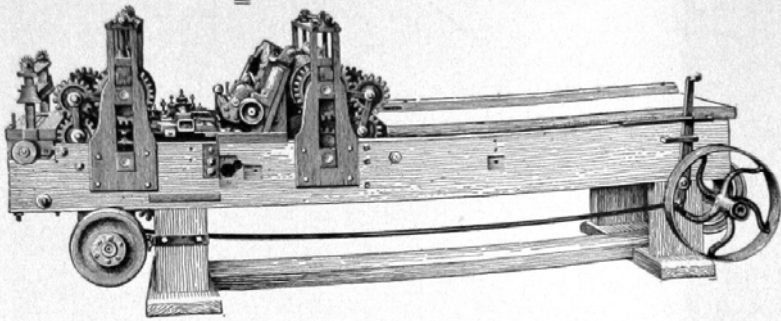


104 years ago —

in 1852, this was one of the first models manufactured by Woods. Both roll and cutterhead units were mounted on wooden frames and base using 2-winged sideheads. Weight was approximately 1,000 lbs.



The S. A. WOODS *story*

FOR over one hundred years the history of the S. A. Woods Machine Company has been identical with that of the wood-working industry in nearly every aspect. It has shared the same years of depression and prosperity, of shortages and over-abundance in supply. Major wars have come and gone with their abnormal demands and restrictions.

However, history shows that during this long and colorful period, the S. A. Woods Machine Company pioneered many of the wood-working machines, their accessories and radically new methods that caused the industry to steadily forge ahead to today's standards of efficiency. It is also matter of record that in many instances the S. A. Woods Machine Company led the way for the industry.

It was in 1852 that Solomon A. Woods, the founder of the present company, proudly exhibited his first machine that was to revolutionize the wood-working methods of the nation. This machine had feed rolls and cutting units that were mounted on a wooden frame and base, using 2-winged sideheads. The total weight was around 1,000 lbs. and the usual source of power for that era came from a water wheel.

In the wake of this simple machine there came a steady flow of improved machines for nearly all types of wood-working. Special awards from Expositions and patents granted by the United States Patent Office became a normal procedure. This has continued right up to the present time, for Wood's last major patent was granted as recently as November 29, 1955.

As indicative of the rapid growth and acceptance of wood-working machines designed and built by Woods, the January 1, 1884, Illustrated Catalogue of S. A. Woods Machine Co., states in part:

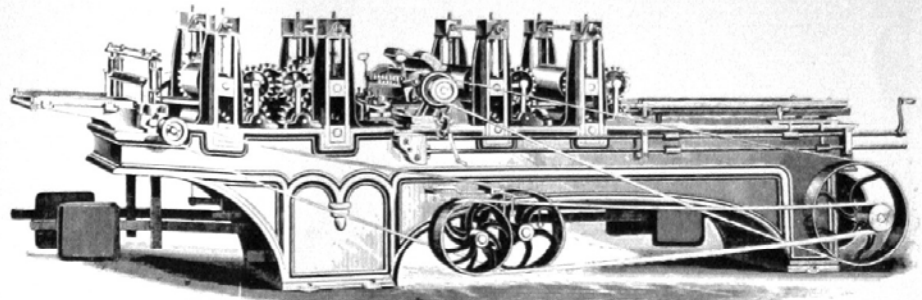
"The fact that these machines have been the subjects of over a score of distinct patents is sufficient proof of our efforts heretofore, and our aim shall be in the future as in the past, to attain as near perfection as may be possible, sparing no efforts to meet the varying demands of the times with the new and valuable improvements of practical utility to our patrons. Our machines are in use in every state in the Union, and in nearly all foreign countries, and building as we do, a greater variety of Planing and Moulding Machines than any other manufacturer in the

Part III in the series:

"The story of
modern wood-working
machines"

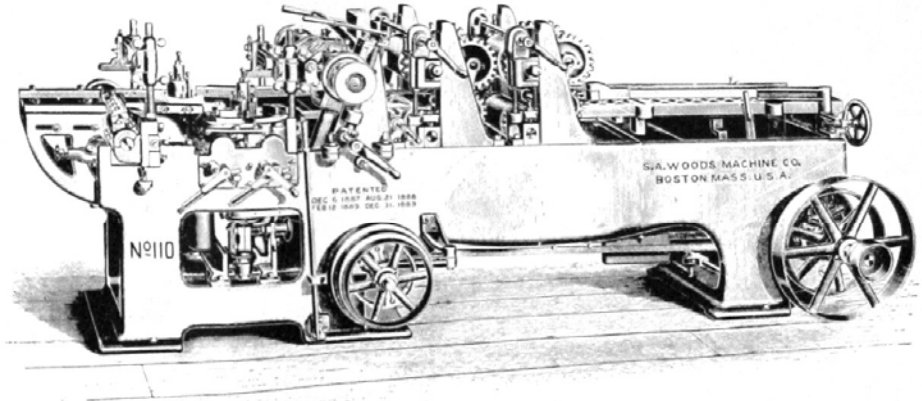
76 years ago —

in 1880, this was the Woods No. 1 planer and matcher. Working dimensions (max.) were 30-in. x 8-in. With 4 knife cylinders and adjustable pressure bars, the machine weighed 12,000 lbs.



67 years ago —

in 1889, this was the 4 head molding machine. Working dimensions (max.) were 15-in. x 6-in. Feed rates were from 12 to 48 f.p.m. Weight: 7,500 lbs.



country, we are in a position to meet the exact needs of our patrons. We are constantly bringing out new and improved tools for working wood, having recently added a full line of Saw Tables, Timber Saws, Band Saws, Boring Machines, etc."

The development and perfection in producing planers and matchers has always held a large degree of priority with Woods, and their customer list around 1880 includes many nationally known firms that demanded the best possible planer and matcher. Among those listed were Steinway & Sons; Chickering & Son; Hallett, Davis & Co.; Ivers & Pond Piano Co.; Mason & Hamlin Organ & Piano Co.

As the use of steam became more prevalent as a source of power, Woods machines were constantly revised and improved to take every advantage of the superior flexibility of steam over water power. Now, higher rates of speed were obtainable, requiring improvements in design and construction in multiple phases. The machines quickly added weight for strength, durability, and as a means of reducing vibration. Bearings, cylinders, pressure rolls and bars, spindles, cutter heads, gears and guides, togeth-

er with countless other parts were redesigned and produced.

The industry now needed cutter heads of larger diameter carrying more knives. However, it was found that regardless of the care taken in grinding and setting the knives in the cutter head while the machine was standing still, once it was running, "revolution marks" would show up.

Woods now made an exhaustive study of the effects of centrifugal force in regard to cutter heads and knives. It was found that a 7-in. cutter head, one ounce out of balance, would have to withstand a strain of approximately 125 lbs., which would easily tend to throw the knives out of line at speeds up to 4500-r.p.m. This tendency would result in one knife gouging, while the next one would make no contact with the stock.

By July, 1907, Woods had solved the problem and announced their new patented "Truing Device" to sharpen all knives accurately to a true circle while the machine was running at usual speed.

The first Woods jointers or "Truing Devices" were for straight knives, but shortly thereafter additional patents were granted to cover methods and jointers to han-

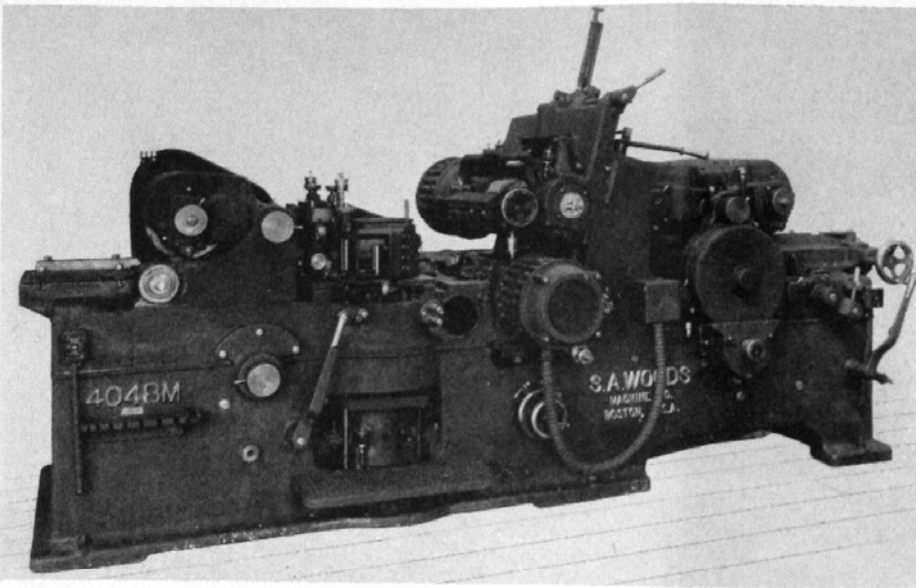
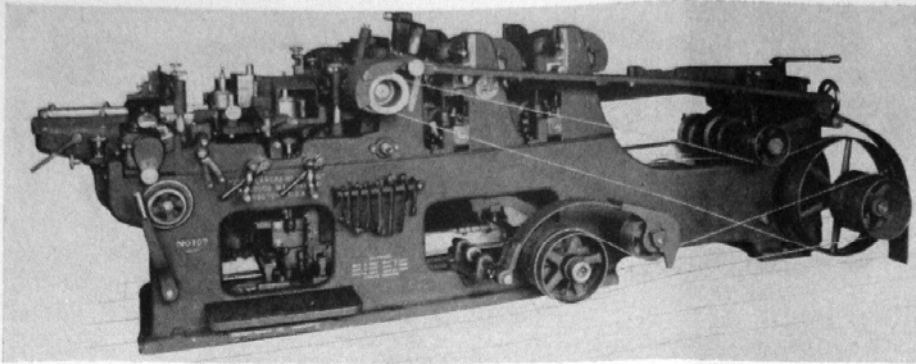
dle cutters and heads of different shapes and sizes.

Higher speeds produced lubrication problems and several new patents covering more efficient and economical methods were granted to Woods, and their patented self-oiling boxes were warmly welcomed by the industry.

During this period there was a strong demand for machines to produce paneled doors, window sash and blinds, clapboards, shutters and organ frames on the light side; while on the heavy were beams up to 30-in. wide by 24-in. deep for railroads, ship builders, car builders and heavy construction in general. In the 1890's matched flooring of both soft and hardwood became an item of increasing popularity. Woods fast-feed flooring machines were probably the first to be offered that would handle any kind of wood, and these through the use of an additional high speed finishing cylinder carrying six special knives, eliminated the customary method of passing the stock through a sander. Woods also offered a patented attachment to their flooring machine that automatically bored holes for the nails,

The S. A. WOODS story

(Continued from Page 11)



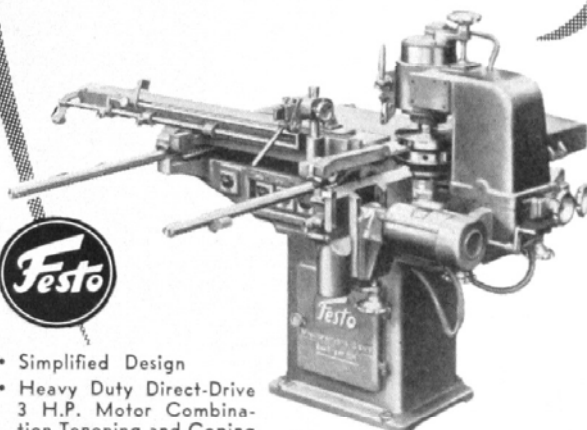
measured the stock passing through, and on the bottom of each board stamped the maker's name and address. Feed speeds for soft wood flooring at this time ran up to 67 f.p.m., while on hard woods the capacity was 34 f.p.m.

When Woods came out with the first automatic feeding table, the potential higher rate of production was restrained by the size of the knife cylinder and the small number of knives. Large cylinders

56 YEARS AGO, back in 1900, the 4 head inside molder (top, left) had working dimensions (max.) of 15-in. x 6-in., weighed 9,400 lbs.

36 YEARS AGO, in 1920, (below, left) this was the first 100% motorized planer and matcher with Woods ball bearing motors. Cylinders furnished have 4-6-8 or 10 knives, as required. Working dimensions (max.) were 30-in. x 6-in. Weight: 21,600 lbs.

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- Simplified Design
- Heavy Duty Direct-Drive 3 H.P. Motor Combination Tenoning and Coping Heads
- Cut-Off Saw 2 1/2 H.P.
- Cut-Off Height 3 3/8", 12" Wide, Optional 24"

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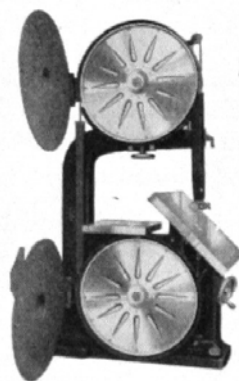
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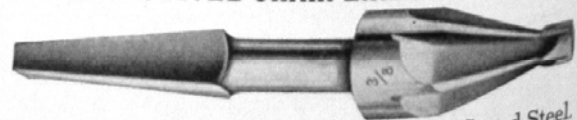
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WOODWORKERS' HAVE IT OR IT JUST ISN'T
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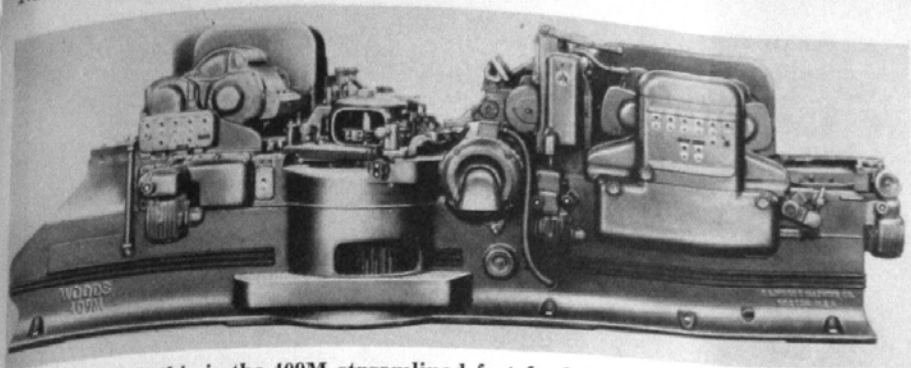
HOLLOW CHISEL SHARPENING TOOL No. 830



For use in hand brace, made of High Speed Steel. Chisel is placed in vise and a few revolutions of tool fastened in hand brace produces sharp cutting edge. Burr is then scraped or filed off and corners are finished by hand with small square file. For quotation, advise size of chisels wanted.

WOODWORKERS' TOOL WORKS

Room 107, Factory Bldg., 222 S. Jefferson St. Chicago 6, Illinois



TODAY, 1956, this is the 409M streamlined fast feed, heavy duty motorized planer and matcher, powered by seven Woods motors (30-, 40-, 50-, 60-, 60-, 75-, and 125-h.p.). It has forced feed hydraulic lubrication, feed capacity up to 1,000 f.p.m. Weight: 41,200 lbs.

were then installed and more knives added thereby, again making a substantial increase in the amount of stock that machines could handle, plus a better finish.

The next major step in increased production was the development of electricity and the application for its use as the motive power for wood-working machinery. First came the direct current motors which gave a cleaner shop and eliminated a portion of belting, shafting and pulleys, as it could be located in a more advantageous

position than the steam engine. Next came the alternating current electric motors, with their greatly increased flexibility and mobility.

Woods engineers, designers and production groups at once started to secure for the wood-working industry the many advantages that could be obtained by the best application of power from the alternating current motor to wood-working machinery.

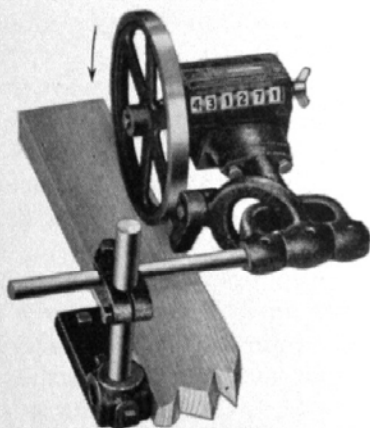
Woods' goal was direct application of such power to the actual working spindle or cylinder. This

would result in several highly beneficial advantages. It would deliver the maximum power at precisely the proper place in the most economical way. It would eliminate shafts, pulleys, gears, belts, wiring, unnecessary expense and additional space.

With the realization that the usual electric motor manufacturer would not, or could not devote sufficient research, experimentation and unlimited time to the peculiar power problems of the wood-working industry, and also due to the fact that machinery could be no more dependable than its motors, Woods established their own Motor Division.

Although the early motors were built entirely for the wood-working industry, it was soon known that these custom-built motors were adaptable to most industries. Before long they were specified for use in the textile, shoe, stone quarry, and other nearby New England industries, and then throughout the country in general industry. Today the Woods Motor Division makes special motor arbors and

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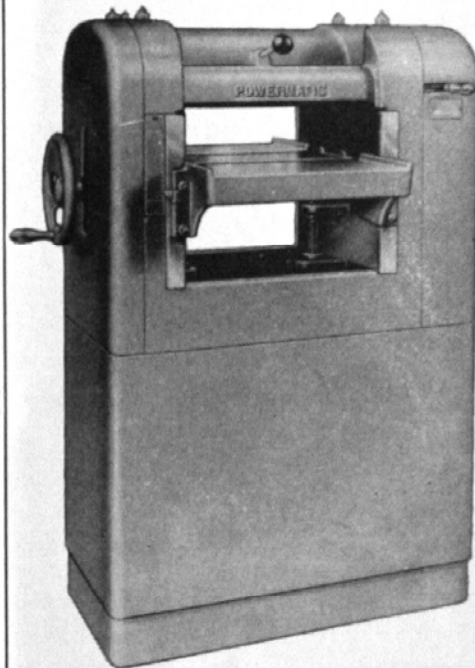
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PLANER**

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NO. 100-12"
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PLANER**

Capacity, 5" x 12".
Rate of feed 15 feet
per minute. Three
knife cutterhead is
mounted in sealed
for life ball bearings.
Ideal for cabinet
and work shops.

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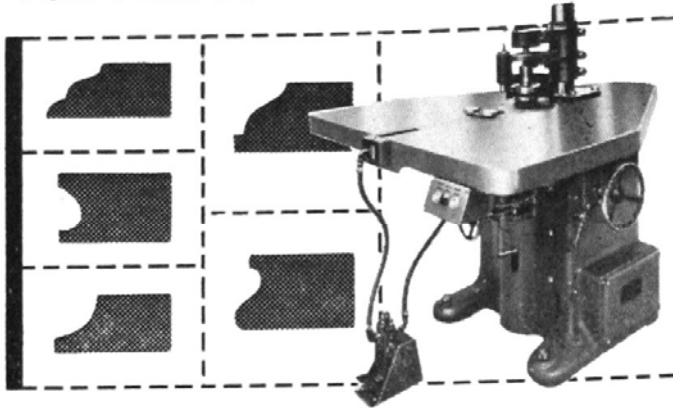


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Exclusive OVERSIZE Anglemaster trunnion supports motors to 2 H. P. The ONLY 10-inch saw which can be so powered!

10" blade cuts 3 1/4" hardwood like butter — as slick as a costly 5 H. P. 12" saw. Maximum size blades no longer needed to cut minimum thicknesses.

SINGLE blade positioning control conveniently located on the front. Saves MUCH time. Prevents accidents. Entire train of parts, trunnion to arbor, assembly-locked into one rigid part to guarantee precision at the cut.

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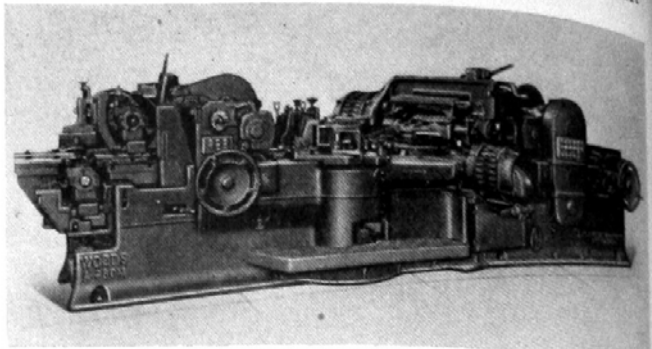
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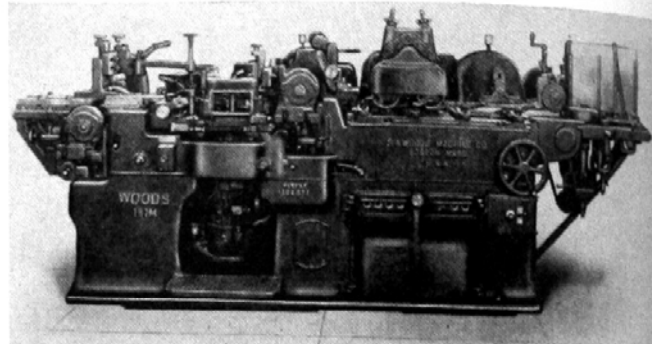
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City & State.....



Today's A-480M diagonal planer and matcher with JMS double profiler has seven Woods motors (20-, 25-, 25-, 30-, 30-, and 75-h.p.), forced feed hydraulic lubrication. Weight with profiler: 35,250 lbs.



The present Woods 137M 6-in. lag bed motorized molder, with hopper. Counterbalanced chipbreaker swings out feeding attachment for fast changeover of patterns in top head. Weight: 8,000 lbs.

shaftless motors that have a degree of efficiency far beyond their original goal expectations.

Two new heavy duty planer and matchers were recently added to the Woods line, the 409M Fast Feed Streamlined and the A480M Diagonal Planer and Matchers, both of which represent the successful completion of many long term objectives. Woods believe that these machines represent many important advances in the wood-working industry, particularly in their ability to upgrade various types of lumber and secure a higher degree of production with a smaller working force.

Today every effort is being made by the S. A. Woods Machinery Company to fulfill the aims stated by Solomon A. Woods to the Industry on Jan. 1, 1884:

"Our aim shall be in the future as in the past, to attain as near perfection as may be possible, sparing no efforts to meet the varying demands of the times with the new and valuable improvements of practical utility to our patrons."

Officers of the S. A. Woods Company include Harry C. Dodge, president; Kingsland Dunwoody, vice-president and general manager, and Lewis B. Carlson, vice-president and chief engineer.

Despite the fact that wood is combustible and steel is not combustible, experienced firemen and fire organizations insist that heavy timber construction is more fire resistant than unprotected steel framing. High temperatures lower the strength of steel and the heat of fires causes steel framing to expand, distort and fail. Wood has a low ratio of conductivity and heat penetrates slowly.