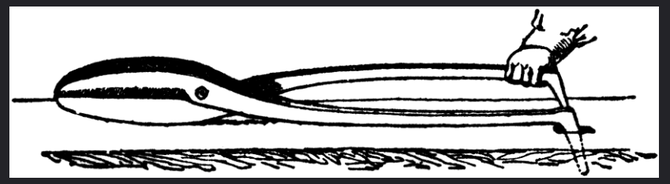
TINSMITH

A Magazine of the Historical Trade

Vol. I, Issue 1 • Spring 2020



Tinsmith magazine is published in support of the historical tinsmithing community by Dakota Tinworks, which is owned and operated by Karl J. Schmidt.

ON OUR COVER: Some hand tools belonging to master tinsmith William McMillen.

CONTENT PAGE: Dished stump in the tin shop at Fort William Historical Park, used to dome tinplate.

We are grateful to our current Patreon sponsors, **Ben Clarkson** and **John Donald Carlucci**, for helping support this publication.

If you'd like to support this and similar efforts in historical tinsmithing research and writing, please visit Dakota Tinwork's Patreon page at:

https://www.patreon.com/dakotatinworks

TINSMITH

A Magazine of the Historical Trade

SPRING 2020

FEATURE STORIES

1 ***A Fur Trade Tin Shop***

A visit to the tin shop at Fort William Historical Park in Ontario

by Karl J. Schmidt, Editor-in-Chief

Starts on page 3

2 ***Bill McMillen: Master Tinsmith***

An interview

by Annie Wickersty, Contributing Editor

Starts on page 7

3 ***Teaching Tinsmithing at Carlisle Indian School***

A photo-essay by Tasiyagnunpa Barondeau

Starts on page 17

DEPARTMENTS

First-Person Voice.....23

In Memoriam.....27

Investigating Collections.....29

Who's the Maker?.....34

Tinsmiths of the Past.....back cover

1 A Fur Trade Tin Shop

By Karl J. Schmidt, Editor-in-Chief

View of the interior of the Fort William tin shop.

In August 2018, as part of an article I was researching for the Early American Industries Association (EAIA), I visited Fort William Historical Park in Thunder Bay, Ontario. I visited again in August 2019.

A faithful reproduction of the original North West Company fur trade post, Fort William Historical Park was built in the 1970s, using historical records to design and construct all of the buildings, which include the artisan's shops. Among those is a combined tinsmith's and blacksmith's shop. In 1816, A dispute between Lord Selkirk of the Red River Colony and the North West Company, led Selkirk and a group of mercenaries to occupy Fort William. While Selkirk was there, he ordered a complete inventory to be undertaken.

This event was a happy result for historians, as those records have survived and, as a result, we have a complete picture of the contents of the various buildings at that time, including finished tinware and the contents of the tin shop.

In 1816, the contents of the Fort William tin shop included the following tools and supplies:

- 6 anvils by weight (10, 15, 25, 30, 40, and 60 lbs.)
- 2 crest irons
- 50 sheets tin, large size
- 136 sheets tin, small size
- 2 swedges
- 4 large soldering irons
- 2 large round-faced hammers
- 11 small hammers
- 1 pair large bench shears
- 1 middling bench shears
- 2 hand shears
- 1 small bench vise
- 2 pair tin compasses
- 46 lbs. iron wire
- 1 rivet iron
- 7 punches and chisels
- 1 soldering stool

Of note on this list is that the 'anvils' mentioned were the tinner's stakes; they were given valuation based on weight, which is apparently why the clerk taking the inventory didn't name them. Also listed separately in the 1816 inventory for Fort William is a large quantity of tinplate: 25 crates in total. A typical crate held 225 sheets, so this might have amounted to more than 5,600 sheets of tinplate. This quantity of tinplate suggests that Fort William was a significant production center for tin goods in the fur trade in the old northwest. Indeed, this is borne out in reviewing the fort's inventory of spring 1820, which includes 'Sundry items made up at Fort William', an in-house list of items made by the fort's tinsmiths: more than 60 tin kettles of various capacities, ranging from ½-gallon to 1 ½-gallon; 36 tin tea pots; nearly 100 tin pots of varying sizes; 60 tin tureens; and 118 oval tin dishes. In addition, the inventory includes 170 pairs of kettle ears, the riveted lugs to which the bail, or handle, of the kettle was attached to the kettle sides. A separate 1820 inventory of the Indian Shop, where direct trading with Indians took place, suggests that tin goods such as kettles, pots, boxes, measures, and dishes were all common trade items.

Although the tin shop at Fort William served the needs of the fur trade, the information we have about it provides valuable insight into what an early 19th century tin shop in a frontier area might have looked like and places it within our broader understanding of tinplate work at that time.

Today, the tin shop is interpreted for the year 1816. Having researched the tinsmiths who worked at Fort William (work contracts survive in the historical record for these tinsmiths), interpreters in historical dress discuss the shop and its role at the fur trade post in first person, but are more than willing to break into third person to answer any questions visitors may have about the shop or the tin goods produced. In addition to interpretation, the tinsmiths at Fort William is trained to produce tinware. They make items for use by the fort's staff as well as some items for sale in the park's gift shop. See the following two pages for additional photos of the tin shop at Fort William.

Please see page 6 for notes pertaining to this article.

For more information about Fort William Historical Park, visit their website.

Views of the Fort William tin shop. The wood stump in the photo in the upper middle is dished out for doming tin. In the exterior view at far left, the tin shop occupies the right side of the combined tin shop and blacksmith's shop.

Tinner's tools at Fort William, clockwise, from left to right: a beakhorn stake, mounted in a stump; a blowhorn stake, also mounted in a stump; some hand tools on the main work bench; the main work bench in the tin shop, showing a hatchet stake and square-pan swedge.

NOTES for ***A Fur Trade Tin Shop***

The full 1816 inventory of Fort William is available online at http://heritage.canadiana.ca/view/oocihm.lac_reel_c9/500?r=0&s=3

The 1820 inventory is available on microfilm from the Archives of Manitoba: North West Company Account Book, 1820, F.4/30 (Microfilm Reel 5M6), Hudson's Bay Company Archives, Manitoba Provincial Archives, Winnipeg, Canada.

About the Author

Karl J. Schmidt is a former history professor and now a full-time historical tinsmith. He is the owner of Dakota Tinworks, through which he makes and sells historical tinware and decorative tin items. Karl holds a PhD in history from Florida State University and lives with his family in Estelline, South Dakota.

2 | *As Far As I'm Concerned, History is First*

A Q & A with Master Tinsmith William McMillen

By Annie Wickersty, Contributing Editor

Bill McMillen is well-known not only as a master craftsman passionate about historical accuracy, but also as a talented and patient teacher. Now retired from an illustrious career in restoration at Historic Richmond Town on Staten Island, NY, Bill devotes his time to researching, perfecting early techniques, and spreading the knowledge and joy of the trade with others. He has taught historic tinsmithing at Eastfield Village in East Nassau, NY for 40 years.

W: How did you get involved in tinsmithing?

M: Basically it all started with [Don] Carpentier[1] at Eastfield[2] with tinsmithing. I started going there in 1975, because that's when I met him, doing Revolutionary War reenacting. He was in the 13th Albany militia with a bunch of other guys around this area. I met him at an event we had at Glenn's Falls, New York. And right after that, of course, he invited me to come up to his place and we came up there in '75. I think it was October or November. It might have been Guy Fawkes weekend or something like that.

That's when I first met him. It was sometime next spring I was back up there and then he was having a tour with some local group, probably a historical society or something. They were coming to look at buildings and things and he had a lot of Albany county militia guys in the buildings. So he says to me "Go in the tin shop." And I don't know anything about the tin shop. And he showed me. He showed me how to make a sconce. One of these tall sconces with the fleur-de-lis tops that we make (*see photo on page 8*). And he showed me how to do that --- what to do, how to cut it out, solder this and that and so forth. So I was in there that day and I made a pair of these things!

W: Was that the first tin item that you made?

M: Yeah. I still have them downstairs. And they are … the only thing I did wrong with them is I swaged --- the swaging is backwards. So it faces the back instead of the front. But otherwise, they're regular sconces. And that got me hooked. So for the rest of '76, I started collecting tools. He had sold me a few and I think during that summer we were down in Cape May, Judy[3] and I, and there was an antique shop down there and I ran into a whole bunch of machines. And I bought them all for like, I think it was fifteen bucks or something like that (*see photo on next page*).

Bill in his garage tin shop. *Unless otherwise noted, all photos by the author.*

W: Do you still have any of them?

M: Yeah. Oh, yeah, I've still got them. I still use them! I got started getting tools and making things.

W: Had you had any experience with metalwork before that?

M: Well, only a little. I might've played with blacksmithing. I knew Al[4] for years and did stuff with him once in a while, but he was doing the ironwork and I'm doing the woodwork. Remember, Al worked at Richmond Town[5] for a while, early on, and then decided to go on his own. But yeah, I really hadn't done any metalwork other than doing nail-heading and stuff like that every once in a while.

Continued on page 9....

Right: Fleur-de-lis sconces, Bill's first tinsmithing project at Historic Eastfield Village in 1976.
Above: Bill demonstrating one of the first tinner's machines he purchased, a burring machine.

Bill sharing some of his expert tinsmithing skills at the Sauder Village Convergence.

I kept that up and I worked in the basement in the shop, in my basement shop for a while. Then finally we had the Colon Store.[6] I had that as a military goods store. And we were selling a lot of the stuff we got from Bannerman's Island[7] and other things.

Then I moved the shop up there and built it --- that bench that is still there that you're still using. That bench, by the way, that base of the whole bench came out of my father's barn that was behind our house on Richmond Road where I grew up. That was a workbench that was up in the top of the barn. I put that nice oak top on it. I bought that oak top over in Jersey and brought that back. So, I made that bench and put that up there and moved up there in … it might have been '78. That's when I finally moved it up in there. And of course, at that time Ben Clarkson[8] taught the first tin course at Eastfield in, I think it was in '77. That was the class … I think that was the class where they … or was it the next class? I don't know. But they created swords and shields and went out in the field and had a battle!

W: So wait –– did you go to a class with Ben Clarkson?

M: No, I didn't. What I did is, the second year --- I couldn't go to that first one --- the second year, which was '78, I think, I went up, and at that time I made that crooked spout coffee pot that I have the one that's painted that's downstairs (*see photo at right*). And I brought that up there and showed that to him, and his words were, he says, "You don't need a course." And that coffee pot, remember, I scaled that thing off of the drawing, the pictures in, I guess the two books, Margaret Coffin[9] and the DeVoe[10] book.

Bill's crooked spout coffee pot, painted in traditional early 19th century style.

W: Had you seen one in real life?

M: No. That's the pattern that I got and used. So that's … I mean, I taught myself this stuff, working in the basement and then up in the shop there. Once I was in the shop, I could go up there at night after work and make stuff, which I did. All the time I used to go up there. In the winter I got the stove going in there and stuff. In the winter when I was going home, I would go from work as I'm walking by there and go in there and start the stove up, and then I could get down to the house and have dinner and all that sort of stuff and then go back up there --- and it was warm!

W: Can you talk about the process of figuring this stuff out? From acquiring tools and machines and looking at original items and photos of original items --- how did you figure out how it all worked?

M: Well, number one, one of the good things about working in the museum where I worked all my career is that you didn't always have this deadline that you had to do something *tomorrow*. And you could always figure it out. How did I learn all the woodworking stuff that I did? How to broadaxe timbers? The whole idea was looking at a piece of timber --- which there was plenty of it in the buildings --- that had been hewed out at some time, 1700 or whatever it was, and studying how those marks were made. And if you had an axe that made this mark, how do you hold that axe in order to make that mark?

W: So you're saying it's the same type of thing with the tools and machines?

M: Same type of thing. The thing is that you're looking at this stuff and you're saying, "How did they do that? And use that tool to do it?" And so forth. And you figure it out! One of the other things is understanding that tin only came in these two sizes you had, and everything was based on that. And so, if you always follow that rule, whatever you're working on, you're working from this size a piece of tin, and your patterns have to fit within it and you don't want to waste something.

W: Can you think of any particularly thrilling discovery that you've made along those lines? Something that you figured out that kind of changed the way you were thinking?

M: Well, thinking about some research that we did recently … Joel[11] and I went up to Fort Ticonderoga, and we were measuring all the tin that was there. Since Matt Keagle is the curator there they've been reprocessing all this stuff, pulling it out, because it's just been piles and piles of stuff that nobody's looked at since it was dug up in 1909 when they built the fort. And there's a lot of tin! Lots of it. And *a lot* of kettle parts. And the one thing that came to me after a while when we were measuring these parts for the kettles --- the heights and the widths and so forth --- was that no two kettles were the same!

Bill in the old tin shop at Historic Eastfield Village, New York

And so the one thing that you say is that, well, practically every kettle was a little bit different --- but *why is that?* Well, when you get back to Angerstein's journal,[12] remember, when he's talking about tinplate, he's listing different sizes from different places. And the thing is that what it boils down to is that in the 18th century and probably even up till the early 19th century, when they were rolling this stuff out, every piece can't be the same.

W: Didn't they trim it to box it?

M: And when they're trimming it --- now, you've seen Diderot's prints of the factory, right? [*see image at right*]

W: Yeah.

M: The women are sorting. What are they sorting? Well, they're sorting to size.

W: So if it's approximately this, it will go in that box …

M: Yes --- this box.

W: And approximately that, it will go in that box …

M: Yeah. So what's happening here is that that's why we get no two pieces that were the same! So there was probably a box full of them that were this size or close to it, but that could vary a half inch one way or the other. And that's why. That's why nothing seems to fall in place. It's not *exact* like we can make them today.

Another thing that really got me thinking was the Wallace, Davidson, and Johnson order books.[13] I mean you've got to go through them, but there are tinware orders and these are from Annapolis 1771. Now they're ordering this stuff, but now, what is this fellow ordering *from*? Does he have a catalog? How does he know what he's ordering?

W: That is an interesting point. It does seem like an awfully specific list.

M: When I took those terms that are in there and looked them up in my English catalog from 1847, they're the same terms. Nothing's changed. Porringer, pot. See, what's a pot? Quart pot, pint pot. What's a pot? A mug! That's all it is. They're shown in the catalogs.

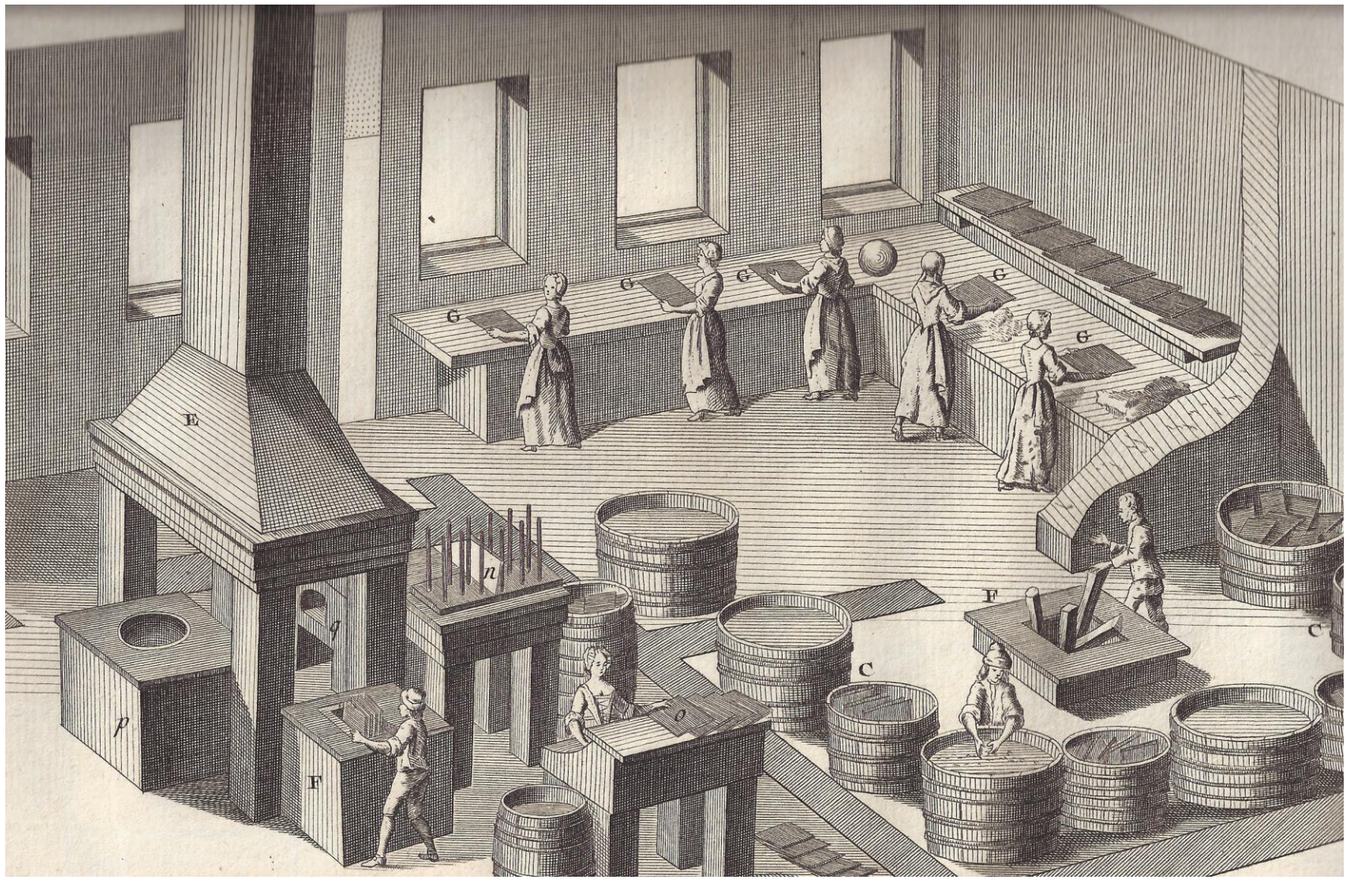


Illustration from Denis Diderot's *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers* (1751-1772), showing the processing of tin plates. *Image courtesy Karl J. Schmidt*

W: So you're wondering if they were looking at some kind of catalog from a tinsmithing business in the 18th century when they were writing these orders?

M: Yes, because the 1847 catalog[14] has got the same thing. OK, so when you're looking at hardware and tools and so forth, there's that catalog which the EAIA[15] republished.[16] Now this is a pattern book of tools and household stuff. And this of course goes back into the 18th century. Carpenter's chests, all this stuff, all these tools, right? I think it's by the 1790s and such when they were started with these. And maybe even earlier. *But was there something for tin like this?* And what does it look like? Does it look like the19th century British catalog with the pictures? So, that's always been a wonder. These are things that I always wondered about and I keep wondering about.

Bill working on a coffee pot at the Colonial Williamsburg tin shop. *Photo courtesy Fred Blystone*.

W: What was it like helping set up the tinsmith shop at Williamsburg? How did you get involved in that?

M: Well, number one, I knew Jay Gaynor[17] who was head of trades at Williamsburg. I had known him for years. He was an EAIA member and so forth. I also knew the blacksmiths and, other people there. And then when they started it was Ken Schwarz[18] who had discovered about the tin shop. He was doing a lot of research and I think it's the DAR museum that has one of the Anderson blacksmith shop journals, or their daybooks. And in that they talk about all this tin they were doing! It was during the Revolutionary War. And so he's the one that really got the thing going and then they started doing more research, and they knew there was a shop there. And where was it?

There was this one mention, and I think it was an 1811 deed or sale of Mary Stith's house, which is a little house in the front, and it said "and including the former tin shop." And so that's when they started digging. Then they found pieces of tin and other stuff, and so the building that was on it, which was a little shop-type thing that they had built back in the '30s or '40s or something that the blacksmiths used as their break room --- they ripped that down and then did more digging and then built a new foundation and designed a new building. And by that time Jay started talking to me about the design. When they sent the design up to me, I went over it and tried to make some changes, which I did make some changes to it, windows and other things, which they adapted.

So then they were building and talking about this, and about the same time Erik,[19] who was curator at the time and Ken, who was the master blacksmith, had discovered this stuff, they came up and took a tin course at Eastfield. And that's when I donated all those early tools to them --- there's pictures of them online and all that.

Of course, a lot of those tools were copied. The blacksmiths started copying them for the shop and anything else that they were doing they would forward me stuff, and then when they built the shop I was there for that. When they finished it, in fact, I drove one of the pins in the frame while they were raising it. I have a piece of it.

And then when they were getting to open it and they had made the bench --- the big bench in there they copied from the one at Eastfield. A lot of the benches were sort of copied from that. In fact, the day before it was opening, the carpenters were still working on some of the stuff and I was having them put more holes in the bench for the stakes. So when they opened it up, Erik and I actually were the first persons that worked in there on the opening day. And then Steve[20] was coming at that point. They were going to hire him.

They improved everything down there. They're constantly improving it. Steve keeps working on it. The place looks real good. That's the great thing about Williamsburg. They're doing this every day, so they're constantly improving on it. Making it better. What am I doing? I'm only thinking about it now!

W: That's not true! You're still making stuff all the time.

M: Well, I'm not going out there and making stuff right now, 'cause it's cold in the shop!

Top: Reproduction Fort Plain artillery tube primer box. **Bottom:** Reproduction round tea pot.

W: What's one of your favorite accomplishments as far as things that you've made?

M: Well, I can say it was the primer box, from Fort Plain. That was sort of a fluke.

W: We're looking at a picture of an artifact. Excavated artillery tube primer box, Fort Plain, NY, circa 1780-1796.

M: Pretty wrecked, isn't it? Well, from this wreck, I was able to figure out exactly what it looked like. See, I made these notes when I was drawing all this stuff, and this is all by hand. These are for cannons. This is the only one of these known.

What got me was that when it was dug up in the '70s, the guy that dug it up would do a drawing and stuff and it was all wrong. It was all wrong. And people were using that in Rev War reenacting, making these boxes which were not right.

W: So you were inspired to right a wrong.

M: Yeah, so I put this thing together and I gave the fort a copy. When I first made it I only put one hinge on the back. Only one, in the middle. I had given them a copy and it was in the case and they put it with the original piece. Then I got back there one day and I'm looking at the original and I'm studying it and I'm studying it and I noticed that where the hinge was soldered on the back of the box --- all of a sudden I noticed that the corner of the box was right next to the surviving hinge!

W: Ah! So it has to be two!

M: I says, "Holy ----, what did I do?" So that's when I went back and revised it. It's a cool little project (see photo at top left).

W: Is that the most fun part about this for you, recreating something exactly?

M: Yeah. Oh, yeah. It certainly is. It's just satisfying doing it, and again, I don't … my biggest problem is I don't write enough about it. I hate writing. So I don't really do it, but I can document this stuff and my notes are all here. It's fun doing it and then doing a presentation on it.

W: Do you have a favorite item to make? Not necessarily the most impressive thing that you've made, but something that's fun to make?

M: Well, it's not impressive, but I like making that teapot that I make, the round one (see photo at bottom left).

W: Why is that one of your favorite things to make?

M: Well, because in some ways, I created it. I developed that basically from the question: "What was an 18th century teapot looking like?" Well, we know that most teapots tended to mimic the china ones? And/or silver types and so forth. So what I did is I based the size of it on the Chinese export teapot that is commonly found. Canton ones and other ones --- there's all different types. So that's what I based the size of it on. And of course in the pattern it's a half sheet in height and then you've got to piece the back to get the right diameter and so forth. So again, it's based on the sheet. But it's something I developed. It's not copied from an exact tin piece.

W: It's more like extrapolated from various kinds of evidence.

M: Yes. The handle is shaped like the Chinese export one. I worked a long time to try and see if I could somehow make the tin work and cross over like the export ones do. Couldn't make the tin do that, so …

W: That sounds kind of like torture.

M: Yes. So, that was that.

W: What do you hope to see in the future of historical tinsmithing?

M: Well, doing it right in interpretation at historic sites is where it really should be. The trouble is, a lot of places don't have a full time tinsmith to be able to do that --- not like Williamsburg. I'd like to see other shops build up. But you have to be straight about it --- are you interpreting a specific period or are you just dumping a whole bunch of tools together? A good thing about Sturbridge and Williamsburg is that they're time-specific. And that's the thing that in teaching you really have to be straight about. I mean, you've heard me say that --- 2 and 2 is 4. It ain't 6! It ain't 5! If you're going to teach something, teach it correctly. Jumble it all together and what are you teaching? You're teaching a trade at *some* time, *some* place, *somewhere* …

W: That's definitely a trend at a lot of historic sites.

M: Oh yeah, I know. To me, not putting enough effort into it is what that's about.

W: Why is it important that people keep studying this and learning how to do it?

M: Why? Well, you've got to ask the various people. A lot of people come to take the course because they are retired and looking for something else to do. Some are reenactors wanting to make stuff for people, and occasionally somebody just wants to pass the time.

W: So you're not going to get philosophical with me about this.

M: I mean, it's certainly important in that the trade doesn't, doesn't die and the tools just become ornaments on a wall. But I don't think that's going to happen. There's always somebody going to do it. And there are people teaching it out there. I mean, to actually *learn* the trade and get yourself immersed in it, you've got to go to Eastfield. As far as I'm concerned, history is first in what you're doing ---- that you understand the trade as it was done, and the tools that were used in doing it. And then you can evolve into what you want.

We are indebted to Bill and Judy McMillen for their gracious hospitality during this interview, assistance with documentation, and of course, coffee.

Notes:

1. Don Carpentier (1951-2014), self-taught craftsman and founder of Eastfield Village.
2. Restoration and immersive historic trade school Eastfield Village, East Nassau, NY, now administered by the Historic Eastfield Foundation.
3. Judy McMillen, former Director of Education at Historic Richmond Town, Billy's wife.
4. Albert Eriksson (1939-2019), Staten Island master blacksmith and lifelong friend of Billy's.
5. Historic Richmond Town, a restoration and living history museum, Staten Island, NY. Billy was the Supervisor of Restoration at Historic Richmond Town for 40 years, bringing buildings from the Island's past back to their former glory with an intense focus on historical accuracy.
6. The Colon Store, a c.1845 commercial building at Historic Richmond Town. It was built originally as a general store and then served a variety of pragmatic purposes before being moved to Richmond Town and restored as, first, a military goods store, and second, as a mid-19th century tinsmith shop.
7. Bannerman's Castle on Pollepel Island on the Hudson River near Newburgh, NY was the site of a now-abandoned military surplus warehouse.
8. Ben Clarkson practiced historical tinsmithing for 50 years, and now repairs tinware and tinsmithing tools at his shop near Boston, MA.
9. Coffin, Margaret. *The History & Folklore of American Country Tinware, 1700-1900*. New York: Galahad Books, 1974.
10. DeVoe, Shirley Spaulding. *The Tinsmiths of Connecticut*. Middletown, CT: Wesleyan, 1968.
11. Joel Anderson, tinsmith at Colonial Williamsburg.
12. Angerstein, R. (2001). *R.R. Angerstein's illustrated travel diary, 1753-1755*. London: Science Museum.
13. Wallace, Davidson, and Johnson were an import/export firm in late 18th century Annapolis, Maryland. Their order books are in the Maryland State Archives and contain very specific lists of tinware items both from customer orders and from their own orders to stock their store.
14. See *A Catalogue of Tin and Japanned Ware, Manufactured by Tozer & Son, Wholesale Tinplate Workers*, London, 1847.
15. Early American Industry Association.
16. Rees, J. and Hall, E. (2006). *A pattern book of tools and household goods*. South Dartmouth, Mass.: Early American Industries Association. A catalog with highly detailed engravings of the objects for sale.
17. Jay Gaynor (1950-2014), late Director of Historic Trades at Colonial Williamsburg.
18. Ken Schwarz, master blacksmith at Colonial Williamsburg.
19. Erik Goldstein, Senior Curator of Mechanical Arts and Numismatics at Colonial Williamsburg.
20. Steve DeLisle, journeyman tinsmith at Colonial Williamsburg.

Bill (upper left corner) talking with a student during the week-long workshop, Tin I, which he's been teaching at Historic Eastfield Village in New York for 40 years.

3 | The Carlisle Indian School Tin Shop

By Tasiyagnunpa Barondeau

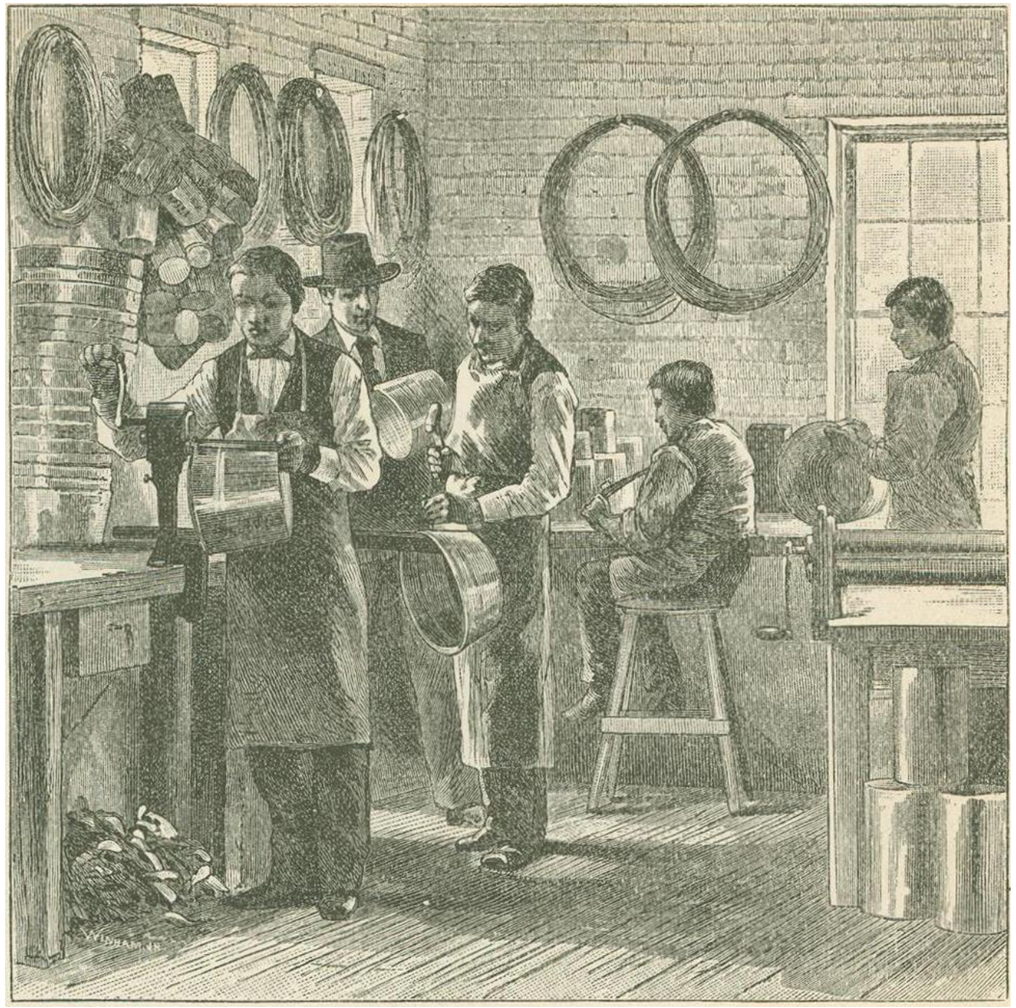
Carlisle Indian Industrial School was founded in 1879 by Captain Richard Henry Pratt, an officer in the US Army. The intention was to combine a boarding school experience for Indian students drawn from a variety of Indian reservations. The underlying ethos was to root out Indian culture and Americanize the students and force them to assimilate into the mainstream culture around them by providing an American-style education coupled with vocational training.

Among the vocational programs at Carlisle was tinsmithing. The school had a fully-equipped tin shop. Male students learned to make tinware, which was then purchased by the US government and sent to the various Indian Agencies on the reservations.

Despite being cut off from their families, some students were determined to make the best of the situation. One prominent example of such a student was Luther Standing Bear, born Ote Kte (Plenty Kill) of the Oglala Lakota people in the Dakota Territory in 1868. He wrote of his experiences at Carlisle in his four books.

Ota Kte was born and raised as a child in the traditional encampments, trained in the Lakota professions of warrior, hunter and scout. His father was a leader in the old way, a promising young up-and-coming chief, and this influence his son would carry with him the rest of his life.

Continued on page 20….



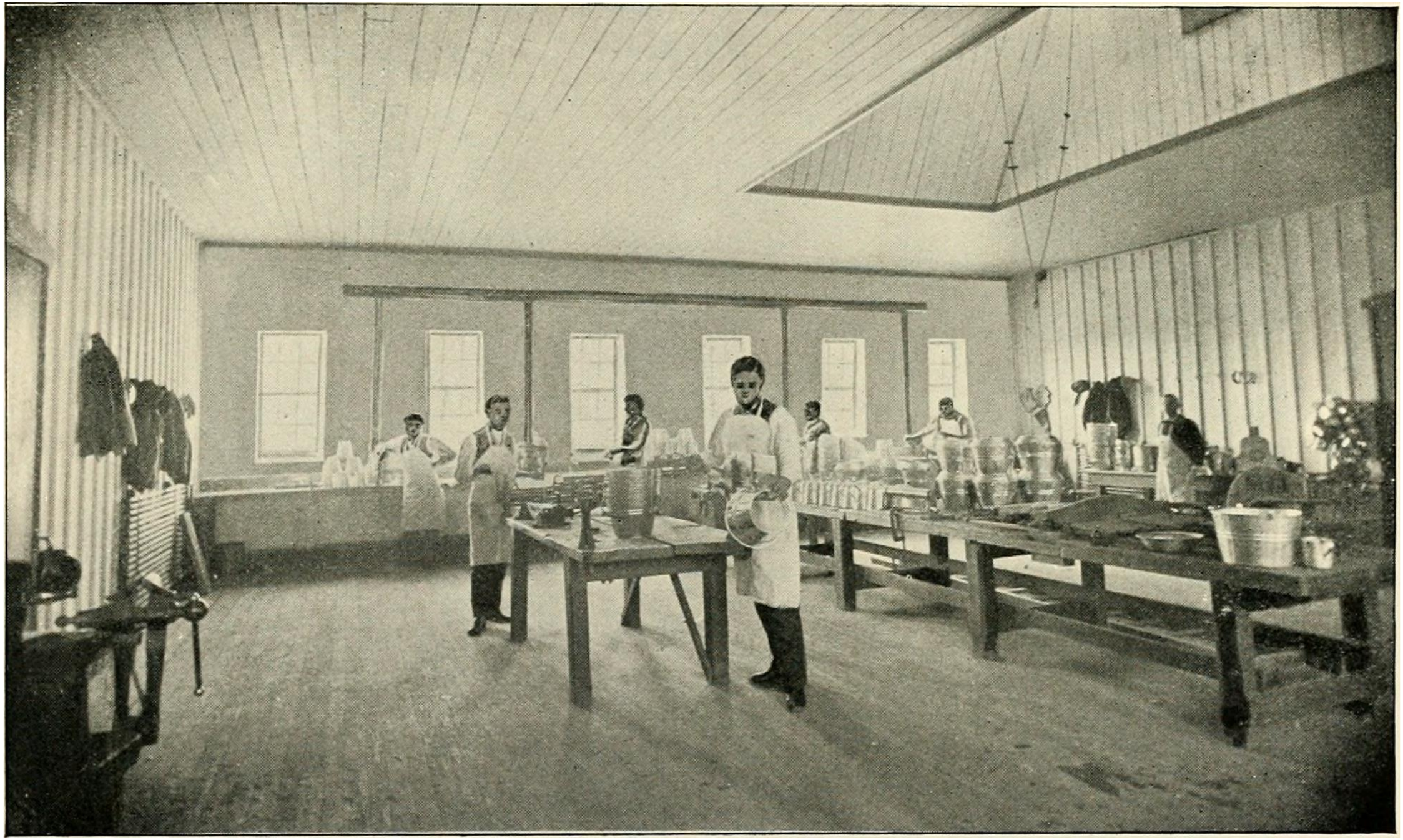
Tinner's apprentice class at Carlisle Indian School, from an engraving in *Harper's Magazine* (1881).

View of the tin shop with students at work in 1901 showing tinner's stakes and machines used by the students. Note the wall of cups in the background.

Photo courtesy Cumberland County Historical Society/Creative Commons License

Students in the Carlisle Indian School making coffee pots. Note the student dishing coffee pot lids, while another uses bench shears to cut pieces. A third student is soldering, using coppers and a charcoal tinner's pot.

Photo courtesy Library of Congress



View of the Carlisle Indian School Tin Shop, showing the students making tin wash tubs. Photo from the book, *United States Indian School at Carlisle, Pennsylvania* (n.d.), page 43.

The personal passions and decisions of these students, particularly in the beginning when admission to Carlisle was completely voluntary, rarely figures in the conversation amongst historians and those interested in the subject.

In the Oceti Sakowin Oyate (Nation of the Seven Council Fires), known as the Great Sioux Nation, chiefs were not hereditary in the sense of Europe's nobility or as it is for other tribes of America, however, anyone who earned people's respect became a chief. That's not to say that any leader wouldn't also first focus his efforts with his own children (including nephews), so it is with this traditional pride and education as a chief's son that Ota Kte would choose to live with the strangers from out East.

By the time Ota Kte left for Carlisle, his father, Standing Bear, owned a trading post and had moved closer to the agency.

Once at Carlisle, Ota Kte, now christened as Luther Standing Bear, indeed faced the greatest challenge of all: assimilation. Sure death is one thing for a young warrior, but how might that training serve him in the midst of "Save the man; Kill the Indian," the government edict for boarding schools?

While Luther mourned much of what he felt made him Lakota—his hair particularly—he had become a diligent student. He was one of the few boys assigned a trade and spent half days in the tinsmithing shop as an apprentice, a quick learner, prolifically making tinware directed of him, which was sent back to the Pine Ridge agency.

Then, Standing Bear Sr. took a trip to Carlisle. Until his father's visit, the assimilation culture at Carlisle had clouded the self-efficacy instilled in every Lakota youth. While indeed many children died at

Luther Standing Bear in his school photo at Carlisle Indian Industrial School.

Photo courtesy Cumberland County Historical Society / Creative Commons License

Luther Standing Bear with his father at Carlisle Industrial Indian School, ca. 1895.

Photo courtesy the Cumberland County Historical Society / Creative Commons License

Carlisle, what Luther was experiencing was almost a living death. He did what was asked of him and his character was such that he faired well with the teachers and did well at his tinsmithing trade, but he notes in ***My People the Sioux***, "Now after having had my hair cut, a new thought came into my head. I felt that I was no more Indian, but would be an imitation of a white man."

When Standing Bear, Sr., arrived at Carlisle, he was well-dressed in American clothes, complete with pocket watch and hat, though his hair was kept long in Lakota tradition. He was well received by Pratt who gave father and son permission to speak in Lakota, as well as with the other youth. He was also given tours of the neighboring large cities and saw for himself the large population of Euro-Americans and the way they lived and worked. After these tours, he told his eldest child in Lakota his observations and said he would send his children after their brother to learn what they could so they could adapt to the changes that would surely continue. Concluding, he told his son to learn to speak English like the Americans and to learn how to work like the Americans.

This would shape the rest of Luther's life. What feebly began in the school tinsmithing shop with his own efforts, would blossom at this tutelage of his father. Luther doubled-down on the education his father directed him to achieve. Whatever work Luther would put his hands to, both on and off-reservation, he would do as a proud Lakota. His time at Carlisle would be part of his application for American citizenship, a measure taken so that he could own his land outright in his own homelands without interference from the Indian agent. Even in his success, however, this star student of the experimental first class at Carlisle would later write,

"[But] the clouds are not yet gone from over the heads of my people--they are not free. And as long as they are in bondage, I shall never cease to be a hostile--a savage, if you please."

Luther imagined a world where the Lakota would bring in the various new technologies and mold them to fit their own cultural values, instead of them being used to shape the Indian into Euro-American's own image. This question of molding and shaping then would be his life's work, and perhaps that cultural creativity is the real legacy of this Lakota tinsmith, not the metal itself, but the tested mettle of a Lakota warrior.

Research Sources

Student Record, Carlisle Indian Industrial School. Digital Archives. http://carlisleindian.dickinson.edu/sites/all/files/docs-ephemera/NARA_1327_b060_3019_0.pdf

My Indian Boyhood, *My People the Sioux*, and *Land of the Spotted Eagle* by Luther Standing Bear

About the Author

Tasiyagnunpa (Livermont) Barondeau is Itazipco and Oglala Lakota and an enrolled member of the Oglala Sioux Tribe. She is also a 6th generation descendant of European immigrants. To live as a Lakota, her family honors the cultural wisdoms of all their relatives.

Luther Standing Bear in a photo taken by the Gerhard Sisters, ca. 1905. *Photo courtesy Library of Congress*

First-Person Voice: An 18th Century Tinsmith Apprenticeship at Colonial Williamsburg

By Jenny Lynn,
Apprentice Tinsmith,
Colonial Williamsburg

I didn't expect to become an apprentice in the Tin Shop at Colonial Williamsburg when I first visited the museum as a little girl. At 8 years old, I just wanted a job where they would pay me to play dress-up. I was always fascinated with the material culture of the past no matter what era, but there was something about the 18th century that drew me in. I grew up in an environment where I was encouraged to work with my hands: my grandfather built and repaired sailboats, and I came from generations women who didn't shy away from a hand tool, be it for sewing or woodworking. I also loved teaching people, but I wanted to be able to teach history in a setting that allowed people to feel transported into the past rather than in a classroom, which led me to the museum field.

I received my undergraduate degree in History with a minor in Art History and Museum Studies from Sweet Briar College in 2006. My focus of study was on 18th and 19th century architecture and decorative arts, as well as museum management. I worked as a student curator as part of an Arts Management Practicum certificate program and managed my college museum's costume and textile collection as part of those studies. Working hands-on with extant objects gave me an appreciation for examining how an object was used, but also how it was made. After college, my focus turned more to museum education and interpretation though employment at a few different historic sites, before I arrived at Colonial Williamsburg in 2010 in a part-time position. That led to a full-time position in 2011, and I quickly went from giving tours at the Governor's Palace to a position allowed me to train in 22 different trade shops around the Historic Area, which eventually led me into the Tin Shop.

At my Colonial Williamsburg tin shop work bench, tracing out a cup pattern onto tinplate.
All photos in this article courtesy of Fred Blystone.

Being a Floating Trades Interpreter was enriching, but it left me with quite a few unfinished projects. I'd spend a day working on a project that might take me weeks to finish because of the infrequency of being in that shop. I found I really wanted to focus on one trade and have direction for research rather than being scattered to the winds, but my position allowed me to try all the trades before choosing one. Steve Delisle and Joel Anderson were the first two tinsmiths in the new Tin Shop when it officially opened in November 2013. The following winter, I was asked to help on a day when they needed some staffing. Steve taught me how to make cellar sticks and a tinderbox, which I proudly showed to my supervisor later that afternoon. I liked how quickly an object could be pro-

. . . . continued on next page

Continued from the previous page . . . .

duced, but I also enjoyed the challenge of precision in the pattern and fit. When Colonial Williamsburg offered a new apprentice position in 2015, I knew I had found a trade that I wanted to dedicate a career to.

The apprenticeship at Colonial Williamsburg develops traditional hand skills as well provides as an intimate understanding of the metallurgy and history of tin production, the history of tinsmiths and their work, as well as the evolution of the tools and the material culture of the time period through research. The Historic Trades department not only nurtures and rediscovers 18th century trades within Colonial Williamsburg, but also allows apprentices and journeymen to travel outside of the historic area to research, attend conferences, or develop skills through participating in workshops. I was able to attend Bill McMillen's Tin 1 class at Historic Eastfield about a year after I started my apprenticeship, which provided me with the opportunity to try out 19th century tools. I have met members of the Historical Society for Early American Decoration and attended some of their meetings to explore early 19th century painted tinware. As a shop, we travel to other museums to study tinware for specific projects or to examine collections to increase our knowledge of available extant resources. Our main priority in the Armoury Tin Shop is public education. For every visitor who comes through the door, we provide them with the background of the shop as a temporary workshop under a government contract as well as the basics of tinsmithing and a brief history of the metal. I have been learning the skills needed of an 18th century tinman, which involves entirely pre-industrial work appropriate to a shop operating on the site from 1778 to 1780. I practice these skills daily in front of the public, which means sometimes the work can go slowly because I stop to talk a lot. I tend to keep two or three projects going on my bench at a time.

Using a cullender swedge to shape a wall sconce.

Exterior of the Anderson Armoury Tin Shop.

Between three tinsmiths, we each have our own interests when it comes to specific aspects of tinware and its use in the 18th century. The focus of our shop is mostly military tinware, but our research can expand into other areas of 18th century material culture. We're regularly questioned about comparable objects to tinware made of other materials and are called upon to make tinware that would be used in a domestic setting for the needs of other trade shops and exhibit sites in the Historic Area. The shop's repertoire varies between cups of all sizes, tinderboxes, cooking kettles, lanterns (either punched, horn pane, or glazed styles), coffee-

. . . . continued on next page

My first day in the tin shop.

With my teapots that Steve Delisle approved.

Talking to visitors in the tin shop.

Continued from the previous page . . . .

pots, teapots, plates, wall sconces, speaking trumpets, funnels, colanders, graters – the list goes on and on. Most of the objects we reproduce are from a surviving daybook for the Armoury complex. For objects that we have yet to find a surviving extant example for, we create placeholders until we do stumble across one in an image, collection, or description we can pattern from.

Apprentices in the Tin Shop follow a 6-level curriculum set by the shop's master, and the apprenticeship should follow a level per year. For a beginning apprentice, gill cups and tinderboxes take up most of the first year, then items start getting bigger and more complex, such as larger cups with a wire set into the rim, mess kettles, struck lanterns, and coffeepots.

My hope is that my apprenticeship can lead me into visiting other museum tin shops and experiencing how those shops interpret our trade, as well as improving and expanding my skills to be able to recreate more complex objects. We can build a better understanding of how and where the trade was practiced in the 18th century through our ever-expanding research, especially when we are dedicated to doing so through apprenticeship. Every day, I meet visitors who have an interest in what we're doing, or perhaps they tried working sheet metal when they were in junior high school. Once in a while, there will be a kid who comes back for a second, third, or even fifth visit and tells me they went home and built their own tin shop in their garage because they saw us working in our shop and wanted to try it themselves. I hope someday I'll see them apply for an apprenticeship, like I did, so we can continue the tradition of teaching our trade to the next generations.

Clockwise, from top left: laying out a dustpan; shaping a hinge on a pierced tin lantern door; and hammering rivets on a kettle bail ear.

Left: Working on the back panel of a pierced tin lantern.

Right: Working on a milk pan for Historic Foodways. Steve Delisle, journeyman tinsmith (and my super-visor), in the background.

In Memoriam: Max Schram, 1951-2019

Max Schram working on some tin cannisters at the annual rendezvous at Grand Portage National Monument.

The historical reenacting and tinsmithing communities lost one of their beloved members in January 2019 when Max Schram passed away. I've had the great privilege of knowing a host of reenactors over the past two decades of facilitating the historic encampment at Grand Portage National Monument's annual Rendezvous Days event, but one that I will always remember as a treasured friend was Max. For several years, park staff, re-enactors, and visitors to our Annual Rendezvous Days event would encounter this man bearing an uncanny resemblance to Santa Claus, grinning a wide smile as he labored beneath a canvas fly along the lakeshore palisade. Max and his wife, Margaret, made the long 20-hour drive from Douglasville, Georgia to Grand Portage several years where he was contracted on the second weekend of August to conduct a few workshops and "occasionally tinker for a few hours during the weekend." That occasional tinkering often meant Max, by his own choosing, occupied his workspace beneath the canvas for just about every hour the event was open to the public over a three-day period. It was as if he wanted to capture one last breath of the experience, and he loved the place so much that eventually the staff would awkwardly approach the nice tinsmith and invite him to leave the premises at 5:00 p.m. on Sunday when the event concluded because he was still working while they wanted to go home.

Through his years at Grand Portage, Max conducted workshops where participants and visitors made their own candleholders, wall sconces, or nutmeg graters. In addition, he always went above and beyond while graciously tending to the historic site's needs by repairing our wall sconces, candelabras, coffee roasters, and he even produced a reflector oven for staff to use while demonstrating 18th century cooking techniques in the reconstructed kitchen.

Holding a master's degree from Michigan State University in Education,

….continued on next page

Max was a lifelong teacher and learner. Every year he inquired about our latest archeological research and whether we had discovered any additional tinplated pieces. Always desiring to experiment on something new, Max accompanied me to the artifact storage unit one afternoon to meticulously measure and photograph examples in the park's museum collection that he wanted to reproduce.

Some fond personal memories include spending time with Max and Margaret on a warm Sunday afternoon in 2016 eating homemade vanilla ice cream that he churned in one of his creations. Then there was the Fall Gathering in Pine City, MN in September 2018, where I had the privilege of being part of a four-man crew that paddled Max and Margaret along a stretch of the Snake River in a bateau crafted by one his mentees, Paul Cummings, who named the vessel after him. There was also the last day I saw Max as we departed the Fall Gathering, and he gave me a tinplate bowl modeled after an excavated piece in the monument collection, and his now resides in the park museum as well for comparative purposes. Finally, we erected a canvas fly and had a small memorial set out for Max during the park's 2019 event, and Margaret, along with their two children, Christine and Jeremy, were sitting down along the lakeshore palisade just like Max always used to do as Rendezvous Days concluded on Sunday afternoon. These are just my memories of Max, and I know my peers have plenty more as he certainly touched all of us with his wisdom, humor, wit, and joy.

— Stephen Veit, Museum Technician, Grand Portage National Monument, Minnesota

Above: Max working on a tin project. *Below and right:* Max working on a tin kitchen and the finished product, which is in the kitchen of the Great Hall at Grand Portage.

Investigating Collections

By Karl J. Schmidt, Editor-in-Chief

Part of the surviving Fort Union lantern body, showing the curved arches design.

One of the things I enjoy most about being both a historian and a historical tinsmith is being able to recreate tin objects from the past, particularly those which would otherwise be only a rusty artifact of perhaps moderate interest to a museum-goer. As a historical tinsmith, I use the tools and techniques of tinsmithing in its heyday – the 18th and 19th centuries – to reproduce items that would have been in common use: cups, bowls, plates, coffee and tea pots, and lanterns, among many others. These would have been everyday objects in the material culture of the past. I especially enjoy making lanterns based on originals I either own or ones that may be found in museums.

In May 2018, while researching an article on tinsmithing and tin goods in the fur trade as part of a research grant from the Early American Industries Association, I was fortunate to be able to consult the archaeological collection of Fort Union Trading Post National Historic Site. I had prepared ahead of my visit by looking through the various archaeological reports written in the 1980s and 1990s. One report, from 1993, Fort Union Trading Post National Historic Site (32WI17), *Material Culture Reports, Part IX: Personal, Domestic, and Architectural Artifacts*, was of great interest to me because it contained an image of what had been identified as a pie safe panel, a flat pierced sheet of tin that might have resided in the door of a cabinet to protect pies from flies and other insects.

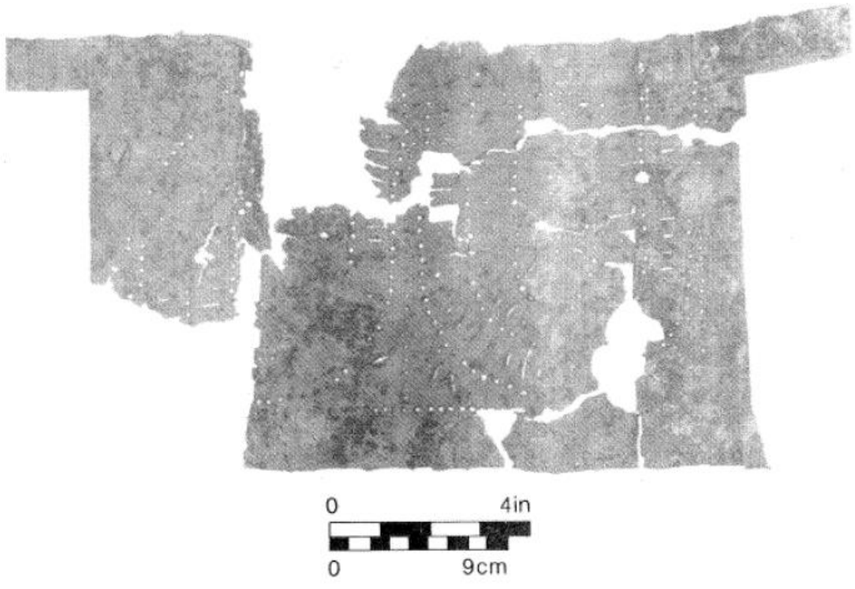
> “The more I looked at the image and read the description, the more I became puzzled by the features of the tin object…”

The report described the object as follows:

“This piece of furniture is represented by three fragments of a sheet-iron food/pie safe panel. The food/pie safe is a kitchen cabinet with a wooden frame and pierced (decorated) metal insets, used for the storage of food and baked goods. Punched or pierced tinware dates from the 1830 to 1860 period according to Kovel and Kovel (1967:199). The perforated metal in the doors and sides of the cabinet allows for the passage of air through the cupboard, yet keeps unwelcome vermin out of the food.

“Originally, the Fort Union panel (Figure 16c) was probably japanned or tinned; however, corrosion has destroyed any evidence of a coating. The pierced panel is folded over on both sides and decorated with two sets of arches produced by a series of alternating circular and linear perforations. A plain, 1.01 in (2.57 cm) wide border extends around the edge of the panel. The panel fragment is 13.10 in (33.27 cm) long, 8.30 in (21.08 cm) wide, and 0.05 in (0.13 cm) in thickness. Three tabs are soldered to the back of the panel for the attachment of the panel to the cupboard frame. One tab has a section of wire attached to it.”

The more I looked at the image and read the description, the more puzzled I became at features of the tin object that didn’t match what I knew about pie safe panels. I looked at the image over and over again. Turning the image upside down suggested to me what it might be. As I had already planned my visit to Fort Union to look at the tin artifacts, I added this curious object to my list of things to examine.



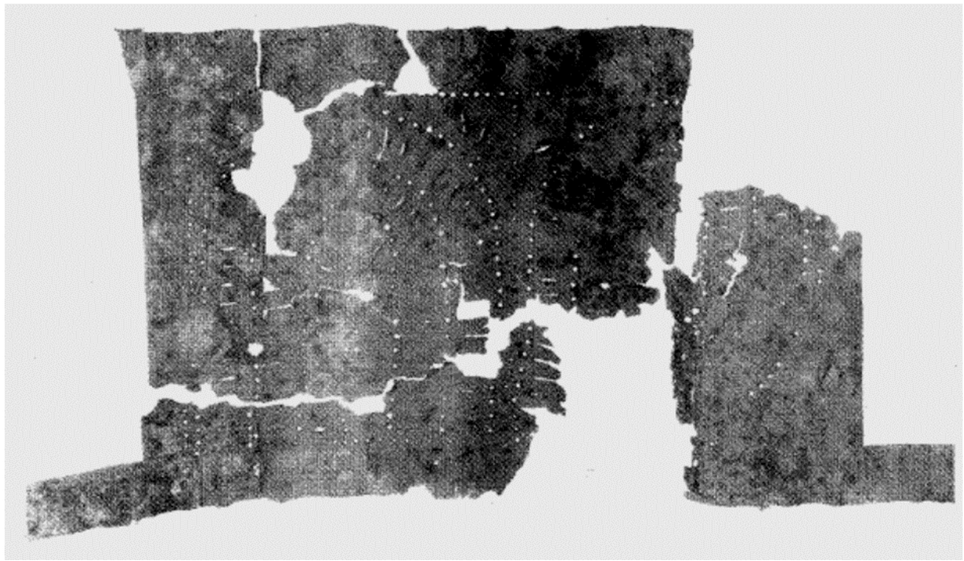
An Artifact Mystery Solved

Tinplate doesn't survive well when exposed to the elements. Tinplated fragments, once buried in the soil, begin to rust and disintegrate quickly. Many of the artifacts I examined were in fragile condition, including the pie safe panel, which consisted of two larger pieces of tinplate and several smaller pieces. All were covered in a coating of rust, but were in suitable shape for close examination. I had had my suspicions even before I arrived at Fort Union that the pie safe panel was, in fact, an entirely different object. My suspicions were quickly confirmed once I examined it. It turns out that what had earlier been identified as a pie safe panel was, in actuality, the back of a pierced tin candle lantern.

As someone who has researched and made numerous pierced tin candle lanterns, I am intimately familiar with features that distinguish them from other tinplate objects. Upon examining the item in question, I noted the design—two arches, outlined through hundreds of piercings in the tinplate. This design was a common one found on the back of early to mid-19th century pierced tin lanterns. I also noted other key features that helped me identify the object: the remains of two door hinges, including one with a bit of wire still held in it; a door catch; two pieces of narrow tinplate called 'spacers' which hold the back of the lantern into a cylindrical shape; and, finally, the remains of a burred edge at the top and bottom of the lantern fragments, onto which the conical top and the flat, circular bottom of the lantern, respectively, would have been attached to the lantern body.

Once I had examined the pieces of FOUS 15619 closely and confirmed that it was the remains of a pierced tin candle lantern, I then looked more carefully at the pierced design. In this case, as noted before, the design consisted of two arches separated by a row of circular piercings, and framed by an identical series of round piercings along the outer edge. The arch design themselves consisted of a series of three internal arches, demarcated by round piercings and filled in with lateral cuts. The center of the arch consists of two parallel rows of round piercings, approximately 3/8" apart. The three tools used to make the piercings on this lantern would have been a round chisel and two flat chisels of with a rounded striking face. These chisels would have been of two different widths. Chisels designed for making lanterns were (and still are) called "lamp-maker's chisels."

The design is clearly visible on the artifact and when one inverts the image in the 1993 archaeological report, the two-arch design becomes apparent.



Close-up of lantern body, showing the catch, which has been crushed.

Close-up of the back of part of the lantern body, showing part of the spacer.

Fragment of the bottom of the Fort Union lantern, showing the burred edge.

Fragment of the Fort Union lantern body, showing the remains of a door hinge, and part of the door wire.

In order to replicate the lantern, I next took detailed measurements of the pieces, including size of round piercings, length of straight chisel cuts, spacing between the arch rows, the distance between the middle framing row of round piercings and the two arches, and the distance between the extant perimeter of the lantern and the point at which the arches begin.

One of the challenges in replicating a piece of tinware like this is the fact that the lantern did not survive with all of its pieces intact. Missing, of course, is the round lantern bottom which would have included a candle socket, the conical top of the lantern (which would also have been pierced), a small round heat shield that would have separated the peak of the conical top from the handle, the handle itself (which was likely a round band of tinplate, folded on the edges) and, finally the door of the lantern. The lantern door would have been wired along its outer edge to add strength to it and would also have had a pierced design. The door would have been attached to the lantern cylinder with two hinges and closed via a clasp and catch. Most lanterns of that time period have the hinges on the right-hand side of the door and the clasp and catch on the right. This is borne out in the case of the example from Fort Union.

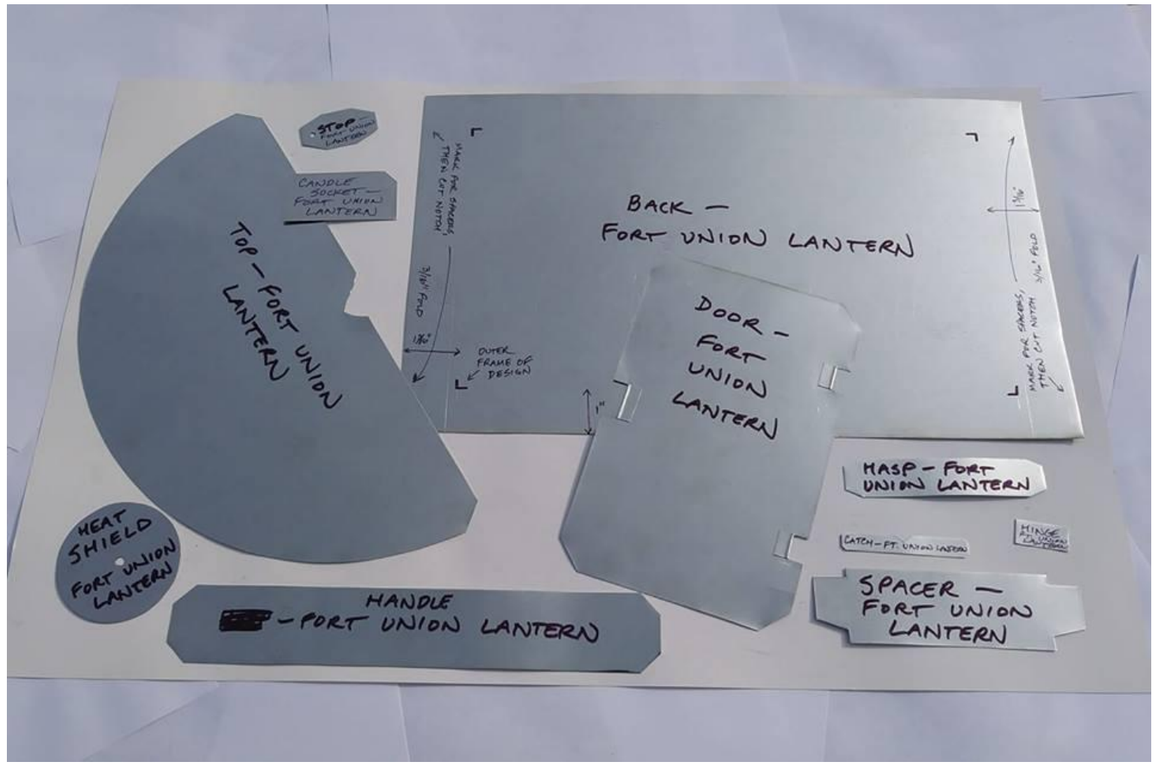
Recreating the Lantern

With only the back of the lantern surviving, that's the piece I focused on replicating first. Because the lantern back itself did not survive in its entirety, my reproduction is, of necessity, more in the style of the original, rather than an exact duplicate. And because the chisel work would have all been done by hand—as it is now—the position of each piercing cannot be duplicated exactly. Based on my measurements of the original, the back would have looked like this when it was new (see photo at right).

Figure . The recreated back of the lantern. The panel of tinplate is 8.5 inches by 14 inches overall.

Once the lantern back was completed, I then rounded the panel over a tinsmith's stake and soldered the spacers in place to form the cylindrical body. I next burred the bottom and top edge of the cylinder to accept the conical top and the circular bottom with a candle socket. The burred edges are flattened to form a tight seam. From this point, my work on the lantern reproduction is conjectural as no other pieces of the lantern survived. The conical top, the bottom, the candle socket, the handle, and the door are all my own design, but based on research of other, similar lanterns. They are, therefore, in keeping with what *might have been* part of the original lantern.

Tinsmiths traditionally worked from patterns they developed to make replicating the same items over and over easier, much like a tailor works from a pattern to make clothes. Typically, I make a prototype of any new piece of tinware I'm working on and once I'm satisfied with the results, I use my notes from the construction process to make a pattern, so that making future pieces is expedited. The photo below shows the various pattern pieces that went into making the Fort Union lantern.



Pattern pieces of the Fort Union lantern. All pierced tin lanterns are constructed from a similar set of pattern pieces.

The process for making the rest of the lantern is similar to making the back. Pieces that need to be pierced are done so using lamp-maker's chisels, after first scribing the design on the tinplate. In all such cases the design markings are on the inside, with the piercings pushing out from behind. This is done over a piece of scrap softwood lumber. Once the pierced pieces are done, they, along with the other pieces are shaped with

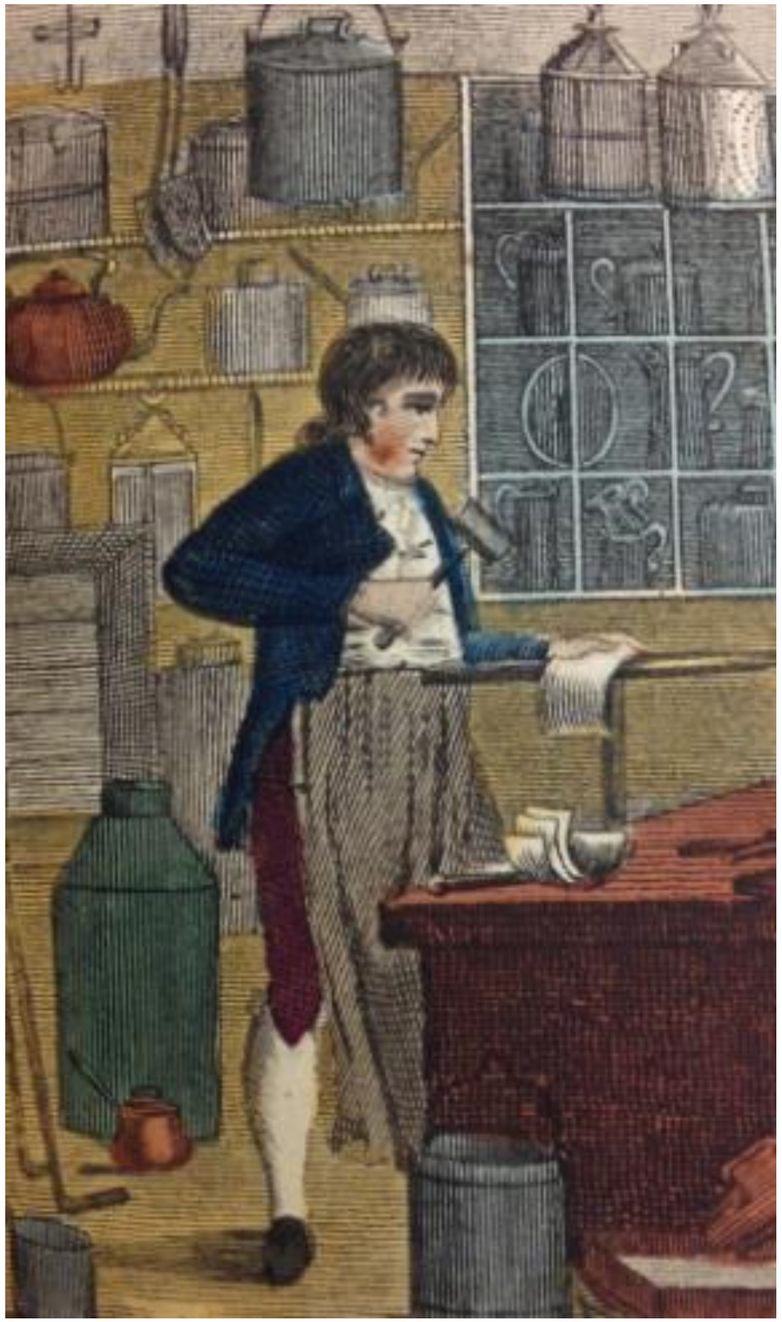
mallets over tinsmith's stakes as well as period-correct tinsmith's machines. After all the pieces are shaped, they are assembled. Seams are hammered flat on a stake, other parts are soldered into place. The door edge is wired and the door edges driven over the wire on a creasing stake. The door is curved like the body of the lantern using a conductor stake or round wooden stake and affixed to the lantern body by soldering the hinges in place. Likewise, the hasp and catch are attached. The latter is soldered to the lantern body. A wire is threaded through the stop (see pattern pieces photo) and the ends of the wire threaded in turn through the heat shield and the rounded handle. With that, the lantern is complete.

Who's the Maker?

Karl J. Schmidt, Editor-in-Chief

I purchased this reproduction tin kitchen from a seller in Canterbury, Connecticut, last April. The only identifying marks on it are the tinsmith's initials – 'DJP' – and the year 1996. I've seen this type of tin kitchen on a blog from Fashionable Frolick, but I haven't been able to identify the maker. Anyone know? If you do, please contact me through my Dakota Tinworks Facebook page.

Tinsmiths of the Past



"Tin-Plate Worker" from *The Book of Trades*, London: B. & R. Crosby, 1804-1805.

LIST OF

PRICES OF TIN WARE,

MADE AND SOLD BY

J. P. LUND,---FAIRHAVEN, (Mass.)

First Size Ovens,	20s	Quart coffee do.	1s3
Second do.	17s6	Brick Loaf Pans	1s3
Third do.	15s	Shaving cups	1s3
Fourth do.	12s	Pint Lamp Fillers	1s3
Fifth do.	6s	Three pint Pans	1s1
Ten Quart (covered) Pails	5s4	Baking Plates	1s1
First size Dish Kettles	9s	Sheet Square Pans	1s1
Second do.	5s	Pound Canisters	1s1
Third do.	3s6	Beer Quart Measures	1s1
Fourth do.	2s4	Sugar Scoops	1s1
Fifth do.	1s1	Sausage Fillers	1s1
Six quart Coffee Pots	4s6	Large sailor Pots	1s1
Large Water Pots	4s	Ladles	1s1
Small do.	2s4	Small sailor Pots	1s
Five Quart Coffee Pots	4s	Pint Covered Pails	10d
Large Pails	4s	Quart Measures	10d
Large Pans, with handles	4s6	Quart Tunnels	10d
Large Pans, without do.	4s	Large Skimmers	10d
Ten quart Pails	3s6	Tinder Boxes	10d
Ten quart Pans	3s6	Horns	10d
Six quart covered Pails	3s6	Quart Basons	9d
Gallon Coffee Pots	3s6	Pint and a half Measures	9d
Five Quart Pans	2s4	Oilers	9d
Six Quart covered Pails	2s4	Half sheet Tunnels	7d
Three quart Coffee Pots	2s4	Half sheet square Pans	7d
Large Cullenders	2s4	Pint Dippers	7d
Gallon covered Pails	2s4	Back Candlesticks	7d
Round Dish Covers	2s4	Pint measures	6d
Large wash Bowls	2s4	Pint Cups	6d
Gallon Measures	2s4	Pint Tunnels	6d
Oval covered Toast Pans	2s4	Drudgen Boxes	6d
Lanterns	2s4	Large Graters	6d
Small covered pudding Bags.	2s4	Small Scoops	6d
Four quart Pans	2s2	Large clam Shells	6d
Two quart Coffee Pots	2s2	Half Pint Measures	3 1-2d
Small Cullenders	2s2	Gill do.	3 1-2d
Small Wash Bowls	2s2	Half Pint Cups	3 1-2d
Quart Lamp Fillers	1s6	Half do. Dippers	3 1-2d
Three quart Pans	1s6	Pepper Boxes	3 1-2d
Round covered Toast Pans	1s6	Rattle Boxes	3 1-2d
Plate Covers	1s6	Basters	3 1-2d
Half Gallon Measures	1s6	Small Skimmers	3 1-2d
Half Tunnels	1s6	Half-pint Tunnels	3 1-2d
Half Gallon Dippers	1s6	Small Clam-shells	3 1-2d
Dust Pans	1s6	Harts & Rounds—per doz.	2s10
Two quart covered Pails	1s6	Small Scollops	2s10
Three pint coffee Pots	1s6	Small Graters	2s
Round Tea Pots	1s3	Small Stoves	

Tinsmith's Broadside, ca. 1830s.