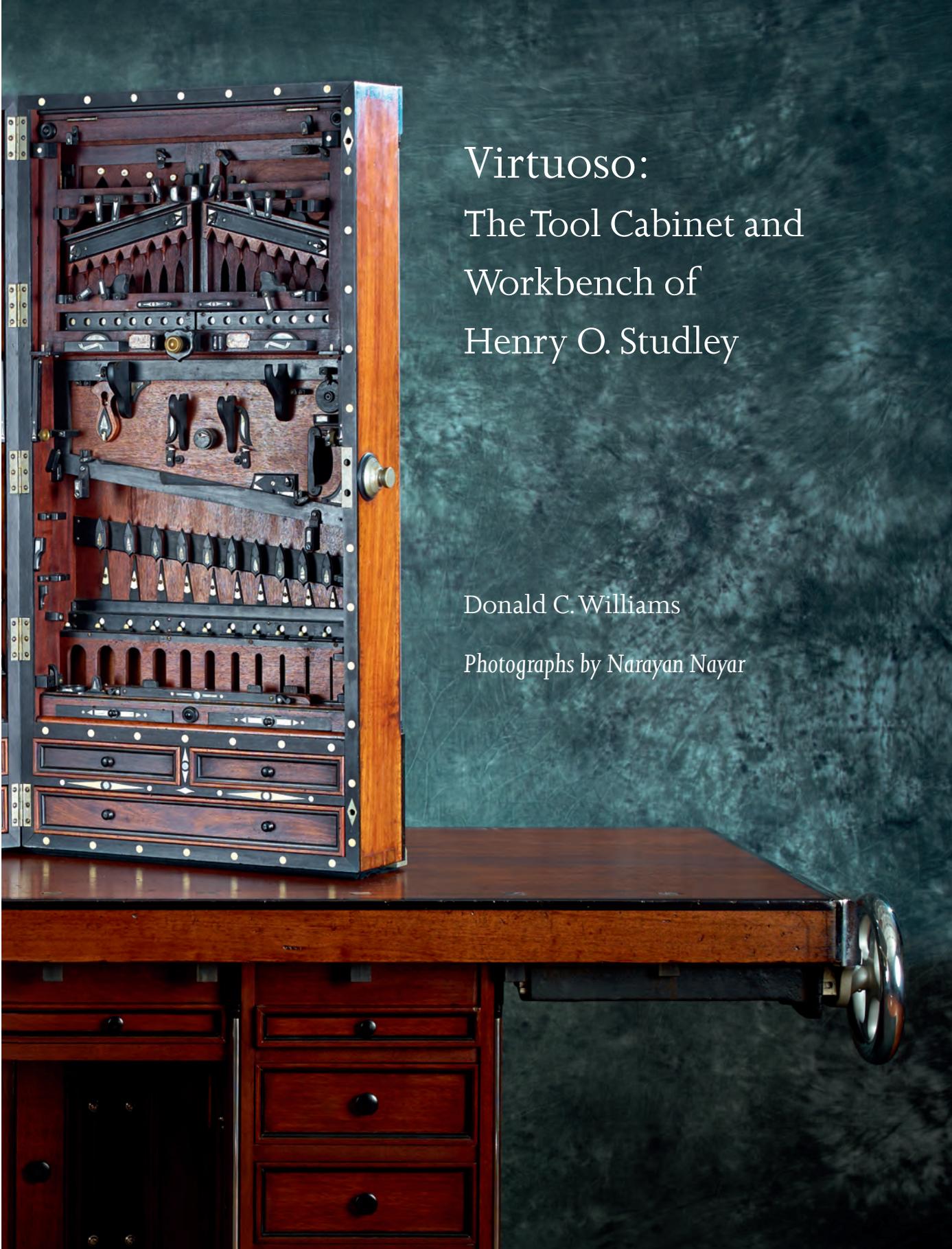


Virtuoso:  
The Tool Cabinet and Workbench  
of Henry O. Studley



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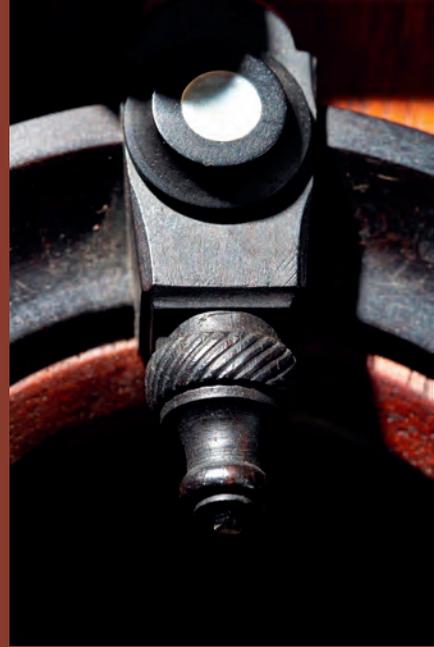




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Henry O. Studley

Donald C. Williams

*Photographs by Narayan Nayar*



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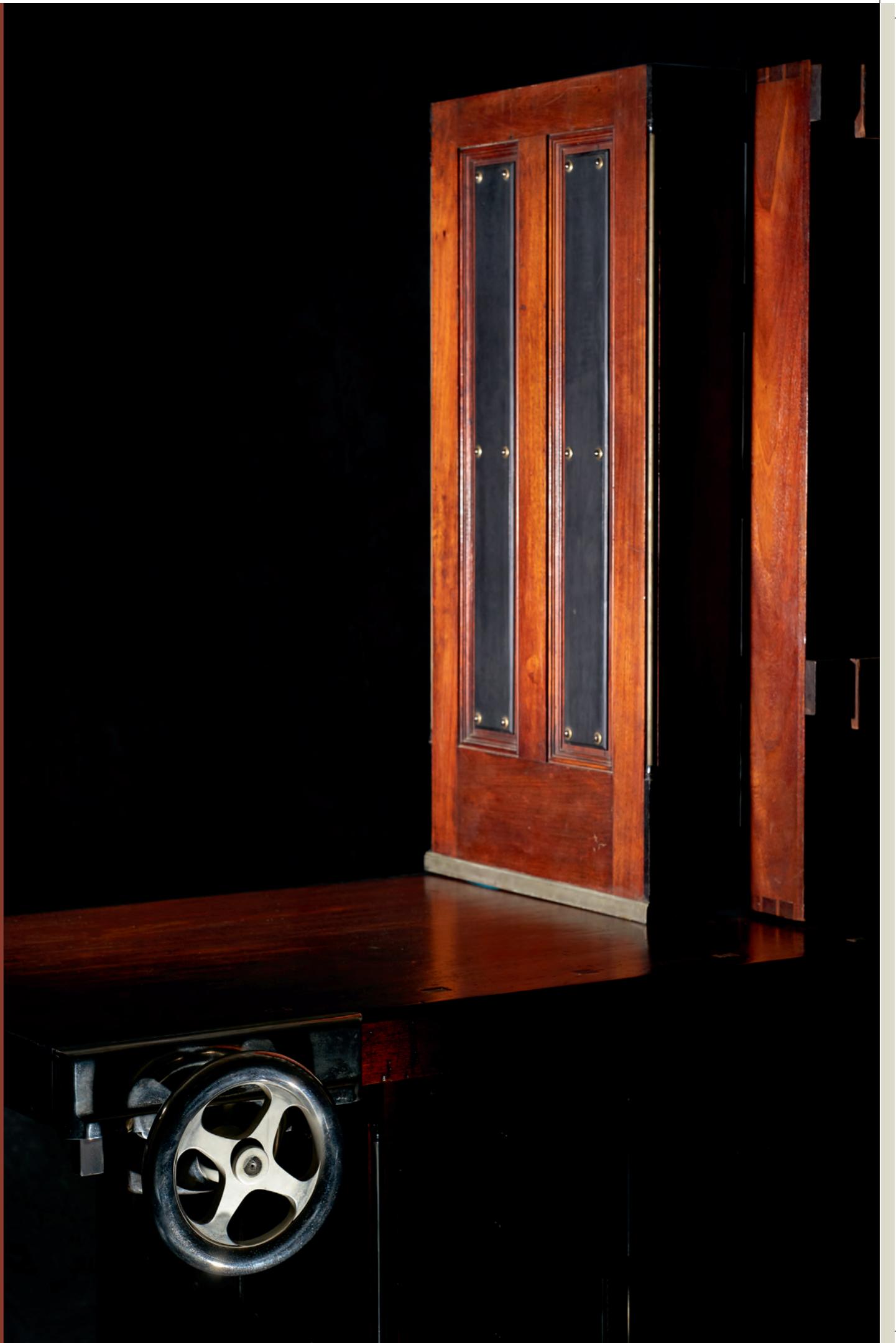
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# Something Clicked

I was in a bar somewhere in rural Illinois with planemaker Wayne Anderson, a guy who started out designing large-scale weapons and ended up building incredible high-end handplanes that sell for thousands of dollars. Talking over beers, I asked how he got started making tools.

It's a short story. He was in a used tool store in Minnesota and saw a poster of the H.O. Studley tool cabinet.

"I found myself riveted to that image," he said. "Something clicked. And I decided to amass a small collection of vintage tools." Shortly after becoming a tool collector, Wayne became a full-time toolmaker specializing in building exotic infill handplanes one at a time and almost entirely by hand. And it all started with that poster.

I wrote his story in my notebook, and when I returned home to transcribe my encounter with Wayne, I was skeptical. This guy gave up a good job to create handmade tools (a risky career move) all because of a poster? To me it smelled of romantic marketing.

About six months later I was picking through piles of wood at our local lumberyard with my co-workers. We needed lots of stuff and were working in pairs to pull 12-footers from the racks of lumber and stack them on our cart.



“Schwarz. Schwarz. Schwartz!” someone yelled. I shook my head and looked up to a glaring cabinetmaker. Why was I not grabbing the slabs of maple that were being pushed toward me?

My eyes refocused and I realized what had distracted me. It was a faded poster on the lumberyard’s wall that I’d never noticed before – the H.O. Studley tool cabinet. The poster was torn and taped, but still mesmerizing. “Ha ha,” I thought. I had been hypnotized. Just like Wayne.

Weeks later I was on a long morning run, and I couldn’t get that poster out of my head. Studley’s reverence for his tools and the shrine he built to them was inspiring in a way that I couldn’t stop thinking about, but I also couldn’t verbalize it to my wife, friends or neighbors.

But I knew someone who would understand.

I wrote an e-mail to Wayne Anderson: “I want you to build me a plane. . . .” I didn’t know how I was going to pay for it. But I knew that this plane was the next step in my relationship with my tools and my work. And that I would build a chest to protect them.

Clearly, something had clicked.

I know that I’m not alone. The Studley tool cabinet has captivated tens of thousands of woodworkers and toolmakers around the world. There are people who have memorized every square inch of the poster – plus the few other extant pictures of the cabinet. I can’t think of a single woodworking object that has the same emotional power.

So when Don Williams told me he had an appointment to see the Studley tool cabinet, I was curious. And when he said he had a green light to write a book on the cabinet and workbench, I was ready to do whatever it took to make this book happen.

And that devotion was a good thing. This project has demanded more than four years of hard work by a dozen people all over North America, from photographers to researchers to fact-checkers. But most of the difficult work fell on Don’s shoulders. We all know the cabinet. But what do we know about the guy who made it?

The answer to that question has long been shrouded in mystery and misinformation. But thanks to Don, his researchers and Narayan Nayar’s spectacular photographs, we can now draw back the curtain a bit on the man, Henry O. Studley of Quincy, Mass.

I think you will find the following story as mesmerizing as the cabinet itself.

— Christopher Schwarz

TO THE THREE MEN WHO MADE THIS POSSIBLE:

Henry O. Studley

*Whose Artistry and Genius is Evident in Every Square Inch*

Peter Hardwick

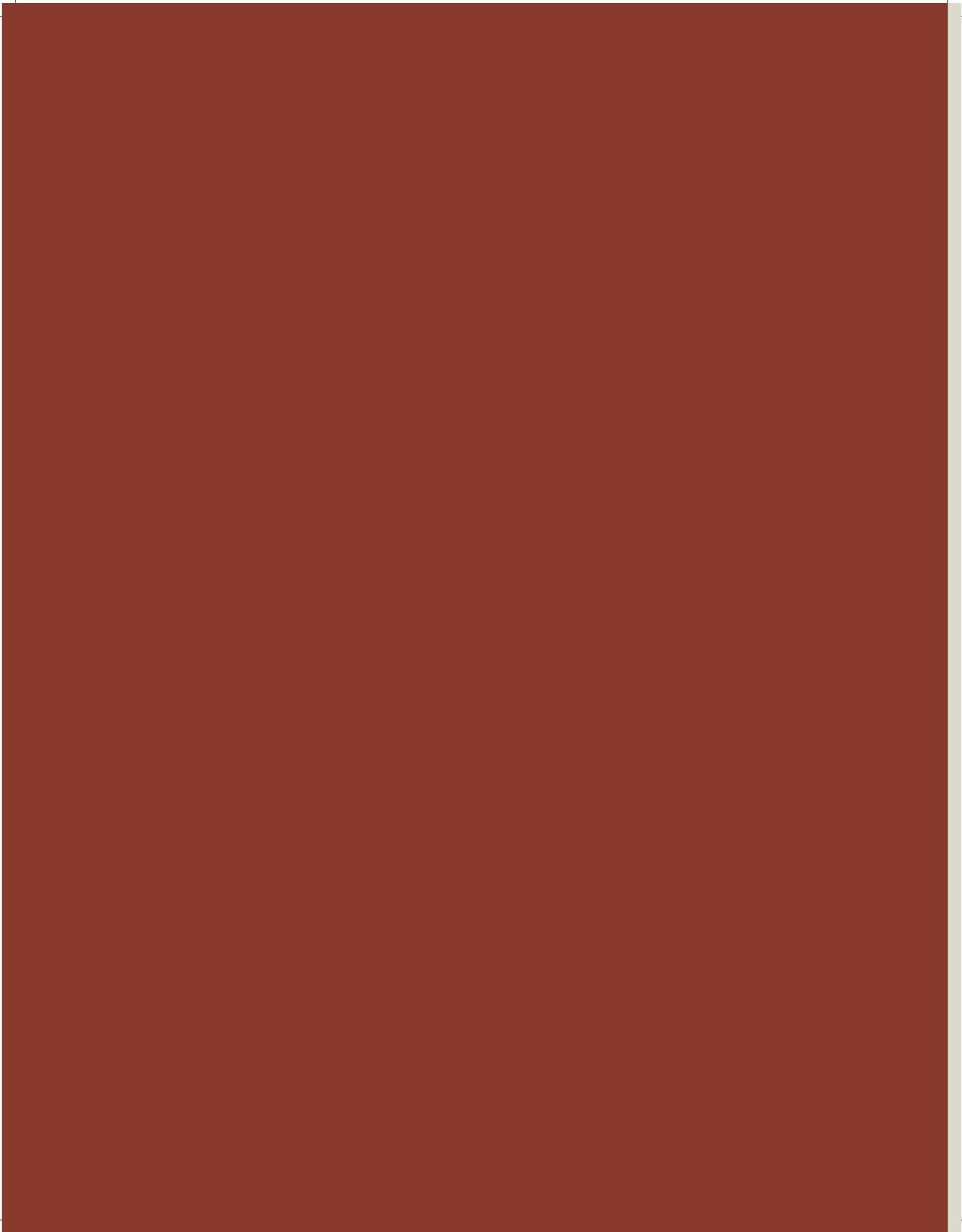
*Whose Commitment to Preserving this Iconic Family Heirloom*

*Kept it Intact and Untouched*

Mister Stewart

*Who is the Exact Right Caretaker for this Treasure*





### **The Tool Inventory Lacunae**

The tool cabinet of Henry Studley is a paragon of spatial efficiency and, if used by someone with narrow hands and slender fingers, it would serve admirably for a range of tasks like those he was practicing while at Poole. Still, there is a perplexing mix of tools from another likely set of activities; the larger hand-planes come to mind, combined with an absence of a large number of tools one might expect in a full-service woodworking tool set.

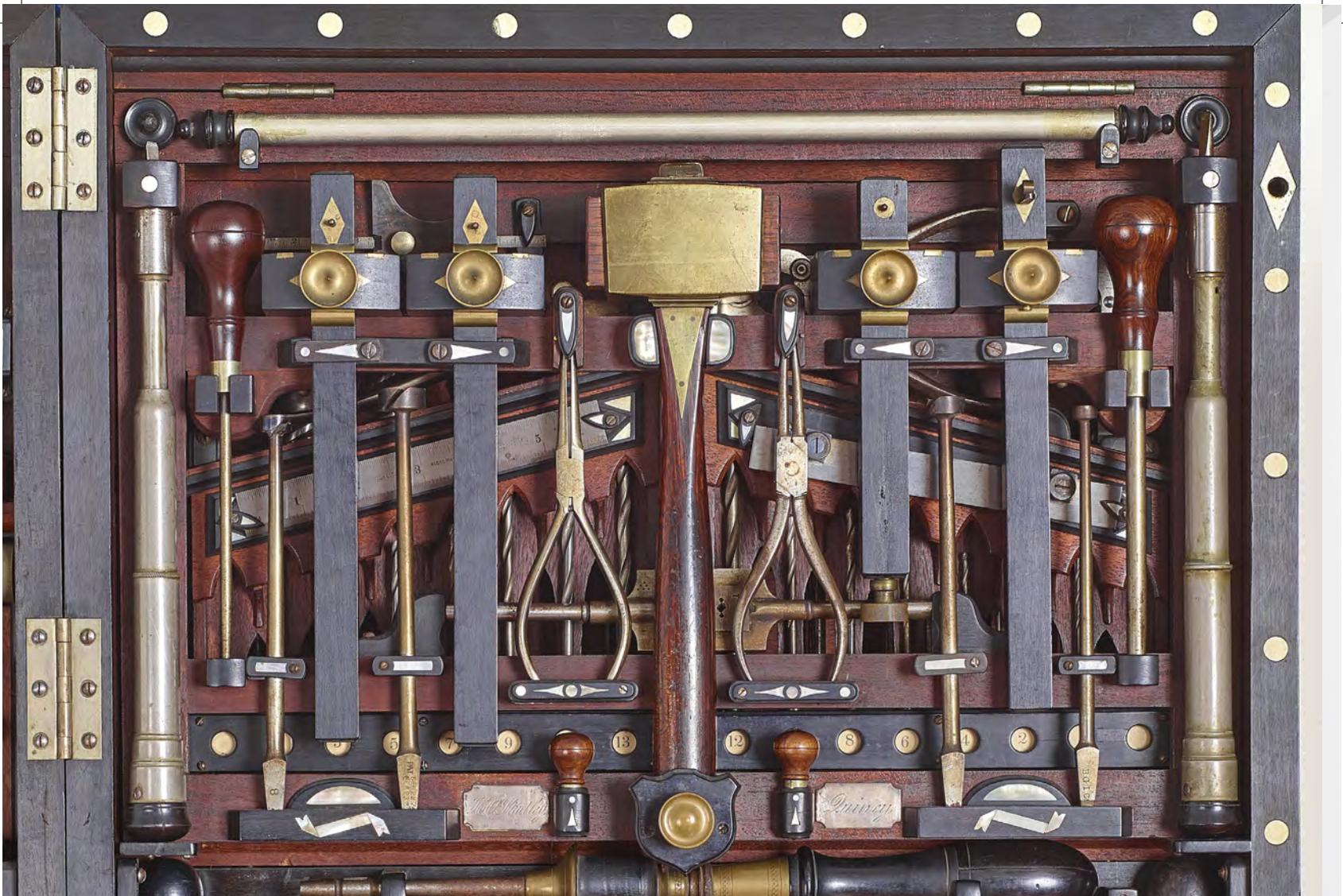
Here is a list of some of the tools that are not in the set (admittedly many would simply not fit unless the cabinet was dramatically larger, and might have resided in the workbench base or elsewhere):

- A panel saw or similar saw used to dimension stock
- Bow saw
- Coping/fretwork saw
- Carving chisels
- Glue pot
- Rasps and files
- Card/duckbill scrapers
- Tenon saw
- Nail set
- 2' rule or tape measure. (Something to measure distances more than 12")
- Marking knife
- Joinery planes (fillister, plough, router, shoulder, dado, etc.)
- Trammels
- Moulding planes
- Pad saw/keyhole saw
- Nippers (other than the compound wire cutters)
- Mortise chisels
- Veneering hammer
- Drill bow

I reiterate my thanks to Christopher Schwarz for serving as scribe as I dictated my observations while I handled, magnified, manipulated, measured and sometimes even guessed about the nature and purpose of the tools. Many of the conclusions reached were truly collaborative among the three of us as we imbibed the heady atmosphere of unfettered access.

### **Organizing it All: The Niches, Racks and Drawers**

Were I contemplating the task of laying out and designing a tool cabinet like Studley's, here would be my approach: I would break it down into subordinate spaces, then I'd create each of those spaces to be efficient yet as expressive as possible. The way Studley organized the tools was primarily spatial more than functional. In other words, I think he placed together tools that were used together only when the spatial arrangement suited them; otherwise it is clear that organizing the visual three-dimensional composition was more important than placing tools in any particular location to facilitate the work.

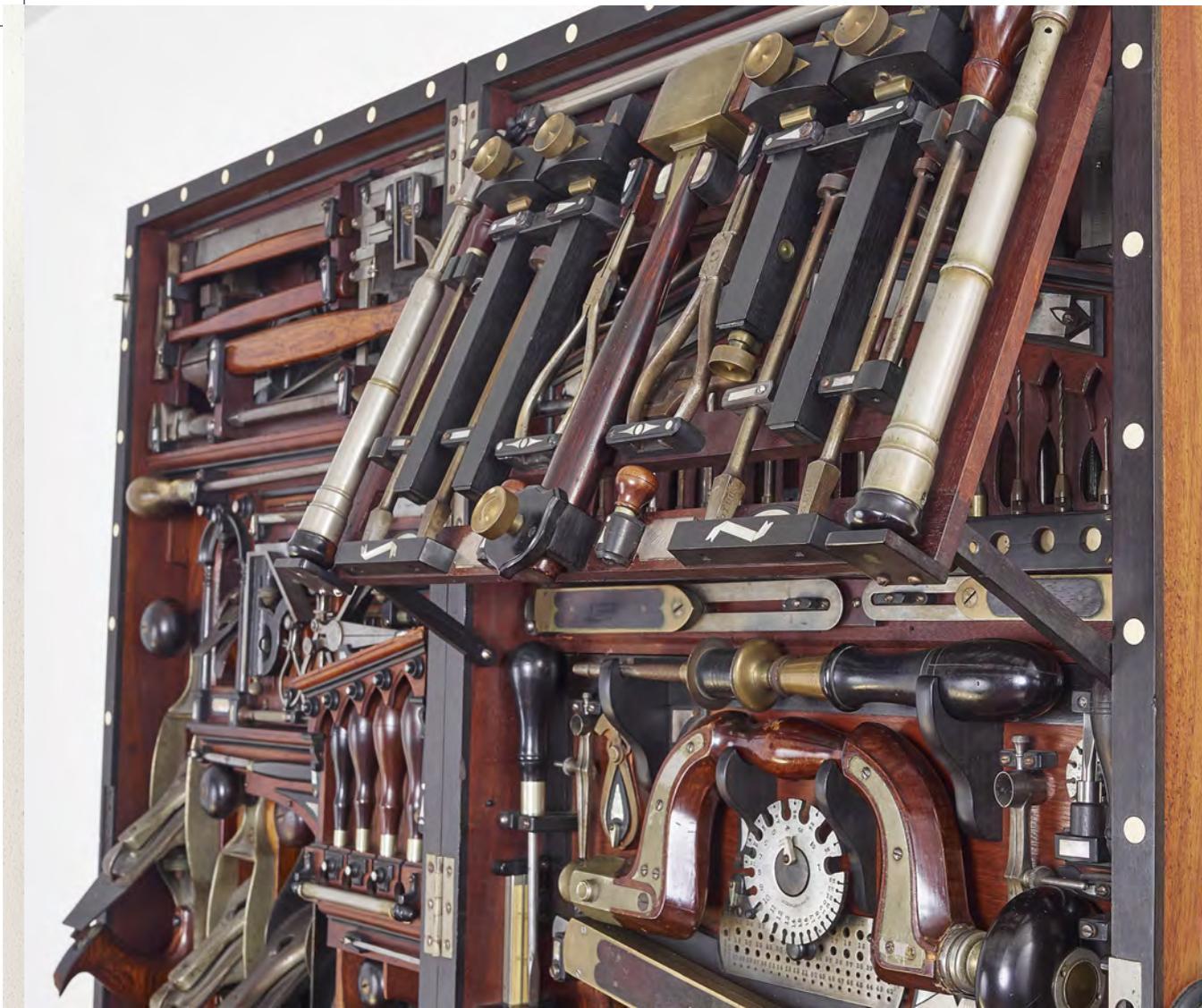


Working our way around the open cabinet in a roughly clockwise manner beginning at top-center, we find these compositions.

#### Top Right

At the top right of the open cabinet is a complex arrangement of three distinct layers of tool storage. The outermost of these layers is the open frame panel holding the sublime brass and beech mallet front and center. The mallet is flanked symmetrically by two pairs of needlenose pliers, four ebony-and-brass marking gauges, four long-shaft spur-point drill bits, two rosewood-handled screwdriver-styled tools (one is a honing rod, the other is an unidentified tool), and two pump screwdrivers. Along the top of the panel is a nickel-plated brass tube with turned ebony stopper knobs, and below the needlenose pliers are two tiny straight-tip screwdrivers.

This outer panel is hinged at the top with a pair of nickel-plated brass hinges. When open, the panel is supported by two ebony, mother-of-pearl and brass supports, but these are a curiosity. Yes, they prop the panel open, but not in a way as to make the spaces underneath accessible.

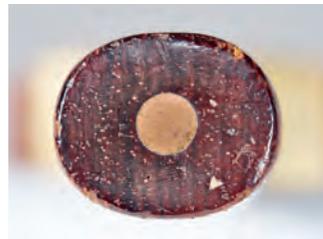


In order to gain access to the underlying tool storage, this outer panel must be raised to nearly horizontal, then rested on the fully open intermediate swinging panels behind. The fit is not precise, and it seems entirely inadequate for supporting such a loaded panel. This inelegant “solution” does not ring true to the overall character of the cabinet, and I wonder if another resolution was in the works.



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#### INFILL MALLET

**Dimensions:** The mallet's overall length is 11" with a weight of 17 ounces. The distance of the handle to the coved shoulder is 8-3/4", and the head overall with coved details is 2" on the tool's long axis. The length of the shell at the bottom of the head is 2-7/16"; at top it is 2-5/8". The head width at the bottom and top outer dimension is 1-3/8", the inside dimension at the same points is 1-7/32", and the infill block is 3-1/16" long from end to end. The major cross-section axis of the handle is 15/16" and the minor axis is 3/4".

**Notes:** Studley-made or modified. The mallet has a rosewood handle with a brass triangle inset on either face where the handle meets the head, plus a brass button on the end of the handle. The head is a sand-cast shell with a beech infill. The shell has the same coved edge detail as the ends of the marking gauges; the face ends of the head shell are slightly declined toward the handle – about a 1/16" taper – and the head is slightly bombé on both axes. At the entry and exit points for handle the head has a cove detail as a shoulder fillet, and there is a nail and wedge arrangement at the top that protrudes 1/4" from the head.

• • •



#### SET OF TAPERED-TANG FORSTNER BITS

**Dimensions:** Bit sizes are 3/8", 1/2", 5/8" and 3/4"; lengths are 6-3/4" to 7-1/8".

**Notes:** The tang on the 3/8" bit is marked with the No. 6; on the opposing side it is marked B.G.I. Co. The shaft is tapered. The tang on the 1/2" bit is marked "No. 8" and "B.G.I. Co.," and has remnants of bluing. The 5/8" bit is marked "No. 10" and "B.G.I. Co." on the tang. The 3/4" bit is marked "No. 12" and "B.G.I. Co." on the tang.

The bits are all double-lip cutters, and all the tangs are notched.

### EBONY MARKING GAUGES

*Dimensions & Notes:* All are Studley-made or modified. The mortise gauge is made from ebony and inlaid brass with the screw mechanism at one end. There are no marks, but the knobs are similar to many knobs in the cabinet. There is an inlaid brass diamond on the head, a coved detail on both ends of the stem, no slop in the mechanism and a brass button inlay at the end.

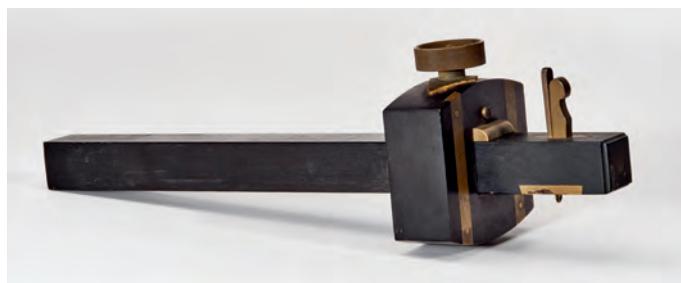
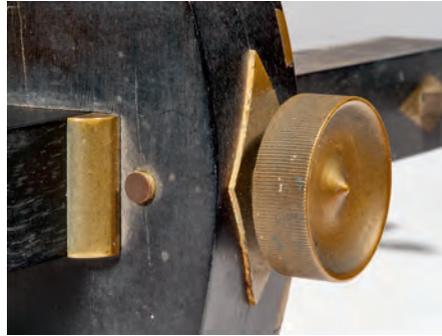
The beam is  $7\text{-}1/16$ " long x  $11/16$ " x  $11/16$ ", and the head is  $15/16$ " x  $2\text{-}3/16$ " x  $2\text{-}1/8$ " ( $2\text{-}5/8$ " with the knob).

The slitting or cutting gauge has a sliding dovetail wear plate for the knife, which is rounded with its bevel toward the head. There is an inlaid brass diamond inlay at the entry point for the knife. There is a coved detail on the ends of the beam and a brass button inlay at the end. The head is a little loose.

The beam is 9" long x  $11/16$ " x  $11/16$ ", the head is  $7/8$ " x  $2\text{-}3/16$ " wide x  $2\text{-}1/16$ " high (the overall height of the head is  $2\text{-}9/16$ "). The width of the slitting knife is  $5/32$ ".

There are two pin gauges sharpened with a knife point on the pin. The gauges have a sliding dovetail wear plate for the knife and a diamond brass inlay where the pin enters the beam. They have the same coved detail on the ends of the beam, and brass button inlays at the ends. The blades are user-made and the heads are tight.

Each beam measures  $9\text{-}1/8$ " x  $11/16$ " x  $11/16$ ", with heads that are  $7/8$ " x  $2\text{-}3/16$ " wide x  $2\text{-}1/8$ " thick (total height  $2\text{-}5/8$ ").



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#### TWO PAIRS OF JEWELER'S PLIERS

*Dimensions:* Overall length is 6", widest point is 1-7/8", thickness is 5/16". Length of jaws is 1-11/16". For the second pliers, the overall length is 5-11/16", handle width at relaxed is 2-1/2", thickness is 1/4", jaw length 2-1/16".

*Notes:* The bending pliers are marked "I&L" on the inside of the handles; the contact points are scored diagonally.

The spring-loaded needle-nose pliers have smooth faces on the jaws and a spring at the back end of the mechanism. There are no maker's marks.

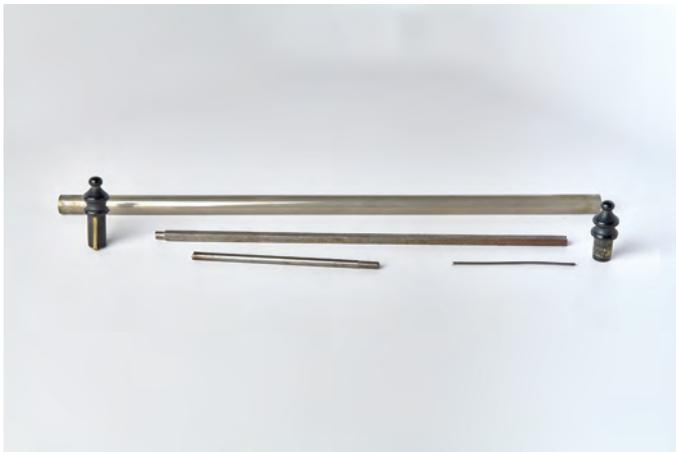
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#### TUBE OF UNKNOWN FUNCTION

*Dimensions:* The overall length is 15-3/4", of which 14" is a hollow tube, with a diameter of 3/8". The tubing wall is approximately 1/32" thick.

*Notes:* Studley-made or modified. The metal tube is almost certainly nickel-plated brass with two turned ebony finials/caps of 3/8" x 7/8". One cap is loose with glue residue evident; the other cap has a spring clip that stands proud about 1/16" and fits in a groove in the cap. The caps look identical to other turnings within the cabinet.



Inside the tube are three tools of unknown function: One is a steel rod that is 5/16" square. At one end is a rounded tenon that is 1/4" long x 5/16" in diameter, hand-fashioned and irregular. The overall length is 10-3/16". The second tool is steel rod stock, 3/8" in diameter x 4-1/2" long. One end shows hacksaw marks. The other end has 1/2" of threading, which is exceedingly fine, about 40 tpi. The third tool is a piece of steel wire, 1/16" in diameter x 2-5/8" long. It is crudely snipped at one end and partially sawn.

## SCREWDRIVERS

*Dimensions & Notes:* Studley-made or modified. Screwdriver No. 1: a  $3/16$ "-wide screwdriver tip with a shaft length of  $7/16$ ". The ferrule is  $3/16$ " x  $5/16$ ", handle length is  $13/16$ " and the handle diameter is  $11/16$ ". The handle is rosewood with a typical incised single line at the most bulbous point and a bead at the ferrule.

Screwdriver No. 2: A  $3/16$ "-wide screwdriver tip with a  $11/16$ "-long shaft and a  $1/4$ "-long ferrule x  $3/8$ " in diameter. The handle details are the same as the tool above.

Screwdriver No. 3: A  $1/4$ "-wide screwdriver tip with a shaft length of  $1-1/4$ ". The ferrule is plated steel,  $5/16$ " long x  $3/8$ " diameter. The handle is ebony,  $19/32$ " in diameter by  $11/16$ " in length. The tool is unpolished and unvarnished, with chamfering. This screwdriver does not match the other two in this grouping and is possibly a replacement.

### Pump Screwdriver No. 1

*Dimensions:* The overall length is  $11-3/4$ ". The blade is  $1/4$ " wide x  $1-3/8$ " long; the pad is  $1-1/16$ " in diameter x  $5/8$ " thick.

*Notes:* This is a ratcheting screwdriver, possibly nickel-plated. The butt pad is black, perhaps Gabon ebony. There is a hole in the pad for mounting the tool in the cabinet. There are no markings on the tool.

### Pump Screwdriver No. 2

*Dimensions:* The handle is  $6-9/16$ " long, the spiraling shaft is  $7/16$ " in diameter with an exposed length of  $2-7/32$ ". The chuck length is  $1-1/4$ " with a diameter of  $5/8$ ". The blade is  $1$ " long by  $1/4$ " wide. The end knob is  $9/16$ " x  $15/16$ " diameter.

*Notes:* This is a ratcheting screwdriver marked "Johnson and Tainter. National Mfg. Co. Boston Mass. pat Oct. 5, 1869 [unclear]." The tool terminates in an ebony knob that has an unusual and brilliant streak of sapwood. There is a pin hole at the center of the pad to match a retaining pin in the cabinet.



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#### TAP-AND-DIE HANDLE

Dimensions: Overall length is 8-1/4", width is 1-3/8" and the depth of the frame is 3/16" with the handle diameter of 5/16".

Notes: The handle currently holds dies Nos. 32-1 and 32-2. There are a series of six dots in a triangle, made perhaps with a punch; adjacent to where each die goes is marked "2D1," there are no other marks. It appears to be chrome-plated steel.

The intermediate layer of this section consists of a pair of swinging gate-like open panels, each holding a number of tools. These gates are hinged on the vertical outer margins and are equal in gross dimensions. In the center of the overall intermediate layer is a set of twist drill bits housed in a gallery of ascending Gothic arch niches that reach their crest in the center of the panel. Each drill bit is indicated with an inlaid ivory button. Above the drill bit set and following the incline of the ascending arches is a pair of 6" machinist rules. Beneath the drill bit set are two adjustable bevel gauges. Above the cornice-like shelf framing the machinist's rules are, on the left, a depth gauge and a pair of compression pliers. On the right are a pair of compound wire cutters and a 3" caliper.



### SPECIALIZED COMPRESSION PLIERS

*Dimensions:* The tool length is 7-1/2", the widest point of the handle is 1-7/8" and the thickness is 1/2"; the gap of the jaws is 3/8" and the jaw length is 1/2".

*Notes:* There are no maker's marks but plenty of making marks throughout.

• • •



### DEPTH GAUGE

*Dimensions:* The blade is 6" x 3/16", the overall dimension is 6" x 2" at the head x 7/16" thick.

*Notes:* The blade is held by a dovetailed locking nut. The block is marked "L.S. Starrett Co. Athol Mass. U.S.A. No. 237," the blade is marked "No. 46 the L.S.S. Co. Athol, Mass. U.S.A. Tempered No. 10." The block almost looks like it was blued at some point.

• • •



### ADJUSTABLE JAW CUT NIPPER

*Dimensions:* 5-1/2" overall; 5-1/4" long x 3-3/8" at handle x 11/16" thick

*Notes:* Spring-loaded nipper with replaceable cutter tips. Marked "L.S. Starrett Co., Athol, Mass. U.S.A. pat Nov. 14, 1899 No. 1."



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### THREE MARKING AND MEASURING TOOLS

*Dimensions & Notes:* The first is a 6" layout/scribing straightedge, 6" long x 1 1/16" wide with two attached side hooks, completely unmarked, likely a user-made tool.

The second is a No. 400 6" machinist's rule marked "L.S.S. Co. Athol, Mass., U.S.A. tempered No. 4"; it is marked at 64ths and 32nds on one face and 16ths and 8ths on the other; the 64ths scale edge is tapered.

The third is a No. 300 6" hook rule from Starrett. Marked "tempered No. 4," with 32nd and 64ths on one face and 8ths and 16ths on the other face.

### 3" LOCKING CALIPER

*Notes:* A No. 425 3" locking measuring caliper marked "L.S.S. Co. Athol, Mass., U.S.A." The locking nut is marked with an arrow. The gauge on the front side is in 32nds and on the back it is in 64ths. The overall dimension is 3" x 1-1/4".

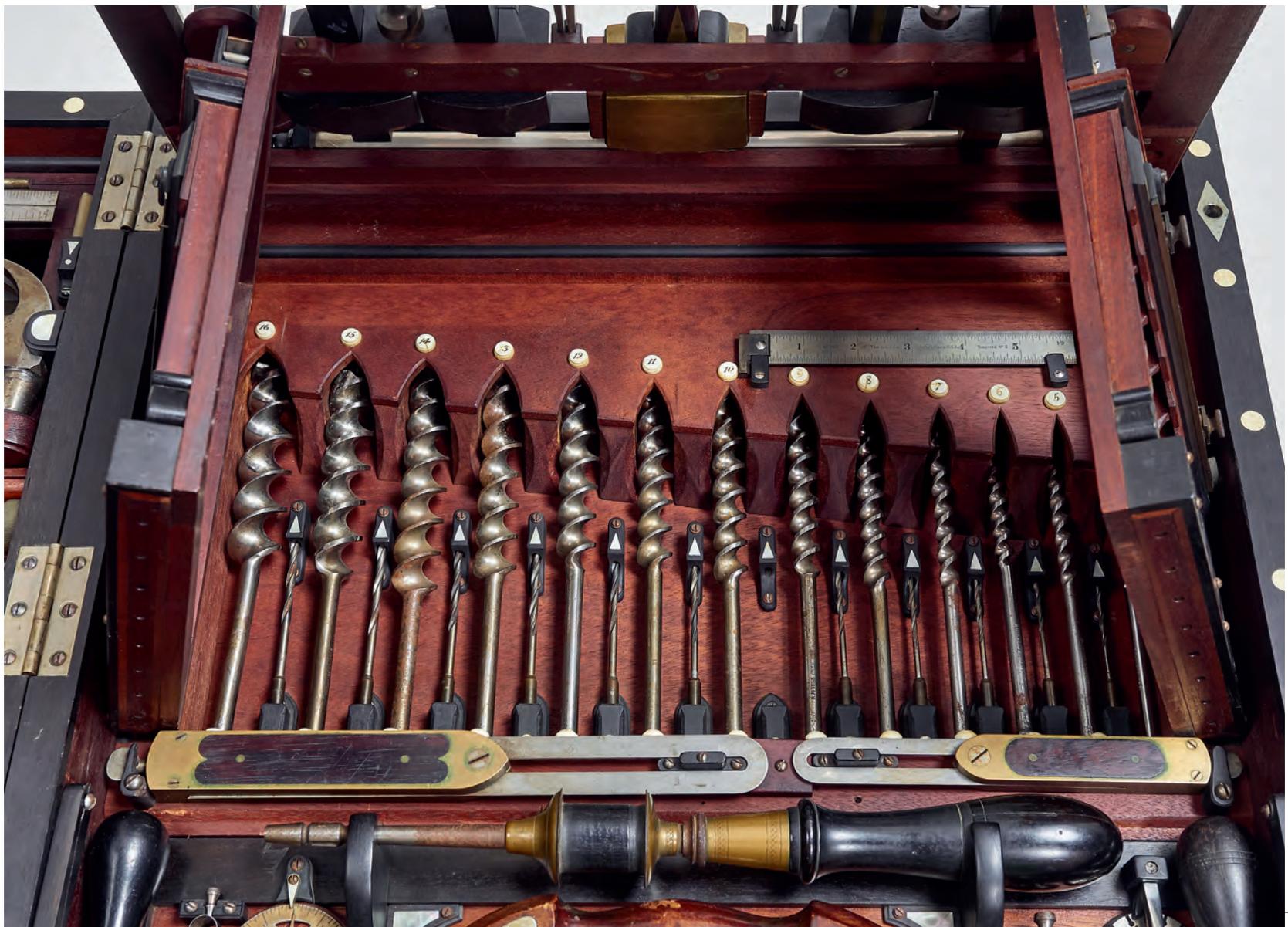
**SET OF 16 DRILL BITS**  
(with Pump Drill-style Shafts)

Dimensions: The drill bit set sizes range from 0.70" to .225" with lengths from 2-3/4" to 5-1/2".

Notes: .070" bit is unmarked; .080" bit is unmarked; .090" bit is unmarked; .100" bit is marked with Roman numeral III, a shield and unreadable markings; .100" bit is marked with a shield; .115" bit is marked with four hash marks and No. 32 at the base along with a shield mark; .125" bit is unmarked; .140" marked with VI and a shield that is visible but not legible; .150" bit has a shield mark, also marked with 24; .150" bit is marked with VI and a shield accompanied by "standard"; .165" drill bit does not fit the base; .175" bit is marked with either IX or XI with a clear shield



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and "Standard Tool Co."; .210" is bit unmarked; .220" bit is marked with XII and a shield that is mostly obscured; .225" bit is marked with a shield and "Standard Tool Co."

The rear layer for this section contains not one but two sets of drill bits; one is a spiral auger set and the other is twist bits. At the base of each auger is a domed ivory button, and above each auger is an inlaid ivory button with the bit size number inscribed on it. At the top right of the panel is a 6" hook scale.

• • •



#### SET OF 13 AUGERS

Dimensions: The diameters are 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16" and 1"; lengths from 7-3/4" to 9-1/2".

Notes: The tang of bit No 4. is marked "R. Jenn.", the shaft is marked ".ussel Jennings"; No. 5 shaft marked "Russell Jennin..."; No. 6 shaft marked "Russell Jennings"; on one bit the number on the shaft is unreadable (the diameter is 0.400" and was probably meant to be used as a 7/16" bit); the 1/2" bit is marked "Cast Steel" on the tang and marked "Russell Jennings" on the shaft; the 9/16" bit is marked "R. Je" on the tang and "Russell Jennings" on the shaft; the 5/8" bit is unmarked on the tang, with the shaft marked "Russell Jennings"; the 11/16" bit is marked on the tang "R. Jenn. Cast." with the shaft marked "Russell Jennings"; the 3/4" bit is unmarked on the tang with the shaft marked "Russell Jennings"; the 13/16" bit is marked on the tang with the number 13, while the shaft is marked "Russell Jennings"; the 7/8" bit is unmarked on the tang with "Russell Jennings" on shaft; the 15/16" bit is marked "R.J." on the tang and "Cast Russell Jennings" on shaft; the 1" bit is marked on tang with "Cas." and the shaft with "Russell Jennings."

