
20/16	X1D34	4 7/8	9 1/4	1 5/8	2.00
22/16	X1D54	5	9 3/8	2	2.30
24/16	X1D74	5	9 3/8	2 1/4	2.60

1/16 to 13/16ths, six in ctn.

Larger sizes, three in ctn.

SHAPLEIGH'S

Irwin Pattern  
Solid Center

High quality forged tool steel. Oil tempered. Polished twist and stem. Natural finish shank. Double spur. Extension lip.

## Straight Sizes

## F6117G-(S100)

## Specify Size

Each Size, inch		Av. Length Twist, ins.	Av. Length Over All, inches	Wt. Box, lbs.	Each
5/16	D5C8	4 1/16	7 5/8	5/8	.90
7/16	D6C2	4 1/8	7 7/8	7/8	.95
11/16	D7C3	4 1/4	8 3/8	1 1/16	1.10
13/16	D7C9	4 11/16	8 5/8	1 11/16	1.20
15/16	D8C0	4 13/16	8 7/8	2 1/8	1.35

Six in box



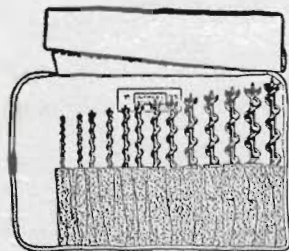
**AUGER BITS****IRWIN MAINBOR****Solid Center Double Cutter—Hi-Lite Polish—Sellopak Wrapped**

Forged throughout from one solid piece of special analysis steel. Natural forged finish square. Double cutter. Extension lip. Average length of twist  $4\frac{1}{2}$  inches. Length over all  $7\frac{1}{4}$  to  $9\frac{1}{2}$  inches. Each bit is wrapped in moisture-proof paper, protecting it against rust. The head is guarded with a colorful cork. No more dull cutting lips and spun or bent screw points.

**Straight Sizes  
F6097G (62T)  
Specify Size**

Each Size, inches		Weight Box, lbs.	▲ Each
$\frac{4}{16}$	D6D7★	$\frac{1}{2}$	\$1.00
$\frac{5}{16}$	D6C7★	$\frac{9}{16}$	1.00
$\frac{6}{16}$	D6C7★	$\frac{3}{4}$	1.00
$\frac{7}{16}$	D7C0★	$\frac{7}{8}$	1.04
$\frac{8}{16}$	D7C2★	1	1.08
$\frac{9}{16}$	D7C5★	$1\frac{1}{8}$	1.12
$\frac{10}{16}$	D7C8★	$1\frac{1}{4}$	1.16
$\frac{11}{16}$	D8C2★	$1\frac{1}{2}$	1.22
$\frac{12}{16}$	D8C3★	$1\frac{3}{4}$	1.24
$\frac{13}{16}$	D8C8	$1\frac{3}{4}$	1.32
$\frac{14}{16}$	D9C1★	$1\frac{7}{8}$	1.36
$\frac{15}{16}$	X1D00	2	1.50
$\frac{16}{16}$	X1D02★	$2\frac{1}{4}$	1.52
$\frac{18}{16}$	X1D18	$1\frac{3}{8}$	1.76
$\frac{20}{16}$	X1D34	$1\frac{9}{16}$	2.00
$\frac{22}{16}$	X1D54	$1\frac{5}{8}$	2.30
$\frac{24}{16}$	X1D74	$1\frac{3}{4}$	2.60

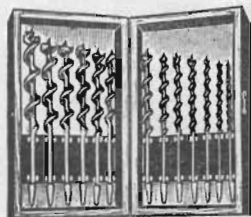
$\frac{1}{16}$  to  $\frac{15}{16}$  six. Larger sizes, four in box


**IRWIN  
Sets in Leatherette Rolls  
Solid Center, Double Cutter,  
Bits No. 62T**

Lined with cotton fleece. Canvas pocket. Sewed to give a separate compartment for each bit, protecting the bits and keeping them in order. Well sewed, with edges turned in and hemmed. Secured by web strap.

**(RF13)**

Per Set **F5997G X11D00★**—Contains 13 bits. One each: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,  $\frac{15}{16}$ -inch. Weight per set  $3\frac{1}{4}$  lbs... \$16.50  
One set in roll


**Sets in Hardwood Boxes  
Double Cutter Bits No. 62T**

Hardwood box, brass hinges and fastenings.

**(F13)**

Per Set **F5984G X11D93**—Contains 13 bits. One each: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,  $\frac{15}{16}$ -inch. Weight per set 5 lbs..... \$17.90

**(F9)**

**F5983G X9D47★**—Contains 10 bits. One each: 4, 5, 6, 7, 8, 10, 12, 14 and  $1\frac{1}{16}$ -inch auger bits, and one 6-inch screw driver bit. Weight per set 4 lbs..... 14.20  
One set in box

**AUGER BIT MERCHANDISER UNIT****IRWIN**

Complete unit consists of 13 hand brace bits in self-selling Sellopak dress-up jackets with FREE display panel.

One each of Sizes  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{7}{16}$ ,  $\frac{1}{2}$ ,  $\frac{9}{16}$ ,  $\frac{5}{8}$ ,  $\frac{11}{16}$ ,  $\frac{3}{4}$ ,  $\frac{13}{16}$ ,  $\frac{7}{8}$ ,  $\frac{15}{16}$ , and 1 inch.

Display complete unit in only  $14\frac{3}{4}$  inches space on wall, door peg board, end of island tables.

All metal construction with 3-color baked-on enamel finish.

Displays stock on permanent hooks.

Per Merchandiser	Per Merchandiser
<b>F5994G (M62T) X10D37</b> .....	\$15.56
One in ctn. Wt. ctn. 4 lbs.	



**WOOD BITS****STANLEY HANDYMAN****For Power Drills**

Carefully heat treated to hold keen edges. Solid center style. 50-50 brad-screw point leads bit into wood, flat side permits intermediate withdrawal.

Short shank permits work in close quarters. Fits all 1/4-inch chucks. Length over all 4 1/4 inches.

**Five-Piece Set**

One each 3/16, 1/2, 5/8, 3/4, and 1 inch

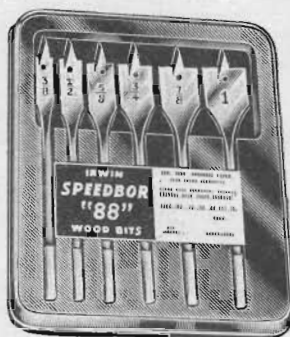
Per Set ▲Per Set

**F5987G (125A) X3D50**.....\$5.25

One set in pkg. Wt. pkg. 1 1/2 lb.

**WOOD AUGER BITS****IRWIN SPEEDBOR 88****For All Electric Drills**

Up to five times faster boring. Exclusive hollow ground point. Hardened full length. 3-flat shank fits in 1/4, 3/16, 1/2 and 1/2 inch electric drills and drill presses. Sizes marked on head. Hang-a-Bit hole.

**Set of 6—In Plastic Case**

Molded plastic display case with solid red bottom and transparent lid.

**Contents of Set:**

1 each—3/8, 1/2, 5/8, 3/4, 7/8, 1 inch.

Per Set Per Set

**F6021G (886M) X3D00★**.....\$4.50

One set in ctn. Wt. ctn. 1 lb.

**Set of 6—In Plastic Roll****Contents of Set:**

1 each—3/8, 1/2, 5/8, 3/4, 7/8, 1 inch.

Per Set Per Set

**F5979G (886R) X3D00★**.....\$4.50

One set in box. Wt. box 3/4 lb.

**Display Assortment**

Display includes 20 bits in self-selling Sellopak dress-up jackets and free, three-color metal display panel that takes only 14 3/4 inches of space on wall, door, peg board or end of island table.

**Contents of Assortment:**

2 each—1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1 inch.

1 each—3/16, 7/16, 9/16, 1 1/16, 1 3/16, 1 5/16 inch.

Per Asst. Per Asst.

**F5974G (M88) X10D06**.....\$15.00

One asst. in ctn. Wt. ctn. 3 lbs.

**OPEN STOCK**

(88)

**F6092G—Specify Size**

Size, ins.		Wt. Box, lbs.	Each
1/4	D5C0	1	\$0.75
5/16	D5C0	1	.75
3/8	D5C0★	1	.75
7/16	D5C0	1	.75
9/16	D5C0★	1	.75
5/8	D5C0	1 1/4	.75
11/16	D5C0★	1 1/4	.75
1 1/16	D5C0	1 1/4	.75
1 1/8	D5C0★	1 1/2	.75
1 1/4	D5C0	1 1/2	.75
1 1/2	D5C0★	1 1/2	.75
1 3/4	D5C0	1 1/2	.75
2	D5C0★	1 1/2	.75

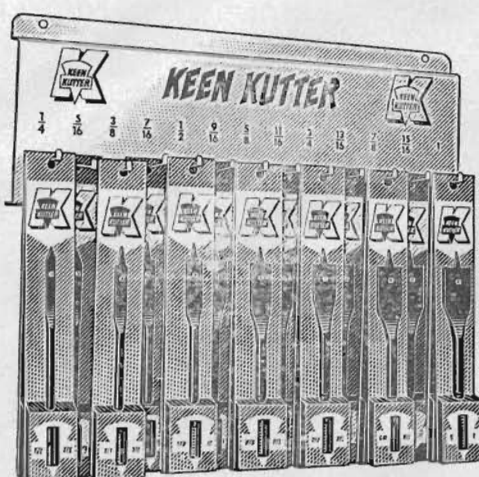
**Six in box**

1 7/8	D8C3	2	1.25
2 1/8	D8C3	2	1.25
2 1/4	D8C3	2	1.25
2 3/4	D8C3	2	1.25

**Three in box**



## WOOD AUGER BITS

KEEN  KUTTER

Spade Type Bit

## Display Assortment

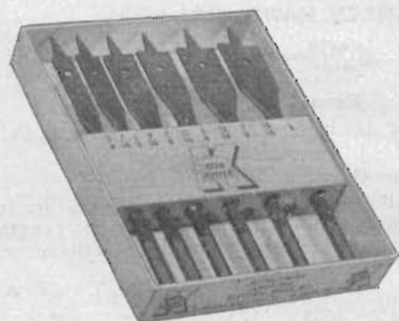
Bores in any wood, any angle, any speed. Heat-treated, tempered — easily resharpened. Non-slip hex shank chucks in any 1/4 inch electric drill or larger.

20 bits on metal display, individually carded:

1 Each 5/16, 7/16, 9/16, 1 1/16, 1 3/16, 1 5/16 inch.  
2 Each 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1 inch.

Per Asst. Per Asst.  
FX-KK1285-GK X8D57.....\$12.85

One asst. in ctn. Wt. ctn. 5 lbs.

KEEN  KUTTER

Spade Type

## Set of 6—In Metal Rack

Contents of Set:

1 each—3/8, 1/2, 5/8, 3/4, 7/8, 1.

Each set in colorful display box with clear acetate cover.

Per Set Per Set  
F9539GK X2D60.....\$3.90

One set in box. Wt. box 1 lb.

KEEN  KUTTER

Spade Type

Fits Electric Drills 1/4 inch and larger.

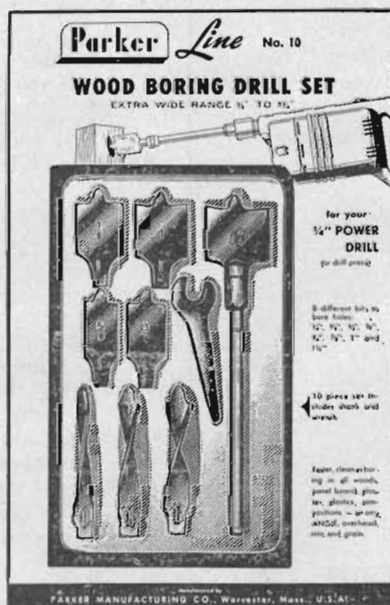
Bores in any wood, any angle, any speed. Cutting edges easily resharpened by filing or grinding. Hex shank for positive, non-slip drive. Individually carded for hang-up or counter display.

## F9538GK—Specify Size

Size in.		Each
1/4	D4C0.....	\$0.60
5/16	D4C0.....	.60
3/8	D4C0.....	.60
7/16	D4C0.....	.60
1/2	D4C0.....	.60
9/16	D4C0.....	.60
5/8	D4C4.....	.65
11/16	D4C4.....	.65
3/4	D4C4.....	.65
13/16	D4C7.....	.70
7/8	D4C7.....	.70
15/16	D4C7.....	.70
1	D4C7.....	.70

Six in box. Wt. box 2 lbs.

## PARKER



Fits All 1/4-Inch Power Drills or Drill Presses.

Faster, cleaner cuts in all woods, plaster, plastics, etc.—at any angle, overhead, into end grain. Hardened tool steel.

Set includes universal shank, wrench and 8 bits—one each drill sizes 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1 and 1 1/4 inch—in clearview plastic case on hang-up display card.

Per Set Per Set  
F6289G (10) X1D80.....\$2.75  
One set in ctn. Wt. ctn. 1 1/2 lb.

## CAR BITS

KEEN  KUTTER

Bit forged from highest grade tool steel. Specially oil-tempered. Head and Cutters sharpened and finished by hand. Double extension lips and cutters. Single thread on screw. Twist and shank highly polished. Natural finish square. Length twist 12 inches. Length over all 18 inches.

## F6114GK—(KSC)

## Specify Size

Each Size, inch		Weight Box, lbs.	Each
5/16	X1D23★	1	\$1.85
7/16	X1D23	1 1/8	1.85
9/16	X1D27★	1 1/4	1.90
5/8	X1D33	1 3/8	2.00
10/16	X1D43★	1 3/4	2.15
1 1/16	X1D60	2	2.40
1 3/16	X1D70★	2 1/8	2.55

Four in ctn.

## SHIP AUGER CAR BITS

KEEN  KUTTER

Forged from highest grade tool steel, specially oil tempered. Head and Cutters sharpened and finished by hand. Single thread on screw. Highly polished twist and shank. Natural finish square.

Length twist about 12 inches. Length over all about 16 1/2 inches.

## F6111GK—(KCB)

## Specify Size

Each Size, inch		Weight Box, lbs.	Each
5/16	X1D77★	1 1/8	\$2.65
9/16	X1D80★	1 1/2	2.70
10/16	X1D83★	1 5/8	2.75
1 1/16	X1D87★	1 3/4	2.80
1 3/16	X1D90★	2 3/8	2.85
1 5/16	X2D00	2 3/4	3.00
1 7/16	X2D07	3 1/4	3.10
1 9/16	X2D27	3 5/8	3.40
1 11/16	X2D36	4 1/8	3.55

Four in ctn.



## CAR BITS

## IRWIN



Forged throughout from one solid piece of special steel. Highly polished twist and shank.

Hex adapter shank permits use in both hand brace and electric drill.

Length of twist 12 inches. Length over all 18 inches.

Solid Center. Double Cutter. Extension Lip

Solid Center—Single Cutter—Ship Head

F6100G—(65T)

Each Size, inch	Specify Size	Weight Box, lbs.	▲ Each
4/16	X1D34	1½	\$2.00
5/16	X1D20★	2	1.80
7/16	X1D20	2	1.80
8/16	X1D23★	2½	1.84
9/16	X1D26	3	1.88
10/16	X1D36★	3½	2.04
11/16	X1D46★	3½	2.18
12/16	X1D59	4	2.38
1 1/16	X1D96	5½	2.94

Six in box

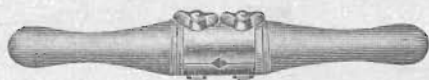
F6096G—(55T)

Each Size, inch	Specify Size	Weight Box, lbs.	▲ Each
8/16	X1D46★	2½	\$2.18
9/16	X1D55	3	2.32
10/16	X1D64★	3½	2.46
11/16	X1D68★	3½	2.52
12/16	X1D79★	4	2.68

Six in box

## AUGER HANDLES

## PRATT—Adjustable



Will hold and center correctly augers of any size. A steel band 3 inches long and 3/16-inch thick is fitted to the handle and cut lengthwise into two sections, which are adjusted by two steel screws with thumb nuts. 17-inch selected and polished ash. Polished steel band and adjusting screws. Adjustable to fit any size auger.

Each	▲ Each
F5280G (P) X2D00★.....	\$3.00

Six in box. Wt. box 8 lbs.

## GIMLET BITS

## GERMAN



Forged steel. Straw colored twist and shank. Natural finish square.

Each	Size, inch	Av. Lgth. inches	Weight Box, lbs.	Each
F6269G (22A/8)	D3C1	5½	¾	\$0.50

Twelve in box

F6271G (22A/4/8)	X3D70—1/32 to 1/8 per asst.
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Twelve in box

Sold Only in Full Boxes

## COUNTERSINK BITS

## STANDARD



## Rose Head—For Wood or Metal

High grade steel tempered and sharpened. Polished bit and shank. Natural finish square. Diameter shank 5/16-inch. Length over all 3 3/8 inches. Seven cutting edges. Cuts countersinks up to 5/8-inch in diameter.

Each	Each
F6255G (381) D3C4★.....	\$0.55

Twelve in box. Wt. box 1½ lbs.

## STANLEY HANDYMAN



## Rose Type

Specially designed for use in any 3-jaw chuck, such as in hand drills, breast drills, etc.

## For Wood or Metal

Nickel-molybdenum alloy steel, hardened and tempered for toughness. Cutting edges are clean and sharp. Polished finish. Length 1 3/4 inches. Cuts countersinks up to 1/2 inch. Shank 1/4 inch diameter.

Each	Each
F6253G (137) D4C3★.....	\$0.65

Six in box. Wt. box 1/2 lb.

## DEUSE



## Rose Head

For breast or hand drills. For wood or soft metals.

High grade tool steel, polished. Round shank. Will cut countersinks up to 5/8-inch. Length 2 1/2 inches.

Each	Each
F6254G (425) D3C4★.....	\$0.55

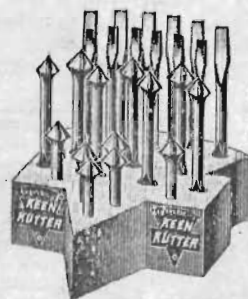
Twelve in box. Wt. box 3/8 lb.



## SCREW DRIVER AND COUNTERSINK BIT SILENT SALESMAN

Attractive hardwood display stand displays 13 countersink and 12 screw driver bits as listed. Back of display stand provides space for retail pricing and identification.

KEEN  KUTTER



Contains:

### SCREW DRIVER BITS

Flat Blade

Highest grade forged steel. Polished bit and shank.

Quantity	No.	Width Bit, in.	Length in.	Each
6	F6278GK-KA $\frac{1}{4}$	$\frac{1}{4}$	4 $\frac{1}{4}$	\$0.45
3	F6279GK-KA $\frac{5}{16}$	$\frac{5}{16}$	4 $\frac{1}{4}$	.45
3	F6280GK-KA $\frac{3}{8}$	$\frac{3}{8}$	4 $\frac{1}{4}$	.50

### COUNTERSINK BITS

Rose head for metal or hardwood. Forged from highest grade tool steel, oil tempered. Polished bit and shank.

Quantity	No.	Size in.	Shank	Length in.	Each
4	F6261GK-K31	$\frac{1}{2}$	Square	3 $\frac{3}{8}$	\$0.65
2	F6262GK-K41	$\frac{5}{8}$	Square	4	.75
1	F6263GK-K51	$\frac{3}{4}$	Square	4	.80
6	F6264GK-K61	$\frac{5}{8}$	Round	2 $\frac{1}{2}$	.65

Red enameled Keen Kutter display stand 5x6 $\frac{1}{2}$ x1 $\frac{3}{4}$  inches high.

Display Stand with 13 countersinks and 12 screw driver bits.

(KBA)


Per Asst.

F6285GK X9D90

One in. ctn. Wt. ctn, 2 lbs.

STAR ★ DENOTES BEST SELLER

## SCREW DRIVER BITS

KEEN  KUTTER



Flat Blade

Highest grade forged steel. Polished bit and shank.

Each	Width Bit, ins.	Length, ins.	Weight Box lbs.	Each
F6278GK-D2C9 (KA $\frac{1}{4}$ ) ★	$\frac{1}{4}$	4 $\frac{1}{4}$	$\frac{3}{4}$	\$0.45
F6279GK-D2C9 (KA $\frac{5}{16}$ ) ★	$\frac{5}{16}$	4 $\frac{1}{4}$	1	.45
F6280GK-D3C1 (KA $\frac{3}{8}$ ) ★	$\frac{3}{8}$	4 $\frac{1}{4}$	1 $\frac{1}{4}$	.50
F6281GK-D3C8 (KA $\frac{1}{2}$ )	$\frac{1}{2}$	4 $\frac{3}{4}$	1 $\frac{1}{2}$	.60

Twelve in box

## COUNTERSINK BITS

KEEN  KUTTER



Each	Size, ins.	Shank	Length, ins.	Weight Box lbs.	Each
F6261GK-D4C3 (K31) ★	$\frac{1}{2}$	Square	3 $\frac{3}{8}$	1 $\frac{1}{4}$	.65
F6262GK-D4C8 (K41) ★	$\frac{5}{8}$	Square	4	1 $\frac{1}{2}$	.75
F6263GK-D5C3 (K51)	$\frac{3}{4}$	Square	4	1 $\frac{3}{4}$	.80
F6264GK-D4C3 (K61)	$\frac{5}{8}$	Round	2 $\frac{1}{2}$	1	.65

Twelve in box



**COMBINATION DRILL AND COUNTERSINK BITS****STANLEY—SCREW MATE**

Time saving accessories for 1/4-inch drills. Make screw pilot holes, holes for screw shank and countersinks.

Made of tough, durable high tungsten steel, hardened and ground.

**Set of Five**

For wood screws 3/4x7 inches, 1x8 inches, 1 1/4x8 inches, 1 1/4x10 inches, 1 1/2x12 inches.

(1525A)

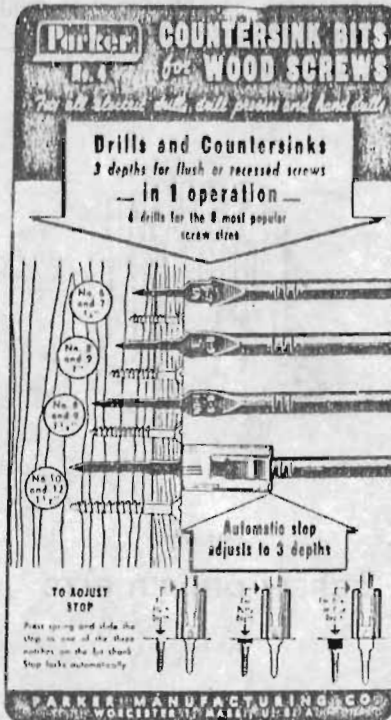
Per Set **F6283G X2D45** ★ **▲ Per Set \$3.70**

One set in pkg. Wt. pkg. 1/2 lb.

**OPEN STOCK**

(SM)

Each	Size, ins.	No. Box	Wt. Box, ozs.	▲ Each
<b>F8908G D5C0</b>	6x3/4	6	2	\$0.75
<b>F8909G D5C0</b>	7x3/4	6	1 1/4	.75
<b>F8910G D5C0</b>	8x3/4	6	2	.75
<b>F8911G D5C0</b>	8x1	6	2	.75
<b>F8912G D5C0</b>	8x1 1/4	6	2	.75
<b>F8913G D5C0</b>	8x1 1/2	6	2	.75
<b>F8914G D5C0</b>	10x1	6	3	.75
<b>F8915G D5C0</b>	10x1 1/4	6	3	.75
<b>F8916G D5C0</b>	10x1 1/2	4	2	.75
<b>F8919G D5C0</b>	12x1 1/2	4	2	.75
<b>F8921G D5C0</b>	12x2	4	2	.75

**PARKER**

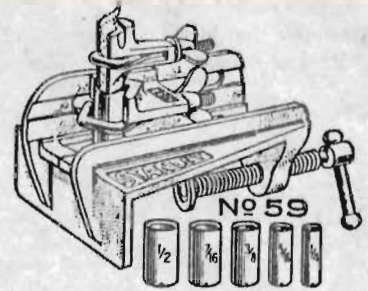
Depth-a-dapter adjusts easily and automatically on each bit. Four cold forged bits mounted on black and yellow "tells-all" self-selling card.

24 countersinking combinations. 4 bits drill and countersink perfect holes for 8 most popular screw sizes and to three different depths. Fast multiple boring of holes exactly alike.

Equally easy to use in electric drills, drill presses and hand drills.

Per Set **F6257G X1D15** **Per Set \$1.75**

Five sets in box. Wt. box 1 1/2 lbs.

**DOWELING JIGS****STANLEY**

To bore dowel holes in the edge end of surface of work with the greatest ease and accuracy. It will take any thickness of material up to 3 inches.

It also will be found an excellent bit guide for mortising. Furnished with five steel guides 1 1/4 inches long. One each 1/4, 3/8, 1/2, 5/8 and 3/4 inch. To allow for variations in size of bits the guides are made 1/100-inch larger than the sizes given. Nickel plated cast iron body 5 1/4 inches long.

(59)

Each **F4414G X4D67** ★ **▲ Each \$7.00**

One in box. Wt. box 1 3/8 lbs.

**ATLANTIC SCREW WORKS, INC.—PILOT HOLER**

Speeds up any wood screw operation. Drills thread, shank and countersink pilot hole in one quick easy operation.

Tool steel insures long lasting sharpness. Ideal for wood, plastics, masonite, plywood, etc.

5 different sizes on display card showing pilot holer in action. Cards are punched for rack display.

Size	For Screw Size
1 1/4 inch.....	No. 8 and 12
1 1/8 inch.....	No. 8 and 9
1 inch.....	No. 8 and 9
3/4 inch.....	No. 6 and 7
5/8 inch.....	No. 4 and 5

Fits any 1/4 Inch Power Drill

(PH5)

Per Card **F8926G D6C3** **▲ Per Card \$0.98**

5 on card, 5 cards in box. Wt. box 7/8 lbs.

STAR ★ DENOTES BEST SELLER



## ✦ MACHINE BITS

## GREENLEE

Special grade tool steel, oil tempered. Hand sharpened and polished.  
Single thread screw.  $\frac{1}{2} \times 2\frac{1}{4}$  inch straight shank.



✦ All No. 150 Machine Bits in the Following List are Carried in Stock by the Factory and Can be Shipped Promptly, F. O. B., Rockford, Ill.

4-inch Twist, $\frac{1}{2} \times 2\frac{1}{4}$ Shank Size $\frac{1}{4}$ to $\frac{21}{16}$ inclusive by 16ths.	} List Less D3C3 $\frac{1}{8}\%$
6-inch Twist, $\frac{1}{2} \times 2\frac{1}{4}$ Shank Size $\frac{1}{4}$ to $\frac{32}{16}$ inclusive by 16ths.	
12-inch Twist, $\frac{1}{2} \times 2\frac{1}{4}$ Shank Size $\frac{1}{4}$ to $\frac{20}{16}$ inclusive by 16ths. also $\frac{22}{16}$ , $\frac{24}{16}$ , $\frac{25}{16}$ and $\frac{32}{16}$	
12-inch Twist, $\frac{3}{4} \times 2\frac{1}{4}$ Shank Size $\frac{1}{4}$ to $\frac{20}{16}$ inclusive by 16ths. also $\frac{22}{16}$ , $\frac{24}{16}$ , $\frac{25}{16}$ and $\frac{32}{16}$	

## TOOLS NOT STANDARD CAN BE QUOTED ON REQUEST

Machine bits under 6 inch twist charged at 6 inch twist list

NOTE—List prices shown below apply to standard shanks. When necessary to supply bits with taper or threaded shanks, or shanks of unusual size or length, an extra charge will be made.

Diameter inch	✦ 150/6-G 6-inch Twist	✦ 150/12-G 12-inch Twist
	List Each	List Each
$\frac{4}{16}$ .....	\$3.90	.....
$\frac{5}{16}$ .....	3.90	.....
$\frac{6}{16}$ .....	3.90	\$5.95
$\frac{7}{16}$ .....	3.95	6.10
$\frac{8}{16}$ .....	4.05	6.25
$\frac{9}{16}$ .....	4.15	6.35
$\frac{10}{16}$ .....	4.25	6.50
$\frac{11}{16}$ .....	4.30	6.65
$\frac{12}{16}$ .....	4.45	6.90
$\frac{13}{16}$ .....	4.60	7.15
$\frac{14}{16}$ .....	4.85	7.45
$\frac{15}{16}$ .....	5.15	7.90
$\frac{16}{16}$ .....	5.50	8.40
$\frac{17}{16}$ .....	5.85	8.90
$\frac{18}{16}$ .....	6.15	9.40
$\frac{19}{16}$ .....	6.50	9.90
$\frac{20}{16}$ .....	6.80	10.40
$\frac{21}{16}$ .....	7.15	.....
$\frac{22}{16}$ .....	7.45	11.40
$\frac{23}{16}$ .....	7.80	.....
$\frac{24}{16}$ .....	8.10	12.30
$\frac{25}{16}$ .....	8.45	.....
$\frac{26}{16}$ .....	8.90	.....
$\frac{27}{16}$ .....	9.30	.....
$\frac{28}{16}$ .....	9.75	14.85
$\frac{29}{16}$ .....	10.20	.....
$\frac{30}{16}$ .....	10.50	.....
$\frac{31}{16}$ .....	10.95	.....
$\frac{32}{16}$ .....	11.40	17.35
$\frac{33}{16}$ .....	} Prices on Application	} Prices on Application
$\frac{34}{16}$ .....		
$\frac{35}{16}$ .....		
$\frac{36}{16}$ .....		
$\frac{37}{16}$ .....		
$\frac{38}{16}$ .....		
$\frac{39}{16}$ .....		
$\frac{40}{16}$ .....		
$\frac{42}{16}$ .....		
$\frac{44}{16}$ .....		
$\frac{46}{16}$ .....		
$\frac{48}{16}$ .....		



## COMPARATIVE NUMBERS OF TWIST DRILLS

	CLEVELAND	GREENFIELD	MORSE	NATIONAL	PRATT & WHITNEY	STANDARD	UNION	WHITMAN & BARNES
Carbon Drills								
12	132	450	104	....	114D	180	102B	
21	142	454	105	633	114F	190	102C	
24	134	452	106	....	114E	185	104B	
25	144	456	107	631	114G	195	104G	
106	102	302	93	611	104	100	102	
108	105	330	95	617	105	115	105	
108A	205	340	97	621	107	125	107	
109	305	332	96	619	106	120	106	
110	104	314	94	615	104B	110	104	
111-1	209	400	98	....	104A	135	109E	
111-2	309	401	102	....	104½A	140	109E	
112	495	447	185	....	107J	117	105R	
112A	496	....	186	....	107L	127	104R	
113	....	....	116A	....	....	....	....	
113A	165	360	111	....	....	....	113	
114	109	390	109	....	108	130	109	
114A	169	392	110	....	109A	133	109B	
114E	179	393	110A	....	109B	....	109C	
115A	600	....	....	....	135A	....	109F	
116	108	418	101	....	110	145	110	
118	207	413	100	....	111	150	111	
120	107	412	99	....	112	155	112	
122	164	355	....	....	109C	225	108	
122A	267	356	....	....	109D	230	108C	
122B	162	357	....	....	109E	220	....	
123	....	367	....	....	....	305	105W	
125	505	440	123	....	107	235	108A	
High Speed Drills								
907	632	1450	202	....	511	580	402B	
909	634	1452	204	....	513	585	404B	
914-1	709	1400	211	....	507	535	507	
914-2	809	1401	212	....	508	540	507	
917	605	1330	206	617	504	515	405B	
918	705	1340	208	621	506	525	407B	
919	805	1332	207	619	505	520	406B	
920	625	1333	....	....	504M	1280	405EB	
924	765	1361	....	....	....	623	405C	
925	....	1362	....	....	....	623	407C	
926	....	....	....	....	....	....	....	
926A	....	1474	....	....	509	1171	555H	
929	....	....	....	....	....	....	....	
929A	....	1480	....	....	510	1174	444H	
931	608	418	210	....	519	545	506	
936	607	1412	209	....	517R	555	412	
938	642	1454	203	633	512	590	402C	
939	644	1456	205	631	514	595	404C	
940	602	1302	200	611	550	500	555	
941	601	1302	200C	612	500	502	555	
942	603	1302	200B	613	500A	505	555	
943	....	1305	....	....	550M	1270	555E	
944	905	1446	262	....	522	516	508	
945	....	....	....	....	500M	1272	....	
946	....	1460	229	419	....	935	80A	
948	....	....	....	....	....	....	505	
950	604	1314	201	615	501	510	444	
951	996	....	265A	....	521	527	444R	
952	995	1447	265	....	520	517	405R	
953	....	1448	....	....	....	....	404R	
954	....	1317	....	....	501M	1275	444E	
957	....	1363	....	....	....	....	405Q	
958	....	....	....	....	....	....	....	
1152	....	305	....	....	115	270	102E	
1153	....	317	....	....	115½	275	104E	
1154	125	333	....	....	115A	280	105E	
1196	410	604	....	411	122M	804	115E	
1207	....	345	....	....	105H	324	....	
1208	....	344	....	....	107H	321	....	
1308	....	363	....	....	....	....	....	
Special Drills								
145	175	432	....	....	113	210	105A	
147	172	425	....	....	114	....	102A	
160	174	428	....	....	114A	....	....	
166	275	430	....	....	113A	215	107A	
Oil Tube Drills								
91	....	....	....	....	....	....	....	
91A	....	474	....	....	....	171	....	
95	405	446	182	....	112½	116	....	
99	....	....	....	....	....	....	....	



## COMPARATIVE NUMBERS OF TWIST DRILLS

	Cleveland	Greenfield	Morse	National	Pratt & Whitney	Standard	Union	Whitman and Barnes
<b>OIL HOLE DRILLS</b>								
99A	.....		480	.....	.....	.....	174	.....
<b>CARBON DRILLS IN SETS</b>								
1 Set	1	1	1	.....	.....	1	1	.....
2	2	2	2	.....	.....	2	2	.....
3	3	3	3	.....	.....	3	3	.....
5	5	5	5	.....	.....	5A	5	.....
6	6	6	6	.....	.....	6	6	6
7	7	7	7	.....	.....	7	7	.....
8	8	8	8	.....	.....	8A	8	.....
9	9	9	9	.....	.....	9	9	.....
10	.....	10	10	.....	.....	10	10	30
11	15	15	15	.....	.....	15	15	18A
13	13	14	14	13A	.....	13	13	13
13A	.....	.....	14A	.....	.....	13A	133B	14
13B	.....	26	14	.....	.....	13B	133A	14A
14B	14	.....	13	.....	.....	14A	14A	13A
18	18	40	18	.....	.....	18	22	.....
19	.....	50	15	.....	.....	780	21	114S
22	19	.....	.....	.....	.....	.....	.....	.....
26	.....	.....	.....	.....	.....	.....	.....	.....
50	5M	.....	5	.....	.....	5	18	5A
51	11	.....	.....	.....	.....	.....	118	22
52	12	.....	.....	.....	.....	.....	119	24
60	.....	.....	.....	.....	.....	16	.....	.....
80	8M	.....	8	.....	.....	8	19	8A
<b>HIGH SPEED DRILLS IN SETS</b>								
54	605M	5H	6	.....	.....	5½	18½	5B
55	.....	.....	.....	.....	.....	15½	.....	18B
56	.....	.....	.....	.....	.....	.....	.....	.....
57	.....	.....	.....	.....	.....	.....	.....	.....
58	611	.....	.....	.....	.....	.....	218	23
59	612	.....	.....	.....	.....	.....	219	25
84	608M	8H	9	.....	.....	8½	19½	8B
<b>DRILLS AND COUNTERSINKS COMBINED</b>								
96	.....	.....	124C	.....	.....	.....	.....	.....
98	160	495	124	625	107D	245	114	.....
20 Set	1820	.....	.....	.....	.....	.....	520	.....
49	.....	50H	.....	.....	780½	.....	414S	.....
996	.....	.....	266C	.....	.....	805	414B	.....
998	560	1495	266	625	779	645	414	.....
<b>MACHINE BITS FOR WOOD</b>								
169	.....	358	.....	.....	.....	.....	222	.....
<b>SOCKETS</b>								
100	74	200	128	605	116	410	100	.....
102	72	201	129	601	117	400	100A	.....
103	.....	251	.....	.....	.....	.....	.....	.....
104	62	202	130	603	118	409	100B	.....
<b>DRIFTS</b>								
105	.....	210	.....	609	118A	430	100C	.....
<b>TOOL BITS</b>								
850	.....	.....	.....	.....	.....	.....	.....	.....
<b>COUNTERBORES</b>								
876	.....	.....	.....	.....	.....	.....	.....	.....
877	.....	.....	.....	.....	.....	.....	.....	.....
878	.....	.....	.....	.....	.....	.....	.....	.....
879	.....	.....	.....	.....	.....	.....	.....	.....
<b>CARBON COUNTERBORES</b>								
176	.....	.....	.....	.....	.....	.....	.....	.....
177	.....	.....	.....	.....	.....	.....	.....	.....
<b>LATHE CENTER</b>								
890	.....	1295	.....	.....	.....	535	.....	.....
<b>CARBON REAMERS</b>								
125A	535	750	157A	465	128B	837	120M	.....
.....	539	.....	.....	.....	.....	.....	.....	.....
126	3139	717	.....	410	128E	838	121S	.....
128A	400	601	135	411	122	800	115	.....
128B	409	617	136	413	122B	808	116	.....
128C	401	602	137	412	122E	801	115S	.....
129	415	715	.....	409	128D	828	121	.....
130A	421	625	142	415	123	810	117B	.....
130C	422	627	144	416	123½A	811	117S	.....



## COMPARATIVE NUMBERS OF REAMERS

Cleveland	Greenfield	Morse	National	Pratt & Whitney	Standard	Union	Whitman and Barnes
<b>CARBON REAMERS</b>							
133	486	505	156	421	130	404	120J
133A	487	506	156A	423	130½	405	120T
134	2216	655	140	429	124	850	119B
134A	2217	656	140A	431	124B	855	119A
136	2215	662	141	433	124A	851	.....
137	404	680	150	459	126	845	120D
137A	.....	692	.....	.....	128	840	120B
139	405	684	150A	460	.....	847	120S
140	.....	683	152	458	.....	857	131
141	431	686	.....	437	127	.....	120A
142	.....	.....	.....	.....	128R	.....	136
143	.....	570	.....	703	121	401	154
144	455	636	139	451	125	825	118
144A	451	637	139A	449	125A	820	118A
144B	.....	640	.....	455	125B	826	118C
144C	.....	641	.....	453	125C	821	118D
148	1128	728	.....	.....	.....	.....	.....
150A	.....	697	151	443	129A	871	120L
151	2214	663	141A	435	124C	856	.....
154	.....	678	.....	.....	.....	.....	.....
157	430	687	.....	439	127A	.....	124
158	.....	.....	.....	445	.....	.....	.....
159	.....	.....	.....	446	.....	.....	.....
<b>BURRING REAMERS</b>							
232	232	.....	.....	.....	.....	.....	1132
233	233	.....	.....	.....	.....	.....	1133
234	234	.....	.....	.....	.....	.....	1134
241	241	.....	.....	.....	128½A	.....	1141
242	242	.....	.....	.....	128½A	.....	1142
242½	242½	.....	.....	.....	128½A	.....	1142½
244	244	.....	.....	.....	128½A	.....	1144
<b>PARADOX REAMERS</b>							
301	.....	.....	.....	.....	.....	.....	.....
306	.....	.....	.....	.....	.....	.....	.....
312	.....	.....	.....	.....	.....	.....	.....
317	.....	.....	.....	.....	.....	.....	.....
<b>PEERLESS REAMERS</b>							
501	.....	.....	.....	.....	.....	.....	.....
502	.....	.....	.....	.....	.....	.....	.....
503	.....	.....	.....	.....	643	.....	.....
504	6543	1733	.....	406	644	.....	.....
509	.....	.....	.....	.....	.....	.....	.....
510	.....	.....	.....	.....	.....	.....	.....
515	.....	.....	.....	.....	645	.....	.....
516	6541	1734	.....	408	642	.....	.....
517	.....	.....	.....	.....	.....	.....	.....
518	.....	.....	.....	.....	.....	.....	.....
519	.....	.....	.....	.....	.....	.....	.....
520	.....	.....	.....	.....	.....	.....	.....
521	.....	.....	.....	.....	.....	.....	.....
<b>ADJUSTABLE REAMERS, HIGH SPEED</b>							
601	.....	.....	.....	.....	.....	.....	.....
602	.....	.....	.....	.....	.....	.....	.....
603	.....	.....	.....	.....	.....	.....	.....
604	.....	.....	.....	.....	.....	.....	.....
606	.....	.....	.....	.....	.....	.....	.....
<b>REAMERS, HIGH SPEED</b>							
607	.....	.....	.....	.....	685	.....	.....
608	.....	.....	.....	.....	686	.....	.....
610	6535	1750	271A	465	664	1037	120N
.....	6539	.....	.....	.....	.....	.....	.....
613	.....	1702	.....	.....	.....	.....	273
615	.....	1697	232	443	627	971	269
616	6407	1701	232A	444	629	974	270
617	3761	1699	232C	447	630	976	271
618	3762	1700	232D	448	631	975	272
620	6421	1625	226	415	615	910	260B
624	6400	1601	220	411	600	900	250
628	6409	1617	221	413	603	908	251
630	6216	1655	224	429	618	950	262-B
632	6217	1656	224A	431	619	955	262A
634	6215	1662	225	433	620	951	.....
636	6214	1663	225A	435	621	956	.....
638	6431	1686	.....	437	782	.....	.....
640	6430	1687	.....	439	783	.....	.....
645	6401	1602	222	412	604	901	250S



## COMPARATIVE NUMBERS OF REAMERS AND MILLS

[illegible]



## CARBON STEEL BIT STOCK DRILLS

For Metal or Wood



KEEN  KUTTER

Forged tool steel, oil tempered and polished.

F8788GK-(K109)

Specify Size

Size, inch	Each	Length Over All, ins.	Wt. Box, lbs.	▲Each
2/32	D3C2	3 1/4	3/8	\$0.48
3/32	D3C4	3 1/2	1/2	.50
4/32	D3C6★	4	1/2	.55
5/32	D4C0★	4 1/4	1/2	.60
6/32	D4C6★	4 3/4	5/8	.70
7/32	D5C2★	5	5/8	.78
8/32	D6C0★	5 1/4	7/8	.90
10/32	D8C5★	5 1/2	1 1/8	1.30
12/32	X1D10★	6	1 1/2	1.65
13/32	X1D20	6 1/2	1 3/4	1.80
14/32	X1D30	6 1/2	2	1.95
16/32	X1D60	7	2 5/8	2.40

Twelve in box

18/32	X2D00	7 1/2	1 3/4	2.65
20/32	X2D25	7 1/2	2	3.05

Six in box

### CLEVELAND

Forged tool steel, oil tempered and polished.

F8745G-(114)

Specify Size

Size, inch	Each	Length Over All, ins.	Wt. Box, lbs.	▲Each
1/16	D3C2	3 3/16	3/8	\$0.48
3/32	D3C4	4	1/2	.50
1/8	D3C6★	4	1/2	.55
5/32	D4C0	4 1/4	1/2	.60
3/16	D4C6★	4 1/2	5/8	.70
7/32	D5C2	4 3/4	5/8	.80
1/4	D6C0★	5	7/8	.90
5/16	D8C5★	5 1/2	1 1/8	1.30
3/8	X1D10	6	1 1/2	1.65
7/16	X1D30	6 1/2	2	1.95
1/2	X1D60	7	2 5/8	2.40

Twelve in box

3/4	X3D00	7 1/2	2 3/4	4.10
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Six in box

## CARBON STEEL BRACE DRILLS

CLEVELAND

Electricians' and Bell Hangers'  
For Wood and Soft Metals



Length Over All 18 inches  
Specify Number, Diameter and  
Length Wanted  
F8768G-(114/18E)

Size, inch	Each	Weight Box, lbs.	▲Each
1/4	X2D05	2 1/4	\$3.10
5/16	X2D15	3	3.20
3/8	X2D40	2 3/4	3.60
1/2	X2D90	6 3/4	4.30

Twelve in box

## CARBON STEEL TWIST DRILLS

CLEVELAND

For Use in Blacksmith's Drill Presses  
with 1/2-inch Chuck



Forged from carbon steel. Shank length 2 1/4  
inches. Diameter 1/2 inch.

Specify Number and Size Wanted

F8895G-(120)

Size, inch	Each	Lgth. Twist, ins.	Over All, ins.	Wt. Pkg., lbs.	▲Each
3/16	X1D30	2 3/8	5 5/8	2 1/4	\$1.95
1/4	X1D60★	2 7/8	6	2 3/4	2.40
9/32	X1D70	3	6	2 3/4	2.55
3/8	X2D05★	3 1/4	6	3 1/4	3.15
7/16	X2D50	3 1/4	6	3 1/2	3.75
1/2	X2D90	3 1/4	6	4	4.35
9/16	X3D30★	3 5/16	6	4 1/4	4.95
5/8	X3D70★	3 1/4	6	5	5.55
1 1/16	X4D15	3 5/16	6	5 1/2	6.25
3/4	X4D55★	3 5/16	6	6 1/4	6.85
7/8	X5D40	3 1/4	6	8 1/4	8.10
1	X7D05	5 5/16	6	10 1/4	10.60

One in pkg.

## CARBON STEEL TWIST DRILLS

KEEN  KUTTER



F8901GK-(K105)

Short Set—Straight Shank  
Specify Number and Size Wanted

Size, inch	Each	Length Over All, ins.	Wt. Env., ozs.	▲Each
1/16	D1C8★	1 7/8	1 1/2	\$0.30
5/64	D1C8★	2	1 1/2	.30
3/32	D1C9★	2 1/4	1	.30
7/64	D2C2★	2 5/8	1	.35
1/8	D2C6★	2 3/4	2	.40
9/64	D2C6★	2 7/8	2	.40
5/32	D3C0★	3 1/8	2 1/2	.45
11/64	D3C2	3 1/4	3	.50
3/16	D3C8★	3 1/2	4	.60
13/64	D4C2	3 3/8	4 1/2	.65
7/32	D4C7★	3 3/4	5 1/2	.70
15/64	D5C1	3 7/8	6 1/2	.75
1/4	D5C6★	4	7 1/2	.85
17/64	D5C7	4 1/8	8 1/2	.90
9/32	D6C2	4 1/4	9 1/2	.95

Twelve in env.

19/64	D6C8	4 3/8	11 1/2	1.00
5/16	D7C5	4 1/2	12 1/2	1.10
21/64	D8C3	4 5/8	14	1.25
11/32	D9C0	4 3/4	16	1.35
3/8	X1D10	5	20	1.65
13/32	X1D30	5 1/4	24	1.95
7/16	X1D50	5 1/2	14	2.25
15/32	X1D75	5 3/4	18	2.70
1/2	X1D95	6	20	2.95

Six in env.

### CLEVELAND



Short Set—Straight Shank  
Specify Number and Size Wanted  
F8893G-(108)

Size, inch	Each	Lgth. Over All, ins.	Wt. Env., ozs.	▲Each
1/64	D3C6	3 3/4	1 1/8	\$0.55
1/32	D2C6	1 3/8	1 1/8	.40
3/64	D1C9	1 3/4	1 1/8	.30
1/16	D1C8	1 7/8	1 1/4	.30
5/64	D1C8	2	1 1/4	.30
3/32	D1C9★	2 1/4	1 1/2	.30
7/64	D2C2★	2 5/8	1 1/2	.35
1/8	D2C6★	2 3/4	1	.40
9/64	D2C6	2 7/8	1	.40
5/32	D3C0★	3 1/8	1 1/4	.45
11/64	D3C2	3 1/4	1 1/2	.50
3/16	D3C8★	3 1/2	2	.60
13/64	D4C2	3 3/8	2 1/4	.65
7/32	D4C7	3 3/4	2 3/4	.70
15/64	D5C1	3 7/8	3 1/4	.75
1/4	D5C6★	4	3 3/4	.85
17/64	D5C7	4 1/8	8 1/2	.90
9/32	D6C2	4 1/4	9 1/2	.95

Twelve in envelope

19/64	D6C8	4 3/8	11 1/2	1.00
5/16	D7C5	4 1/2	12 1/2	1.10
21/64	D8C3	4 5/8	14	1.25
11/32	D9C0	4 3/4	16	1.35
23/64	X1D00	4 7/8	9	1.50
3/8	X1D10	5	10	1.65
25/64	X1D20	5 1/8	11	1.80
13/32	X1D30	5 1/4	12	1.95
27/64	X1D45	5 3/8	13	2.20
7/16	X1D50	5 1/2	14	2.25
29/64	X1D60	5 5/8	16	2.40
15/32	X1D75	5 3/4	18	2.65
31/64	X1D85	5 7/8	19	2.80
1/2	X1D95	6	20	3.00

Six in envelope



## HIGH SPEED STEEL TWIST DRILLS

KEEN  KUTTER

CLEVELAND

CLEVELAND

## F8902GK-(K917)

Short Set—Straight Shank—Bright Finish  
Specify Number and Size Wanted

Diam. ins.	Each	Length Over-all, ins.	Wt. Env., lbs.	Each
1/16	D2C0★	1 7/8	1/16	\$0.30
5/64	D2C0★	2	1/16	.30
3/32	D2C1★	2 1/4	1/16	.30
7/64	D2C4	2 5/8	1/8	.36
1/8	D2C9★	2 7/8	1/8	.45
9/64	D2C9★	2 7/8	1/8	.45
5/32	D3C3★	3 1/8	1/4	.50
11/64	D3C6★	3 1/4	1/4	.55
3/16	D4C2★	3 1/2	1/2	.65
13/64	D4C7	3 5/8	3/8	.70
7/32	D5C2	3 3/4	3/8	.80
15/64	D5C7★	3 7/8	1/2	.85
1/4	D6C2★	4	1/2	.95
17/64	D7C6	4 1/8	5/8	1.15
9/32	D8C3	4 1/4	3/4	1.25

Twelve in env.

19/64	D9C0	4 3/8	3/8	1.35
5/16	X1D00★	4 1/2	3/8	1.50
21/64	X1D10	4 5/8	1/2	1.65
11/32	X1D20	4 3/4	9/16	1.80
3/8	X1D45★	5	3/4	2.20
13/32	X1D70	5 1/4	7/8	2.55
7/16	X2D00	5 1/2	1	3.00
15/32	X2D30	5 3/4	1 1/4	3.45
1/2	X2D60	6	1 3/8	3.90

Six in env.

CLEVELAND

## F8898G-(967)

Straight Shank—Home Length  
Bright Finish  
Specify Number and Size Wanted

Short for portable electric drill use.

Diam. ins.	Each	Length Over-all, ins.	Wt. Env., ozs.	▲Each
1/16	D1C8★	1 5/8	1/2	\$0.27
5/64	D1C8	1 11/16	1/2	.27
3/32	D1C9★	1 3/4	1/2	.27
7/64	D2C2★	1 13/16	1	.33
1/8	D2C6★	1 7/8	1	.40
9/64	D2C6★	1 13/16	1	.40
5/32	D3C0	2 1/16	2	.45
3/16	D3C8★	2 3/16	4	.57
13/64	D4C2	2 1/4	3	.63
7/32	D4C7	2 3/8	3	.70
15/64	D5C1	2 7/16	4	.76
1/4	D5C6	2 1/2	4	.85
9/32	D7C5	2 11/16	6	1.15

Twelve in env.

5/16	D9C0	2 13/16	7	1.35
3/8	X1D30	3 1/8	11	1.95
13/32	X1D55	3 1/6	14	2.35
1/2	X2D35	3 3/4	23	3.55

Six in env.

## F8889G-(917)

Short Set—Straight Shank—Black Finish  
Specify Number and Size Wanted

Diam. ins.	Each	Length Over-all, ins.	Wt. Envelope, lbs.	▲Each
1/64	D3C6	3/4	1/16	\$0.55
1/32	D2C6	1 3/8	1/16	.39
3/64	D1C9	1 3/4	1/16	.30
1/16	D2C0★	1 7/8	1/16	.30
5/64	D2C0	2	1/16	.30
3/32	D2C1★	2 1/4	1/16	.31
7/64	D2C4★	2 5/8	1/8	.36
1/8	D2C9★	2 3/4	1/8	.45
9/64	D2C9	2 7/8	1/8	.45
5/32	D3C3★	3 1/8	1/4	.50
11/64	D3C6	3 1/4	1/4	.55
3/16	D4C2★	3 1/2	1/2	.63
13/64	D4C7★	3 5/8	3/8	.70
7/32	D5C2	3 3/4	3/8	.78
15/64	D5C7	3 7/8	1/2	.80
1/4	D6C2★	4	1/2	.93
17/64	D7C6	4 1/8	5/8	1.15
9/32	D8C3	4 1/4	3/4	1.25

Twelve in envelope

19/64	D9C0	4 3/8	3/8	1.35
5/16	X1D00★	4 1/2	3/8	1.50
21/64	X1D10	4 5/8	1/2	1.65
11/32	X1D20	4 3/4	9/16	1.80
23/64	X1D35	4 7/8	5/8	2.15
3/8	X1D45	5	3/4	2.20
25/64	X1D60	5 1/8	3/4	2.40
13/32	X1D70	5 1/4	7/8	2.55
27/64	X1D90	5 3/8	1	2.85
7/16	X2D00	5 1/2	1	3.00
29/64	X2D15	5 5/8	1 1/8	3.25
15/32	X2D30	5 3/4	1 1/8	3.45
1/2	X2D60	6	1 3/8	3.90

Six in envelope

Six in envelope

CLEVELAND

For Blacksmith's drill presses and 1/2 inch portable electric drills. Shank 1/2 inch diameter, 2 1/4 inches long.

## Short Set

Specify Number and Size Wanted

## F8897G-(936)

Length Over All 6 inches

Size, inch	Each	Lgth: Twist, ins.	Wt. Pkg., lbs.	▲Each	Size, inch	Each	Lgth. Twist, ins.	Wt. Pkg., lbs.	▲Each
17/32	X4D10	3 3/16	4 1/4	\$6.20	13/16	X6D65	3 3/16	7	\$9.95
9/16	X4D40★	3 3/16	4 1/4	6.60	7/8	X7D20	3 1/4	8 1/4	10.80
5/8	X4D95★	3 1/4	5	7.45	1	X9D40	3 3/16	10 1/4	14.10
11/16	X5D50	3 3/16	5 1/2	8.25					
3/4	X6D05★	3 3/16	6 1/4	9.10					

One in a pkg.

One in pkg.

STAR ★ DENOTES BEST SELLER



HIGH SPEED, STEEL TWIST DRILLS  
CLEVELAND



F9532G-(918)

Straight Shank—Short Series—Wire Gauge, Black Finish  
Specify Number and Size Wanted

Wire Ga. Nos.	Each	Decimal Diameter, ins.	Length Over-all, ins.	▲Each	Wire Ga. Nos.	Each	Decimal Diameter, ins.	Length Over-all, ins.	▲Each
1	D5C7	.2280	3 7/8	\$0.85	42	D2C1★	.0935	2 1/4	\$0.30
2	D5C7	.2210	3 7/8	.85	43	D2C1	.0890	2 1/4	.30
3	D5C2	.2130	3 3/4	.78	44	D2C1	.0860	2 1/8	.30
4	D5C2	.2090	3 3/4	.78	45	D2C0	.0820	2 1/8	.30
5	D5C2	.2055	3 3/4	.78	46	D2C0	.0810	2 1/8	.30
6	D5C2	.2040	3 3/4	.78	47	D2C0	.0785	2	.30
7	D4C7★	.2010	3 5/8	.70	48	D2C0	.0760	2	.30
8	D4C7	.1990	3 5/8	.70	49	D2C0	.0730	2	.30
9	D4C7	.1960	3 5/8	.70	50	D2C0★	.0700	2	.30
10	D4C7	.1935	3 5/8	.70	51	D2C0	.0670	2	.30
11	D4C7	.1910	3 1/2	.70	52	D2C0★	.0635	1 7/8	.30
12	D4C7	.1890	3 1/2	.70	53	D2C0	.0595	1 7/8	.30
13	D4C2	.1850	3 1/2	.65	54	D1C9	.0550	1 7/8	.30
14	D4C1	.1820	3 3/8	.67	55	D1C9★	.0520	1 7/8	.30
15	D4C1	.1800	3 3/8	.67	56	D1C9★	.0465	1 3/4	.30
16	D4C0	.1770	3 3/8	.60	57	D2C4	.0430	1 3/4	.36
17	D3C9	.1730	3 3/8	.60	58	D2C5	.0420	1 5/8	.38
18	D3C6	.1695	3 1/4	.55	59	D2C5	.0410	1 5/8	.38
19	D3C6★	.1660	3 1/4	.55	60	D2C6★	.0400	1 5/8	.40
20	D3C6	.1610	3 1/4	.55	61	D2C6	.0390	1 5/8	.40
21	D3C6★	.1590	3 1/4	.55	62	D2C6	.0380	1 1/2	.40
22	D3C3★	.1570	3 1/8	.50	63	D2C6	.0370	1 1/2	.40
23	D3C3	.1540	3 1/8	.50	64	D2C6	.0360	1 1/2	.40
24	D3C3	.1520	3 1/8	.50	65	D2C6	.0350	1 1/2	.40
25	D3C2★	.1495	3	.48	66	D2C6	.0330	1 3/8	.40
26	D3C1★	.1470	3	.46	67	D2C6	.0320	1 3/8	.40
27	D3C1	.1440	3	.46	68	D2C6	.0310	1 3/8	.40
28	D2C9★	.1405	2 7/8	.45	69	D3C3	.0292	1 3/8	.50
29	D2C9★	.1360	2 7/8	.45	70	D3C3	.0280	1 1/4	.50
30	D2C9★	.1285	2 3/4	.45	71	D3C3	.0260	1 1/4	.50
31	D2C6★	.1200	3 3/4	.40	72	D3C3	.0250	1 1/8	.50
32	D2C5★	.1160	3 3/4	.38	73	D3C3	.0240	1 1/8	.50
33	D2C4	.1130	2 5/8	.36	74	D3C3	.0225	1	.50
34	D2C4	.1110	2 5/8	.36	75	D3C6	.0120	1	.55
35	D2C4	.1100	2 5/8	.36	76	D3C6	.0200	7/8	.55
36	D2C4★	.1065	2 1/2	.36	77	D3C6	.0180	7/8	.55
37	D2C3	.1040	2 1/2	.35	78	D3C6	.0160	7/8	.55
38	D2C3	.1015	2 1/2	.35	79	D3C6	.0145	3/4	.55
39	D2C2	.0995	2 3/8	.35	80	D3C6	.0135	3/4	.55
40	D2C2	.0980	2 3/8	.33					
41	D2C2	.0960	2 3/8	.33					

Twelve in env.

Twelve in env.

Average wt. env.—1 to 9.....7 ozs. 10 to 19.....4 ozs. 20 to 30.....2 ozs. 31 to 60.....1 to 1/4 oz. 61 to 80.....1/8 oz.

STAR ★ DENOTES BEST SELLER



## HIGH SPEED STEEL DRILLS

## CLEVELAND



## Metalworking Set

Especially designed for use in sheet metal with good performance in other types of metal and wood. For use in portable electric drills or drill press. Centers easily and requires a minimum of feed pressure.

Steel container with a smooth fitting slide cover and compartments for each drill. Attractive and convenient.

Consists of 1 each:

Diameter, in.	Length Flute, ins.	Length over all, ins.
$\frac{5}{16}$	$1\frac{3}{8}$	$2\frac{13}{16}$
$\frac{3}{8}$	$1\frac{11}{16}$	$3\frac{1}{8}$
$\frac{7}{16}$	2	$3\frac{7}{16}$
$\frac{1}{2}$	$2\frac{1}{4}$	$3\frac{3}{4}$

**Four Drills and Container**  
 **$\frac{1}{4}$  inch Shank**

Per Set **F8830G (97) X5D85**.....\$8.65

One set in box. Wt. box 12 ozs.

## OPEN STOCK



**F8896G-(972)**

**$\frac{1}{4}$  inch Shank**

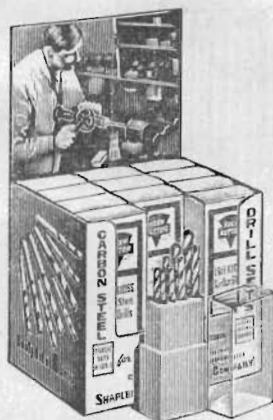
Diameter	Each	Length Flute, ins.	Length, ins.	Wt. Pkg., ozs.	▲ Each
$\frac{5}{16}$	<b>D9C5</b>	$1\frac{3}{8}$	$2\frac{13}{16}$	1	\$1.45
$\frac{3}{8}$	<b>X1D15</b>	$1\frac{11}{16}$	$3\frac{1}{8}$	2	1.75
$\frac{7}{16}$	<b>X1D55</b>	2	$3\frac{7}{16}$	$2\frac{1}{2}$	2.35
$\frac{1}{2}$	<b>X2D90</b>	$2\frac{1}{4}$	$3\frac{3}{4}$	3	2.85

One in pkg.

## CARBON STEEL DRILLS

## IN SETS

KEEN  KUTTER



Set consists of 8 straight shank twist drills—one each  $\frac{1}{16}$ ,  $\frac{3}{32}$ ,  $\frac{1}{8}$ ,  $\frac{5}{32}$ ,  $\frac{3}{16}$ ,  $\frac{7}{32}$ ,  $\frac{1}{4}$  and  $\frac{9}{32}$  inch.

Put up in a new plastic container with solid base with holes for each drill and transparent cover. Size  $1\frac{1}{2} \times 4\frac{5}{8} \times \frac{7}{8}$  inches.

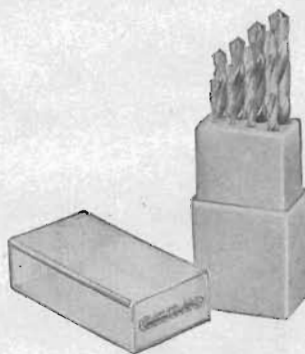
## With 8 Drills

Per Set **F8840GK (K105S) X3D40**.....\$5.10

Twelve sets in ctn. Wt. ctn. 3 lbs.

## CLEVELAND

## In Sets



Set consists of 8 straight shank twist drills—one each  $\frac{1}{16}$ ,  $\frac{3}{32}$ ,  $\frac{1}{8}$ ,  $\frac{5}{32}$ ,  $\frac{3}{16}$ ,  $\frac{7}{32}$ ,  $\frac{1}{4}$  and  $\frac{9}{32}$  inch.

Put up in new plastic container with solid base with holes for each drill and transparent cover. Size  $1\frac{1}{2} \times 4\frac{5}{8} \times \frac{7}{8}$  inches.

## With 8 Drills

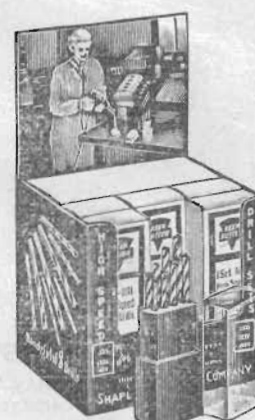
Per Set **F8815G (26) X3D40**.....\$5.10

Twelve sets in display ctn. Wt. ctn. 3 lbs.

## HIGH SPEED STEEL DRILLS

## IN SETS

KEEN  KUTTER



Set consists of 8 straight shank twist drills—one each  $\frac{1}{16}$ ,  $\frac{3}{32}$ ,  $\frac{1}{8}$ ,  $\frac{5}{32}$ ,  $\frac{3}{16}$ ,  $\frac{7}{32}$ ,  $\frac{1}{4}$  and  $\frac{9}{32}$  inch.

Put up in a new plastic container with solid base with holes for each drill and transparent cover. Size  $1\frac{1}{2} \times 4\frac{5}{8} \times \frac{7}{8}$  inches.

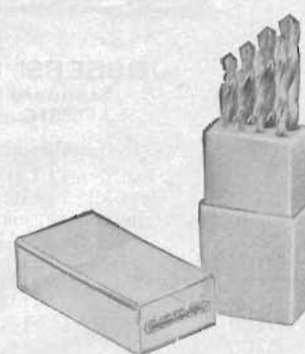
## With 8 Drills

Per Set **F8839GK (K91) X3D90**.....\$5.85

Six sets in ctn. Wt. ctn.  $1\frac{1}{2}$  lbs.

## CLEVELAND

## In Sets



Set consists of 8 straight shank twist drills—one each  $\frac{1}{16}$ ,  $\frac{3}{32}$ ,  $\frac{1}{8}$ ,  $\frac{5}{32}$ ,  $\frac{3}{16}$ ,  $\frac{7}{32}$ ,  $\frac{1}{4}$  and  $\frac{9}{32}$  inch.

Put up in new plastic container with solid base with holes for each drill and transparent cover. Size  $1\frac{1}{2} \times 4\frac{5}{8} \times \frac{7}{8}$  inches.

## With 8 Drills

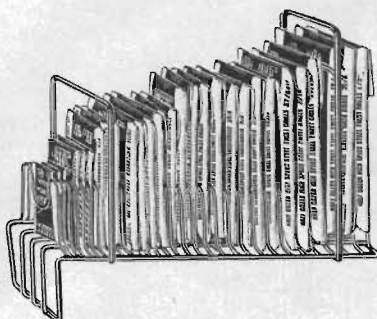
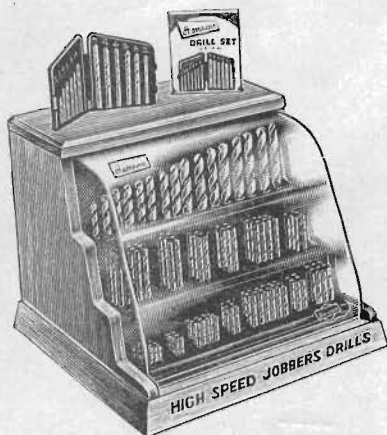
Per Set **F8817G (57) X3D90**.....\$5.85

Twelve sets in display box. Wt. box 3 lbs.



## HIGH SPEED STEEL TWIST DRILLS

HANSON



## JOBBER'S' LENGTH

Self-Seller Display Cabinet Assortment  
Standard Shank

Natural oak cabinet with crystal clear cover displays drills against pastel green background—requires only 14 square inches of space. Supporting holes serve as drill gauge. Sizes and prices legibly marked. Controlled inventory storage rack with 29 compartments, holds extra stock—accessible through hinged cover on front of display.

Contents:

Qty.	Size, in.	Qty.	Size, in.	Qty.	Size, in.
12	1/16	6	7/32	3	3/8
6	5/64	6	15/64	2	25/64
12	3/32	12	1/4	3	13/32
6	7/64	2	17/64	2	27/64
18	1/8	3	9/32	3	7/16
6	9/64	2	19/64	2	29/64
9	5/32	3	5/16	3	15/32
6	11/64	2	21/64	2	31/64
12	3/16	3	11/32	3	1/2
6	13/64	2	23/64		

Per Asst. **FX-157-G X71D94**.....\$119.90

One asst. in ctn. Wt. ctn. 22 lbs.

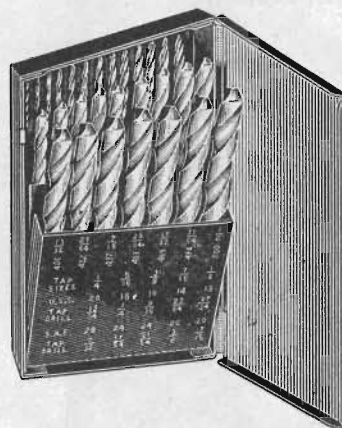


## JOBBER'S' LENGTH

Standard Shank  
F8891G (601)

Specify number and size wanted.

Size, in.	Each	Lgth. Over-all, ins.	Lgth. Flute, ins.	No. in Pkg.	Wt. Pkg., ozs.	Each
1/16	D1C2	1 7/8	7/8	12	1	\$0.27
5/64	D1C3	2	1	12	1	.22
3/32	D1C4	2 1/4	1 1/4	12	1	.23
7/64	D1C6	2 5/8	1 1/2	12	2	.26
1/8	D1C9	2 3/4	1 5/8	12	2	.31
9/64	D2C0	2 7/8	1 3/4	12	2	.33
5/32	D2C1	3 1/8	2	12	3	.35
11/64	D2C4	3 1/4	2 1/8	12	4	.40
3/16	D3C1	3 1/2	2 5/16	12	5	.52
13/64	D3C4	3 5/8	2 7/16	12	5	.56
7/32	D3C7	3 3/4	2 1/2	12	6	.62
15/64	D3C8	3 7/8	2 5/8	12	7	.64
1/4	D4C2	4	2 3/4	12	8	.70
17/64	D5C0	4 1/8	2 7/8	6	5	.83
9/32	D5C4	4 1/4	2 15/16	6	6	.90
19/64	D5C9	4 3/8	3 1/16	6	6	.99
5/16	D6C5	4 1/2	3 3/16	6	7	1.09
21/64	D7C1	4 5/8	3 5/16	6	7	1.18
11/32	D7C9	4 3/4	3 7/16	6	8	1.31
23/64	D8C5	4 7/8	3 1/2	6	9	1.41
3/8	D9C1	5	3 5/8	6	10	1.51
25/64	X1D00	5 1/8	3 3/4	6	11	1.67
13/32	X1D09	5 1/4	3 7/8	6	12	1.81
27/64	X1D17	5 3/8	3 15/16	6	14	1.95
7/16	X1D25	5 1/2	4 1/16	6	15	2.09
29/64	X1D34	5 5/8	4 3/16	6	17	2.23
15/32	X1D42	5 3/4	4 5/16	6	18	2.37
31/64	X1D52	5 7/8	4 3/8	6	20	2.54
1/2	X1D62	6	4 1/2	6	22	2.70



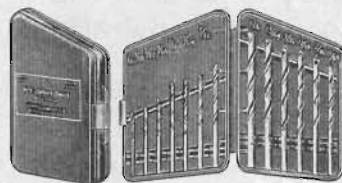
## JOBBER'S' LENGTH

## 15-Piece Set—Standard Shank

One each sizes 1/16 through 1/2 inch by 32nds. in metal drill index.

Per Set **F8820G (15) X11D85**.....\$19.75

One set in box. Wt. box 2 1/2 lbs.



## 13-Piece Set—Standard Shank

One each 1/16, 5/64, 3/32, 7/64, 1/8, 9/16, 5/32, 11/64, 3/16, 13/64, 7/32, 15/64, and 1/4 inch drills in unbreakable polyethylene case with rounded edges—ideal for carrying in pocket.

Per Set **F8819G (113) X3D75**.....\$6.25

One set in box. Wt. box 1/2 lb.



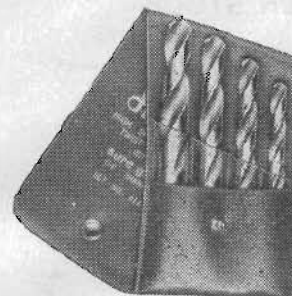
## 1/4 inch "Sure-Grip" Shank

"Sure-Grip" shank prevents drill from turning in chuck.

## F8890G (701)

Size, in.	Each	Lgth. Over-all, ins.	Lgth. Flute, ins.	Wt. 12 ozs.	Each
5/16	D6C6	3 7/8	2 1/8	11	\$1.10
3/8	D9C0	4 1/4	2 5/16	17	1.50
7/16	X1D26	4 5/8	2 5/8	26	2.10
1/2	X1D62	4 7/8	2 3/4	36	2.70

One in plastic screw top tube



## 5-Piece Set—1/4 inch "Sure-Grip" Shank

One each size 1/4, 5/16, 3/8, 7/16 and 1/2 inch in green plastic, snap fastener case.

Per Set **F8821G (145) X5D13**.....\$8.55

One set in box. Wt. box 3/16 lbs.



## TWIST DRILLS

CLEVELAND

In Sets

Straight Shank—Short Set



Set consists of 29 drills—sizes  $\frac{1}{16}$  to  $\frac{1}{2}$  x 64ths.

**Carbon Steel Drills No. 108 With Stand**

Per Set **F8798G (50S) X26D80** ..... \$40.20  
 One set in cardboard box. Wt. box 4 lbs.

**Without Stand**

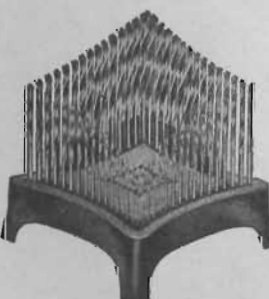
**F8797G (50) X23D30** ..... \$34.95  
 One set in cardboard box. Wt. box 2 $\frac{3}{4}$  lbs.

**High Speed Steel Drills No. 917 With Stand**

Per Set **F8800G (54S) X33D50** ..... \$50.25  
 One set in box. Wt. box 4 lbs.

**Without Stand**

**F8799G (54) X30D00** ..... \$45.00  
 One set in box. Wt. box 2 $\frac{3}{4}$  lbs.



**Straight Shank—Wire Gauge**

Set consists of 60 drills—gauges 1 to 60.

**High Speed Steel Drills No. 918 With Stand**

Per Set **F8806G (84S) X22D40** ..... \$33.60  
 One set in box. Wt. box 4 lbs.

**Without Stand**

**F8805G (84) X18D90** ..... \$28.35  
 One set in box. Wt. box 1 $\frac{1}{4}$  lbs.

## TWIST DRILLS

CLEVELAND

High Speed Steel Drills

In Sets



High speed steel drills in steel Huot boxes, always ready for instant selection. Drill sizes are prominently marked on the face of the hinged compartment.

**Straight Shank—Home Length**

Shorter drills for portable electric drill use.

Set consists of thirteen No. H967 drills, sizes  $\frac{1}{16}$  to  $\frac{1}{4}$  x 64ths.

Per Set **F8825G (273) X4D95** ..... \$7.45

One set in box. Wt. box  $\frac{1}{16}$  lb.

Set consists of twenty-one No. H967 drills, sizes  $\frac{1}{16}$  to  $\frac{3}{8}$  x 64ths.

Per Set **F8826G (274) X13D70** ..... \$20.55

One set in box. Wt. box 1 $\frac{1}{8}$  lbs.

## TWIST DRILLS

CLEVELAND



**Woodworking Set**

Increases capacity of work shop. For drill presses, electric breast and ratchet drills with  $\frac{1}{4}$ -inch chuck. For wood and soft metals, including soft sheet steel. Chrome alloy steel, tempered, polished. Shank  $\frac{1}{4}$  inch.

One each as follows:

Size	Over-all Lgth., ins.	Size	Over-all Lgth., ins.
$\frac{1}{4}$	4	$\frac{1}{16}$	5 $\frac{1}{2}$
$\frac{5}{16}$	4 $\frac{1}{2}$	$\frac{1}{2}$	6
$\frac{3}{8}$	5		

Complete with stand with drill sizes marked.

Per Set **F8813G (14) X3D60** ..... \$5.40

One set in box. Wt. box  $\frac{5}{8}$  lb.

## OPEN STOCK

**F8772G—(124)**

Size, in.	Each	Length Over-all, ins.	Wt. Pkg., ozs.	▲ Each
$\frac{1}{4}$	D2C9	4	$\frac{1}{2}$	\$0.45
$\frac{5}{16}$	D4C4★	4 $\frac{1}{2}$	$\frac{3}{4}$	.65
$\frac{3}{8}$	D5C9★	5	1 $\frac{1}{2}$	.90
$\frac{7}{16}$	D8C7	5 $\frac{1}{2}$	2	1.30
$\frac{1}{2}$	X1D25★	6	2 $\frac{1}{2}$	1.90

One in pkg.



**ELECTRIC DRILL BIT SETS****IRWIN**

Specially designed  $\frac{1}{4}$  inch electric drills.

High grade steel, heat treated full length. Brightly polished. New specially designed cutting head. Will bore clean, fast holes. Length of twist 4 inches. Over all length  $6\frac{1}{4}$  inches.

Colorful red plastic rolls with individual pockets and tie strings.

**Set of 5 Drills**

One each  $\frac{1}{16}$ ,  $\frac{3}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$  and  $\frac{1}{2}$  inch.

Per Set **F5970G (62RB2) X4D07** ★.....\$6.10

One in box. Wt. box  $\frac{3}{4}$  lb.

**DRILL AND SAW BITS  
BEAVER** **$\frac{1}{4}$  Inch High Speed Side Cutting**

After drilling its own starting hole, side cutting section can be used to cut, saw or ream in any direction.

It cuts circles, ovals, squares, scrolls, etc. Converts electric drill, drill press or lathe into a much more versatile tool.

Finest high speed steel and designed to withstand severe continuous use without dulling or breaking.

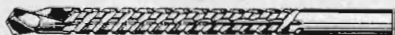
Length  $3\frac{1}{2}$  inches. Side cutting section 2 inches.

**ALL-PURPOSE BIT**

For use on steel, brass, aluminum, copper, lead, zinc, bronze, silver, pipe sheet metal, wood, plastic, etc.

Each **F8807G (1) X1D47**.....\$2.45

One on card. Wt. card 2 ozs.

**WOOD BIT**

For use on plywood, plastic, sheet rock, masonite, mild steel and all types of wood.

Each **F8808G (2) X1D47**.....\$2.45

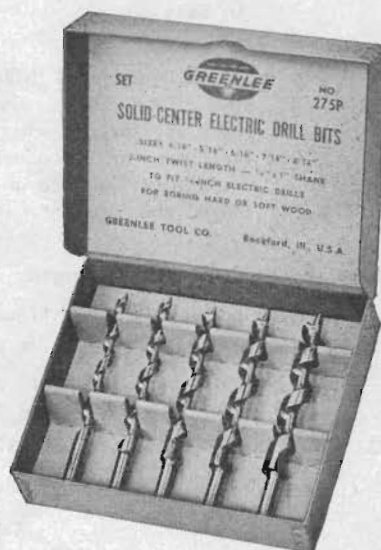
One on card. Wt. card 2 ozs.

**HEAVY METAL BIT**

For use on heavy iron, steel, angle iron, bakelite, etc.

Each **F8809G (3) X1D47**.....\$2.45

One on card. Wt. card 2 ozs.

**ELECTRIC  
DRILL BIT SETS****GREENLEE**

Designed to meet the needs of any woodworker for use in a  $\frac{1}{4}$  inch electric drill for boring  $\frac{1}{2}$  inch or smaller holes in hard or soft wood without pressure.

Made with a solid center twist. Single cutter head. Extension lip with one outlining spur for smooth boring.

Length of twist 3 inches. Shank  $\frac{1}{4} \times 1$  inch.

Consists of:

One each  $\frac{1}{16}$ ,  $\frac{3}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$  and  $\frac{1}{2}$  inch drill.

Complete set in a metal edge display box.

Per Set **F5971G (275P) X3D50** ★.....\$5.25

One set in box. Wt. box  $\frac{1}{2}$  lb.

**ELECTRIC DRILL BITS****IRWIN****For  $\frac{1}{4}$  inch Drill**

High grade steel, heat treated full length. New specially designed cutting head. Brightly polished.

Length of twist 4 inches. Over all length  $6\frac{1}{4}$  inches.

**F6060G--(62RB)**

**Specify Size**

Size, in.	Each	Wt. each, ozs.	▲ Each
$\frac{1}{4}$	D6C8★	1	\$1.02
$\frac{3}{16}$	D6C8★	$1\frac{1}{4}$	1.02
$\frac{3}{8}$	D6C8★	$1\frac{1}{2}$	1.02
$\frac{7}{16}$	D7C1★	$1\frac{3}{4}$	1.06
$\frac{1}{2}$	D7C2★	2	1.08
$\frac{9}{16}$	D7C5	$2\frac{1}{4}$	1.12
$\frac{5}{8}$	D8C3★	$2\frac{3}{4}$	1.24
$1\frac{1}{16}$	D8C6	$2\frac{3}{4}$	1.28
$\frac{3}{4}$	D8C7★	3	1.30

Loose

STAR ★ DENOTES BEST SELLER

**ELECTRIC  
DRILL BIT SETS****CLEVELAND****In Plastic Containers**

Easy and profitable way to sell drills. Compact, convenient and fast-selling.

For the farmer, home owner, electrician, repairman, machinist, radio service and mechanic.

Each set contains a wide range of the most wanted drill sizes, in plain view and clearly marked.

Genuine Cle-forged high speed drills, engineered to drill more holes per grind and cut faster. Will withstand abrasive action.

Attractively packaged in sturdy plastic containers



Contains—One each  $\frac{1}{16}$ ,  $\frac{3}{64}$ ,  $\frac{3}{32}$ ,  $\frac{1}{64}$ ,  $\frac{1}{8}$ ,  $\frac{9}{64}$ ,  $\frac{5}{32}$ ,  $\frac{11}{64}$ ,  $\frac{3}{16}$ ,  $\frac{7}{32}$ , and  $\frac{1}{4}$  inch drills.

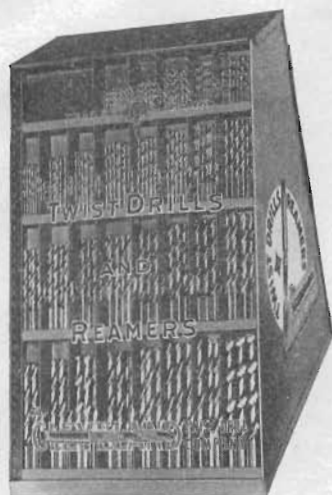
**11 High Speed Drills**

Per Set **F8816G (56) X4D00**.....\$6.00

One set in box. Wt. box 5 ozs.



## DRILL CABINETS



### CLEVELAND

#### Drill Selector

Durably constructed of heavy sheet steel with attractive gray finish. Clear plastic lid gives perfect visibility. Space for 29 sizes straight shank drills from  $\frac{1}{16}$  inch to  $\frac{1}{2}$  inch by 64ths.

Size 12x15 in.

#### Without Drills

Each **FX-015-G X16D00** .....  $\Delta$ Each \$24.00  
One in cardboard box. Wt. box 16 $\frac{1}{2}$  lbs.



### CLEVELAND

Designed especially for convenient storage of drills.

Heavy sheet metal construction. Individual parts electrically welded for rigidity and durability. Finished in gray lacquer. Lettering on outside in red, black and silver. Drawers are labeled with list number for proper drill location.

Drawers divided for drills, tools and sets, as follows:

Drawer Nos.	Drill Nos.	Drawer Nos.	Drill Nos.
1	108	4	917
2	108A	5	114
3	918	6	Tools and Sets

Length 23 $\frac{1}{2}$  inches Depth 18 $\frac{1}{2}$  inches. Height 16 inches.

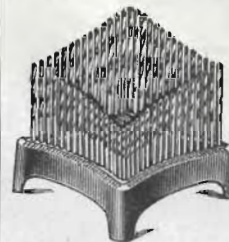
Ea  $\frac{1}{2}$  **+0 0-G X50D00** .....  $\Delta$ Each \$75.00  
One in ctn. Wt. ctn. 160 lbs.

## DRILL STANDS

### CLEVELAND

#### (Without Drills)

For shop, garage and home workshop. Saves time looking for the right size drill.



Drill holes correctly spaced and size of drill stamped in stand so that any drill can be unerringly selected and removed quickly and easily.

Composition metal stand, oxidized, rust-proof finish. Size 4 $\frac{3}{8}$ x4 $\frac{3}{8}$ x1 $\frac{1}{2}$  inches.

Holds 29 fractional size drills ( $\frac{1}{16}$  to  $\frac{1}{2}$  x 64ths. For sets Nos. 50 and 54).

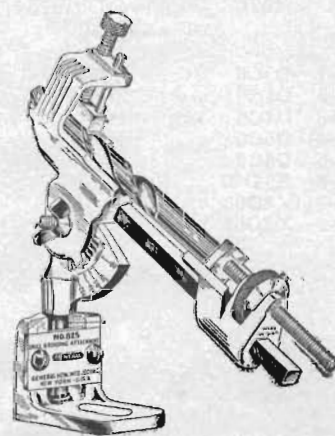
Each **F8795G (B50) X3D50** .....  $\Delta$ Each \$5.25  
One in box. Wt. box 1 $\frac{1}{2}$  lbs.

Holds 60 wire gauge drills (Nos. 1 to 60) for sets Nos. 80 and 84.

Each **F8796G (B80) X3D50** .....  $\Delta$ Each \$5.25  
One in box. Wt. box 1 $\frac{1}{4}$  lbs.

## DRILL GRINDING ATTACHMENTS

### GENERAL



Has the required skill and care designed and built into it, so that the average craftsman can repoint his drills to factory accuracy and to whatever angle point his work requires.

For correctly reshaping drills from  $\frac{1}{8}$  to  $\frac{3}{4}$  inch fractional size. No. 30 to No. 1 number size A to Z letter size. 3.0 to 19.0 metric size.

Precision built, silver lustre finish.

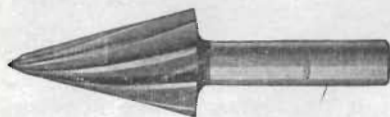
Each **F5677G (825) X4D40** .....  $\Delta$ Each \$6.60  
One in box. Wt. box 2 lbs

Items marked  $\star$  not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Cleveland, Ohio.

Freight allowed to destination.

STAR  $\star$  DENOTES BEST SELLER



**BURRING REAMERS****CLEVELAND**

For the removal of burrs from cut pipe and conduit, enlarging holes, countersinking and smoothing edges of holes in various materials.

Carbon steel, with special flutes. Accurately machined and tempered. Carefully ground.

Each			Style Shank	Cap'ty Pipe, ins.	Diam., ins. at Point	Large End	▲ Each
F9246G	(232)	X3D55	Round 1/2 in.	1/8 to 1	3/16	1 1/4	\$5.35
F9248G	(233)	X4D30	Round 1/2 in.	1/4 to 1 1/4	1/4	1 15/32	6.45
F9249G	(234)	X7D90	Round 1/2 in.	1/4 to 2	1/4	2 17/64	11.85
F9250G	(241)	X2D30	Bit Brace	1/8 to 1/2	3/16	47/64	3.45
F9251G	(242)	X2D85★	Bit Brace	1/8 to 1	3/16	1 1/4	4.25
F9252G	(242 1/2)	X3D40★	Bit Brace	1/4 to 1 1/4	1/4	1 15/32	5.10
F9253G	(244)	X6D85	Bit Brace	1/4 to 2	1/4	2 17/64	10.35

One in metal edgebox.

**TAPER REAMERS****CLEVELAND****Repairman's**

For farmers and workshop. Also electricians, telephone linemen, auto repairmen, plumbers, carpenters, machinists, blacksmiths, etc.

Each			Diam., ins. Large End	at Point	Flute ins.	Lgth. over all, ins.	▲ Each
F9254G	(1421)	X2D40	1/2	1/8	3 1/2	5 1/2	\$3.60
F9255G	(1422)	X3D60	1	3/8	4 1/2	6 1/2	5.40

One in pkg.

**SCREW EXTRACTORS****CLEVELAND EZY-OUT**

For the quick and easy removal of broken set and cap screws, studs, stay bolts, pipe fittings, etc.

It is only necessary to drill a hole in the broken screw, insert proper size extractor and start a left-hand twist. This causes the cork-screw-like spirals to grip the sides of drilled hole and broken screw can be turned out on its own threads—and without injury to threads of the hole.



**NOTE**—Always use largest possible extractor. Under ordinary conditions use size drill listed in table. However, use smaller or larger drill, depending on length of broken part or its depth in hole.

**Carbon Steel—Specify Number and Size Wanted**

(192)		Diameter, ins. Small End	Large End	Length Flutes, in.	Length Over All, in.	For Screws and Bolts, in.	For Pipe in.	Use Drill Size, in.	Wt. Each, lbs.	▲ Each
F8533G-1	D3C6	.054	.117	1/2	2	3/16 to 1/4		5/64	1/16	\$0.55
F8534G-2	D4C0	.080	.174	3/4	2 3/8	1/4 to 5/16		7/64	1/16	.59
F8535G-3	D4C5	1/8	1/4	1	2 11/16	5/16 to 7/16		5/32	1/16	.70
F8536G-4	D5C0	3/16	21/64	1 1/8	2 7/8	7/16 to 9/16		1/4	1/16	.75
F8538G-5	D6C0	1/4	7/16	1 1/2	3 3/8	9/16 to 3/4	1/8 to 1/4	17/64	1/8	.90
F8539G-6	X1D30	3/8	19/32	1 3/4	3 3/4	3/4 to 1		13/32	1/4	1.95
F8540G-7	X2D00	1/2	3/4	2	4 1/8	1 to 1 3/8		17/32	3/8	3.00
F8541G-8	X2D60	3/4	1	2	4 3/8	1 3/8 to 1 1/2	3/4	13/16	3/4	3.90

**In Sets**—These sets are put up in Slide-cover Wood Boxes and meet the requirements of many classes of work.

**Set of Six**

For general use around the garage. Will handle practically any broken threaded piece.

Consists of one each extractor Nos. 1, 2, 3, 4, 5 and 6.

Per Set **F8543G (15A) X3D45★**.....\$5.20  
Wt. set 5/8 lb.

**Set of Five**

Designed for tool room and light repair work. For removing the smaller broken cap or set screws, bolts, etc.

Consists of one each extractor, Nos. 1, 2, 3, 4 and 5.

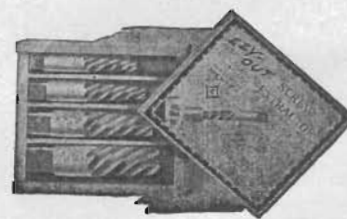
Per Set **F8542G (15) X2D10★**.....\$3.15  
Wt. set 1/2 lb.

**Set of Four**

The heavy shop set.

Will handle any broken bolt from 1/2 to 1 1/2 inches. Particularly adapted for railroad, steel and structural work.

Consists of one each extractor Nos. 6, 7, 8 and 9.



Per Set **F8545G (16) X10D40**.....\$15.60  
Wt. set 3 lbs.

**Set of Three**

For general machine shop use will handle any bolt, cap or set screw from 5/16 to 1 inch.

Consists of one each extractor Nos. 4, 5 and 6.



Per Set **F8546G (17) X2D30**.....\$3.15  
Wt. set 1/2 lb.



## DRILL ASSORTMENTS

## CLEVELAND

## Drill Selector

A complete range of drills in a minimum amount of counter space. Stocks 29 sizes of straight shank drills from  $\frac{1}{16}$  to  $\frac{1}{2}$  in. by 64ths.

Durably constructed of heavy sheet steel with attractive gray finish. Clear plastic lid gives perfect visibility.

Size 12x15 in.

Consists of:

High Speed or Carbon Drills

Quantity	Size	Each	
		Hi-Speed	Carbon
36	$\frac{1}{16}$	\$0.16	\$0.16
24	$\frac{5}{64}$	.18	.16
24	$\frac{3}{32}$	.19	.17
12	$\frac{7}{64}$	.20	.17
48	$\frac{1}{8}$	.25	.18
12	$\frac{9}{64}$	.25	.18
24	$\frac{5}{16}$	.27	.18
12	$\frac{11}{64}$	.31	.19
24	$\frac{3}{16}$	.41	.22
12	$\frac{13}{64}$	.43	.25
12	$\frac{7}{32}$	.49	.26
6	$\frac{15}{64}$	.51	.28
24	$\frac{1}{4}$	.55	.29
6	$\frac{17}{64}$	.67	.31
12	$\frac{9}{32}$	.74	.36

## With High Speed Drills

Each

FX-3917H-G X172D41

One in cardboard box. Wt. box 28 lbs.

Quantity	Size	Each	
		Hi-Speed	Carbon
6	$\frac{19}{64}$	\$0.82	\$0.38
6	$\frac{5}{16}$	.89	.40
6	$\frac{11}{16}$	.97	.45
6	$\frac{17}{32}$	1.09	.50
6	$\frac{23}{64}$	1.17	.53
6	$\frac{3}{8}$	1.25	.58
3	$\frac{25}{64}$	1.37	.62
3	$\frac{13}{16}$	1.49	.68
3	$\frac{27}{32}$	1.60	.75
3	$\frac{7}{16}$	1.73	.82
3	$\frac{29}{64}$	1.84	.90
3	$\frac{15}{16}$	1.96	.99
3	$\frac{31}{64}$	2.10	1.10
3	$\frac{1}{2}$	2.24	1.18

## With Carbon Drills

Each

FX-108C-G X97D24

One in cardboard box. Wt. box 28 lbs.

## DRILL SELECTOR ONLY

Without Drills

Each		▲Each
FX-015-G	X16D00.....	\$24.00
One in cardboard box. Wt. box 16½ lbs.		

## DRILL CABINETS

## CLEVELAND

Designed especially for convenient storage of drills.

Heavy sheet metal construction. Individual parts electrically welded for rigidity and durability. Finished in gray lacquer. Lettering on outside in red, black and silver. Drawers are labeled with list number for proper drill location.

Drawers divided for drills, tools and sets, as follows:

Drawer Nos.	Drill Nos.	Drawer Nos.	Drill Nos.
1	108	4	917
2	108A	5	114
3	918	6	Tools and Sets

Length 23½ inches. Depth 18½ inches. Height 16 inches.

Each		▲Each
FX-010-G	X50D00.....	\$75.00
One in ctn. Wt. ctn. 160 lbs.		

Items marked ✱ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Cleveland, Ohio. Freight allowed to destination.

STAR ★ DENOTES BEST SELLER

## TWIST DRILLS

## CLEVELAND



## Woodworking Set

Increases capacity of work shop. For drill presses, electric breast and ratchet drills with ¼-inch chuck. For wood and soft metals, including soft sheet steel. Chrome alloy steel, tempered, polished. Shank ¼ inch.

One each as follows:

Size	Over-all Lgth., ins.	List Each	Size	Over-all Lgth., ins.	List Each
$\frac{1}{4}$	4	\$0.42	$\frac{1}{16}$	5½	\$1.27
$\frac{5}{16}$	4½	.64	$\frac{1}{2}$	6	1.78
$\frac{3}{8}$	5	.87			

Complete with stand with drill sizes marked.

Per Set

F8813G (14) X3D23.....\$4.85

One set in box. Wt. box ½ lb.

## OPEN STOCK

F8772G-(124)

Size, in.	Each	Length Over-all, ins.	Wt. Pkg., ozs.	▲Each
$\frac{1}{4}$	D2C6	4	½	\$0.39
$\frac{5}{16}$	D4C0★	4½	¾	.60
$\frac{3}{8}$	D5C4★	5	1½	.81
$\frac{7}{16}$	D7C9	5½	2	1.18
$\frac{1}{2}$	X1D11★	6	2½	1.65

One in pkg.



**ELECTRIC DRILL BIT SETS****IRWIN**

Specially designed  
1/4 inch electric drills.

High grade steel, heat treated full length. Brightly polished. New specially designed cutting head. Will bore clean, fast holes. Length of twist 4 inches. Over all length 6 1/4 inches.

Colorful red plastic rolls with individual pockets and tie strings.

**Set of 5 Drills**

One each 1/16, 5/16, 3/8, 1/2 and 5/8 inch.

Per Set **F5970G (62RB2) X4D07★**.....\$6.10  
One in box. Wt. box 3/4 lb.

**DRILL AND SAW BITS****BEAVER****1/4 Inch High Speed Side Cutting**

After drilling its own starting hole, side cutting section can be used to cut, saw or ream in any direction.

It cuts circles, ovals, squares, scrolls, etc. Converts electric drill, drill press or lathe into a much more versatile tool.

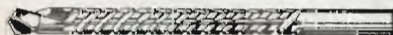
Finest high speed steel and designed to withstand severe continuous use without dulling or breaking.

Length 3 1/2 inches. Side cutting section 2 inches.

**ALL-PURPOSE BIT**

For use on steel, brass, aluminum, copper, lead, zinc, bronze, silver, pipe sheet metal, wood, plastic, etc.

Each **F2807G (1) X1D47**.....\$2.45  
One on card. Wt. card 2 ozs.

**WOOD BIT**

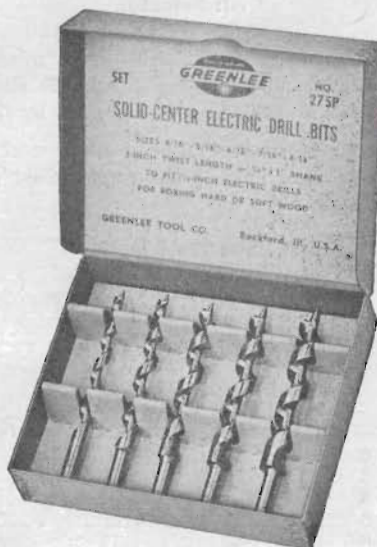
For use on plywood, plastic, sheet rock, masonite, mild steel and all types of wood.

Each **F8808G (2) X1D47**.....\$2.45  
One on card. Wt. card 2 ozs.

**HEAVY METAL BIT**

For use on heavy iron, steel, angle iron, bakelite, etc.

Each **F8809G (3) X1D47**.....\$2.45  
One on card. Wt. card 2 ozs.

**ELECTRIC DRILL BIT SETS****GREENLEE**

Designed to meet the needs of any woodworker for use in a 1/4 inch electric drill for boring 1/2 inch or smaller holes in hard or soft wood without pressure.

Made with a solid center twist. Single cutter head. Extension lip with one outlining spur for smooth boring.

Length of twist 3 inches. Shank 1/4x1 inch.

Consists of:

One each 1/16, 5/16, 3/8, 1/2 and 5/8 inch drill.

Complete set in a metal edge display box.

Per Set **F5971G (275P) X3D50★**.....\$5.25  
One set in box. Wt. box 1/2 lb.

**ELECTRIC DRILL BITS****IRWIN****For 1/4 inch Drill**

High grade steel, heat treated full length. New specially designed cutting head. Brightly polished.

Length of twist 4 inches. Over all length 6 1/4 inches.

**F6060G-(62RB)**

**Specify Size**

Size, in.	Each	Wt. each, ozs.	▲ Each
1/4	<b>D6C8★</b>	1	\$1.02
5/16	<b>D6C8★</b>	1 1/8	1.02
3/8	<b>D6C8★</b>	1 1/4	1.02
7/16	<b>D7C1★</b>	1 3/8	1.06
1/2	<b>D7C2★</b>	2	1.08
9/16	<b>D7C5</b>	2 1/8	1.12
5/8	<b>D8C3★</b>	2 3/8	1.24
11/16	<b>D8C6</b>	2 3/4	1.28
3/4	<b>D8C7★</b>	3	1.30

Loose

Items marked ★ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Montpelier, Ohio.

STAR ★ DENOTES BEST SELLER



## EXPANSION HAND REAMERS

## CLEVELAND COMMON SENSE



Primarily designed for enlarging holes by a few thousandths of an inch. All are slightly tapered at front to facilitate starting.

Recommended limits of expansion— $\frac{1}{4}$  to  $\frac{13}{32}$ , .006 inch;  $\frac{1}{2}$  to  $\frac{31}{32}$ , .010 inch; 1 to  $1\frac{1}{2}$ , .012 inch;  $1\frac{3}{4}$  to 2, .015 inch.

## CARBON STEEL

## ✦ 129-G—Eccentric Flutes

## Specify Number and Size Wanted

Diam., ins.	Each	Length Flutes, ins.	Length Over-All, ins.	Weight Each, lbs.	▲ Each	Diam., ins.	Each	Length Flutes, ins.	Length Over-all, ins.	Weight Each, lbs.	▲ Each
$\frac{1}{4}$	X7D32	$1\frac{1}{2}$	$3\frac{3}{4}$	$\frac{1}{16}$	\$10.80	$\frac{3}{4}$	X11D75	$2\frac{13}{16}$	$6\frac{5}{8}$	$\frac{5}{8}$	\$17.65
$\frac{9}{32}$	X7D57	$1\frac{5}{8}$	$3\frac{7}{8}$	$\frac{1}{16}$	11.35	$2\frac{5}{32}$	X12D84	3	$6\frac{7}{8}$	$\frac{3}{4}$	19.25
$\frac{5}{16}$	X7D57	$1\frac{13}{16}$	4	$\frac{1}{16}$	11.35	$\frac{13}{16}$	X12D84	$3\frac{1}{16}$	$7\frac{1}{8}$	$\frac{7}{8}$	19.25
$1\frac{1}{32}$	X7D80	$1\frac{13}{16}$	$4\frac{1}{8}$	$\frac{1}{16}$	11.70	$2\frac{7}{32}$	X14D06	$3\frac{1}{4}$	$7\frac{3}{8}$	$\frac{7}{8}$	21.10
$\frac{3}{8}$	X7D80	$1\frac{7}{8}$	$4\frac{1}{4}$	$\frac{1}{8}$	11.70	$\frac{7}{8}$	X14D06	$3\frac{3}{8}$	$7\frac{9}{16}$	1	21.10
$1\frac{3}{32}$	X8D06	$1\frac{7}{8}$	$4\frac{3}{8}$	$\frac{1}{8}$	12.10	$2\frac{9}{32}$	X15D29	$3\frac{1}{2}$	$7\frac{13}{16}$	$1\frac{1}{8}$	22.95
$\frac{7}{16}$	X8D06	$1\frac{7}{8}$	$4\frac{1}{2}$	$\frac{1}{8}$	12.10	$1\frac{5}{16}$	X15D29	$3\frac{5}{8}$	$8\frac{1}{16}$	$1\frac{1}{4}$	22.95
$1\frac{5}{32}$	X8D30	$1\frac{7}{8}$	$4\frac{3}{4}$	$\frac{3}{16}$	12.45	$3\frac{1}{32}$	X16D54	$3\frac{13}{16}$	$8\frac{9}{32}$	$1\frac{1}{4}$	24.80
$\frac{1}{2}$	X8D30	$1\frac{7}{8}$	5	$\frac{1}{4}$	12.45	1	X16D54	$3\frac{7}{8}$	$8\frac{1}{2}$	$1\frac{1}{2}$	24.80
$1\frac{7}{32}$	X8D93	$1\frac{13}{16}$	$5\frac{3}{16}$	$\frac{1}{4}$	13.40	$1\frac{1}{8}$	X18D98	$4\frac{1}{8}$	$9\frac{1}{4}$	2	28.60
$\frac{9}{16}$	X8D93	$2\frac{1}{16}$	$5\frac{3}{8}$	$\frac{3}{8}$	13.40	$\frac{13}{16}$	X20D35	$4\frac{3}{16}$	$9\frac{9}{16}$	$2\frac{3}{8}$	30.50
$1\frac{9}{32}$	X9D79	$2\frac{3}{16}$	$5\frac{9}{16}$	$\frac{3}{8}$	14.70	$1\frac{1}{4}$	X21D80	$4\frac{1}{4}$	$9\frac{7}{8}$	$2\frac{3}{4}$	32.70
$\frac{5}{8}$	X9D79	$2\frac{3}{16}$	$5\frac{3}{4}$	$\frac{3}{8}$	14.70	$1\frac{5}{16}$	X23D27	$4\frac{7}{16}$	$10\frac{1}{8}$	3	34.90
$2\frac{1}{32}$	X10D76	$2\frac{1}{2}$	6	$\frac{1}{2}$	16.15	$\frac{13}{8}$	X25D73	$4\frac{7}{16}$	$10\frac{3}{4}$	$3\frac{5}{8}$	38.60
$1\frac{1}{16}$	X10D76	$2\frac{11}{16}$	$6\frac{1}{4}$	$\frac{1}{2}$	16.15	$1\frac{7}{16}$	X28D20	$4\frac{7}{16}$	$10\frac{5}{8}$	$3\frac{7}{8}$	42.30
$2\frac{3}{32}$	X11D75	$2\frac{3}{4}$	$6\frac{7}{16}$	$\frac{5}{8}$	17.65	$1\frac{1}{2}$	X30D64	$4\frac{1}{2}$	$10\frac{3}{4}$	$4\frac{1}{4}$	45.95

Individually wrapped. All sizes and dimensions not listed are special and subject to special prices.

## CLEVELAND PEERLESS



## HIGH SPEED STEEL

## ✦ 502-G—Straight Flute

## Specify Number and Size Wanted

Low alloy steel body of maximum toughness, with high speed steel blades. This combination of steels produces a reamer that is extremely tough at a price considerably below that of high-speed steel reamers.

The expanding feature of these reamers make it an ideal low cost, high production tool, because when it becomes dull it can be expanded and resharpened many times and put in its original serviceable condition.

All sizes and dimensions not listed are special and subject to special prices.

Diam., ins.	Each	Length Flutes, ins.	Length Over All, ins.	Weight Each, lbs.	▲ Each
$\frac{1}{2}$	X10D22	3	6	$\frac{3}{8}$	\$15.35
$\frac{5}{8}$	X12D50	$3\frac{1}{2}$	7	$\frac{1}{2}$	18.75
$2\frac{1}{32}$	X13D06	$3\frac{11}{16}$	$7\frac{3}{8}$	$\frac{5}{8}$	19.60
$1\frac{1}{16}$	X13D65	$3\frac{7}{8}$	$7\frac{3}{4}$	$\frac{3}{4}$	20.50
$\frac{3}{4}$	X14D78	$4\frac{3}{16}$	$8\frac{3}{8}$	$\frac{7}{8}$	22.15

Individually wrapped

For Greatest Satisfaction  
Buy  
**KEEN KUTTER**



## FLUTED CHUCKING REAMERS

## CLEVELAND



## High Speed Steel

No. 630-G—Straight Shank—Eccentric Flutes

Specify Number and Size Wanted

Diam., ins.	Each	Diam. Shank, ins.	Length Shank, ins.	Length Over-All, ins.	Weight Each, lbs.	▲Each
1/8	X1D52	7/64	7/8	3 1/2	1/16	\$ 2.30
5/32	X1D91	9/64	1	4	1/16	2.85
3/16	X1D91	11/64	1 1/8	4 1/2	1/16	2.85
7/32	X2D28	13/64	1 1/4	5	1/16	3.45
1/4	X2D28	15/64	1 1/2	6	1/16	3.45
9/32	X2D47	15/64	1 1/2	6	1/16	3.70
5/16	X2D47	9/32	1 1/2	6	1/8	3.70
11/32	X2D86	9/32	1 1/2	6	1/8	4.30
3/8	X2D86	5/16	1 3/4	7	3/16	4.30
13/32	X3D24	5/16	1 3/4	7	3/16	4.85
7/16	X3D24	3/8	1 3/4	7	1/4	4.85
15/32	X3D62	3/8	1 3/4	7	1/4	5.45
1/2	X3D62	7/16	2	8	3/8	5.45
17/32	X4D41	7/16	2	8	3/8	6.60
9/16	X4D41	7/16	2	8	3/8	6.60
19/32	X4D81	7/16	2	8	1/2	7.20
5/8	X4D81	9/16	2 1/4	9	5/8	7.20
21/32	X5D52	9/16	2 1/4	9	3/4	8.30
11/16	X5D52	9/16	2 1/4	9	3/4	8.30
23/32	X5D96	9/16	2 1/4	9	3/4	8.95
3/4	X5D96	5/8	2 1/2	9 1/2	7/8	8.95
25/32	X6D39	5/8	2 1/2	9 1/2	1	9.60
13/16	X6D39	5/8	2 1/2	9 1/2	1	9.60
27/32	X7D06	5/8	2 1/2	9 1/2	1 1/4	10.60
7/8	X7D06	3/4	2 5/8	10	1 1/4	10.60
29/32	X7D95	3/4	2 5/8	10	1 1/2	11.95
15/16	X7D95	3/4	2 5/8	10	1 1/2	11.95
31/32	X8D83	3/4	2 5/8	10	1 3/8	13.25
1	X8D83	7/8	2 3/4	10 1/2	1 3/4	13.25
11/16	X9D94	7/8	2 3/4	10 1/2	1 7/8	14.90
11/8	X11D06	7/8	2 7/8	11	2	16.60
13/16	X12D15	1	2 7/8	11	2 7/8	18.25
1 1/4	X13D47	1	3	11 1/2	2 7/8	20.20
15/16	X15D03	1	3	11 1/2	3 5/8	22.55
13/8	X16D58	1	3 1/4	12	4	24.90
17/16	X18D12	1 1/4	3 1/4	12	4 1/4	27.20
1 1/2	X19D67	1 1/4	3 1/2	12 1/2	4 1/2	29.55

Individually wrapped

Reamers for brass or bronze require special clearance and can be furnished on request.

All sizes and dimensions not listed are special and subject to special prices.

## EXPANSION CHUCKING REAMERS

## CLEVELAND PEERLESS



Low alloy steel body of maximum toughness, with high speed steel blades. This combination of steels produces a reamer that is extremely tough at a price considerably below that of full high-speed steel reamers.

## High Speed Steel

No. 504-G Straight Shank

Specify Number and Size Wanted

Diam., ins.	Each	Diam. Shank, ins.	Length Flutes, ins.	Length Over-All, ins.	Weight Each, lbs.	▲Each
1/2	X8D10	7/16	1	8	3/8	\$ 12.15
17/32	X8D39	7/16	1	8	3/8	12.60
9/16	X8D58	7/16	1 1/8	8	3/8	12.90
19/32	X8D86	7/16	1 1/8	8	1/2	13.30
5/8	X9D06	9/16	1 1/4	9	5/8	13.60
21/32	X9D32	9/16	1 1/4	9	5/8	14.00
11/16	X9D54	9/16	1 1/4	9	3/4	14.25
23/32	X10D00	9/16	1 1/4	9	3/4	15.00
3/4	X10D48	5/8	1 3/8	9 1/2	7/8	15.75
25/32	X10D97	5/8	1 3/8	9 1/2	7/8	16.45
13/16	X11D46	5/8	1 3/8	9 1/2	7/8	17.20
27/32	X11D92	5/8	1 3/8	9 1/2	7/8	17.90
7/8	X12D41	3/4	1 1/2	10	1 1/4	18.40
29/32	X12D98	3/4	1 1/2	10	1 1/4	19.50
15/16	X13D53	3/4	1 1/2	10	1 1/4	20.30
31/32	X14D12	3/4	1 1/2	10	1 5/8	21.20
1	X14D88	7/8	1 5/8	10 1/2	1 7/8	22.30
11/32	X15D65	7/8	1 5/8	10 1/2	1 7/8	23.50
11/16	X16D42	7/8	1 5/8	10 1/2	1 7/8	24.65
13/32	X17D18	7/8	1 5/8	10 1/2	1 7/8	25.75
1 1/8	X17D94	7/8	1 3/4	11	2	26.90
15/32	X18D51	7/8	1 3/4	11	2	27.75
13/16	X19D10	1	1 3/4	11	2 1/2	28.65
17/32	X19D67	1	1 3/4	11	2 5/8	29.50
1 1/4	X20D41	1	1 7/8	11 1/2	2 3/4	30.60
15/16	X21D19	1	1 7/8	11 1/2	2 3/4	31.75
13/8	X21D98	1	2	12	3	33.00
17/16	X22D91	1 1/4	2	12	4 1/4	34.35
1 1/2	X23D88	1 1/4	2 1/8	12 1/2	4 1/2	35.80
19/16	X25D02	1 1/4	2 1/8	12 1/2	4 5/8	37.55
15/8	X26D17	1 1/4	2 1/4	13	4 7/8	39.25
111/16	X27D32	1 1/4	2 1/4	13	5	40.80
13/4	X28D67	1 1/4	2 3/8	13 1/2	5 1/4	43.00
113/16	X29D98	1 1/2	2 3/8	13 1/2	7	45.00
17/8	X31D32	1 1/2	2 1/2	14	7 3/8	47.00
115/16	X32D85	1 1/2	2 1/2	14	7 1/2	49.25
2	X34D39	1 1/2	2 1/2	14	7 3/8	51.60
21/16	X35D92	1 1/2	2 3/4	14 1/2	8 1/8	53.90
2 1/8	X37D62	1 1/2	2 3/4	14 1/2	8 1/4	56.40
23/16	X41D27	1 3/4	2 3/4	14 1/2	10 1/4	61.90
2 1/4	X43D00	1 3/4	2 3/4	14 1/2	10 1/2	64.50
25/16	X44D70	1 3/4	3	15	11 1/4	67.05
23/8	X46D62	1 3/4	3	15	11 3/8	69.95
27/16	X48D72	1 3/4	3	15	11 3/8	73.08
2 1/2	X50D84	1 3/4	3	15	11 3/4	76.25
29/16	X53D13	2	3 1/4	15 1/2	14 7/8	79.70
25/8	X55D42	2	3 1/4	15 1/2	15	83.15
211/16	X57D71	2	3 1/4	15 1/2	15 1/4	86.55
23/4	X60D22	2	3 1/4	15 1/2	15 3/8	90.35
213/16	X62D67	2	3 1/2	16	16	94.00
27/8	X65D34	2	3 1/2	16	16 3/4	98.00
215/16	X68D22	2	3 1/2	16	17	102.35
3	X71D30	2	3 1/2	16	17 1/4	106.95

Individually wrapped

Items marked ✕ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Cleveland, Ohio.



## TAPER PIN REAMERS

## CLEVELAND



Taper  $\frac{1}{4}$  inch per foot. These reamers all have the same taper. The point of any one reamer will enter the hole reamed by the next size smaller.

## ✦-137-G Carbon Steel—Straight Flutes

## Specify Number and Size Wanted

Size	Each	Diam. Large End, ins.	Diam. Small End, ins.	Length Flute, ins.	Diam. Shank, ins.	Length Over All, ins.	Weight Pkg. lbs.	▲ Each
✦7/0	X2D97	.0666	.0497	$1\frac{3}{16}$	$\frac{5}{64}$	$11\frac{3}{16}$	$\frac{1}{16}$	\$4.45
✦6/0	X2D97	.0806	.0611	$1\frac{5}{16}$	$\frac{3}{32}$	$11\frac{5}{16}$	$\frac{1}{14}$	4.45
✦5/0	X2D75	.0966	.0719	$1\frac{3}{16}$	$\frac{7}{64}$	$2\frac{3}{16}$	$\frac{1}{13}$	4.15
✦4/0	X2D75	.1142	.0869	$1\frac{5}{16}$	$\frac{1}{8}$	$2\frac{5}{16}$	$\frac{1}{11}$	4.15
✦2/0	X2D55	.1462	.1137	$1\frac{9}{16}$	$\frac{5}{32}$	$2\frac{9}{16}$	$\frac{1}{7}$	3.85
✦4	X2D75	.2504	.2071	$2\frac{9}{16}$	$1\frac{7}{64}$	$4\frac{1}{16}$	1	4.15
✦9	X7D05	.6066	.4805	$6\frac{1}{16}$	$\frac{3}{16}$	$8\frac{5}{16}$	6	10.60
✦10	X7D70	.7216	.5799	$6\frac{13}{16}$	$\frac{5}{8}$	$9\frac{5}{16}$	10	11.55

One in pkg.

## BURRING REAMERS

## CLEVELAND



For the removal of burrs from cut pipe and conduit, enlarging holes, countersinking and smoothing edges of holes in various materials.

Carbon steel, with special flutes. Accurately machined and tempered. Carefully ground.

Each			Style Shank	Cap'ty Pipe, ins.	Diam., ins.		▲ Each
					at Point	Large End	
F9246G	(232)	X2D84	Round $\frac{1}{2}$ in.	$\frac{1}{8}$ to 1	$\frac{3}{16}$	$1\frac{1}{4}$	\$4.25
F9248G	(233)	X3D42	Round $\frac{1}{2}$ in.	$\frac{1}{4}$ to $1\frac{1}{4}$	$\frac{1}{4}$	$1\frac{15}{32}$	5.15
F9249G	(234)	X6D87	Round $\frac{1}{2}$ in.	$\frac{1}{4}$ to 2	$\frac{1}{4}$	$2\frac{17}{64}$	10.30
F9250G	(241)	X2D28	Bit Brace	$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{3}{16}$	$\frac{7}{64}$	3.45
F9251G	(242)	X2D84★	Bit Brace	$\frac{1}{8}$ to 1	$\frac{3}{16}$	$1\frac{1}{4}$	4.25
F9252G	(242½)	X3D42★	Bit Brace	$\frac{1}{4}$ to $1\frac{1}{4}$	$\frac{1}{4}$	$1\frac{15}{32}$	5.15
F9253G	(244)	X6D87	Bit Brace	$\frac{1}{4}$ to 2	$\frac{1}{4}$	$2\frac{17}{64}$	10.30

One in metal edgebox.

## TAPER REAMERS

## CLEVELAND



## Repairman's

For farmers and workshop. Also electricians, telephone linemen, auto repairmen, plumbers, carpenters, machinists, blacksmiths, etc.

Each			Diam., ins.		Flute ins.	Lgth. over all, ins.	▲ Each
			Large End	at Point			
F9254G	(1421)	X2D50	$\frac{1}{2}$	$\frac{1}{8}$	$3\frac{1}{2}$	$5\frac{1}{2}$	\$3.75
F9255G	(1422)	X3D77	1	$\frac{3}{8}$	$4\frac{1}{2}$	$6\frac{1}{2}$	5.65

One in pkg.

Items marked ✦ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Cleveland, Ohio

STAR ★ DENOTES BEST SELLER



## SCREW EXTRACTORS

## CLEVELAND EASY-OUT

For the quick and easy removal of broken set and cap screws, studs, stay bolts, pipe fittings, etc.

It is only necessary to drill a hole in the broken screw, insert proper size extractor and start a left-hand twist. This causes the cork-screw-like spirals to grip the sides of drilled hole and broken screw can be turned out on its own threads—and without injury to threads of the hole.



**NOTE**—Always use largest possible extractor. Under ordinary conditions use size drill listed in table. However, use smaller or larger drill, depending on length of broken part or its depth in hole.

## Carbon Steel—Specify Number and Size Wanted

(192)		Diameter, ins.		Length	Length	For Screws		For	Use	Wt.	▲ Each
Each		Small End	Large End	Flutes, in.	Over All, in.	and Bolts, in.		Pipe in.	Drill Size, in.	Each, lbs.	
F8533G-1	D3C6	.054	.117	1/2	2	3/16 to 1/4			5/64	1/16	\$0.55
F8534G-2	D3C9	.080	.174	3/4	2 3/8	1/4 to 5/16			7/64	1/16	.59
F8535G-3	D4C2	1/8	1/4	1	2 11/16	5/16 to 7/16			5/32	1/16	.61
F8536G-4	D5C0	3/16	2 1/64	1 1/8	2 7/8	1/16 to 9/16			1/4	1/16	.75
F8538G-5	D5C5	1/4	7/16	1 1/2	3 3/8	9/16 to 3/4		1/8 to 1/4	17/64	1/8	.83
F8539G-6	D8C4	3/8	19/32	1 3/4	3 3/4	3/4 to 1		3/8	13/32	1/4	1.28
F8540G-7	X1D59	1/2	3/4	2	4 1/8	1 to 1 3/8		1/2	17/32	3/8	2.40
F8541G-8	X2D21	3/4	1	2	4 3/8	1 3/8 to 1 3/4		3/4	13/16	3/4	3.30

( +192-G)

## Direct Shipment

Size											
+9	X3D30	1	1 9/32	2 1/4	4 5/8	1 3/4 to 2 1/8		1	1 1/16	1 1/4	4.95
+10	X5D23	1 1/4	1 9/16	2 1/2	5	2 1/8 to 2 1/2			1 5/16	1 7/8	7.85
+11	X7D02	1 1/2	1 7/8	3	5 5/8	2 1/2 to 3			1 9/16	2 7/8	10.55
+12	X8D72	1 7/8	2 3/16	3 1/2	6 1/4	3 to 3 1/2			1 15/16	4 3/4	13.10

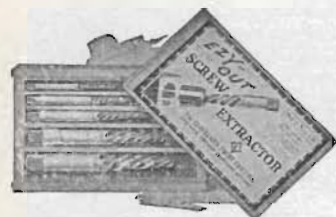
One in pkg.

**In Sets**—These sets are put up in Slide-cover Wood Boxes and meet the requirements of many classes of work.

## Set of Five

Designed for tool room and light repair work. For removing the smaller broken cap or set screws, bolts, etc.

Consists of one each extractor, Nos. 1, 2, 3, 4 and 5.



Per Set  
F8542G (15) X2D01★.....▲ Per Set \$3.00

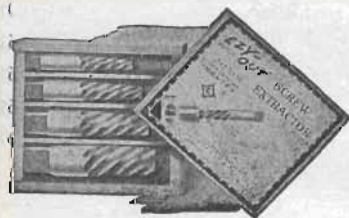
Wt. set 1/2 lb.

## Set of Four

The heavy shop set.

Will handle any broken bolt from 1/2 to 1 1/2 inches. Particularly adapted for railroad, steel and structural work.

Consists of one each extractor Nos. 6, 7, 8 and 9.



Per Set  
F8545G (16) X7D94.....▲ Per Set \$11.90

Wt. set 3 lbs.

## Set of Three

For general machine shop use will handle any bolt, cap or set screw from 5/16 to 1 inch.

Consists of one each extractor Nos. 4, 5 and 6.



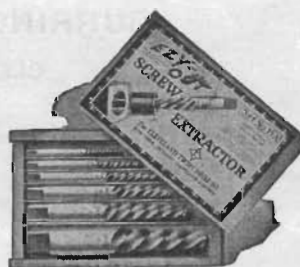
Per Set  
F8546G (17) X1D77.....▲ Per Set \$2.65

Wt. set 1/2 lb.

## Set of Six

For general use around the garage. Will handle practically any broken threaded piece.

Consists of one each extractor Nos. 1, 2, 3, 4, 5 and 6.



Per Set  
F8543G (15A) X2D87★.....▲ Per Set \$4.30

Wt. set 5/8 lb.

## Set of Six

For garage or general use. Will handle every size bolt, cap or set screw from small electrical parts to 1 inch studs.

Consists of one each extractor Nos. 1, 2, 3, 4, 5 and 6, with the proper straight shank drill to use with each extractor.



Per Set  
F8547G (20) X6D42.....▲ Per Set \$9.63

Wt. set 1 1/4 lbs.

Loose

Items marked ★ not carried in stock. Can only be furnished by shipping direct from factory, F. O. B., Cleveland, Ohio.

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