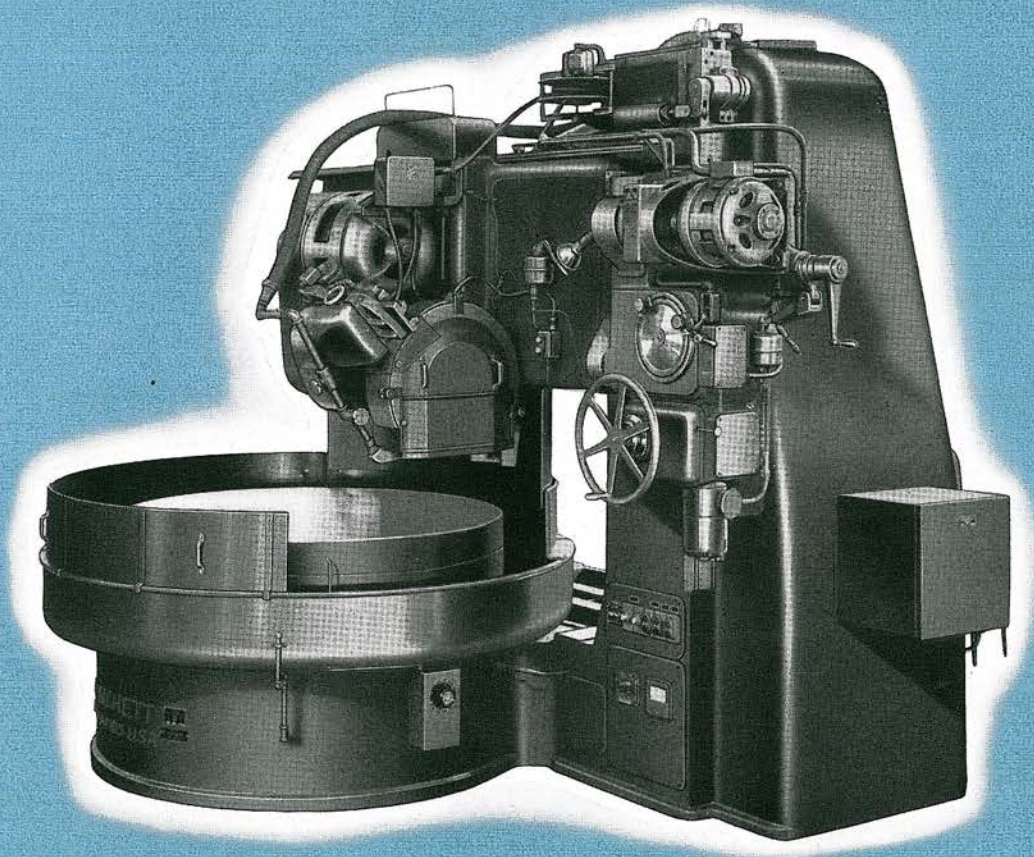
BULLETIN No. 345-1

HANCHETT ROTARY PLANO *Grinders*



IF IT'S A FLAT SURFACE—THERE'S A HANCHETT TO GRIND IT

HANCHETT MANUFACTURING CO.
BIG RAPIDS, MICHIGAN U.S.A.

HANCHETT ROTARY PLANO GRINDER

A New Principle in Surface Grinding

The Rotary Plano Surface Grinder outlined in this brochure represents years of intensive research by Hanchett engineers and designers. First came the standard Hanchett Plano (described fully in Bulletin 345-2), a rugged, precision grinder for the accurate finishing of large, awkward pieces. This machine met with instant acclaim and was put to use in a varied range of operations. Looking much like an orthodox planer with a grinding head mounted on a cross-rail over a reciprocating work table, it added to the high-precision and versatility of the planing process.

To fill the need for a machine more directly devoted to the extremely high production called for in heavy-duty, mass-production grinding, however, the Plano was modified by the installation of a rotary work table, for greater ease in loading and unloading work pieces.

The grinding head is mounted on a cross rail. The spindle may be vertical for the use of cylinder or segmental wheels, or it may be horizontal to carry a straight wheel. A choice will depend on the nature of the grinding operations contemplated. Because they manufacture a *complete* line of surface grinders, they are well qualified to offer you unbiased advice on any problem with which you might be confronted. You'll be under no obligation by writing, of course.

CONSTRUCTION

Essentially the Rotary Plano Grinder consists of a base, work table, main column, auxiliary column and grinder head assembly, all extremely heavy and rigid for maximum accuracy and vibrationless operation. The grinding head is carried on a cross rail supported by the two columns and moved up and down by an elevating mechanism actuated by a motor inside the rail. This motor is a 5 H.P. high torque unit.

The speed of cross rail travel ranges from 3 to 5 feet per minute in either direction. When set for operation the rail is automatically clamped to the columns. Its ways can be tilted 5 degrees in either direction for angle grinding.

Mounted on a compound slide the grinding wheel head is automatically fed along the cross rail at any desired speed from 5 inches to 15 inches per minute.

AUTOMATIC HEAD FEED

The motor shown at the upper right in Figure 2 drives the cross feed worm screw through link belts. The circular plate just below the motor rotates as the grinding wheel head advances along the cross rail. Adjustable stops on this plate control the length of head travel and the point at which its direction is reversed. Where grinding conditions make it desirable, this head may be fed manually.

The vertical feed of the grinder head, like its cross feed, can be accomplished either manually by a large hand wheel at about the center of the main column or by power. When using power, increments of feed range from .0002" to .003".

GRINDING WHEEL HEAD

As previously stated, this grinder may be built with either a horizontal or vertical grinding spindle. The unit illustrated in this folder has the horizontal spindle and is equipped with a straight wheel. In either case the head assembly, including wheel motor, is carried on the vertical head slide.

When the spindle is horizontal the motor shaft is also horizontal and the spindle is driven by multiple V-belts. In the vertical spindle machine a vertical shaft motor is used and the wheel spindle is merely an extension of the motor shaft. Spindle bearings are heavy duty, pre-loaded units.

Horsepower of the grinding wheel motor is optional and will depend on the character of work to be handled. In most installations it ranges from 15 to 30 H.P. at speeds of 900 to 1500 RPM.

Current supply for the wheel head motor is delivered by a heavy electric cable anchored at the top of the vertical slide and automatically fed by a reel at the top of the main column.

WHEEL DRESSERS

Three types of wheel dressers are available — a screw feed dresser for moving a diamond nib across the face of a straight wheel, a swing arm dresser, or a screw feed dresser with automatic reversing motor. The latter is illustrated here and is a very important factor in precision grinding.

COOLANT SUPPLY

The coolant tank is located in the base between the two columns (see Fig. 3). The coolant supply line consists of a riser pipe extending from the tank to the top of the machine and then a flexible hose of sufficient length to serve the grinder head in its lowermost position.

Coolant nozzle and valve are attached to the front of the grinding wheel guard. The coolant is carried to the outside of the grinding wheel for maximum effectiveness.

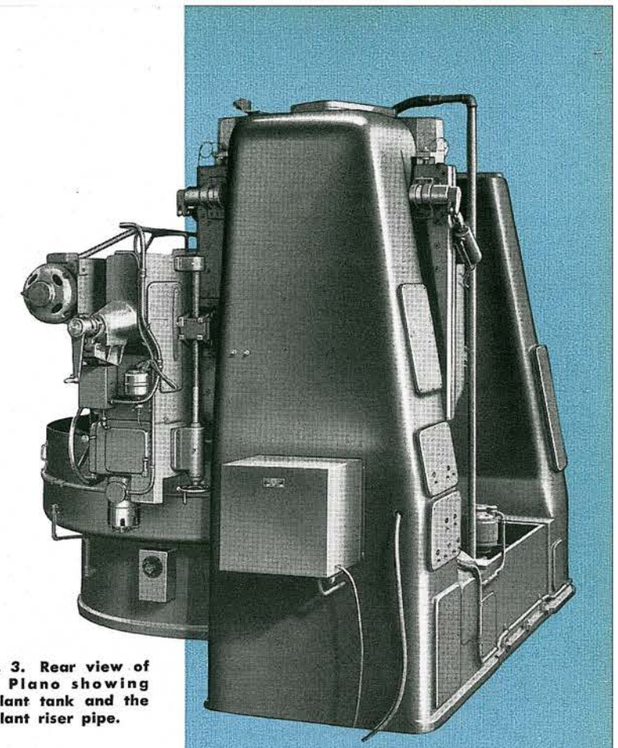


Fig. 3. **Rear view of the Plano showing coolant tank and the coolant riser pipe.**

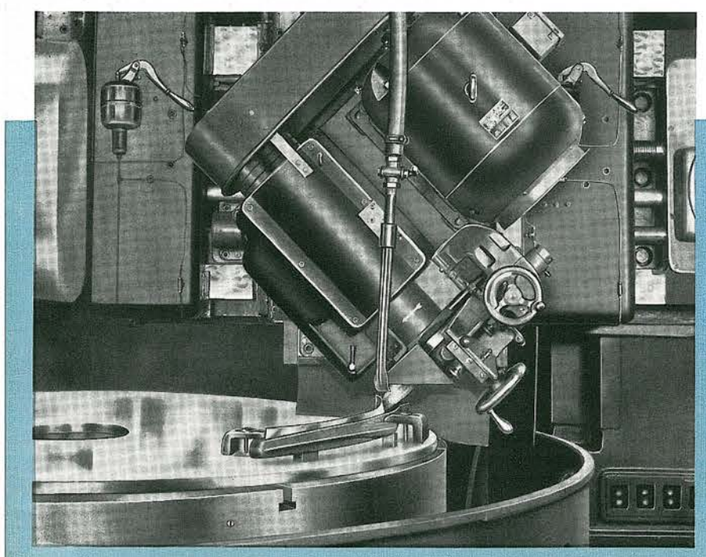


Fig. 1. **Grinding one of several surfaces of a "Flap Track." Outside radius is ground by tilting grinding head to proper position. The second grinding head grinds horizontal surfaces in the same setting.**

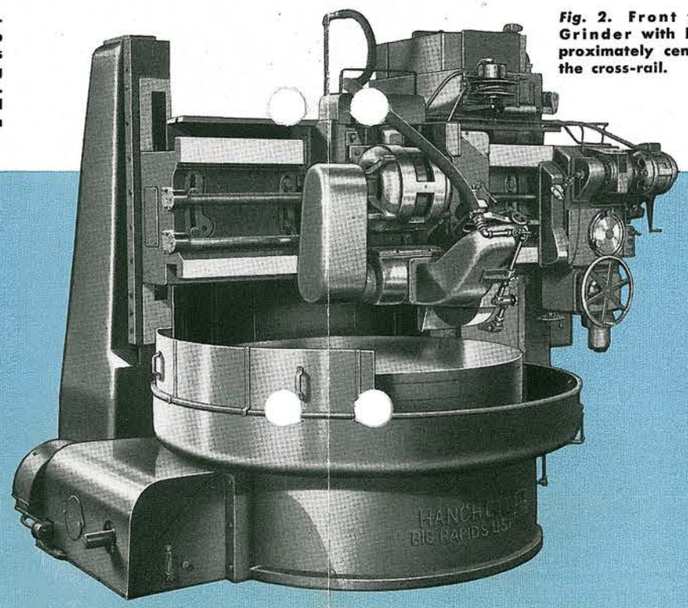


Fig. 2. **Front view of Grinder with head approximately centered on the cross-rail.**

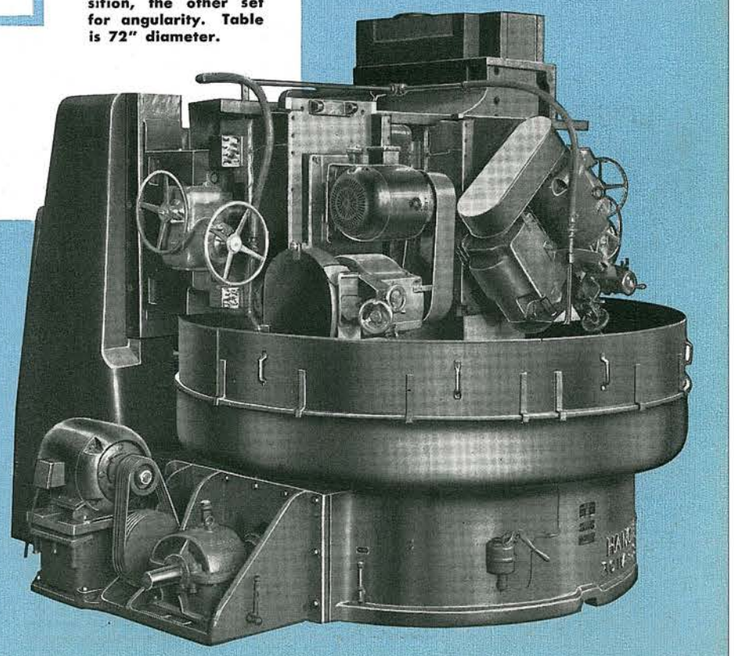
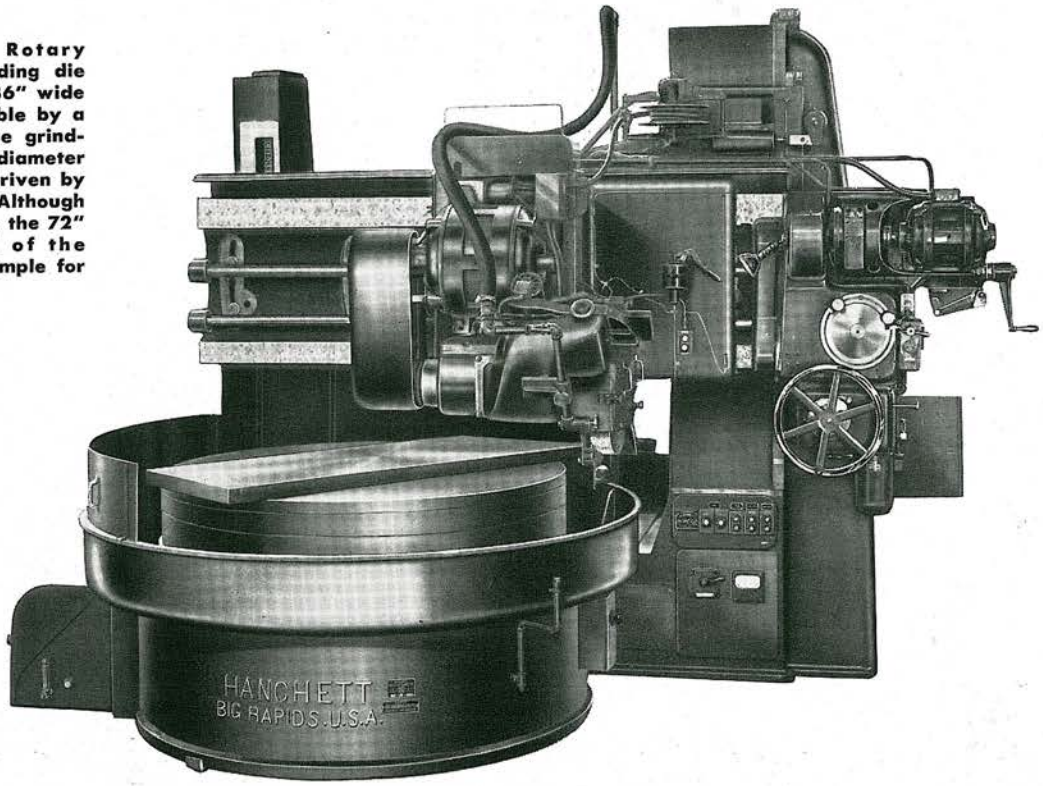


Fig. 4. **Frontal view of Rotary Plano with two grinding heads — one in horizontal position, the other set for angularity. Table is 72" diameter.**

Fig. 5. **Hanchett Rotary Plano Grinder grinding die plate 76" long by 36" wide and held on the table by a magnetic chuck. The grinding wheel, 24" in diameter with a 5" face, is driven by a 30 H.P. motor. Although the work overhangs the 72" table the travel of the grinding wheel is ample for accurate grinding.**



STANDARD EQUIPMENT

Standard equipment includes all motors, wheel dresser, lubrication for table ways, flood light, ammeter, belt guards and a complete system for wet grinding (tanks, pumps, etc.)

SPECIFICATIONS

Diameter of finished work table	72" or 84"
Work Table Speed	5 RPM to 20 RPM
Distance, Table top to under side of new straight or cylinder wheel	24"
Grinding Wheel — Segmental	18" Dia., High, 1½" Face
Straight	24" Dia. x 5" Face
Coolant System Capacity	140 Gal.
Motors	
Grinding Wheel — Vertical Spindle	25 H.P., 900 RPM
Horizontal Spindle	30 H.P., 1200 RPM
Variable Speed Motor for Table Rotation	15 H.P., 5 to 20 RPM
For Cross Feed of Wheel Head	¾ H.P., 4 Speeds
For Cross Rail Elevation	5 H.P., 900 RPM
Coolant Pump	¾ H.P., 1800 RPM
Forced Feed Lubrication	¼ H.P., 1800 RPM
Weight	Approx. 75,000 lbs.
Floor Space	186" Wide x 130" Deep
Height	122"

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U. S. A.

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