Starrett Tools

By Neil Searle

Many of us have the odd Starrett tool in our collections……..The LS Starrett Company is probably best known for their machinist hand tools, speed indicators, micrometers, drawing instruments and small tools. I will touch on a few rare tools and a couple of interesting tools.

Laroy Starrett, or L.S. Starrett as he eventually went by, was born in China, Maine, USA in 1836.
The company was founded by Laroy S. Starrett with the construction of the first Starrett factory in Athol, Massachusetts, USA. In 1880 it began with just one tool product, the Combination square. Later onto bench vices, rules and tapes and the list goes on. Starrett held over 100 patents, including a particularly significant micrometer patented July 29, 1890.

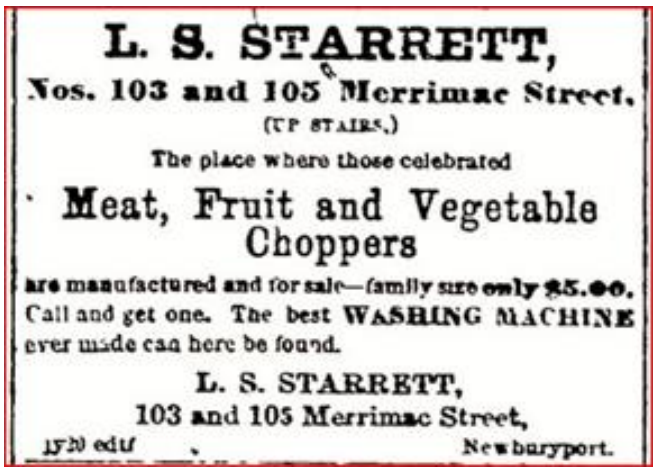


Fig.1. 1868 Advertisement of Leroy S. Starrett, Meat Cutter. Patent No. 47,875, May 23rd, 1865.

On the family farm, over the stable which he had fitted up as a workshop was where he developed his first invention, a meat chopping machine. While he was without experience in manufacturing he had great faith in this chopper and his ability to succeed with it, when the working model was finally perfected he sold out his farming interests and turned to business.

The Athol Machine Company was formed to produce the patented Starrett food chopper June 3, 1868. Including a meat chopper, a washing machine, and a butter working machine. In 1868, Starrett became general agent and superintendent of the Athol Machine Co. of Athol, Massachusetts, incorporated with the purpose of manufacturing his inventions.

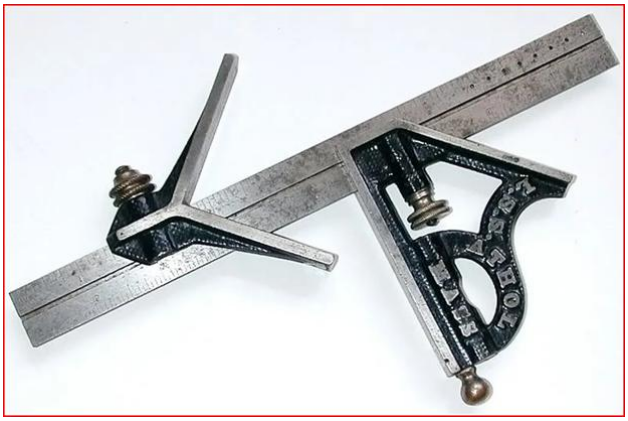


Fig.2. What makes these combination squares different is the RASIED letters cast into the stock which say " **L.S.S. Athol Mass".** Of the millions of combination squares made, maybe only 200 or so of these were produced and only about 6 are known to have survived.

L. S. Starrett made his first combination square in 1879.

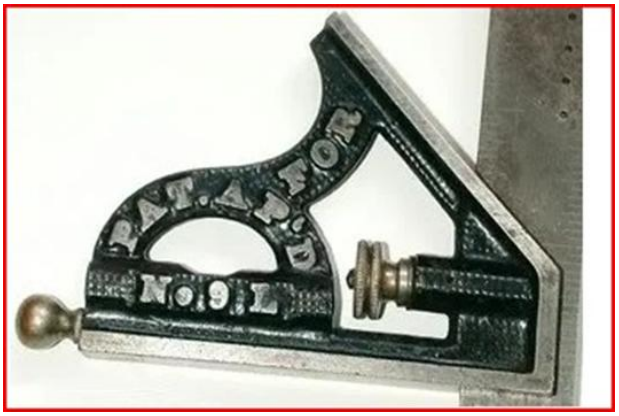


Fig.3. And on the opposite side, "**Pat. Ap'd For No9L**" 9L might have stood for 9" with level. You will notice the holes in the metal rule, they were for using it as a marking or mortise gauge to layout lines a 1/4" apart.

Starrett kept that feature for a few years.

Fig.4. Chaplin Patent square. Orril R. Chaplin's May 8, 1866 patent. It is US patent number 54503. (There were at least three different casting patterns)

Regarding the holes in the rule, the patent states *"One or more holes, p, near the end of the bar may be countersunk to admit of the point of a lead-pencil being introduced through either, and used instead of the scratch-pin for making gage-marks."*

The manufacture today of precision tools, It is worth noting that If you consult a Mohs scale of hardness chart, you will see that in the world of metals, cast iron is relatively soft, consequently, cast iron is fine if used by the woodworker if reasonable care is taken to protect the tool. Hardened steel is used to manufacture precision tools used in engineering with a hardness according to the Rockwell scale of 58-60.

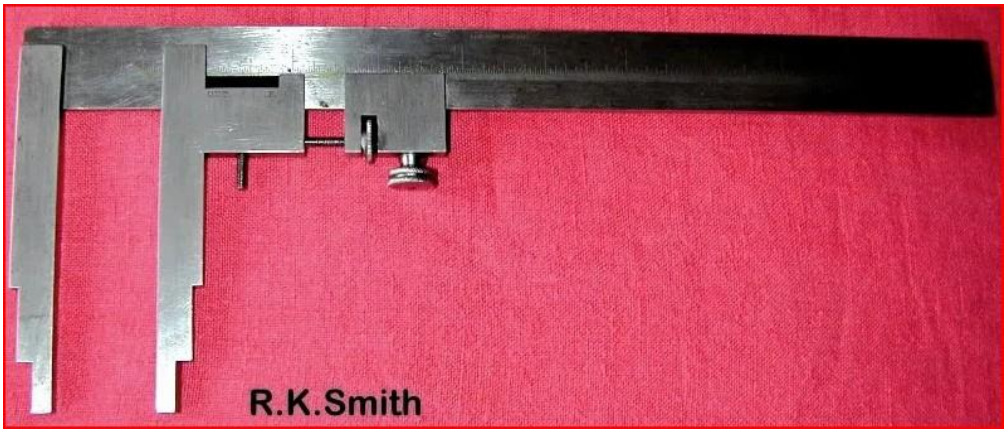


Fig.5. An early and rare set of calipers from the late Roger K. Smith's collection.

This caliper is only shown in the May 1st, 1886 catalogue. It is not shown in the 1884 catalogue. Apparently the No. 28 Caliper Square, shown in at least the 1888 and later catalogues, replaced it. The specimen is identical to the catalogue description. Assembly (No.) 29 is stamped on the inside faces of both the parts with a locking screw (one locking-screw is missing)."

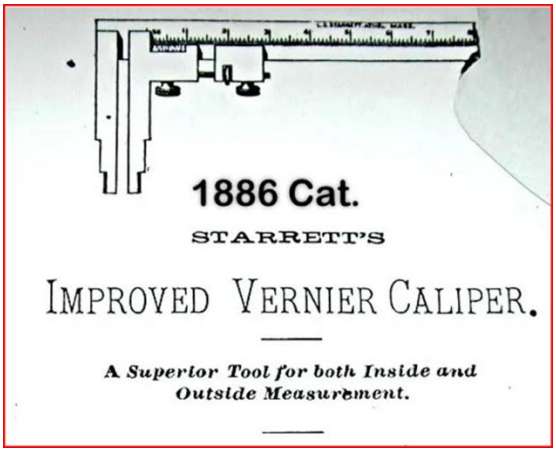


Fig.6. From Starretts 1886 Catalogue. **Fig. 7.** An unusual medallion. On close inspection you can see that even the Starrett name and address appears on the caliper and the square. Even the thousandths marks are visible on the micrometer drum.

Fig. 8. Another rare tool from Smith's collection. He states "This is the first Starrett Vulcan Screwdriver in captivity that I am aware of. It is a 6" size, but is actually 6 ¾" total length. The only marks are PAT'D MAY 7, OCT. 8, 1889 stamped on the shank. (I could not find any Starrett patents for those dates.) It is only shown in the Catalogue No. 13 (c. 1895 reprint). It may be in Catalogue No. 12, but I do not have that catalogue available."

Fig. 9. The Vulcan Hollow Handle Screwdriver No. 115. *"This screwdriver is light, handsome and powerful. The handles are forged from sheet steel and welded to the blades, making the tool practically one piece. Made with light blades for small work"*

Fig.10. Advertisement showing two different style metal handles.

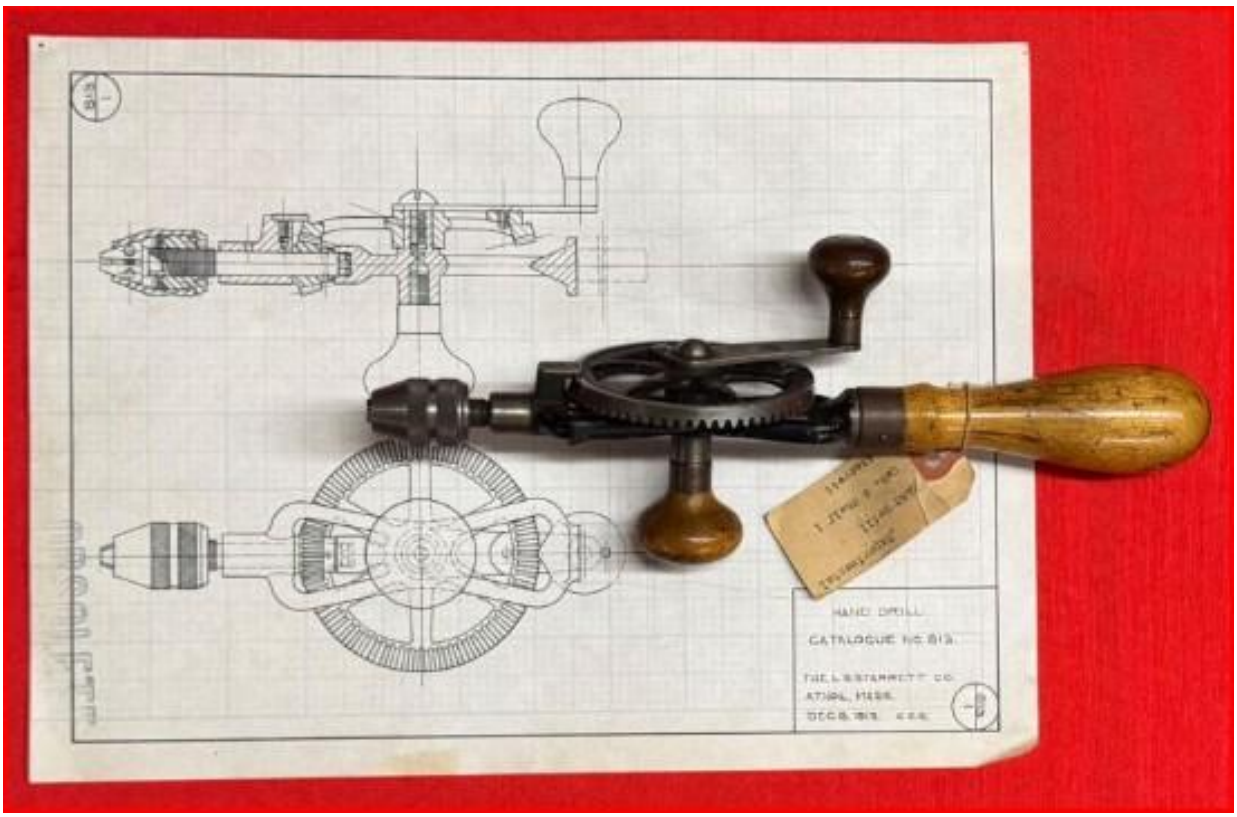


Fig. 11. Starrett Hand Drill Cat. No. 813. Pictured is the experimental hand drill drawing and tool from Dec. 1913. It never made the Catalogue and the drill pictured may be the only example made. "OBSOLETE" is stamped on the left hand selvedge of the drawing. Written on the tag attached to the drill is "Experimental hand drill cab. 6 shelf 1 Starrett"

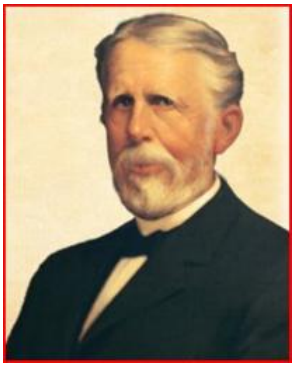


Fig. 12. STARRETT NO. 439 Builder's Square & Combination Tool….This an early Starrett 439-24" builder's square & combination tool. Later versions of this combination tool had four bubbles. Date is somewhere between Starrett's patent of 1911 and 1930. The rule is marked No 439, The L.S.S Co. Athol. Mass. U.S.A Hardened No.4 Patent Jan 3 1911. Such a useful tool, they are still manufactured today. A brand new one retails for US$571. Pictured is Laroy Sunderland Starrett.

Mercury Plumb Bobs

No. 87

These plumb bobs are made from solid steel bored and filled with mercury. Noteworthy features are their great weight in proportion to size, low center of gravity, small diameter, hardened and ground points, knurling on body, and the simple and effective device at top for fastening end of line after winding up. Each is provided with a braided silk line. Nickel plated.

Prices

4 in. long, ½ in. diam. 2¾ oz. $1.00
5 " " ⅝ " " 6 " 1.50
5½ " " ¾ " " 12 " 2.00
6 " " 1 " " 16 " 2.50

Steel Plumb Bobs

No. 177

The same in design as No. 87, but made from solid steel, the mercury being omitted.

Prices

4 in. long, ½ in. diam. 2¾ oz. $0.75
5 " " ⅝ " " 5 " 1.00
5½ " " ¾ " " 8½ " 1.50
6 " " 1 " " 14½ " 2.00

Fig 13. STARRETT No. 87 Patent No. 833,699. 1906

'' Mercury Filled Plumb The improvement consists in our patented device for fastening the string without a knot to tie or untie, simply by drawing it into the peculiarly slotted neck at the top, after unwinding the required length, when the bob will hang perfectly true.

These plumb bobs are made from solid steel, bored and filled with mercury. Note¬ worthy features arc their great weight in proportion to size, low center of gravity, small diameter, hardened and ground points, knurling on the body and the simple and effective device at top for fastening end of line after winding up. Nickel plated. Each is provided with a braided silk line. ''

Fig.14 Starrett No. 443-A Ratchet Wrench. 1913-1915.

Starrett pressed-steel socket sizes were specified as 1/32 oversize, as was the case with Mossberg and other brands of pressed-steel sockets.

A 29/32'' spark-plug (deep) socket in the center, and a universal joint at the right and the packer drill attachment at the right.

The tool lying on the top is a Holder or friction wrench for the drilling attachment (slots into the brackets on the lid) and the small round knob you can see directly beneath is a Thrust plug—for use on all sockets and extension, protecting the hand when forcing down on the ends.

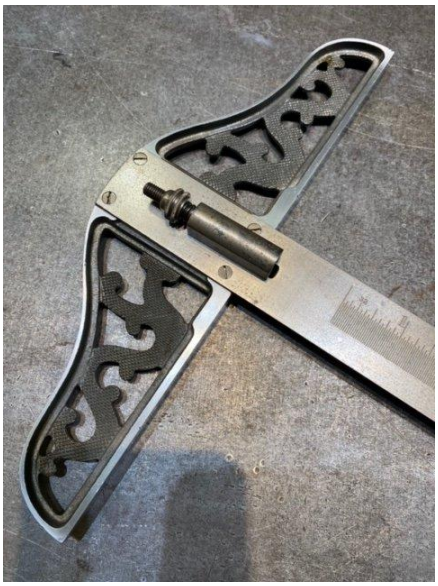
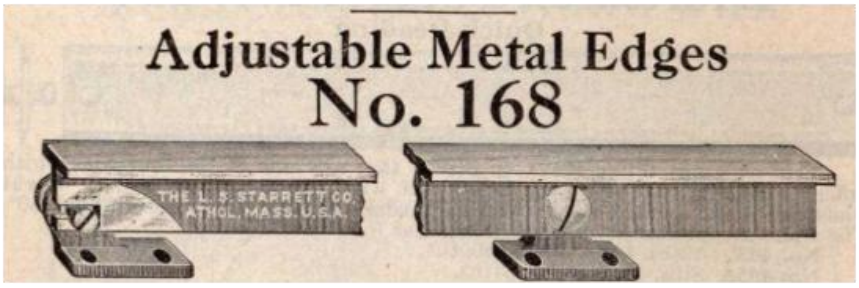


Fig.15. 1930 catalogue, Draftsmen's T- Squares No. 163. With spring tempered steel blade and aluminum head. Has an automatic clasping device to hold it…against a metal straightedge … of a drafting board or table. Unfortunately the Great Depression didn't help sales and few were sold.



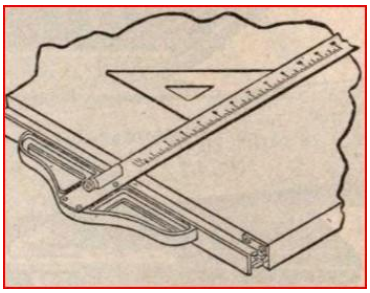
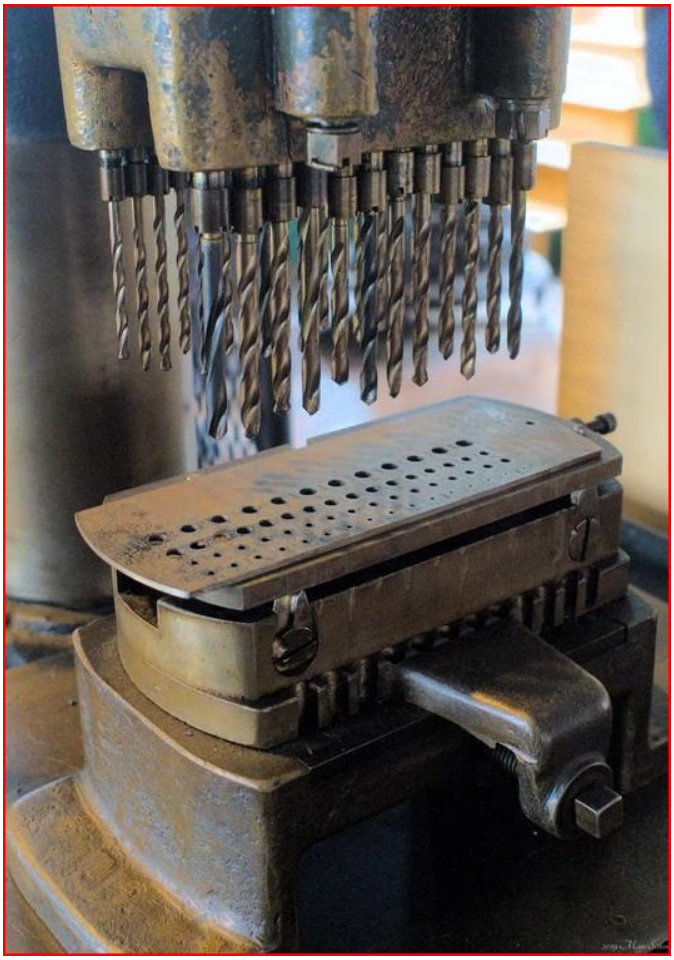


Fig.16. you had to also purchase the Adjustable metal Edge No. 168 so that the T-Square (Fig.12) could be fixed to the drafting board. The cam device at the end permits fine adjustments in forming a perfect right angle when two of the metal edges or T rails are used together.



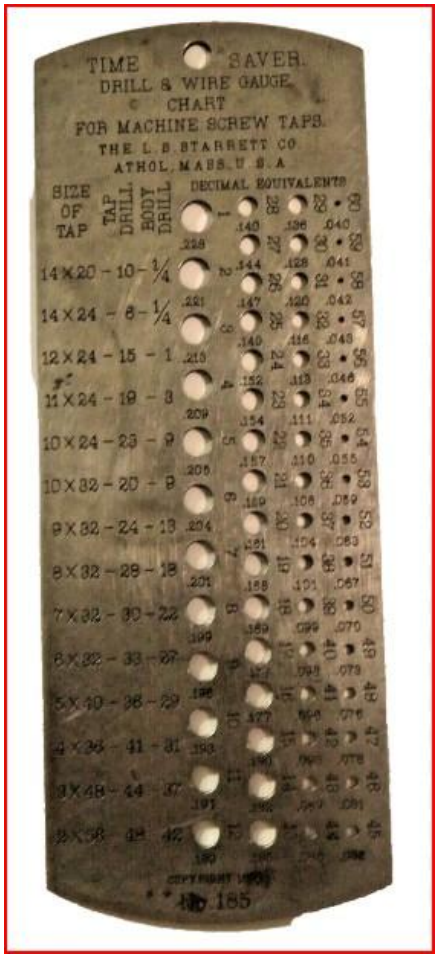


Fig.17. A gang head drill press producing the Drill and Wire gauge Chart No. 185. "Time Saver" Trade mark.

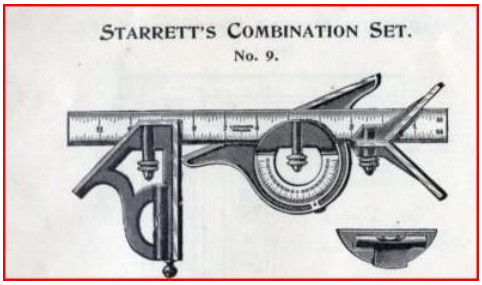


Fig.18. Starretts's popular selling Combination Protractor Set No. 434. (1895 Cat.) Though some earlier 19th century tools were called combination squares, the modern combination square was invented in the late 1870s by Starrett, and patented in 1879. The Center head was next on June 29th 1880 and the last was the Bevel or Protractor as we know it today on October 24th 1883.

Of interest, L. S. Starrett also invented a window for a railway car in 1875.

Starrett is also a major, worldwide manufacturer of saw blade products. The saw blade product group includes three categories. Band saw blades are used primarily in manufacturing facilities. Starrett reaches the mark of producing 27,000 km of saws in one year, in 2019.

11 Mar 2024 — Starrett was sold to a private equity firm in 2024. Many believe this will be the end of the L.S. Starrett Company.

Ref; Practicalmachinist.com. The Garage Journal. L.S. Starrett Company.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