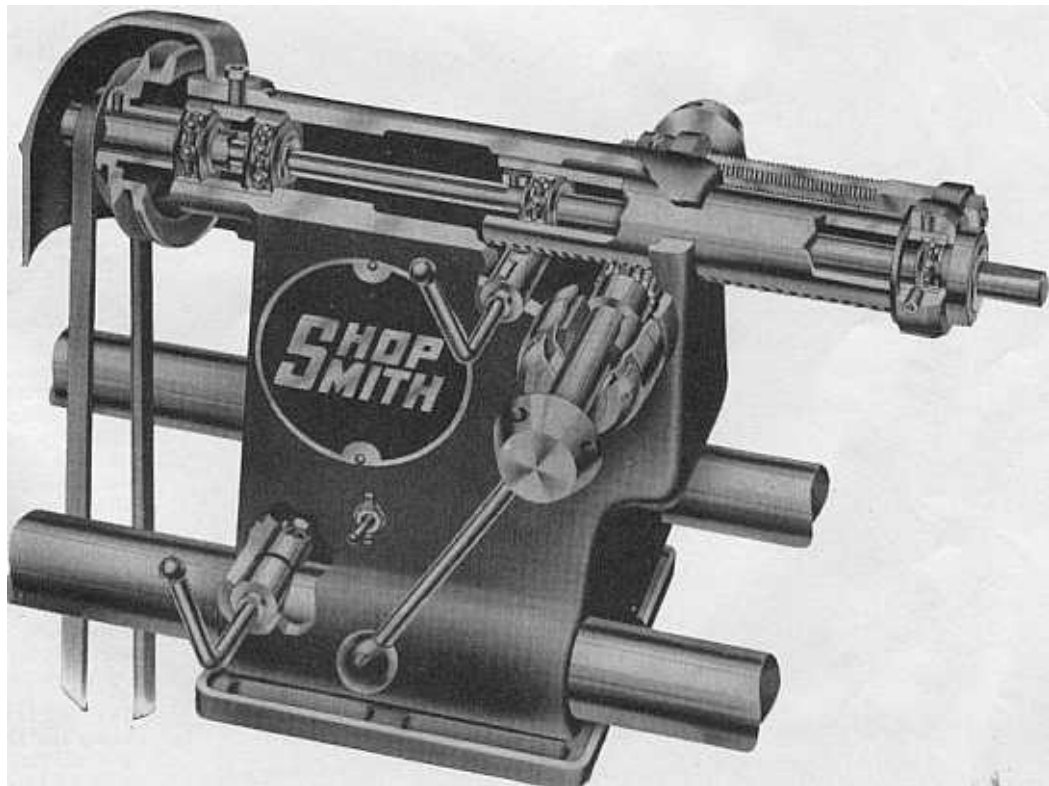


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PRECISION

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By Gordon B. Ashmead

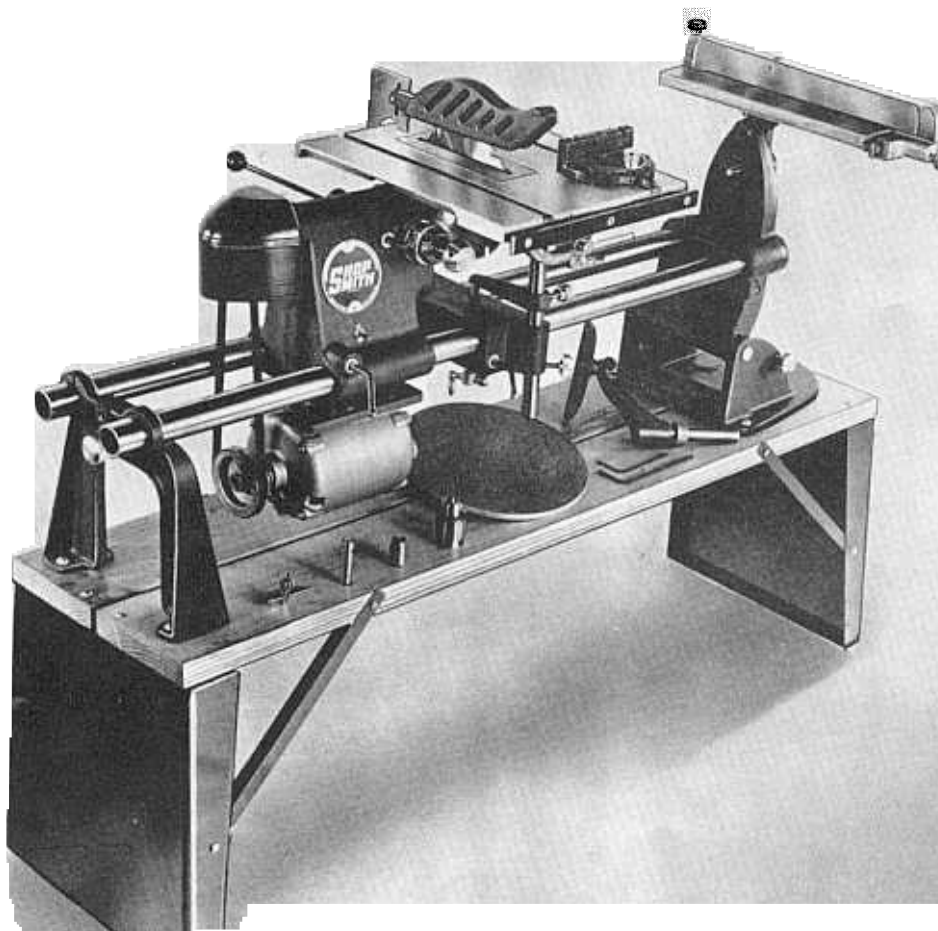
If you haven't heard of Shopsmith, you have missed the sensation of the decade in home workshop power tools.

The postwar project of a German with a Ph.D. from the University of Berlin, who came to this country long before the last war started, Shopsmith is a product with an exclusive Western flavor. It grew first on paper, progressed in plastic and scrap metal to a half-scale model and emerged in the summer of 1947 as a full-scale, multi-purpose tool that, by the end of 1950, had sold more than 75,000 units over the counters of the most famous stores in the United States.

Shopsmith, only 55 inches long and 21 inches wide, is a circular saw, drill press, a lathe, a disc sander or a horizontal drill, as the occasion demands. And in all its functions the machine will perform its operations with efficiency equal to the best single-purpose tools of similar capacity.

In many cases Shopsmith will outperform single-purpose tools because of features which were necessary to permit multiple use. Among the features which are standard on some of the single-purpose tools Shopsmith replaces, but unique and highly useful in others, are the quill feed, tilting

The Shopsmith.



table, large effective table size, movable headstock, and independent carriage for table and tool rest. Many of the general quality characteristics of Shopsmith are far above the usual standards for most of the single-purpose tools it replaces because these characteristics had to be such as to satisfy the requirements of the most demanding of each of the single-purpose tools. This applied in particular to decisions with respect to strength, rigidity, materials, tolerances, and power.

Shopsmith is a home woodworking tool that, because it performs so efficiently, is now used in schools and small shops. And because of its versatility and high precision it can be

On the Facing Page

(1) To assure perfect alignment, holes in the headstock for the tubular ways and quill assembly are bored simultaneously on six-spindle Ex-Cell-O Borematic boring machines. These machines, having exceptionally heavy boring bars, are used for no other purpose.

(2) Finish-boring in headstock castings is also an Ex-Cell-O six-spindle boring job. Operator checks every casting for size and concentricity with "go and no-go" gages.

(3) After each headstock goes through the subassembly line, it is run-in for 2 minutes on a specially constructed rig. This discloses any defective bearings, friction problems, etc., and insures that all working parts mate properly.

(4) Faces of 24 tool rests are ground simultaneously in a special jig on the Blanchard grinder.

(5) Two-spindle boring machine with quick-locking jig is used to bore holes in carriage for tubular ways. Every casting is checked with plug-type "go and no-go" gages.

(6) This Cincinnati milling machine cuts the miter gage slots in the table top and trims the edges of the table simultaneously. Because these cuts are made at the same time in a rigid jig, it is almost impossible to get anything but perfect alignment. Note the powerful air clamp which holds each table firmly against the bottom of the jig so that each slot will be exactly the right depth.

(7) Shopsmiths are used for production too. Each of those shown above is fitted with a jig and used continuously for drilling or tapping operations in iron and aluminum.

(8) This is a special production set-up using the two Shopsmith headstocks on one set of tubular ways. This machine is used to ream holes for bracket pins in the table tie bar.