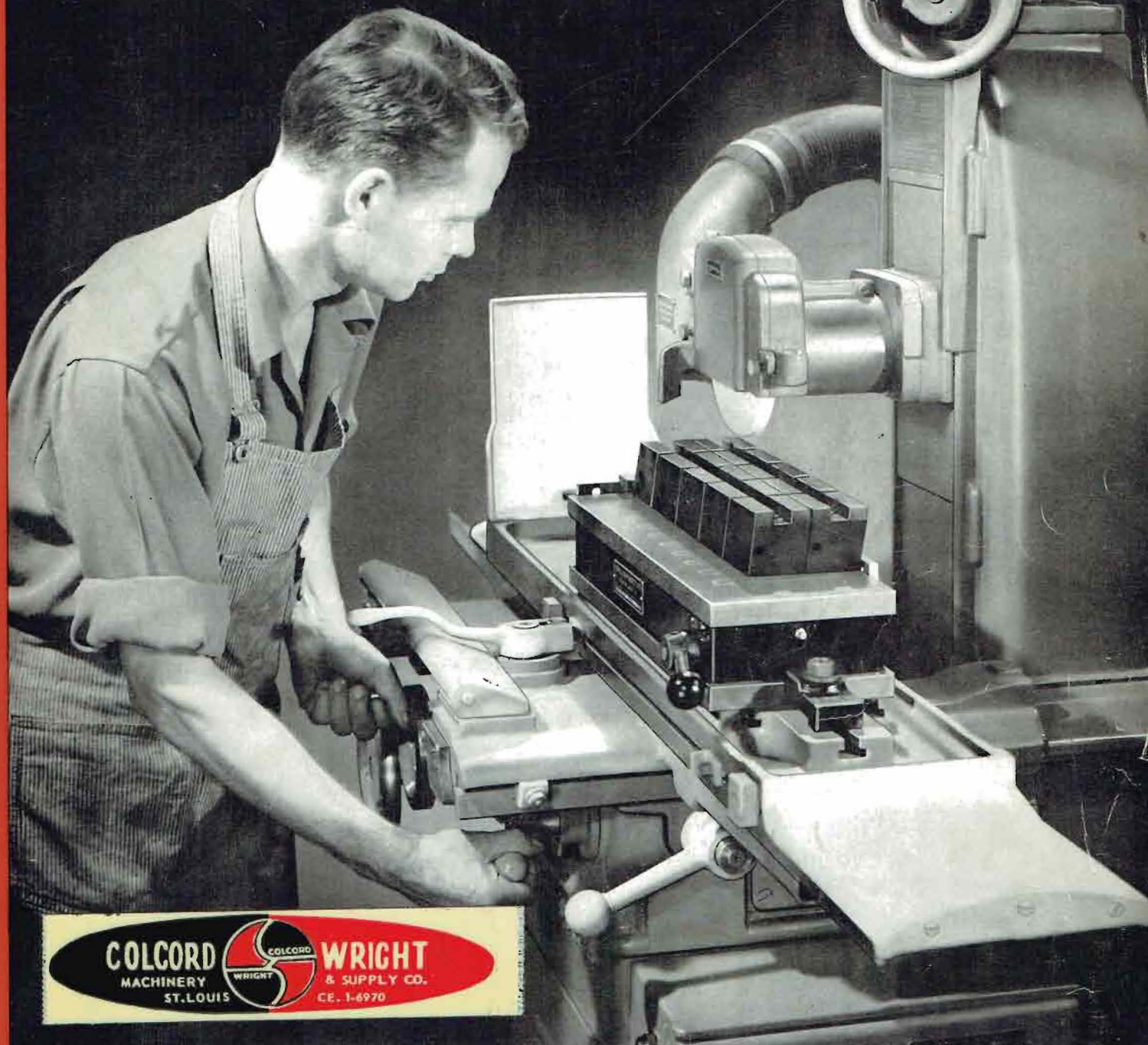


Precise - Sensitive - Versatile



COLCORD
MACHINERY
ST. LOUIS



WRIGHT
& SUPPLY CO.
CE. 1-6970

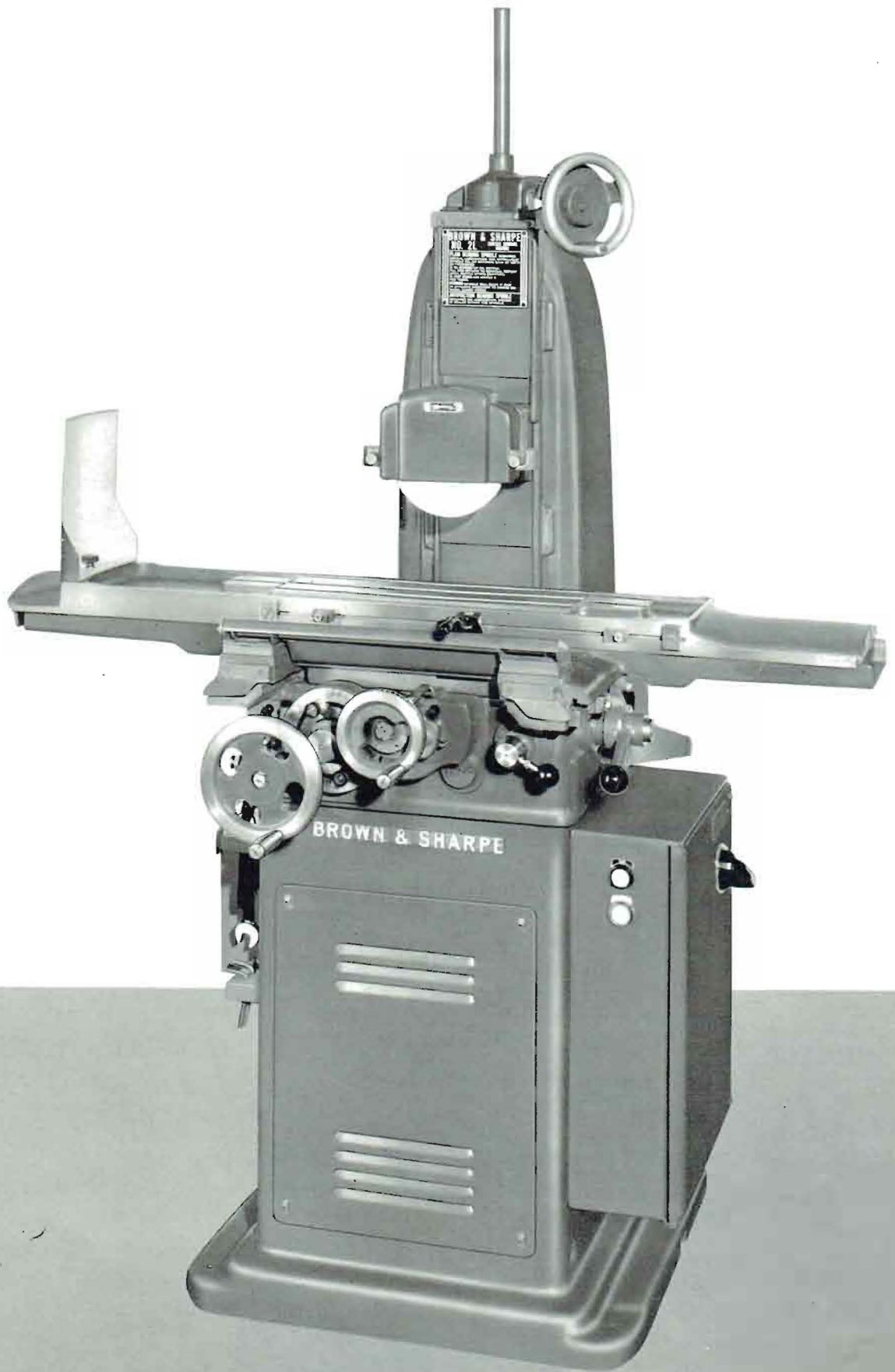
**Nos. 2L and 2LB
Surface Grinding Machines**

BROWN & SHARPE

*Western
#906*

THESSE machines are designed and built for efficient surface grinding with precision and fine finish on small and medium-size work. Sturdy and durable, yet with a sensitiveness that permits easy working to close tolerances, they give economical performance on all toolroom and production surface grinding within their capacity range. The convenient location of all controls and adjustments permits rapid set-up and provides exceptional ease and efficiency of operation, enabling the operator to maintain maximum production with minimum fatigue. High-quality materials and skilled workmanship give long-term safety to an investment in these machines. Among the many features are the following —

- Convenient controls — for fast and accurate manipulation.
- Two rates of table feed (2L Machine)—19 ft. or 31 ft. per minute. A convenient lever permits operator to readily select rate to suit the nature of the work.
- Precision wheel spindle provides exceptional grinding finish with quick spark-out. Choice of interchangeable flange-mounted cartridge type units — permanently sealed, grease lubricated antifriction bearing unit or close-fitting plain bearing unit.
- Full automatic lubrication and strategically-placed dust guards reduce maintenance cost and extend machine life.
- Rigid column construction.
- Electrical controls enclosed in separate compartment.



SPECIFICATIONS

No. 2L Surface Grinding Machine

Automatic Lubrication

<p>CAPACITY Grinds work to 18" long, 6" wide and 10½" high (with 7" diam. wheel). Vertical adjustment of wheel 10⅝"</p> <p>DRIVE With motor in base Spindle and table driven by constant-speed motor 1½ H.P. With motorized spindle Spindle driven by constant-speed motor on back of wheel spindle slide 1 H.P. Table driven by constant-speed motor in base ¼ H.P.</p> <p>SPINDLE Removable-unit flange-type. Either antifriction-bearing or plain-bearing unit available as standard equipment. Speed (full load), when driven from motor in base 3200 R.P.M. (optional when specified 2750 R.P.M.) Speed (full load), when driven by 60 cycle direct-coupled motor on back of wheel spindle slide 3450 R.P.M. Takes straight wheels 7" diameter, ½" thick with 1¼" hole. Lubrication Antifriction-bearing unit sealed Plain-bearing unit constant level oiler</p>	<p>TABLE Working surface 18" x 6" Number of T-slots 3 Width of T-slots ½"</p> <p>FEEDS Longitudinal Power or hand. Power feed of 19 ft. per min. or 31 ft. per min. selected by lever. One revolution of handwheel moves table approximately 2". Transverse Power or hand. Any desired amount of power feed from 0.01" to 0.09" available at each or alternate reversals of power longitudinal travel. Handwheel graduated to 0.001". Vertical By handwheel graduated to 0.0005". One revolution of handwheel moves grinding wheel 0.050".</p> <p>LUBRICATION Automatic.</p> <p>STANDARD EQUIPMENT Wheel truing fixture; wheel sleeve; wheel sleeve puller; straight grinding wheel, 7" diameter, ½" thick, 1¼" hole; set of wrenches.</p>
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Machine with Motor in Base includes motor for driving spindle and table, and driving belt.

Machine with Motorized Spindle includes spindle driving motor, table driving motor and table driving belt.

WEIGHTS AND SHIPPING DATA	Net Weight, Lbs. (Approx.)	Domestic Shipping Weight, Lbs. (Approx.)	Foreign Shipping Weight, Lbs. (Approx.)	Dimensions for Shipment, Inches	Space Occupied, Cu. Ft.
No. 2L Machine fitted with motor in base	1700	2100	2250	55 x 39 x 76	94
No. 2L Machine fitted with motorized spindle	1650	2075	2225	55 x 43 x 76	104

Machines with handwheels graduated in millimeters, and metric screws for vertical and transverse movements, can be furnished.

— Optional Mechanism and Additional Equipment —

A variety of extras is available at additional cost for use with this machine. These items, listed below, are illustrated and described in detail on pages 10 to 15 of this circular. —

Spindle Power Down-Feed Arrangement	Magnetic Chucks	High Speed Surface Grinding Attachment
No. 21 Flanged Vise	Exhaust Attachment	Continuous Radius and Tangent Wheel Truing Attachment
No. 1 Adjustable Vise	Exhaust Nozzle	Radius and Angle Wheel Truing Attachment
No. 2 Adjustable Swivel Vise	Wet Grinding Attachment	Over-The-Wheel Truing Attachment
4¾ Inch Index Centers	Castered Base	Cool Wheel Grinding Arrangement

No. 2LB Surface Grinding Machine (With Hand Feeds Only) (Automatic Lubrication)

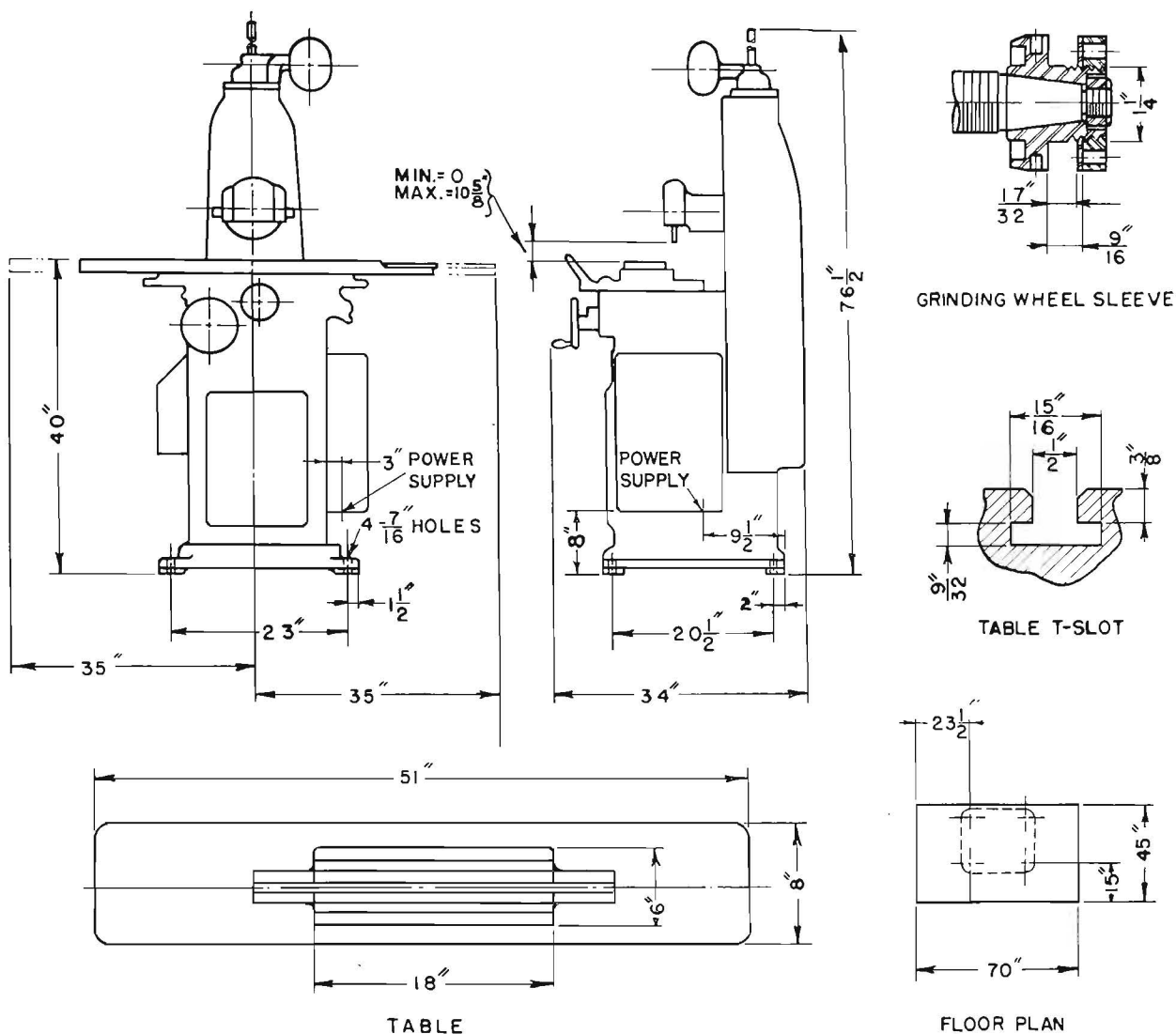
The specifications for this machine are the same as those for the No. 2L machine except for the following items, and omitting the paragraph headed "Speeds":

SPECIFICATIONS

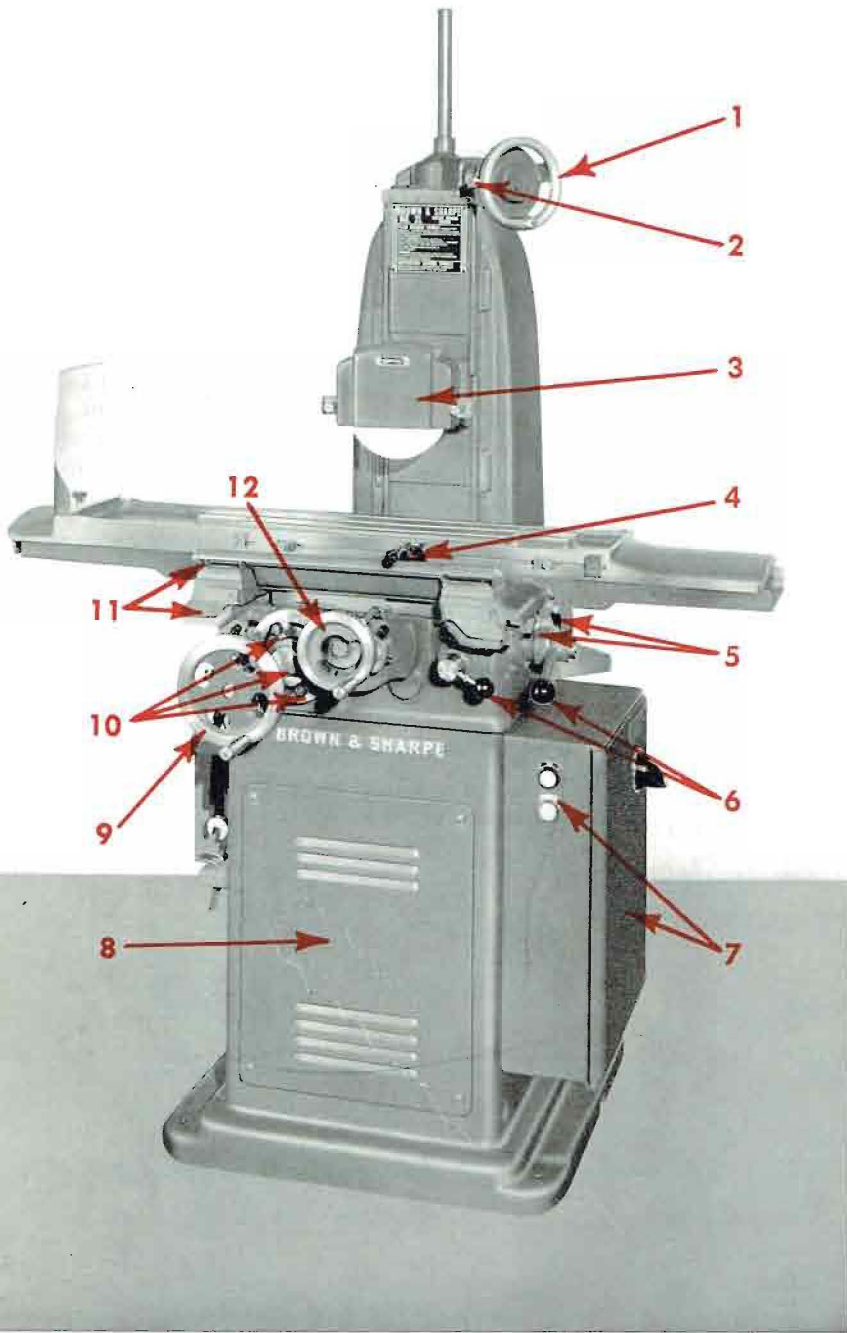
<p>FEEDS</p> <p>Longitudinal By handwheel. One revolution of handwheel moves table approximately 2".</p> <p>Transverse By handwheel graduated to 0.001".</p> <p>Vertical By handwheel graduated to 0.0005". One revolution of handwheel moves grinding wheel 0.050".</p>	<p>STANDARD EQUIPMENT</p> <p>Same as that listed on page 2 for the No. 2L machine with the following exceptions:</p> <p>Machine with Motor in Base includes motor and spindle driving belt.</p> <p>Machine with Motorized Spindle includes motor.</p>
<p>DRIVE</p> <p>With motor in base Spindle driven by constant-speed motor 1½ H.P.</p> <p>With motorized spindle Spindle driven by constant-speed motor on back of wheel spindle slide 1 H.P.</p>	<p>WEIGHTS AND SHIPPING DATA</p> <p>The weights are approximately 100 lbs. less than those listed above for the No. 2L machine; the shipping dimensions are identical to those listed above.</p>

Additional equipment, available at extra cost, is the same as that listed on page 2 for the No. 2L machine. (The Spindle Power Down-Feed Arrangement is not applicable to the No. 2LB machine.)

Machine Dimensions



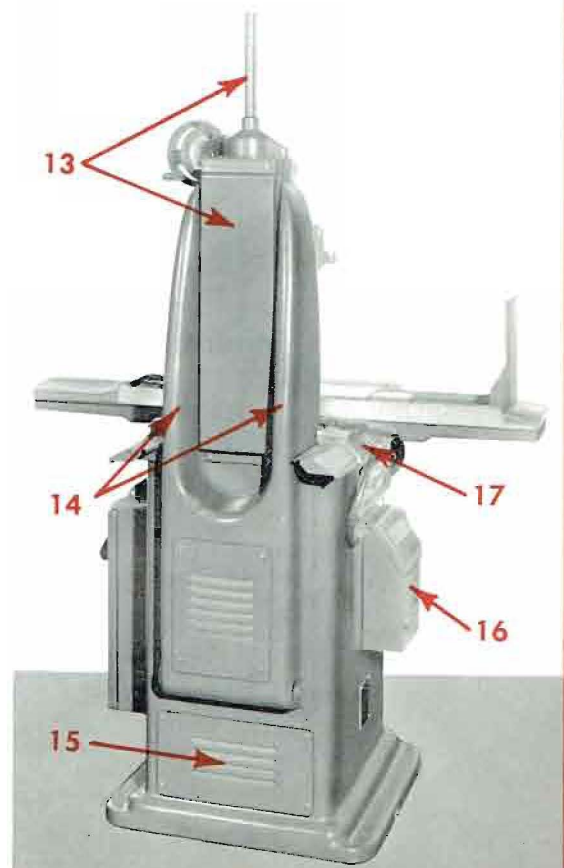
No. 2L Machine (Automatic Lubrication)



- 1** Handwheel, graduated to half-thousandths of an inch, provides easy and accurate vertical adjustment of spindle head.
- 2** Sight indicator, in bracket behind handwheel, for automatic oiling system lubricating all moving parts and adjustable surfaces.
- 3** Removable-unit-type spindle — antifriction-bearing or plain-bearing type, readily interchangeable. Heavy wheel guard has removable cover.
- 4** Table reversing mechanism operated through lever shown; either manually, or automatically by adjustable table dogs.
- 5** Adjustable dogs permit stopping power movements automatically at any desired point in each direction of cross feed.
- 6** Starting lever and trip lever start and stop both longitudinal and transverse power movements. Turning lever at front to right starts power feed; depressing lever at right stops feed instantly.
- 7** Start-stop push button switch and electrical control compartment conveniently located.
- 8** Large base compartment has shelf for mounting driving motor for spindle and table. When machine has motorized spindle, provides handy storage space for tools and accessories.
- 9** Longitudinal table handwheel conveniently located and easily operated. Can be positively disengaged when power travel is used.
- 10** Adjustable stops provide for any cross feed from 0.01" to 0.09" (or zero feed) at either end of table travel. Knob in center disengages cross feed mechanism for manual operation.

- ▶ **Versatile**
- ▶ **Simple**
- ▶ **Efficient and Easy to Operate**
- ▶ **Automatic Lubrication**

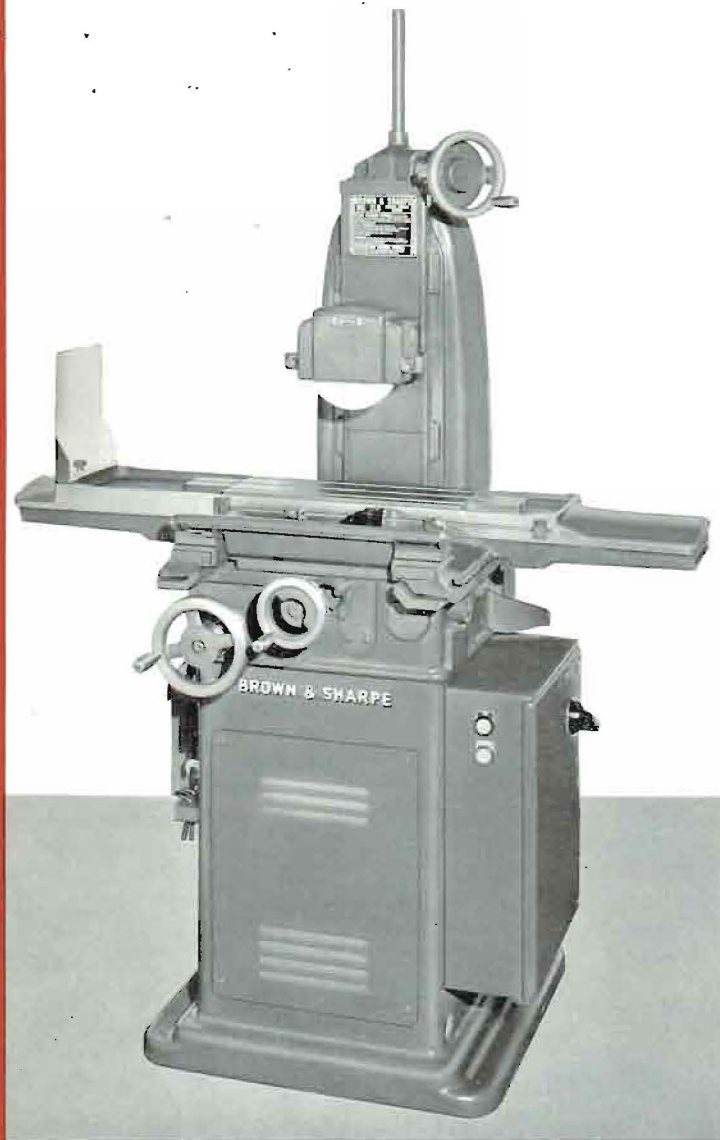
- 11** Table ways completely guarded from abrasive dust. Carriage and upright ways similarly protected.
- 12** Graduated handwheel permits rapid and accurate transverse adjustment.
- 13** Elevating mechanism completely enclosed. Adequate protection of all vital parts prevents undue wear.
- 14** Sturdy uprights give rigidity and accuracy of wheel alignment.
- 15** On machine with motor in base (as illustrated), weighted idler pulley behind cover maintains tension in spindle belt for all positions of wheel spindle.
- 16** Automatic oiling system. Functions whether machine is operated manually or by power.
- 17** Heavy carriage provides firm support for table. Ways accurately scraped for precision alignment. Protected by guards.



No. 2LB Surface Grinding Machine With Hand Feeds Only (Automatic Lubrication)

THIS machine, shown at left, is the same as the No. 2L Machine except that the power feeds are omitted. The No. 2LB Machine is admirably suited for toolroom operations and a variety of production work where power feeds are not used even when available. The same in-built sturdiness and accuracy of construction permit a quality of work equal to that obtained on the No. 2L. A compartment in the base provides storage space for attachments and accessories.

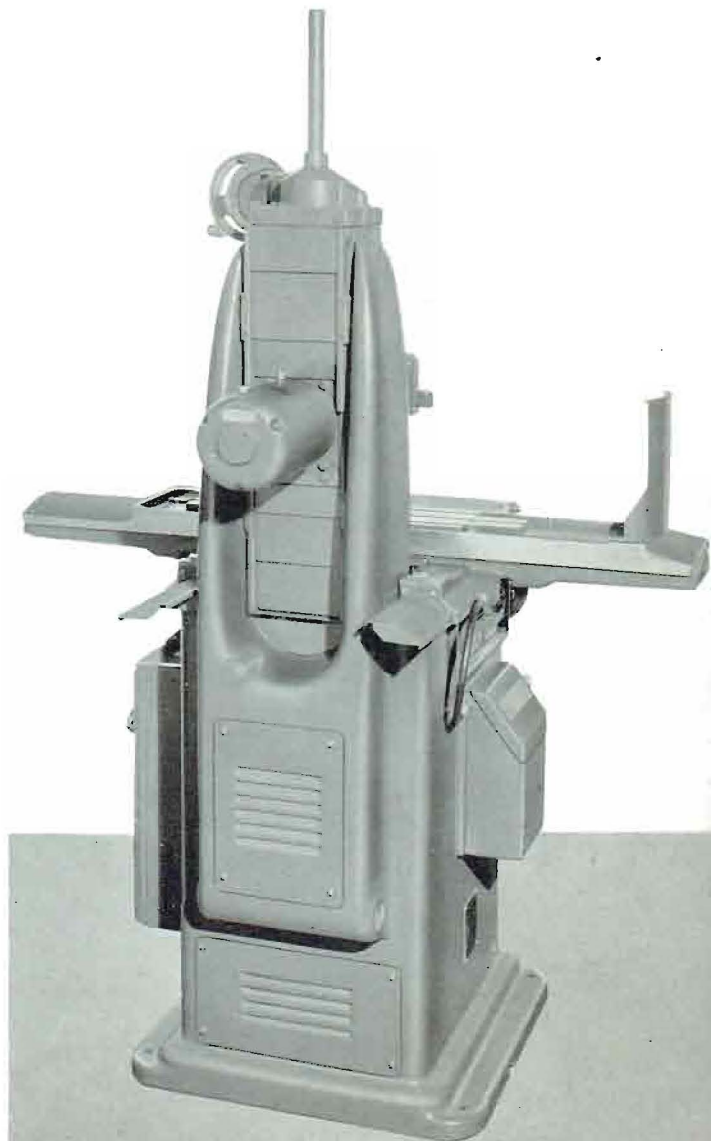
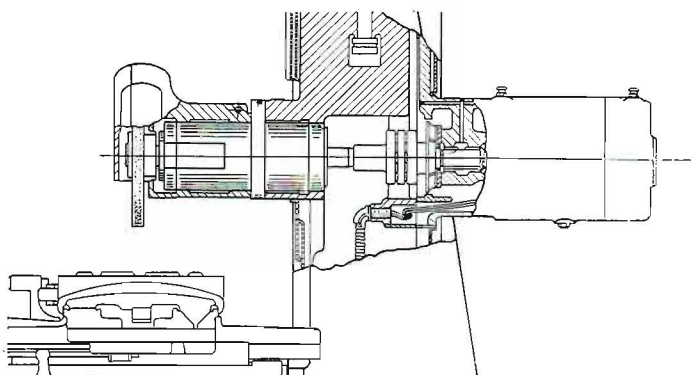
(Below—No. 2L Machine with Motorized Spindle)

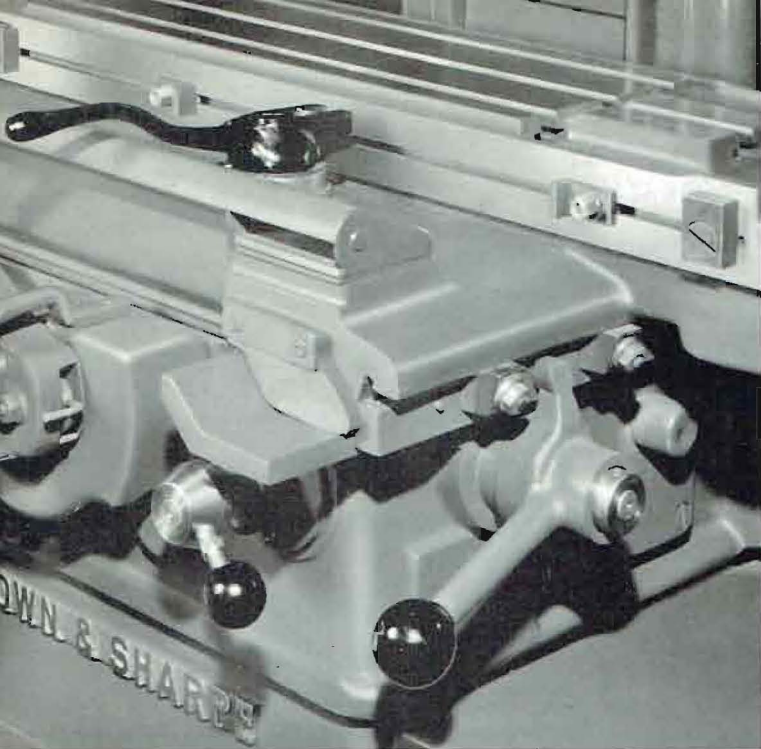


(Above—No. 2LB Machine)

Machines with Motorized Spindle

MACHINES fitted with motorized spindle have the spindle motor mounted on the back of the wheel spindle slide and connected by a vibration-dampening coupling directly to the spindle, as illustrated below and at right. The drawing below shows the antifriction-bearing spindle unit; the plain-bearing spindle is driven by the same arrangement. Ways and mechanism are completely guarded. Table drive for the No. 2L Machine is by belt from a motor mounted on a swinging bracket in the base.





Above—Power feed controls as seen from right front of machine. This view shows the table dogs and reversing lever, and the tripping mechanism at right side of machine for automatically stopping power feeds at any point in either direction of cross feed.

Below—Table and cross feed handwheels are grouped for convenient manual operation. Plunger knob, which may be seen through the upper left sector of the table handwheel, permits positive disengagement of the handwheel for safety during power table travel.

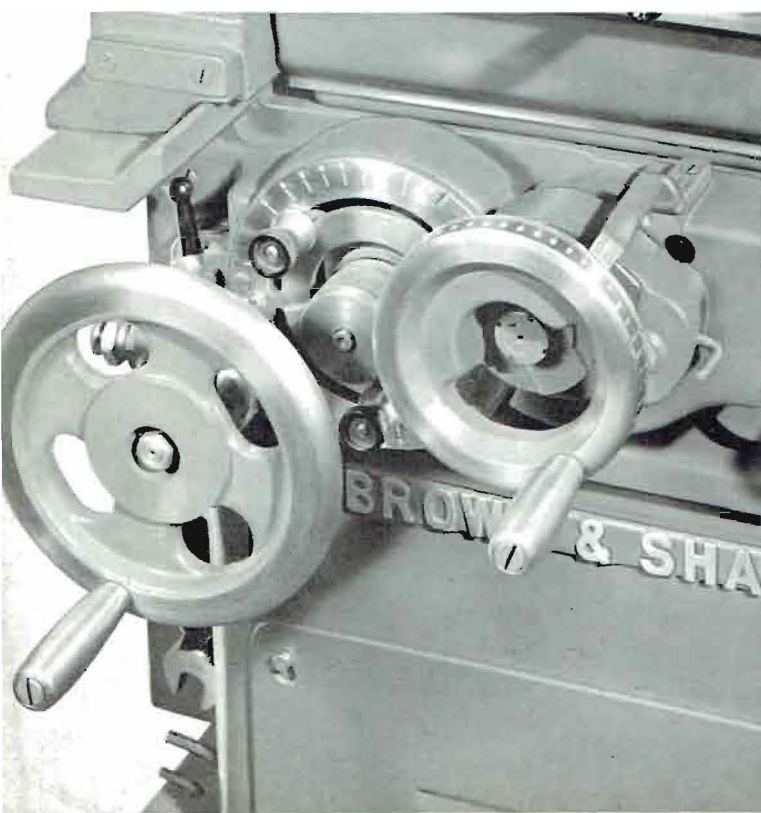


Table and Carriage Power Movements Controlled Automatically or by Hand

ALL power movements of the table and carriage are started and stopped by the starting lever and trip lever conveniently located at the right front and right side respectively, of the machine.

A quarter-turn of the starting lever to the right engages a reversing clutch to start the power table movement. When the cross feed mechanism is engaged, power cross feed too will operate, on reversal of the table, as described below.

Adjustable table dogs operating against the reversing lever regulate the length of table travel. A section in the end of this lever can be swung back to allow movement of the table beyond the limits set by the dogs. This same lever permits time-saving manual reversal on work of irregular shape.

Downward movement of the trip lever releases the starting lever, which snaps back to Stop position, instantly stopping all power movements of the table and carriage. Adjustable dogs on the right side of the machine act on the trip lever to stop the machine at any desired point in the automatic cross feed.

Manual and Automatic Cross Feed Controls Conveniently Located

THE longitudinal table handwheel and cross feed handwheel are conveniently located respectively at the left and center of the front of the machine. The table handwheel is held positively engaged or disengaged by a spring plunger; while power cross feed is disengaged (to permit manual cross feed) by putting the cross feed directional control lever (in back of cross feed handwheel) in neutral position.

Between the two handwheels is the automatic cross feed unit, which provides for transverse feeds of 0.01" to 0.09" on reversal of the table. This is a friction-type mechanism which can be set to feed the full amount at both ends of the table travel or any part of it at either end; or, if desired, cross feed may take place at only one end of the table travel. The amount of feed is selected by two stops on the graduated plate or dial; while direction of feed is controlled by the lever in back of the cross feed handwheel.

A knurled knob in the center of the dial engages or releases the cross feed mechanism; and when the mechanism is disengaged, longitudinal table movement may be used without possibility of the automatic cross feed operating.

Choice of Two Types of Spindle Unit, Antifriction-Bearing and Plain-Bearing

Antifriction-Bearing Unit: The spindle in this unit is mounted on superprecision, preloaded antifriction bearings at both front and rear with end thrust taken in both directions. Grease lubrication is used and the spindle's cool running temperature is quickly reached. The unit is sealed and requires no additional lubrication or adjustment after it leaves the factory. As dirt cannot enter past the seal this spindle has a long trouble-free life.

Plain-Bearing Unit: The spindle in this unit has unusually small clearance in its boxes, which practically eliminates radial play and cuts spark-out time to a minimum. The extra light spindle oil used results in low running temperature, quickly reached after starting.



Above — Antifriction-Bearing Spindle Unit

Automatic lubrication is provided by a rotating pump unit integral with the spindle. A constant level oiler supplies oil to a reservoir in the spindle unit. Provision is made for quickly removing end play without removing the spindle unit, through spring take-up controlled by a screw clamp which serves as a positive lock.

Drive for either spindle is by endless fabric belt on machines having the motor in the base, or by a motor connected by a vibration-dampening coupling directly to the spindle on machines having a motorized spindle.

Electrical Controls Conform with Machine Tool Electrical Standards

THE electrical controls conform with Machine Tool Electrical Standards and are mounted in compartment at side of machine behind rubber-gasketed hinged cover where they are well protected, yet easily accessible. Overload relays with manual reset are provided.

The combination magnetic starter and disconnect switch is mounted in the dust-proof compartment at the right side of the machine. The compartment door will not open unless the disconnect switch is in the "off" position.

Ideal for Extra Dusty or Severe Operating Conditions

IN addition to all their highly-productive features, these machines have two important, built-in features for positive protection against dust, grit and neglect of lubrication. Full automatic lubrication and strategically-placed dust guards reduce maintenance cost and extend machine life.

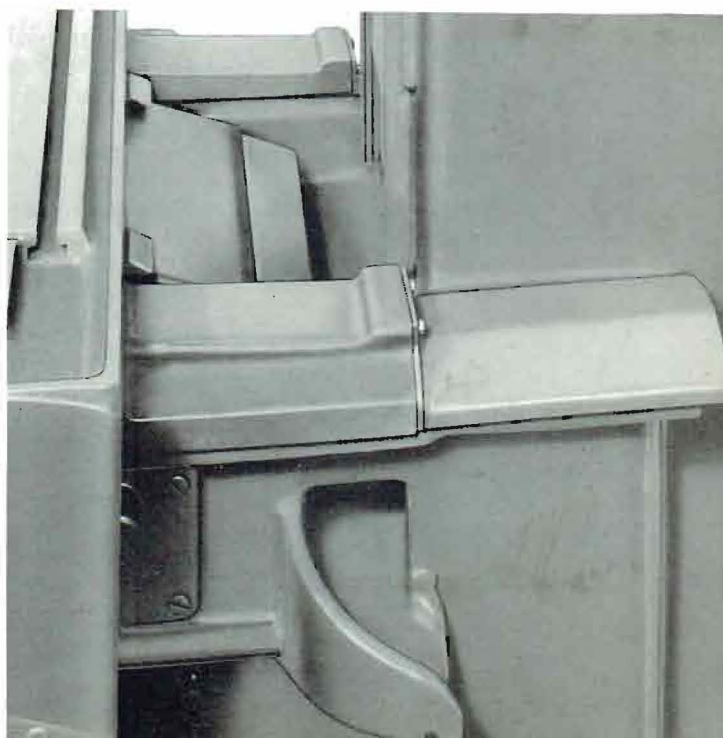
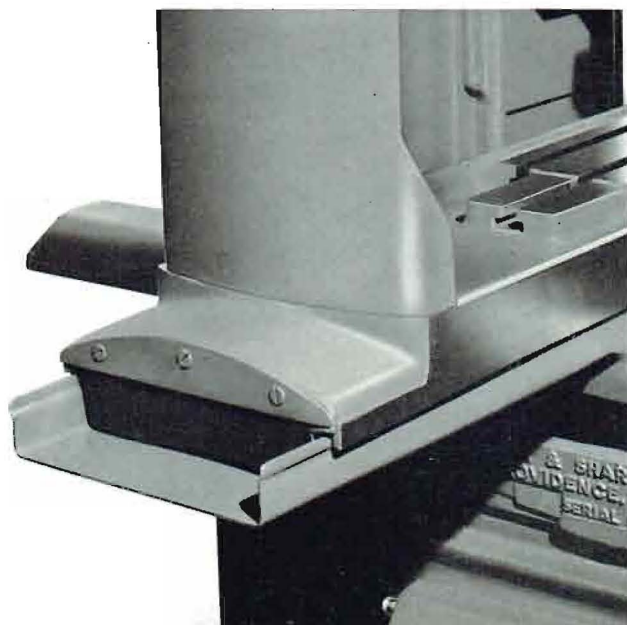
All moving parts and adjustable surfaces are automatically lubricated by a plunger pump from a reservoir on the left side of the base. A convenient sight indicator on the side of the elevating handwheel bracket shows the oper-

ation of the oiling system. The system is arranged so that all oil must pass through a filter before returning to the reservoir.

Extra precaution has been taken to protect the sliding surfaces from dust and dirt. The table ways are completely guarded and the saddle and upright ways are similarly protected.

Its smooth lines make this an easy machine to keep clean.

Below and Right—Table and carriage ways are fully protected against abrasive dust by dust-proof cover guards.



— OPTIONAL MECHANISM —

Furnished at Extra Cost. Must Be Applied to Machine before Shipment from our Factory.

Spindle Power Down-Feed Arrangement

(For No. 2L Machine Only)

THIS arrangement provides automatic down-feed of the grinding wheel for such jobs as slot grinding and the grinding of narrow surfaces etc. The wheel is fed down each time the longitudinal table movement is reversed. Range of feed is adjustable from approximately 0.0002" to 0.003" by increments of approximately 0.0002". Feed is automatically stopped at any desired depth to 0.040". Wide spaced graduations on the dial behind the vertical feed hand-wheel facilitate setting the stop. When it is desired to feed the wheel down more than the 0.040" permitted with the automatic stop in position, the stop can be swung out of the way and the wheel can be automatically fed any amount to 10". Provision is made to make the arrangement inoperative, thus allowing the machine to be operated in the normal manner.

A 75 R.P.M. synchronous induction motor provides the power for this unit. The table reversing lever, in contact with a plunger (shown in illustration at lower left), causes the motor to make one-half a revolution at each table reversal. A variable-radius crank on the end of the motor shaft has a scale for setting the amount of feed per movement of each pawl (one pawl operates at the left end of the table travel, the other at the right end of the table travel). This crank is kept from moving, while making adjustment of feed, by means of a pin-operated locking device. When it is desired to use vertical hand feed, both pawls can be disengaged from the rack by means of a lever.

Application of this arrangement increases the weight of the machine by 70 lbs. (approx.).



Above—View showing Spindle Power Down-Feed Arrangement on machine.

Below—Table reversing lever in contact with plunger causes spindle to feed down predetermined amount.



Below—Mechanism shown with guard removed.



— ADDITIONAL EQUIPMENT —

Items Furnished at Extra Cost

When ordering equipment specify the size, style and serial number of machine.

No. 21 Flanged Vise

THIS vise can be clamped at right angles or parallel to the wheel spindle.

The removable jaws are of tool steel, hardened and ground, 4½" wide and 1¼" deep, and open 2". Distance

from bottom of base to top of jaws is 2¼".

Weights (approx.): net, 21 lbs.; shipping 26 lbs.
Dimensions for shipment, 16" x 9" x 5".



No. 1 Adjustable Vise

THE vise proper is mounted on a hinged base and can be set and clamped at any angle in the vertical plane up to 90°, a dial graduated to degrees indicating the setting. Removable tongues in the base provide for aligning the jaws parallel to the table T-slot.

The removable jaws are of tool steel, hardened and ground, 4½" wide and 1¼" deep, and open 2". Distance from bottom of base to top of jaws with vise horizontal is 4¼".

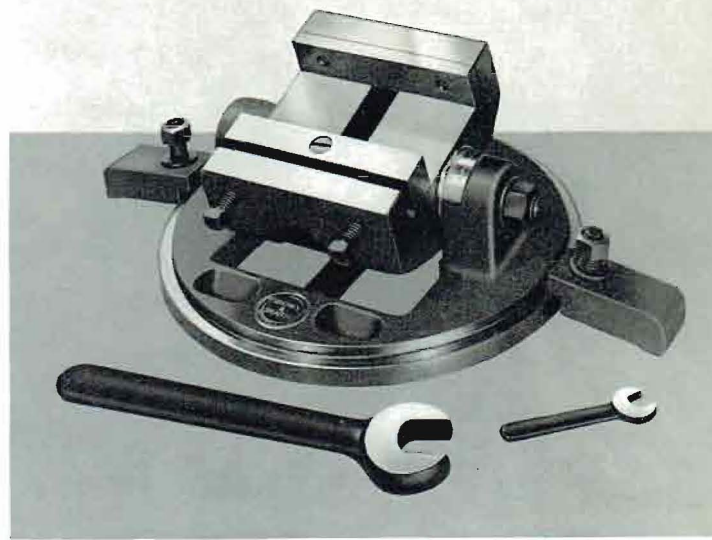
Weights (approx.): net, 23 lbs.; shipping, 27 lbs.
Dimensions for shipment, 13" x 7" x 6".

No. 2 Adjustable Swivel Vice

THIS vice can be clamped to the table with the jaws at any angle to the table T-slots. Its pivoted construction allows the jaws to be tilted at any angle to 45° either side of horizontal, a graduated arc indicating the setting to degrees.

The jaws are of tool steel, hardened, 5" wide, 1" deep and open 2 $\frac{3}{4}$ ". Distance from bottom of base to top of jaws with jaws horizontal, 4".

Weights (approx.): net, 30 lbs.; shipping, 36 lbs. Dimensions for shipment, 13" x 12" x 5".



4 $\frac{3}{4}$ Inch Index Centers

PERMITTING exact indexing of the more common circumferential spacings, the Index Centers greatly facilitate the grinding of taps, reamers, formed cutters and similar work. The centers are quickly clamped in position by T-bolts, and are accurately aligned by tongues which fit the table T-slots.

Indexing is rapid and accurate. A spring-loaded locking pin (see illustration) and six rows of holes in the face of the combined index plate and worm wheel provide for indexing all divisions from 2 to 14, and all even numbers from 18 to 28. The worm wheel can either be turned by worm, or the worm can be thrown out of mesh and the wheel turned by hand. Ratio of worm to worm wheel, 75:1.

Centers swing 4 $\frac{3}{4}$ " diameter. Centers have reversible tongues for T-slots $\frac{1}{2}$ " or $\frac{3}{16}$ " wide.

Weights (approx.): net, 12 lbs.; shipping, 18 lbs. Dimensions for shipment, 13" x 9" x 7".

***Raising Blocks**, available at extra cost, increase the swing to 8".



Magnetic Chucks

THE Rectangular Model Permanent Magnet Chucks provide a quick, easy means of holding a variety of ferrous work for surface grinding, and for bench work and inspection purposes as well. The chuck uses no electric current; hence wiring, switches, generators, etc. are not required. The special-alloy magnets maintain their strong holding power indefinitely, and the chuck can be left "on" as long as desired without heating. Amount of holding power is controlled by an easily operated lever. Auxiliary top plates, for the two larger size chucks, are available to permit holding smaller work than can usually be held on chucks of these sizes.

Brown & Sharpe Magnetic Chucks of the Permanent Magnet Type are for sale only in the United States of America and its Territories, unless purchased with a new machine as original equipment.

Below—The No. 408 chuck (left) is small and handy, having close pole spacers that make it particularly well adapted to the holding of small work pieces. The No. 412 (center) has two line pole spacers and is useful for holding rows of small parts as well as for parts of moderate size. The No. 618 (right) is designed to accommodate larger work.

No.	Working Surface, Inches	Magnetic Surface, Inches (Approx.)	Net Weight, Lbs. (Approx.)	Height of Chuck, Inches	Shipping Weight, Lbs. (Approx.)
408	4 x 8	3 x 6 $\frac{1}{2}$	26	3 $\frac{3}{8}$	31
412	4 x 12	4 x 12	54	4	60
510	5 $\frac{1}{2}$ x 10 $\frac{3}{8}$	3 $\frac{7}{8}$ x 7 $\frac{1}{2}$	41	3 $\frac{3}{8}$	50
618	6 $\frac{3}{8}$ x 18 $\frac{3}{8}$	4 $\frac{1}{2}$ x 14 $\frac{1}{16}$	87	3 $\frac{3}{8}$	104

Electromagnetic Chucks and controlling equipment are also available. Information on application.

Rectifier, for use with electro-magnetic chuck, is also available. Information on application.



Exhaust Attachment

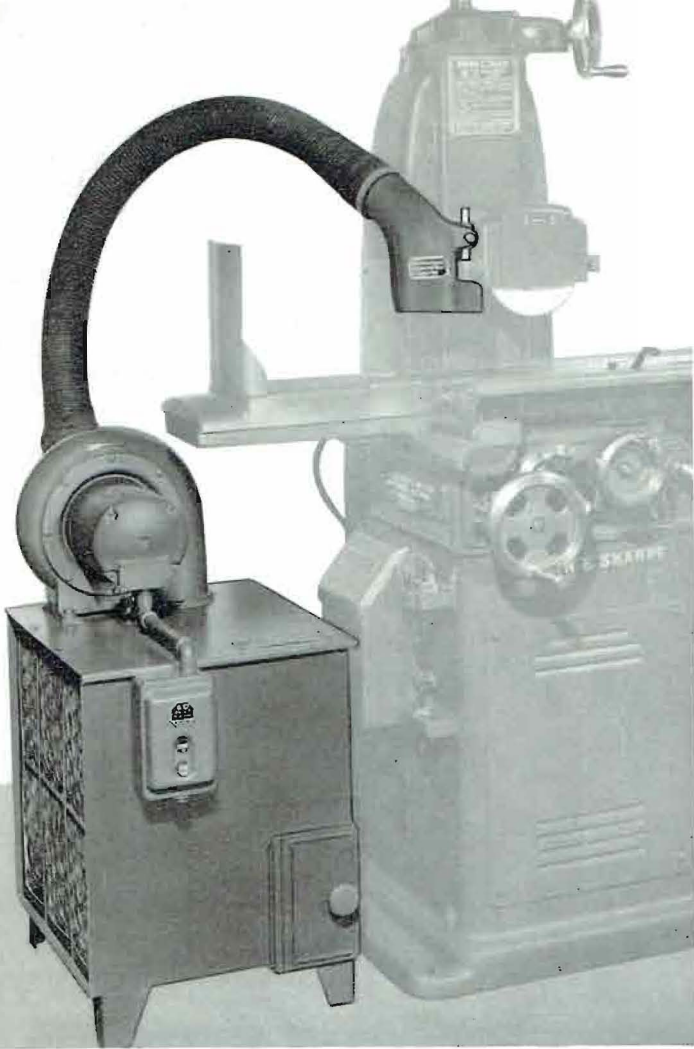
THIS Attachment removes grit and dust-laden air from the region of the grinding operation by suction and separates out the foreign matter, leaving the air well-cleaned.

A motor-driven fan mounted on the separator tank draws the dust-laden air through a flexible pipe from an exhaust nozzle attached to the wheel guard, and then blows it into the spiral separator. As the air whirls around the spiral the heavier particles are thrown by centrifugal force against deflectors which turn them aside into the dust chamber. The air, free of heavy particles, then enters the expansion chamber and is slowly dispersed over the whole area of the filter, where the finer particles are trapped by two viscous-coated renewable filter pads. Tests show that this Attachment has a separating efficiency of approximately 96%.

The fan is driven by a $\frac{1}{4}$ H.P. flanged-type motor controlled by a starting switch having overload protection. (Connections to the switch from the power source will be furnished by the purchaser.) The suction hose is made of a wire helix embedded in rubber and has a fabric covering. The capacity of the Attachment with a 3600 R.P.M. motor is approximately 230 cu. ft. per minute, giving a velocity of approximately 4700 ft. per minute through the 3" diameter hose.

The floor space required for this Attachment is no more than that necessary for the longitudinal movement of the table, although approximately 14" should be allowed behind the machine for the loop in the flexible suction hose.

Weights (approx.): net, 200 lbs.; shipping, 275 lbs. Dimensions for shipment, 24" x 30" x 40".



Exhaust Nozzle

For Use with Central Plant Exhaust System

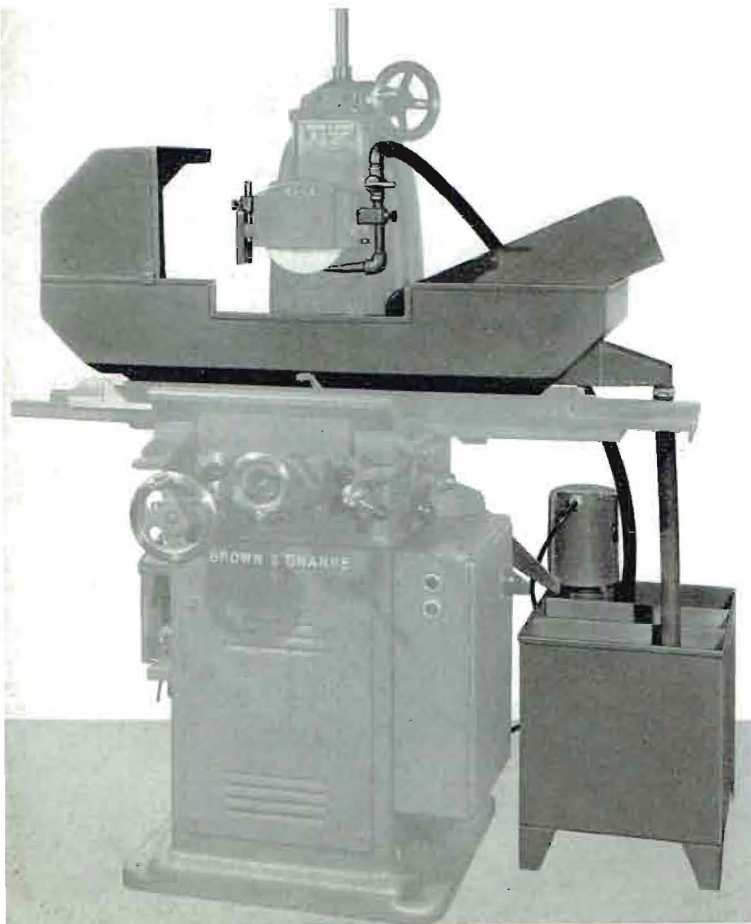
THE Exhaust Nozzle (not illustrated) is an aid in connecting the machine to a central exhaust system. A special stud is included for attaching the nozzle to the wheel guard of the machine. Weights (approx.): net, 3 lbs.; shipping, 8 lbs. Dimensions for shipment, 7" x 8" x 10".

Wet Grinding Attachment

CONSTRUCTED of strong, durable material, this Attachment requires but little more floor space than is needed for the machine alone.

A splash guard is attached to the regular wheel guard, and coolant is supplied to the wheel through a nozzle and flexible piping from a $\frac{1}{4}$ H.P. motor-driven centrifugal pump mounted in the supply tank. The floor-type tank is of welded steel construction, adequately baffled for efficient settling, and has a capacity of 18 gallons. The coolant is caught in the work tank, which is provided with a hood and splash guards, and is returned to the supply tank through a flexible discharge pipe. The work or fixture is clamped to a T-slotted base plate in the work tank. Use of this Attachment reduces the vertical capacity of the machine by $1\frac{5}{8}$ ".

Weights (approx.): net, 160 lbs.; shipping, 310 lbs. Dimensions for shipment, 54" x 31" x 22".



Castered Base

for Use with Wet Grinding and Exhaust Attachments

STURDILY constructed of heavy steel and equipped with four 3" ball bearing swiveled casters, this base or dolly provides a ready means of moving the coolant tank, or separator tank, to other machines or to a convenient place for emptying and cleaning. Measuring 19½" long, 15½" wide and 3¼" high, it fits well into the

corners formed by the feet of the tank and raises the feet ¼" from the floor, permitting free movement without interference.

Weights (approx.): net, 19 lbs.; shipping, 25 lbs.
Dimensions for shipment, 24" x 17" x 5".

High Speed Surface Grinding Attachment

SLOTS and other surfaces which do not permit the use of a wheel of large diameter can be rapidly and economically ground with this Attachment. The Attachment is readily applied to the machine, and drives small grinding wheels at the necessary high surface speeds.

Fitting on the machine spindle housing in place of the wheel guard, the Attachment can be used in practically any angular position around the machine spindle. With the Attachment spindle in the lowest position, maximum vertical distance between center of Attachment spindle and

top of machine table is 7". The spindle is mounted on two pairs of super-precision ball bearings and is driven at 18,000 R.P.M. by an endless fabric belt from a pulley mounted on the machine spindle. Belt tension adjustment is by means of an eccentric sleeve in the Attachment body. A hand-engaged plunger for locking the spindle facilitates the changing of wheel arbors.

Wheel arbors and grinding wheels are furnished at extra cost, stock sizes being listed below. The exacting limits and fine finish demanded of this equipment require extreme accuracy in the taper fit between spindle and wheel arbor; therefore we strongly recommend that all wheel arbors be furnished by us to assure the utmost in precision and finish.

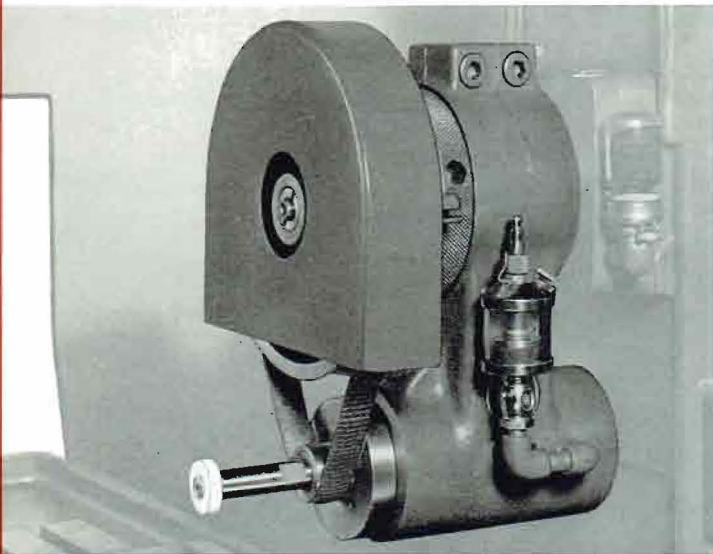
Wheel Arbors and Grinding Wheels

Furnished at extra cost

One Grinding Wheel furnished with each Wheel Arbor

Arbor Number	Grinding Wheels	Distance, Rear Face of Grinding Wheel to End of Machine Spindle, Inches
	Size, Inches Diam. x Thick. x Hole	
2103*	½ x ¼ x ¾	1 ⅜
2105*	½ x ¼ x ¾	1 ⅜
2107*	½ x ¼ x ¾	1 ⅜
2109	⅞ x ¼ x ¼	1 ¾
2111	1 ¼ x ⅝ x ⅝	1 ¾

*Used with No. 2125 Collet (furnished at extra cost).



Continuous Radius and Tangent Wheel Truing Attachment

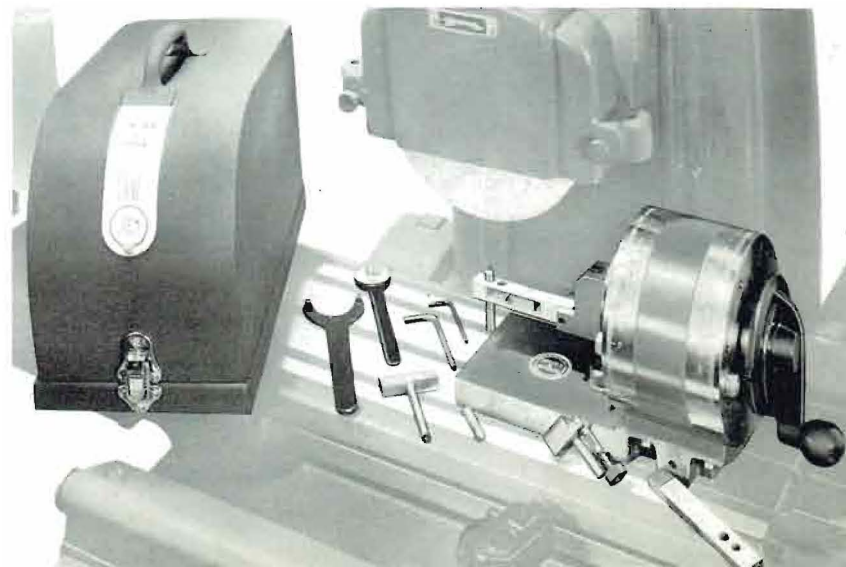
THIS attachment is designed to form, with one continuous movement of the diamond, accurate radii on grinding wheels with accurate tangents at either or both sides of the radii. Convex radii up to ½", with tangents to ⅝" in length in any direction from parallel to the side of the wheel to 110° away from the side, can be formed; concave radii from ⅜" to 1" (larger radii with diamonds having longer holders than one furnished), having tangents up to ⅜" long in any direction from 70° to 180° away from the side of the wheel, can also be formed. The angles of the tangents are independent of each other (on a concave shape having a radius over ⅜" the included angle must be 90° or more).

Concave radii less than ⅜" and all concave radii ⅜" or less having the included angle of the tangents less than 90° require diamond tools other than the one furnished.

The attachment is firmly clamped to the

machine table by a single T-bolt. Accurate alignment is assured by two reversible tongues for T-slots ½" or ⅝" wide. These tongues are easily removed when the attachment is to be used on a magnetic chuck.

Detailed specifications on request.



Radius and Angle Wheel Truing Attachment

THIS Attachment provides an accurate and efficient means of shaping abrasive wheels, and is particularly valuable when grinding such work as lamination dies, flat forming tools and other pieces requiring wheels having radial or angular faces. By its use, convex or concave outlines having radii up to 1", and face angles up to 90° either side of zero, can be formed; and numerous combinations of radial and angular shapes otherwise difficult to obtain can easily be developed.



The base of the Attachment carries a swivel platen upon which is mounted a slide which can be moved longitudinally by handwheel. An upright, integral with the slide, holds the diamond tool and diamond tool setting gage; and the diamond tool (not furnished) may be set either parallel to the slide (for forming radii) or at right angles (for forming angular surfaces) and clamped in position by a locking screw.

For truing the wheel to the desired angle, the base of the Attachment is graduated in degrees to 90° each side of two opposed zero marks, a clamp screw permitting the swivel to be locked in the desired angular position. The diamond is passed across the face of the wheel by running the slide back and forth by handwheel. For forming concave or convex outlines, the diamond point is located by means of the diamond tool setting gage (turned upward 180° from position shown), and the slide is adjusted longitudinally to the desired radius as indicated by a scale on the slide reading to 1" each side of zero by 64ths. The slide is locked in position by a clamping screw, and the diamond is passed across the wheel by swiveling the Attachment on its base to produce the desired form. A gib and adjusting screws provide means of compensating for wear in the slide.

An auxiliary base, for use with the Attachment when a magnetic chuck is used, is furnished as regular equipment.

Weights (approx.): net, 33 lbs.; shipping, 42 lbs. Dimensions for shipment, 14" x 9" x 11".

Diamond (mounted) can be furnished at extra cost.

Over-The-Wheel Truing Attachment

THE Over-The-Wheel Truing Attachment is a device that greatly reduces the time and effort required for wheel truing. It is designed for use on the majority of everyday jobs where the desired grinding results can be obtained without mounting the truing diamond on the machine table.

With this attachment, wheel truing becomes a very simple operation. Many time-consuming steps, necessary when truing the wheel by the conventional method, are eliminated. The diamond is always in position, close to the

wheel and ready for immediate use, and during the truing operation the work piece remains undisturbed beneath the wheel.

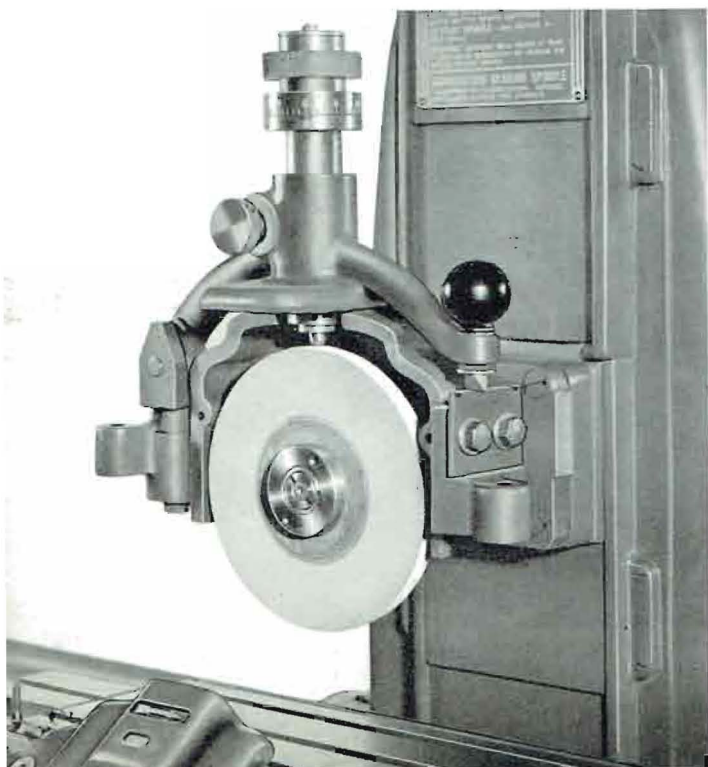
When truing the wheel, the hardened stylus at the right hand side of the attachment is moved over the hardened template causing the diamond to pass across the top of the grinding wheel. The large ball knob makes it easy for the operator to move the stylus with a smooth sensitive motion. Accurate alignment of the template parallel to the carriage ways is readily checked by mounting a dial indicator on the machine table and moving the table transversely. Any adjustment necessary is easily made by means of the two screws upon which the template rests.

The diamond is moved into the wheel by turning the knurled knob at the top. After the wheel is trued, the grinding wheel is moved down an amount equal to that trued off as indicated by the wide-spaced graduations on the scale at the top of the attachment. This brings the periphery of the grinding wheel into the same position with relation to the surface being ground as it was before the wheel was trued. The diamond, which contacts the wheel at an angle, can be turned to present a new point to the wheel when desired.

Included with this attachment are, (1) a special wheel guard and cover, (2) an exhaust nozzle for use when the attachment is used with an Exhaust Attachment, and (3) a coolant nozzle and guard for use when the attachment is used with a Wet Grinding Attachment.

Weights (approx.): net, 32 lbs.; shipping, 50 lbs. Dimensions for shipment, 19" x 18" x 12".

Diamond (approximately one carat) in mounting is available at extra cost.



Cool Wheel Grinding Arrangement

THIS arrangement is for use where volume coolant is not desirable. It is of particular value where it is desired to use coolant when grinding small areas such as the ends of punches, etc.

With this arrangement coolant is supplied from a transparent, unbreakable plastic reservoir of one gallon capacity, mounted on the upper left upright of the machine. The distributor mounted above the wheel guard, as shown in the illustration at the left, controls the amount of coolant fed to the wheel. An easily operated lever on the side of this distributor turns on or shuts off the supply. Separate knurled knobs control the number of drops of coolant for each side of the wheel. Coolant to either side is regulated or stopped independently of the flow on the opposite side.

The coolant is directed to the sides of the wheel close to the wheel sleeve. Here it is drawn by capillary action

into the wheel and is carried by centrifugal force to the periphery.

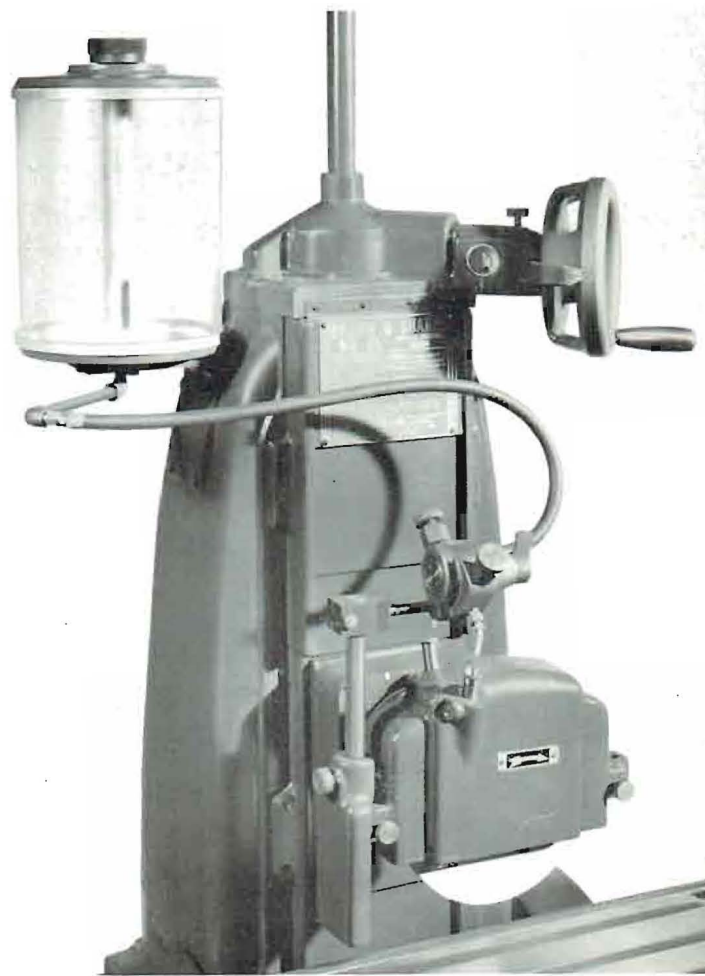
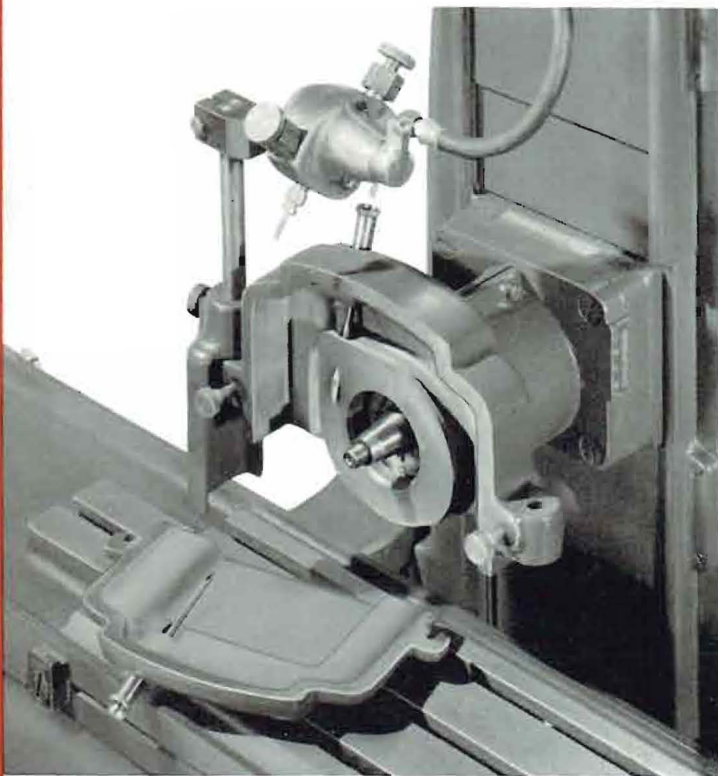
Standard wheels with lead cores, mounted on standard wheel sleeves, are used after merely removing that part of the blotting-paper washer, on each side of the wheel, where it extends beyond the sleeve. Wheels or wheel sleeves may be changed without disturbing any adjustments of the Cool Wheel Grinding Arrangement. Addition of this arrangement does not interfere with the use of the regular Wet Grinding Attachment.

Included with the Cool Wheel Grinding Arrangement are the coolant reservoir, distributor, special wheel guard and cover, splash guard, and coolant drain cock for the end of the table.

Weights (approx.): net, 34 lbs.; shipping, 52 lbs. Dimensions for shipment, 22" x 15" x 12".

Right — Coolant is supplied from transparent, unbreakable plastic reservoir.

Below — Close-up of distributor and special wheel guard and cover.



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