

# Stanley Model Shop Tools:

## Stanley No. 87 Cabinet Makers Scraper Plane Prototype

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The subject of this piece is a prototype for the Stanley No. 87 cabinet makers scraper plane (Figure 1). It will be described and compared to the production model No. 87 (Figure 2).



*Figure 1 Stanley No. 87 scraper plane prototype*

John Wells and Chuck Wirtenson [1] have done a type study of the Stanley No. 85 cabinet makers scraper plane which includes information about the No. 87. The No. 85 is like the No. 87 except that the No. 85 has side cutouts to make it rabbet scraper and has a tilt handle and knob. Edmund A. Schade and Albert F. Schade applied for a patent for the tilt handle and front knob on October 22, 1904, and were granted Patent No. 787,054 April 11, 1905. Given that the Schade brothers invented the tilt handle and knob on the No. 85, it is almost certain that they also designed the No. 87. Wells and Wirtenson indicate production of these scraper planes started in late 1904 and that the No. 87 was probably produced in only one or two casting lots. The No. 87 disappeared from Stanley catalogs after 1917 with the American entry into World War I. Stanley discontinued many other woodworking tools at this time, some temporarily and many permanently.



*Figure 2 Comparison of the prototype (bottom) and production No. 87 scraper planes (top)*

With that introduction we now proceed with the description of the prototype No. 87 and compare it to the production model. The sole of the prototype has a rectangular profile 7.5 inches long by 2.404 inches wide with 0.5 inch long pad extension under the handle for a total length of 8.0 inches. In contrast the production No. 87 has an 8.0 inch long by 2.346 inch wide sole with rounded ends and no pad under the handle. The difference in sole widths may be accounted for by the heavier casting of the prototype. The ends of the prototype sole are rounded smoothly from the bottom to top of the casting and the sides have the sharp edges broken. The production scraper plane sole has sharp ends and sides. Its sole thickness is less (about 0.19 inches) than that of the prototype (about 0.24 inches) resulting in a lighter weight plane.

The beech knob on the prototype is the type used on the contemporaneous Stanley No. 40 scrub plane and it is likely that the beech handle is also of the same provenance. The production No. 87 has a rosewood handle and knob. Its handle is Smith's [2] type DD and the knob is thicker than that on the prototype and has a cylindrical base rather than the truncated cone base of the prototype. The handle of the prototype sits on a raised pad which extends behind the end of the sole while the

production plane has no pad. The front knob of the prototype also rests on a pad and is tilted forward to provide hand clearance from the scraper cutter. The production plane front knob rests directly on the plane body (no pad) and is vertical.

The prototype scraper plane is unmarked except for model shop numbers and a date while the production scraper plane body is marked as in Figure 3. I do not know what feature was attempted to have been patented, but apparently the patent was never granted. Figure 4 shows the Model Shop number 444 marked on the knob, front of the body, and the top of the handle.



*Figure 3 Detail of markings on body of production No. 87 scraper plane*



*Figure 4 Model Shop markings on prototype*

Figure 5 shows the OCT 7 1904 date stamped on the body of the prototype. Wells and Wirtenson [1] indicate that Edmund A. Schade and Albert F. Schade applied for a patent for No. 85 the tilt handle and front knob on October 22, 1904, which was granted as Patent No. 787,054 April 11, 1905. The date on the prototype is only two weeks prior to the patent application, indicating that no time was wasted between creating a prototype and a submitting a patent application. It is very likely that the No. 85 and No. 87 scraper planes were developed and started production simultaneously.



*Figure 5 Date on side of prototype body*

Figure 6 shows a detail of the frog on the prototype. The scratched out number on the frog (possibly 3217?) suggests that this frog may have been “borrowed” from another Model Shop prototype and used on this No. 87 prototype. It should not be surprising that several prototypes would be made before settling on the design of the production model. It would be interesting to know what the prototype that originally used this frog looked like.

The prototype frog is quite different from the production No. 87 frog (see Figure 2 and Figure 6). The prototype frog is fastened with three machine screws through elongated holes to allow some fore and aft adjustment while the production frog is fastened with two machine screws with washers through elongated holes, allowing greater fore and aft adjustment than on the prototype. At the rear of the production frog is a set screw to allow the frog to be slightly tilted after the fastening screws are loosened (the No. 85 tilt handle scraper plane also uses this arrangement). The cutter on the prototype is fastened by a thumbscrew through the frog into a cap which is

loose except for the thumbscrew while the production No. 87 uses a cap suspended by a screw through it and the tabs on the front of the frog. The tightening screw bears on the cutter to clamp it against the cap rather than clamping the cap and cutter to the frog as is done on the prototype.

The mounting part of the frog on the prototype is much longer than on the production number. This effectively pushes the frog, cutter, and mouth forward necessitating tilting the front knob forward at an angle to gain hand clearance. The prototype body has the high part of the sides pushed forward relative to that of the production plane to accommodate this. The scraper cutter is tilted forward at a 22 degree angle from vertical on both the prototype and the production planes.



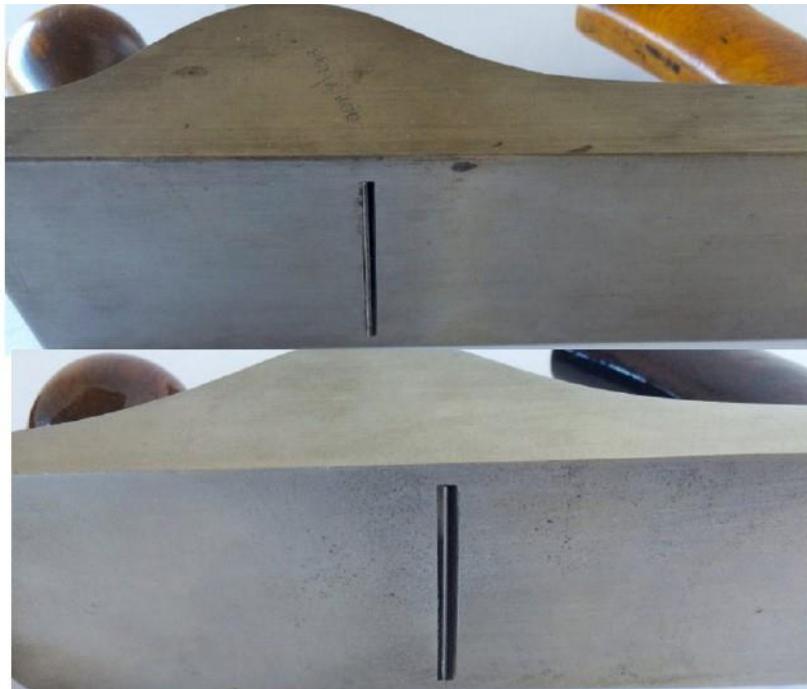
*Figure 6 Detail of frog on prototype*

The round-cornered scraper cutter of the prototype plane has a slot to clear its fixing thumbnut while the production No. 87 does not require this and has a rectangular scraper cutter as shown in Figure 7. The prototype cutter is slightly narrower at 1.920 inches than the production cutter at 1.978 inches and slightly thinner, 0.044 inches vs. 0.048 inches.



*Figure 7 Production scraper cutter (top) and prototype scraper cutter (bottom)*

The mouths of the prototype and the production scraper planes, besides being differently located to accommodate the scraper cutter positions, are of slightly different dimensions as shown in Figure 8 with the prototype having a smaller mouth than the production scraper plane (0.067 inches front to back by 1.935 inches wide vs. 1.993 inches by 0.115 inches).



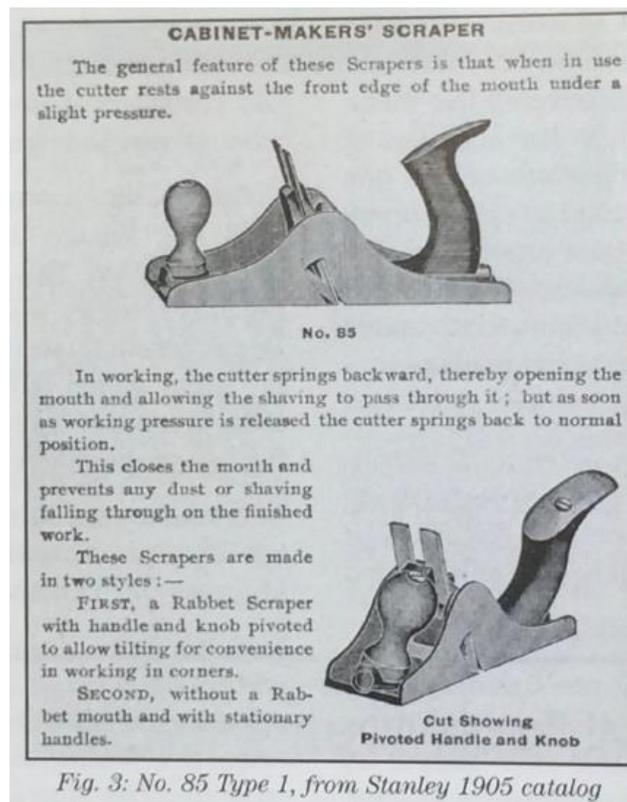
*Figure 8 Mouth on prototype (top) and on production No. 87 (bottom)*

The scraper cutter on the prototype presses against the front of the mouth. Wells and Wirtenson's [1] Figure 3 (reproduced here as Figure 9) is a 1905 Stanley catalog cut showing the No. 85 with features similar to those found on the No. 87 prototype. Among them are the square ended sole, the slotted scraper blade and the blade fastening thumbscrew. They note that they have not seen any No. 85 planes of this configuration and have only heard reports of their existence. To quote from the figure

“The general features of these Scrapers is that when in use the cutter rests against the front edge of the mouth under a slight pressure.

In working, the cutter springs backward thereby opening the mouth and allowing the shaving to pass through it; but as soon as working pressure is released the cutter springs back to normal position.

This closes the mouth and prevents any dust or shaving falling through on the finished work.”



*Figure 9 Reproduction of Wells and Wirtenson's [1] Figure 3 Stanley 1905 catalog cut showing Stanley No. 85 scraper plane*

Figure 10 shows a 1907 Stanley catalog cut [3] with the same claim, but with the standard production No. 85 and No. 87 scraper planes illustrated. By 1909 [4] this claim had disappeared from Stanley catalogs and only the claim that the frog could be shifted fore and aft to widen the mouth was present. The scraper cutter does not rest against the front of the mouth on the production planes. I suspect that resting the scraper cutter against the front of the mouth caused problems with shavings

choking the mouth and was quickly dropped as a “feature.” It is not uncommon for Stanley catalogs to use out of date illustrations and descriptions for several years after changes were made to tools because of the expense and effort necessary to update catalogs.

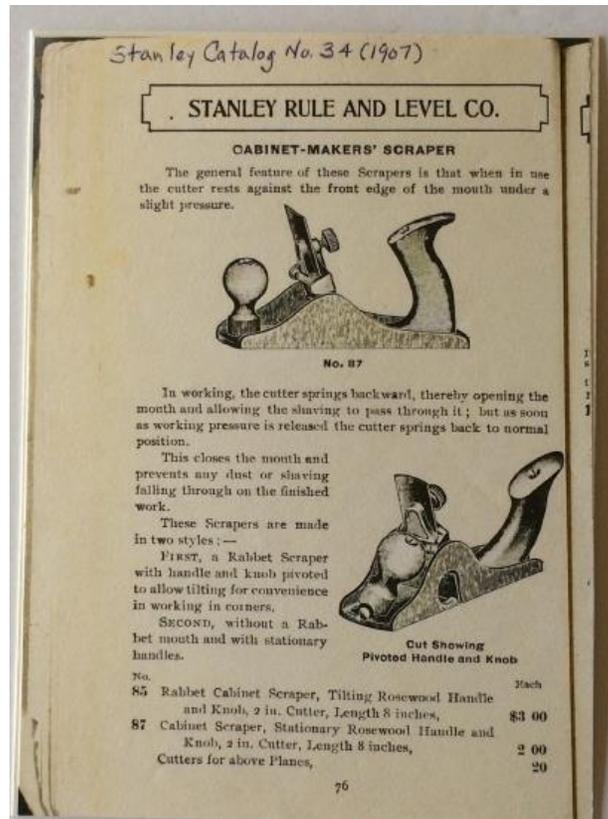


Figure 10 Stanley 1907 catalog cut

If you have additional information or comments about this or other Stanley Model Shop prototypes, please contact me at [jamesgillis5@gmail.com](mailto:jamesgillis5@gmail.com) or reply to this blog. I look forward to hearing from you.

## References

- [1] J. Wells and C. Wirtenson, "The Stanley No. 85 Cabinet Makers Scraper Plane: 1904 to 1935," *The Gristmill*, no. 137, pp. 8-10, December 2009.
- [2] R. K. Smith, *PATENTED TRANSITIONAL & METALLIC PLANES IN AMERICA 1827-1927*, Second ed., vol. 1, Athol, MA: Roger K. Smith, May 1990, p. 281.
- [3] Stanley Rule & Level Company Catalogue No 34, 1907, p. 76.
- [4] Stanley Rule and Level Company Carpenters & Mechanics Tools No. 102, 1909, pp. 52-53.