# The CHRONICLE of the Early American Industries Association

The Tinsmith in America—The Trade, Materials, Tradesmen, Tools, and Products

A History of Water Pump Pliers

A Unique Tongue Plane

Who Is Christian Bodmer? Part I

Volume 66 Number 2

June 2013

# The Chronicle

of the Early American Industries Association, Inc.

Volume 66 No. 2 June 2013

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### Features



### Departments



### Covers

**Front.** Bill McMillen setting a locked seam on a pint-and-a-half tin mug over a small English beakhorn stake at the The Tools and Trades History Society (TATHS) Conference in Sheffield, England, in 2012. Bill's demonstration was part of his presentation as the Mark Rees Memorial Lecture at the conference. The finished mug sold for £75 at the TATHS auction during the conference. To make the cup, Bill used mostly English tinners tools, because, as he points out, his American tools would have been difficult to transport. The tools he discusses in the article in this issue are primarily American. Bill reprised the talk and demonstration at the EAIA annual meeting in 2013. Photo by Jane Rees.

**Back.** Water pump pliers and some 90-degree siblings. Warren Hewertson and George Radion's history of water pump pliers—known also as slip-lock or channellock pliers—begins on page 56. Photo by Bruce Sandie.

*The Chronicle* of the Early American Industries Association, Inc. (ISSN 0012-8147) is published quarterly by the Early American Industries Association, Inc. John Verrill, Executive Director, PO Box 524, 402 South Main St., Hebron, MD 21830. POSTMASTER: Send address changes to: *The Chronicle* of the Early American Industries Association, Inc. c/o John Verrill, Executive Director, PO Box 524, 402 South Main St., Hebron, MD 21830. USPO Publication Number 560-620. Periodical postage paid at New Bedford, MA, and at additional mailing offices. *The Chronicle* is available on microfilm from: ProQuest, 300 Zeeb Road, Ann Arbor, MI 48106. Articles appearing *The Chronicle* are abstracted and indexed in *Historical Abstracts* and *America: History And Life*. Design: Patty MacLeish, Ideas into Print, 31 Walnut Street, Newport, RI 02840. Printed by Cayuga Press, 215 South Main St., Cortland, NY13045.




THE PURPOSE of the Association is to encourage the study of and better understanding of early American industries in the home, in the shop, on the farm, and on the sea; also to discover, identify, classify, preserve and exhibit obsolete tools, implements and mechanical devices which were used in early America.

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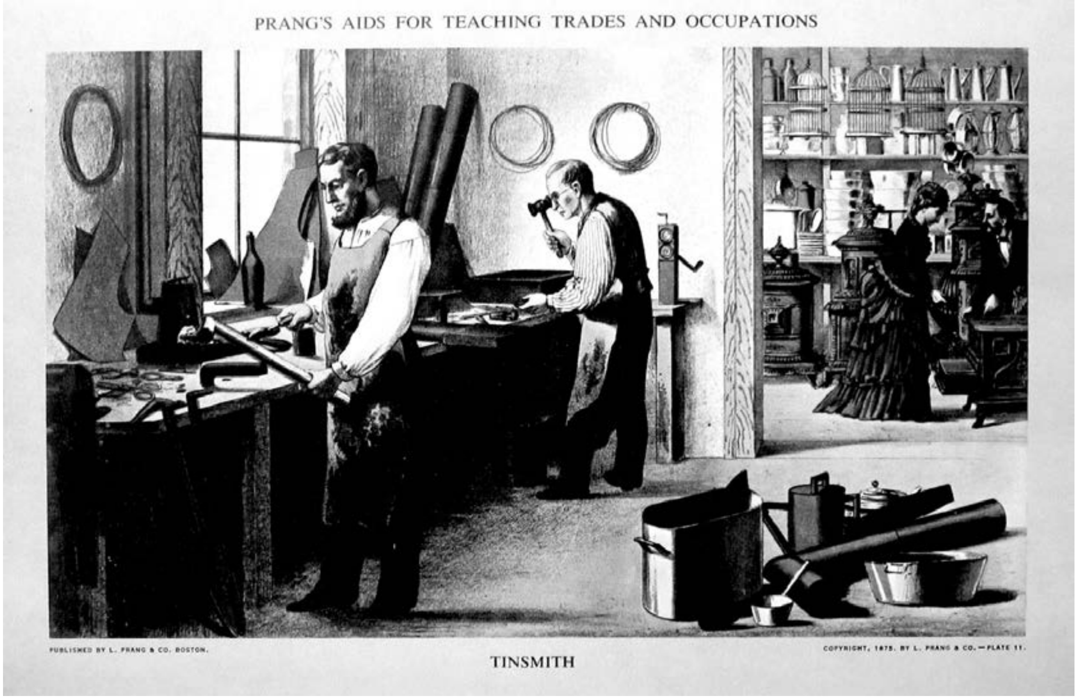



*Figure 1. "Tinsmith," an illustration from* Prang's Aids for Object Teaching. *Note the variety of items in the shop in the background on the right side.*
Library of Congress

# The Tinsmith in America– The Trade, Materials, Tradesmen, Tools, and Products

*by William McMillen*

*This article is based on a talk first presented to members of the Tools and Trades Historic Society of England as the 2012 Mark Rees Memorial lecture in Sheffield, England, and reprised at the 2013 EAIA annual meeting.*

The trade of tinsmithing, which was well established by 1640 in Germany and England, came to the North American colonies at the rather late date of 1740. The metal tin had been well known in the Cornwall area of England before it was discovered in Bohemia (present-day Czechoslovakia), circa 1250 A.D. One of the earliest uses of tin, other than to make the alloys pewter, bronze, and bell metal, was as a coating for already-made metal items. Dipping these items in tin helped prevent rust and corrosion.

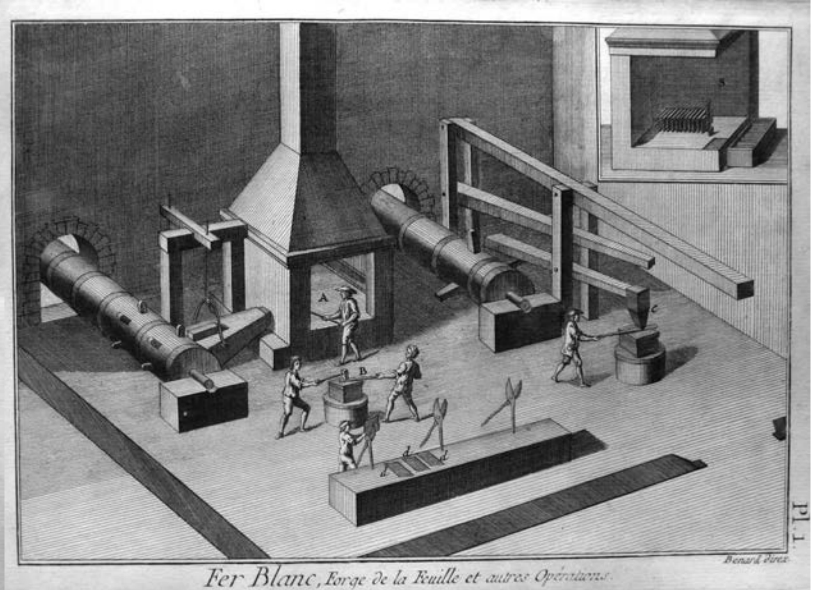
Eventually thin sheets of wrought iron were coated with a thin layer of tin, and tinsmiths would use this "tinplate" to manufacture a variety of items (Figure 1). Although tinplate had first been made circa 1550 in Bohemia, by 1620 it was being produced in the Saxony area of Germany. This German tinplate is what was used in Europe and England throughout the seventeenth century.

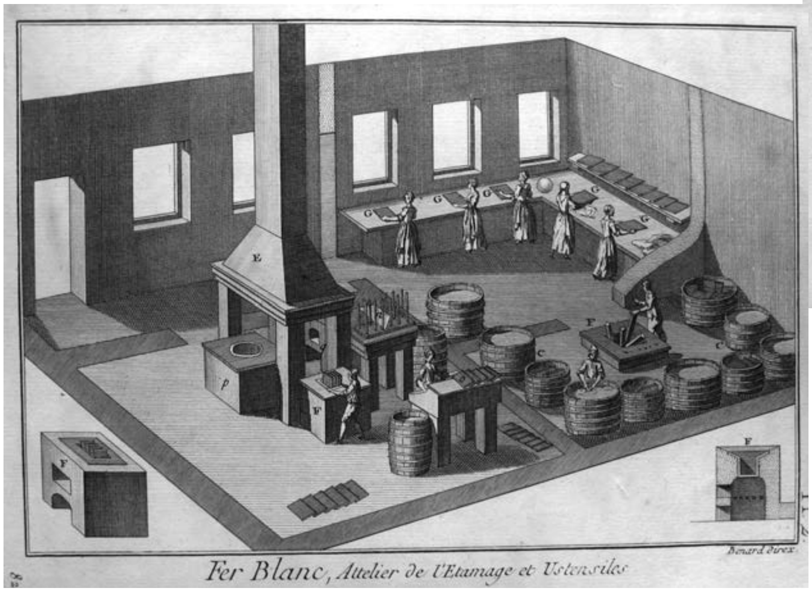
The process of making tinplate is illustrated in *Diderot's Encyclopedia* showing the various steps (Figures 2 and 3). In these early years the iron sheets were forged out under a water-powered triphammer. The sheets were cut to size, then pickled in a weak acid or brine to remove all the scale from forging. After that, the sheets were dipped into melted tin to coat the plates.

Great Britain had long wanted to free itself from importing the German tinplate, and in 1665 Andrew Yarranton, with help from some investors, visited Saxony and figured out the process. Before Yarranton and his investors could produce the tinplate in any quantity the process was patented, and the investors, at that point, abandoned the project either because they were unwilling or, as it was shortly after the Restoration, they were afraid of offending those in power. Therefore, no one made tinplate under this patent, and England continued to import it from Germany.

More than fifty years later in 1720-28, another attempt to produce tinplate in England was made. This time, however, tinplate manufacturing was accomplished through the use of the rolling mill, which was introduced

*Figures 2 (right) and 3 (below). Illustrations from* Diderot's Encyclopedia *showing the process of tinplate manufacturing. The water-powered triphammer (seen above at right) was used to forge the iron sheets. The cutting, pickling, and dipping of the sheets into the tin are illustrated in Figure 3.*

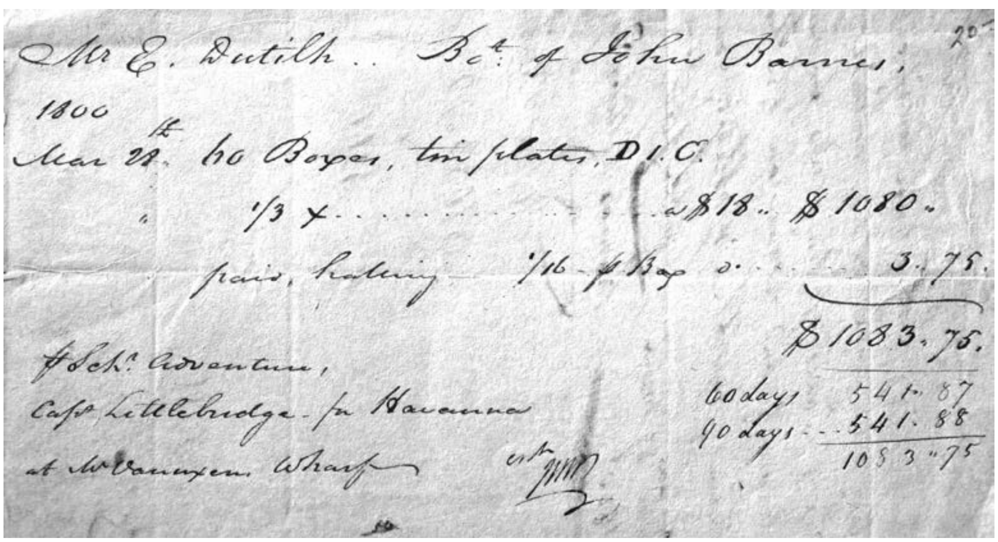



by Major John Hanbury, with tin that was mined in the Cornwall area of England.

Tinplate was made in two sizes: 10 inches x 14 inches and 12½ inches x 16¼ inches, with the 10-x-14 size dominating most of the production (as seen in the receipts for the purchase of tin and related materials in Figures 4 and 5). The tinplate was sorted by thickness and quality and then packed into a wooden box containing 225 sheets for the 10-x-14 size and 100 sheets for the 12-x-16 size (Figures 6 and 7). This is how the tinplate was shipped to America and sold.

In America, the standard wage of a journeyman tinsmith circa 1800-1820 would have been about a $1 a day. A box of 225 10-x-14 sheets could make about 125 2-quart coffee pots or 75 2½-gallon camp kettles, or 450 4¼-inch diameter by 3-inch high handled cups. A typical sheet of 10-x-14 tinplate at that time



Mr E. Dutilh .. Bot. of John Barnes, 20

1800

Mar 28 60 Boxes, tin plates, D I C

1/3 x ............ @ $18.. $1080..

pais, halving 1/16 p Box ... 3.75.

$1083.75.

P Schr. Adventure,

Capt Littlebridge fr Havanna

at Mr Vanuxem Wharf

60 days 541.87

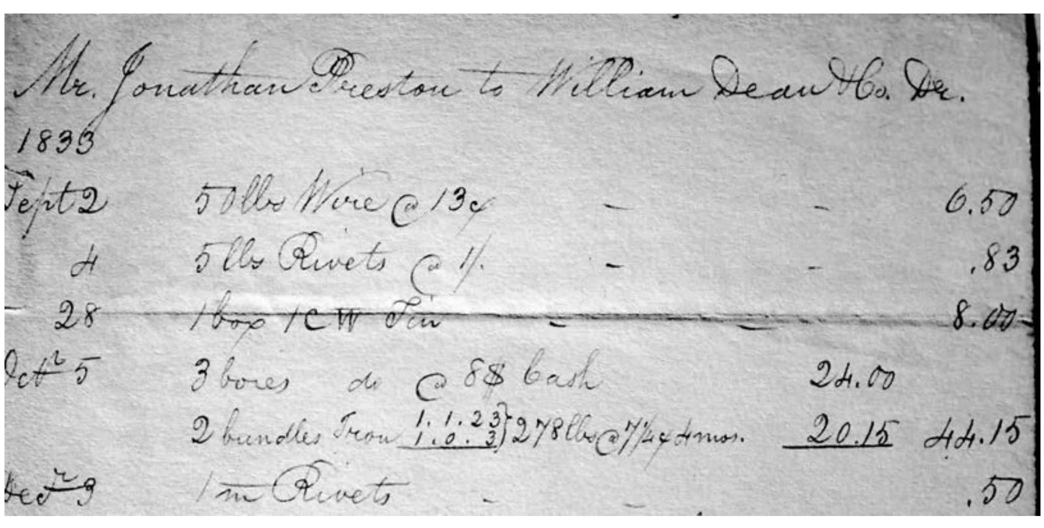
90 days 541.88

1083"75

*Figures 4 (above). A receipt from 1800 for sixty boxes of tin plates. The "D" stands for the double size and the "IC" for the common thickness of 12 thousandths of an inch. The total, with the inclusion of $3.75 for shipping, was $1,083.75!*

*Figure 5 (right). An 1833 receipt for wire, rivets, and* 1CW *tinplate (#1 common wasters, 225 sheets, 112 pound base weight).*

Unless otherwise noted, all illustrations courtesy William McMillen



Mr. Jonathan Preston to William Dean & Co. Dr.

| | | | |
|---|---|---|---|
| 1833 | | | |
| Sept 2 | 50 lbs Wire @ 13c | | 6.50 |
| 4 | 5 lbs Rivets @ 1/. | | .83 |
| 28 | 1 box 1CW Tin | | 8.00 |
| Octr 5 | 3 boxes do @ 8$ cash | 24.00 | |
| | 2 bundles Iron 1.1.23 / 1.0.3 } 278 lbs @ 7¼ 4 mos. | 20.15 | 44.15 |
| Decr 9 | 1 m Rivets | | .50 |


Figure 6 (above). *A reproduction wooden box for shipping tinplate. This box holds 225 sheets of 10-by-14 inch tinplates. The IXX indicates the that base weight of the contents is 150 pounds.*
AUTHOR'S COLLECTION

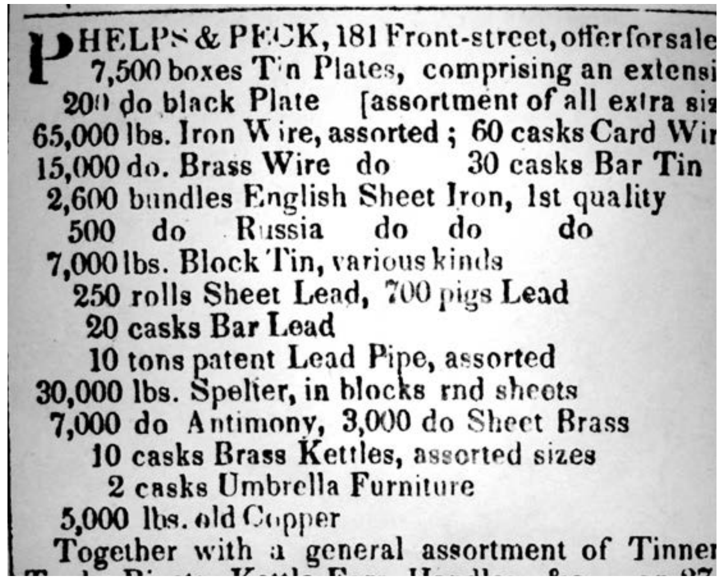

PHELPS & PECK, 181 Front-street, offer for sale
7,500 boxes Tin Plates, comprising an extensi
200 do black Plate [assortment of all extra siz
65,000 lbs. Iron Wire, assorted ; 60 casks Card Wir
15,000 do. Brass Wire do 30 casks Bar Tin
2,600 bundles English Sheet Iron, 1st quality
500 do Russia do do do
7,000 lbs. Block Tin, various kinds
250 rolls Sheet Lead, 700 pigs Lead
20 casks Bar Lead
10 tons patent Lead Pipe, assorted
30,000 lbs. Spelter, in blocks and sheets
7,000 do Antimony, 3,000 do Sheet Brass
10 casks Brass Kettles, assorted sizes
2 casks Umbrella Furniture
5,000 lbs. old Copper
Together with a general assortment of Tinner

*Figure 7 (right). An advertisement in* The New York Commercial Advertiser, *1830, showing "7,500 boxes Tin Plates."*

cost about 7¢ per sheet. It took a little less than two sheets of tin to make a coffee pot, or about 12½¢ worth of tin. A tinsmith could have made about ten coffee pots in a day. The tin to make the ten pots ($1.25) cost more than the labor to produce it ($1.00). There were additional costs for solder and wire (see Figure 5), of course, as well as the consideration for tools, other overhead, and profit. The coffee pot would sell for about 30–35¢.

American tinsmiths continued to rely on English tinplate throughout the eighteenth and most of the nineteenth centuries. The McKinley Tariff Act of 1890 raised the duty on imports, which prodded manufacturers in America to produce tinplate in the United States.

## The Tradesmen

One of the first recorded persons to make tinware in the American colonies was Shem Drowne (December 4, 1683–January 13, 1774), a Boston coppersmith. It is generally acknowledged that the first full-time tinsmith was Edward Patterson, a Scotch-Irish, English-trained immigrant. He settled in Berlin, in central Connecticut, around 1750 and started making tinware, which became increasingly popular within the area (Figure 8). He was soon apprenticing others in the trade, including his sons, who continued in the trade well into the nineteenth century. Berlin became the hub of the tinsmith trade and soon Berlin-trained tinsmiths began to set up shop in other parts of the country.

By the 1770s, on the eve of the American Revolution, tin shops had been established in all the major American cities. By 1810, there were twelve shops for making tinware in Berlin alone, and many more in other areas of the country.

James Upson opened a shop in Marion, Connecticut, prior to the American Revolution. His sons continued in the business into the 1850s. Zachariah Stevens opened a tin shop in Stevens Plains, Maine, and by 1830 there were eleven tin shops in Stevens Plains. By 1806 Oliver Filley became a tinware dealer

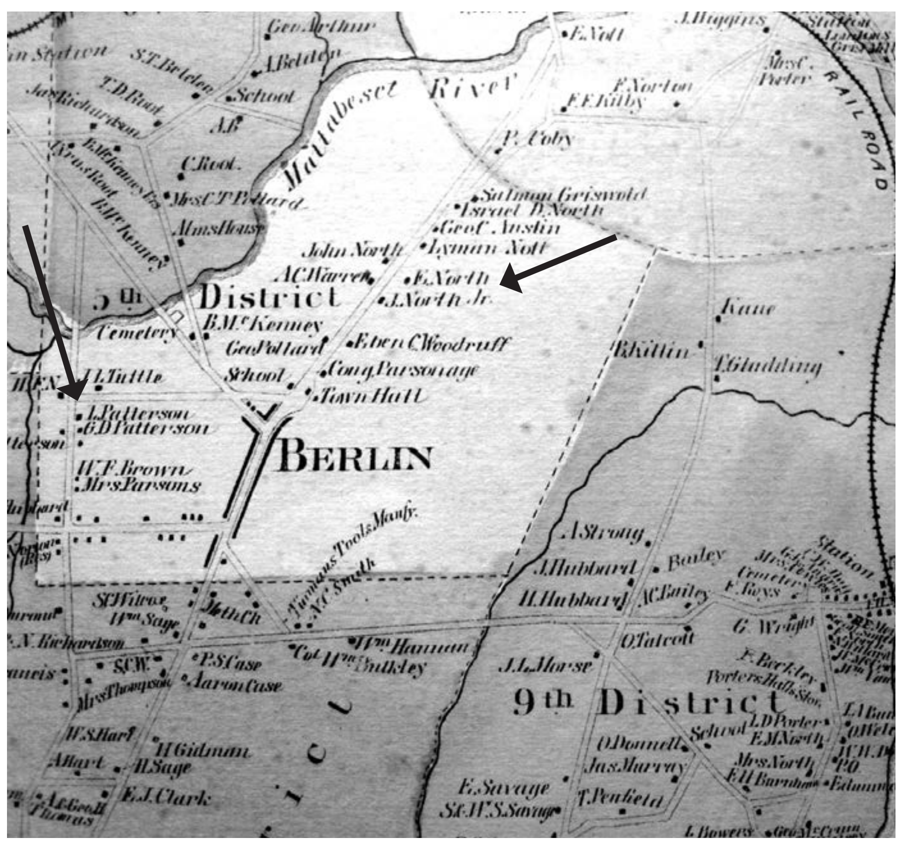



*Figure 8. Berlin, Connecticut, was the home (marked on the left side of the map) of Edward Patterson, thought to be American's first full-time tinsmith. Jeddiah and Edmond North (whose names are marked on the right of the map) made tinsmith's tools.*

*Figure 9 (above). A set of American tinsmith stakes and swedges. From left are a double-seaming stake, square-pen swedge (behind the stake), bench shears, beakhorn stake, blowhorn stake, square stake, bottoming stake, creasing stake, candlemold stake, hatchet stake, and a needlecase stake. At the back of the bench on the left is a creasing swedge and on the right a cullender swedge.*

*Figure 10 (below). More tools: (top row) hollow punches; (middle row) seam set; rivet set; (bottom row) shears, wire nips, scribe, setting hammer, two raising hammers, and a wooden mallet.*

in Bloomfield, Connecticut. He employed many tinsmiths, producing tinware that was peddled and sold all over New England. He also opened branch shops in New Jersey, New York, and Pennsylvania, which continued into the 1860s.

## The Tools

In the earliest years the American tinsmith used imported tools, but not too long after tinsmith Edward Patterson began working in Berlin, Connecticut, he began training apprentices who then became journeymen, and the number of tinsmiths grew. Soon, there was greater demand for tools, and the local blacksmiths in Berlin began making tinners tools. At first, they copied the imported tools but soon they were making and improving the design according to the tinsmith's needs. By the 1780s,

CONTINUED ON PAGE 51

*Figure 11 (right). A bench shear made by "J. & E. North Berlin Conn." circa 1824–1840, 29 inches long.*

# Bench Stakes and Swedges and How They Were Used

All of the stakes and swedges described in Figures 13-24 are meant to be placed in tapered square holes along the front of the work bench. The names of these tools have been associated with them since the third quarter of the eighteenth century, if not earlier. The name of each particular stake implies what the item being made with it was, such as a "candle mold" stake. In reality, however, these stakes were used for forming whatever item best fit the stake. For instance, I would use at least six stakes to make a one-quart drinking mug.

A hatchet stake (Figure 13) was used to turn the edge of a straight piece of tin plate to form a sharp fold in order to make a locked seam with two pieces or to lock together the edges of a cylinder. It is also used to form an open fold in order to insert a wire to stiffen an edge.

After a wire is inserted into the open fold of tinplate it is hammered down onto the proper size groove on a **creasing or wireing stake** (Figure 14) to form the tin completely around the wire.

The **square stake** (Figure 15) is used to burr or turn a 90-degree fold on straight tinplate, as on the bottom and sides of a square pan.

The **bottoming stake** (Figure 16) is used to turn a burr on round or oval disks to form the bottom of a round or oval container.

The **beakhorn stake** (Figure 17) is a larger stake that has a long, flat section with a 90-degree edge and a 130-degree edge. It is used to form a long 90-degree or more edge or fold. The flat edge can also set fast a set-down seam on the bottom of a vessel by inverting the piece and hammering the bottom of the seam as it sits on the edge of the stake. The round end can be used to form all types of cylinders and also to set a locked seam with a hand grooving tool, which is moved along the seam as it is hammered to lock it.

The **blowhorn stake** (Figure 18) is used to make a tapered objects such as a coffee pot spout on the long, thin end and funnel-shaped objects on the flared end.

The long end of the **candle mold stake** (Figure 19) is used to form a long, slightly tapered tube, such as a candle mold or dipper handle.

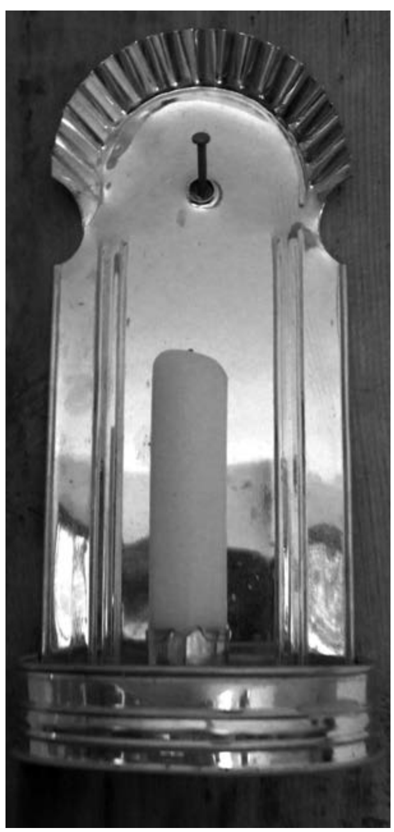
The **needlecase stake** (Figure 20) is used to form thin tubes or rings on the round end and small items that have to be turned 90 degrees on the flat end.

The **double-seaming stake** (Figure 21) has two oval arms, which have larger oval ends that will accept different size round or oval vessels in order to make a double seam on their bottoms. The seam is made by hammering the set down seam up against the body of the vessel.

A **square-pan swedge** (Figure 22) is used to crease a straight line in order to turn up the sides or to form a square or rectangular tray or pan. It is also used to scallop or flute the edge of a round pan or sconce. One edge is sharper to crease a sharp line, and the other edge is rounded to create the fluted edge.

A **cullender swedge** (Figure 23) can make two different size triple beads—a larger center bead flanked by two smaller beads (see the scone in Figure 12). It is used on coffee pots, colanders, and other tinware to stiffen or decorate a piece.

A **creasing swedge** (Figure 24) is used to crease a line on a round or curved piece of tin. It has four different size grooves to fit the sharper edges of the two hammers. The flat end of one hammer creased a raised bead on the edge of a small can to provide a stop for a lid.



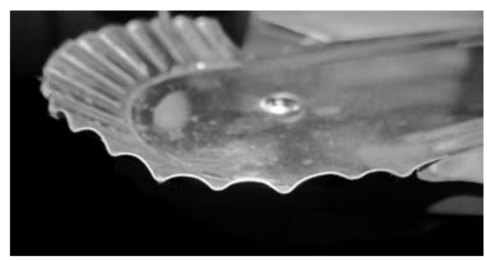


*Figure 12 and detail (above). A sconce formed using all three swedges (Figures 22-24). The curve on the top of the sconce was formed with the creasing swedge. The fluted top edge was made with the square-pan swedge. The decorative triple bead that was added on the bottom and on the vertical edges was made using the cullender swedge. Wire was inserted along the vertical edges of the sconce to strengthen it. The edges of the sconce were turned on a hatchet stake and then the wireing stake was used to set the wire within the turned edges.*

Sconce by the author. Collection of Bruce and Patty MacLeish

*Figure 15 (left). A square stake marked "J.&E. NORTH/ BERLIN CT" circa 1835-1854; 5 inches x 2½ inches at top.*

*Figure 16 (right). A bottoming stake, unmarked, circa 1820, 1½ inches wide x 14 inches high.*

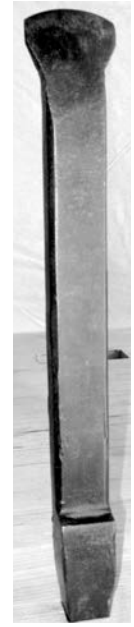


*Figure 13 (above). Hatchet stake marked "J. & E. NORTH /BERLIN C$^{T}$" circa 1835-1854, 14½ inches wide.*

*Figure 14 (right). A creasing or wireing stake marked "J. & E. NORTH/BERLIN/CONN" circa 1824–1840, 11 inches long.*

*Figure 17 (above). A beakhorn stake marked "J. & E. NORTH /BERLIN C$^{T}$" circa 1835-1854, 40 inches long.*

*Figure 18 (left). A blowhorn stake made by J.&E. North Berlin, Connecticut, circa 1834–1854, 25½ inches.*

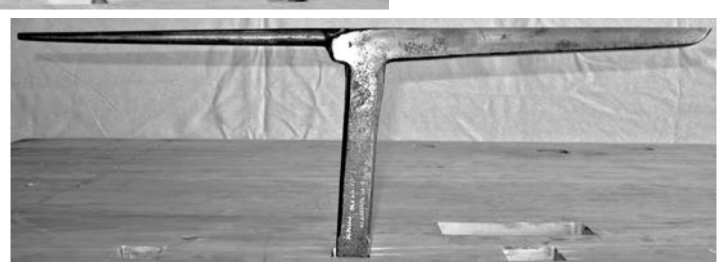


*Figure 19 (above, left) A candlemold stake marked "J.&E. NORTH/BERLIN/CONN" circa 1824–1840, 24 inches long.*

*Figure 20 (above, right) A needlecase stake marked "J.&E. NORTH/BERLIN/CONN" circa 1824-1840, 18 inches long.*

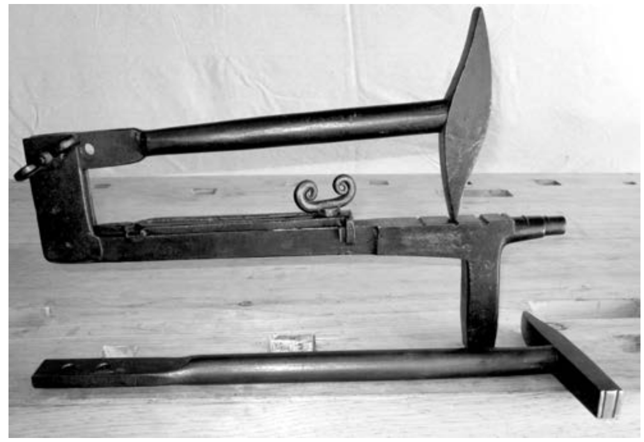
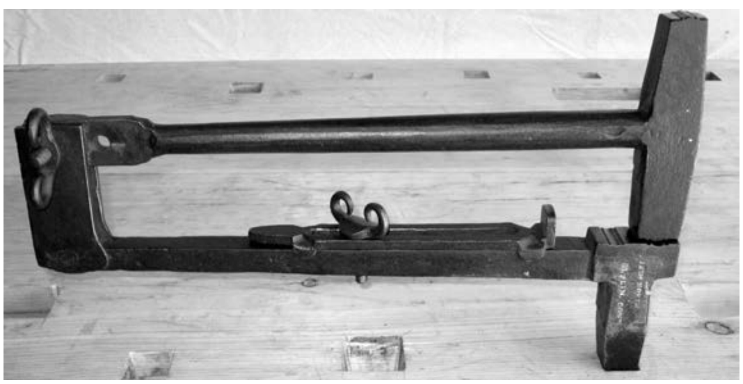


*Figure 21 (above). A double-seaming stake marked "J. NORTH" (Berlin, Connecticut), 1810-1824; 21 inches long.*

*Figure 22 (right, top). A square-pen swedge marked "J.&E. NORTH BERLIN CT" circa 1835-1854.*

*Figure 23 (below). A cullender swedge marked J.&E. NORTH/BERLIN/CONN."*

*Figure 24 (right). A creasing swedge with two hammers made by Wilcox & Roys Sawpit N.Y., 1834.*



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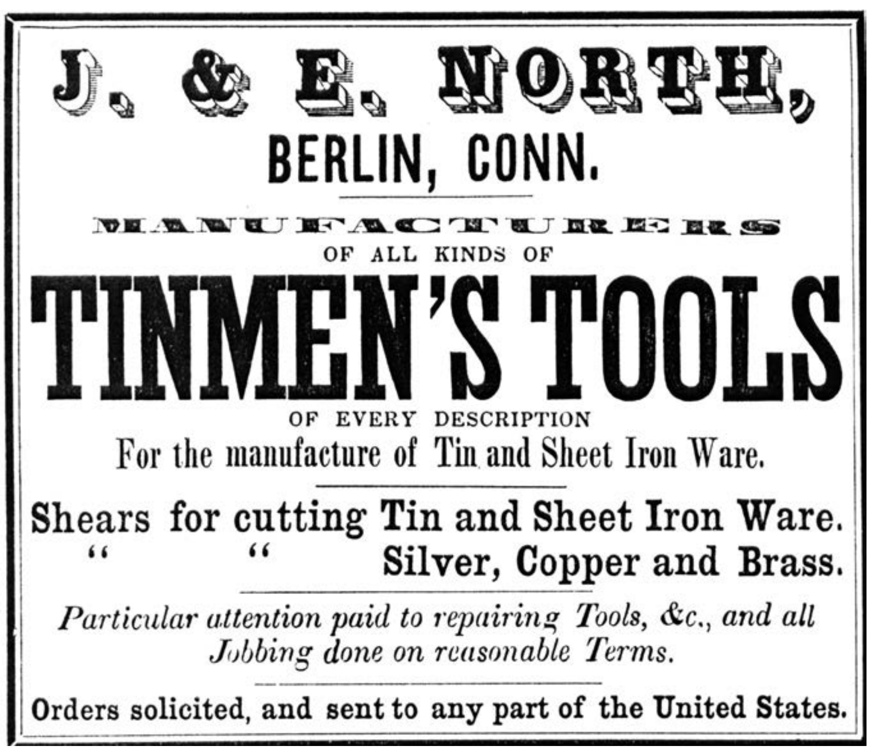
a distinctively American set of tin tools was being manufactured, and by 1810 there were six blacksmith shops in Berlin making tinsmith tools.

A full set of tinsmith's tools consisted of a double-seaming stake, a bench and hand shears, a beakhorn stake, a blowhorn stake, a square stake, a bottoming stake, a creasing stake, a candlemold stake, a hatchet stake, a needlecase stake, a raising hammer, hollow punches, a setting hammer, a creasing swedge, a cullender swedge, and a square-pan swedge. (Figures 9–11 and 13-24 illustrate many of the tools; see the box "Bench Stakes and Swedges and How They Were Used" for information on how the tools were used.) Most of the earliest tools were not marked by their makers, but by 1800 the manufacturers began to do so.

One of the major makers of tinsmith tools was Jedediah North, who opened his blacksmith and tool shop in 1810 (Figure 25). He marked his tools with his name and "BERLIN CONN."(Figure 26). In 1824 he took his brother Edmond in as a partner, and from that



J. & E. NORTH,

BERLIN, CONN.

MANUFACTURERS

OF ALL KINDS OF

TINMEN'S TOOLS

OF EVERY DESCRIPTION

For the manufacture of Tin and Sheet Iron Ware.

Shears for cutting Tin and Sheet Iron Ware.

" " Silver, Copper and Brass.

Particular attention paid to repairing Tools, &c., and all Jobbing done on reasonable Terms.

Orders solicited, and sent to any part of the United States.

*Figures 25 (left). A broadside advertising toolmaker J. & E. North of Berlin, Connecticut. North was active 1824-1854. As Berlin became a center of production of tinware, the need for tinners tools increased and the town's toolmaking business took off.*


*Figure 26 (left, top). Jedediah North's mark.*

*Figure 27 (left, bottom). The mark of Jedediah and Edmond North.*

*Figure 28 (right, top). A "J. WILCOX" mark on a seam set.*

*Figure 29 (right, bottom). The Wilcox & Roys, Sawpit, New York, mark 1830-1838.*


WM. BULKLEY,
BERLIN, CONN.
MANUFACTURER AND DEALER IN ALL KINDS
OF
TINMEN'S TOOLS
OF
Every description for the Manufacture of Tin and Sheet Iron Ware.
ALSO,
PATENT ROTARY SHEARS,
For cutting Circles from Tin or other Sheet Metals, and turning an Edge at the same time,
A SUPERIOR MACHINE
to any manufactured in the United States.
All orders addressed to him or his Agents in the principal Cities of the Union, will be promptly attended to.

*Figure 30 . A broadsides advertising Wm. Bulkley of Berlin Connecticut. Bulkley's ad featured machines rather than hand tools.*

point, their tools were marked "J & E NORTH BERLIN CONN" (Figure 27). The firm continued manufacturing tinsmith's hand tools until 1854 when Jedediah died.

Other makers of tinsmith's hand tools in the early nineteenth century who marked their tools were Josiah Wilcox, Sawpit, New York (Figure 28); Wilcox & Roys, Sawpit, New York (Figure 29); Roys & Wilcox Co., East Berlin, Connecticut; Justus and William Bulkey, Berlin, Connecticut (Figure 30); Lyman Wilcox, Berlin, Connecticut; and Franklin Roys & Co., Berlin, Connecticut.


## Machines

On April 14, 1804, two men from Dedham, Massachusetts, Eli Parsons and Calvin Whiting, received a United States patent for machines to do the various steps in forming parts for tinware. Work on these machines progressed slowly until 1810 when Seth Peck, a tinsmith himself, along with his two brothers, signed an agreement with the patent holders to make, improve, and sell the machines. In 1819, Seth Peck bought the patent rights and continued his improvements as well as obtaining patents of his own from his factory in Southington, Connecticut. His machines were sold through agents throughout the country (Figures 31 and 32). By 1835 most tinsmiths were using Seth Peck

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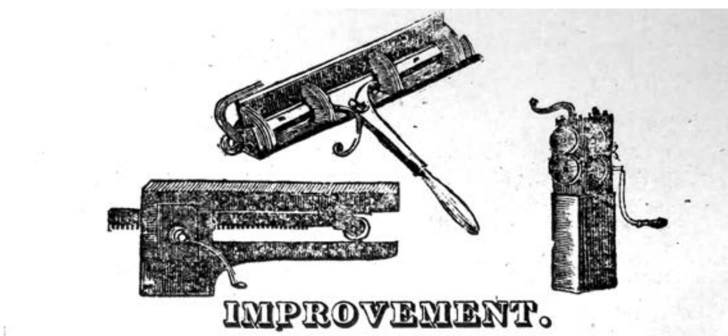


IMPROVEMENT.

THE Public are informed, that the Subscriber, at Southington, (Connecticut,) has made such arrangemen will enable him to supply, at short notice, those persons in any part of the United States, who may wan

Patent Improved Machinery,

For manufacturing WARE of TIN PLATE, SHEET IRON, BRASS or COPPER.

Facts authorize him to state, that his MACHINERY has at length overcome every opposition, and quieted ery doubt. So general has become its use, in the various parts of the country, as to supersede the necessity o enumeration of its merits. This Machinery is in successful operation in the cities of New-York, Philadel Baltimore, Boston, Albany, Providence, Charleston, Portland, Augusta, Cincinnati, Pittsburgh, and in almos ery other place in the United States; and is throughout the principal part of New-England used as the only m of manufacturing Tin Ware.

The principles of the Machinery, as also the Letters Patent of the Subscriber, embrace the Manufacture of and other apparatus for Stoves; and Machines for this purpose are already made use of, with great approbatio

Application for entire sets or parts of this Machinery, may be made to either of the following mentioned A for the Subscriber:—

Andrew Seger, No. 28, Bowery, New-York City.
John Hazlet, corner of Chatham and Chamber-sts. do.
Orrin Peck, Scipio, N. Y.
William Austin, Market-street, Albany.
Burrage Yale, South-Reading, (near Boston,) Mass.
Andrew Johnson, Providence, R. I.
John Black, Easton, Penn.

John Butterworth, 335, North-Third-st. Philadel
Harvey Filley, Philadelphia.
Leonard Hitchcock, Charleston, S. C.
Isaac Mansfield, Lexington, Ken.
Norman Bird, Cincinnati, Ohio.
Nathan Winslow, or Silas North, } Portland, Maine.

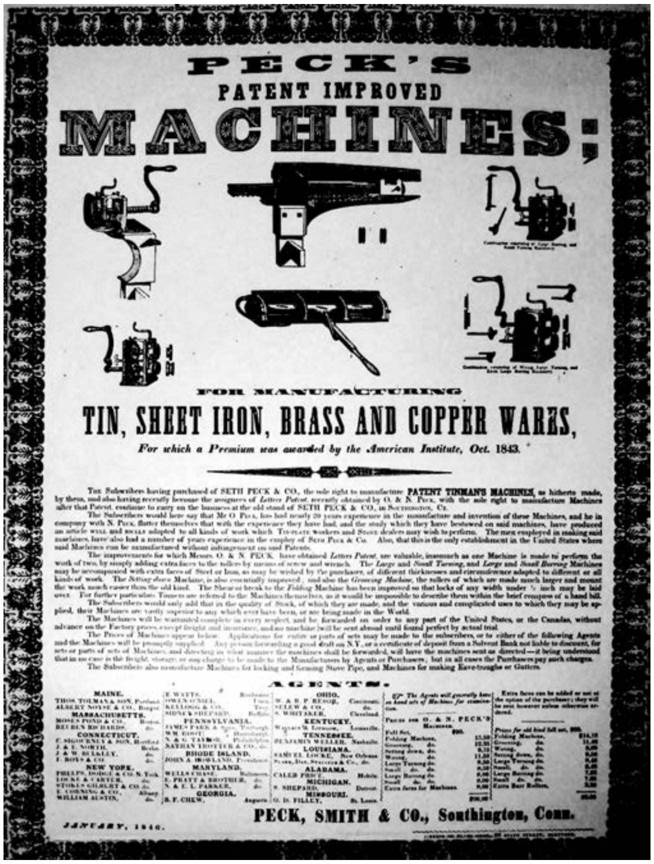
SETH PECK

Southington, May 10, 1822.

*Figure 31 (above, left). A circa 1835 Seth Peck trade token. It reads, "PECK'S PATENT MACHINES/IN COMPLETE SETTS/MADE AT /TROY, N.Y."*

*Figure 32 (above, right). Seth Peck's 1822 advertisement for his machines; the ad lists Peck's agents found along the east coast and into Kentucky and Ohio.*

*Figure 33 (right). Seth Peck's mark. His machines were not marked until after circa 1830.*



# PECK'S
## PATENT IMPROVED
# MACHINES;

FOR MANUFACTURING
## TIN, SHEET IRON, BRASS AND COPPER WARES,
*For which a Premium was awarded by the American Institute, Oct. 1843.*

AGENTS.

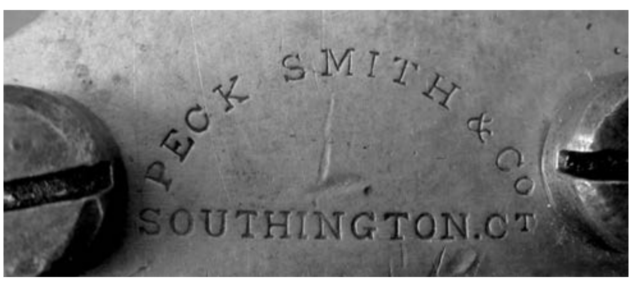
MAINE. MASSACHUSETTS. CONNECTICUT. NEW YORK. PENNSYLVANIA. RHODE ISLAND. MARYLAND. GEORGIA. OHIO. KENTUCKY. TENNESSEE. LOUISIANA. ALABAMA. MICHIGAN. MISSOURI.

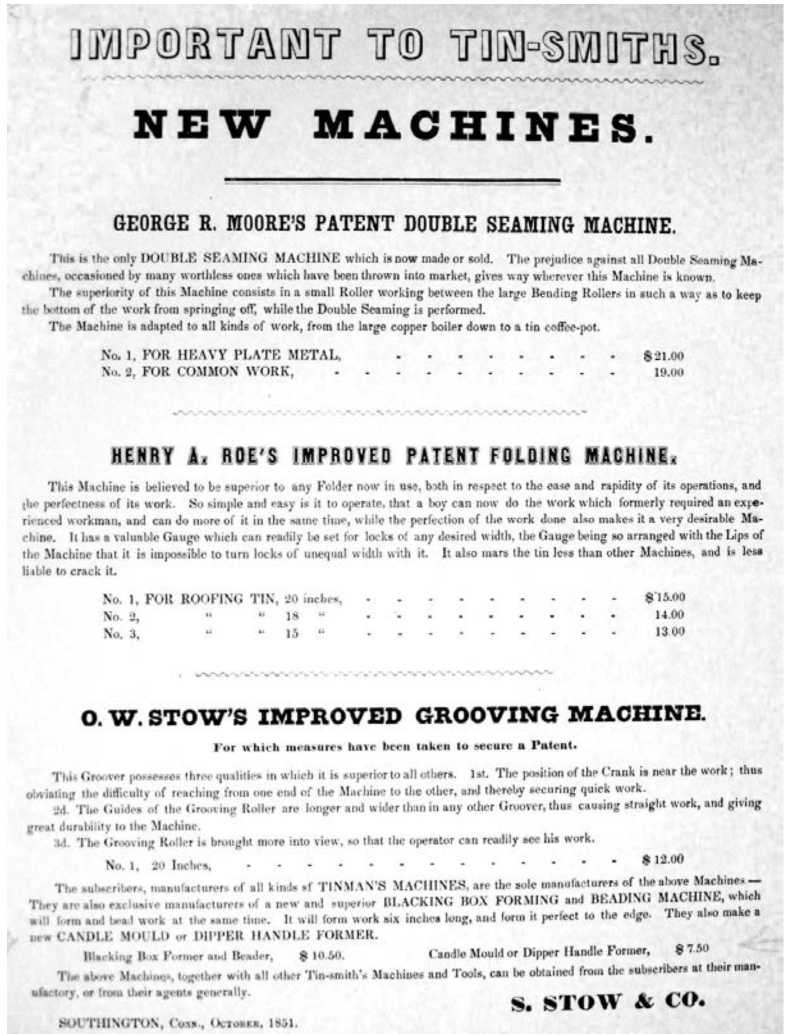
JANUARY, 1846.

**PECK, SMITH & CO., Southington, Conn.**

Figure 34 (above). An 1846 broadside for Peck, Smith & Co., which notes that "...this is the only establishment in the United States where said Machines can be manufactured without infringement on said Patents."

Figure 35 (below). The mark of Peck, Smith & Co.



# IMPORTANT TO TIN-SMITHS.

# NEW MACHINES.

## GEORGE R. MOORE'S PATENT DOUBLE SEAMING MACHINE.

This is the only DOUBLE SEAMING MACHINE which is now made or sold. The prejudice against all Double Seaming Machines, occasioned by many worthless ones which have been thrown into market, gives way wherever this Machine is known.

The superiority of this Machine consists in a small Roller working between the large Bending Rollers in such a way as to keep the bottom of the work from springing off, while the Double Seaming is performed.

The Machine is adapted to all kinds of work, from the large copper boiler down to a tin coffee-pot.

| | |
|---|---|
| No. 1, FOR HEAVY PLATE METAL, | $21.00 |
| No. 2, FOR COMMON WORK, | 19.00 |

## HENRY A. ROE'S IMPROVED PATENT FOLDING MACHINE.

This Machine is believed to be superior to any Folder now in use, both in respect to the ease and rapidity of its operations, and the perfectness of its work. So simple and easy is it to operate, that a boy can now do the work which formerly required an experienced workman, and can do more of it in the same time, while the perfection of the work done also makes it a very desirable Machine. It has a valuable Gauge which can readily be set for locks of any desired width, the Gauge being so arranged with the Lips of the Machine that it is impossible to turn locks of unequal width with it. It also mars the tin less than other Machines, and is less liable to crack it.

| | |
|---|---|
| No. 1, FOR ROOFING TIN, 20 inches, | $15.00 |
| No. 2, " " 18 " | 14.00 |
| No. 3, " " 15 " | 13.00 |

## O. W. STOW'S IMPROVED GROOVING MACHINE.

**For which measures have been taken to secure a Patent.**

This Groover possesses three qualities in which it is superior to all others. 1st. The position of the Crank is near the work; thus obviating the difficulty of reaching from one end of the Machine to the other, and thereby securing quick work.

2d. The Guides of the Grooving Roller are longer and wider than in any other Groover, thus causing straight work, and giving great durability to the Machine.

3d. The Grooving Roller is brought more into view, so that the operator can readily see his work.

| | |
|---|---|
| No. 1, 20 Inches, | $12.00 |

The subscribers, manufacturers of all kinds of TINMAN'S MACHINES, are the sole manufacturers of the above Machines.— They are also exclusive manufacturers of a new and superior BLACKING BOX FORMING and BEADING MACHINE, which will form and bead work at the same time. It will form work six inches long, and form it perfect to the edge. They also make a new CANDLE MOULD or DIPPER HANDLE FORMER.

Blacking Box Former and Beader, $10.50. Candle Mould or Dipper Handle Former, $7.50

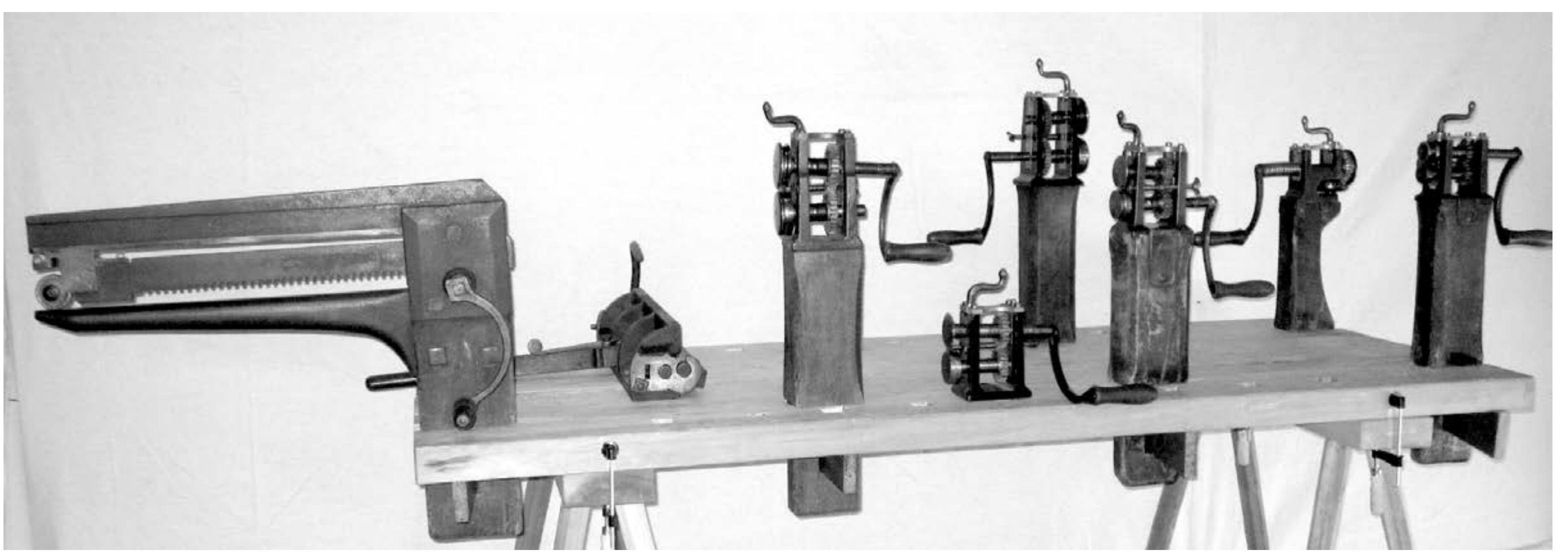
The above Machines, together with all other Tin-smith's Machines and Tools, can be obtained from the subscribers at their manufactory, or from their agents generally.

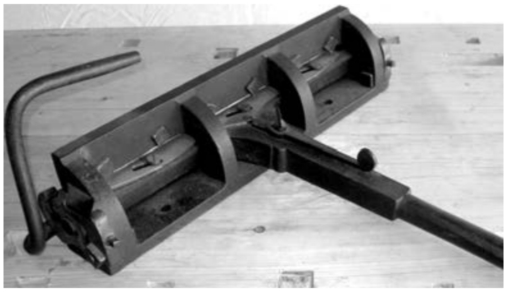
**S. STOW & CO.**

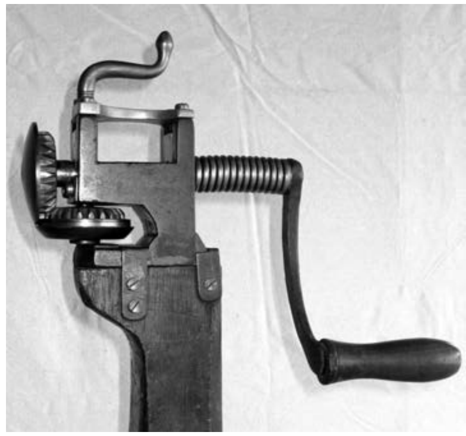
SOUTHINGTON, Conn., October, 1851.

Figure 36 (above). An 1851 advertisement for new tinsmith machines from S. Stow & Co.

Figure 37 (below). A set of tinsmith's machines. From left are a grooving machine, a folding machine, a wireing machine, a large burring machine (without post), a large turning machine, a small turning machine, a setting down machine, and a small burring machine..







*Figures 38 (above). An unmarked bar folder, 1820-1840.*

*Figure 39 (near right). A setting down machine.*

*Figure 40 (far right). A wireing machine.*

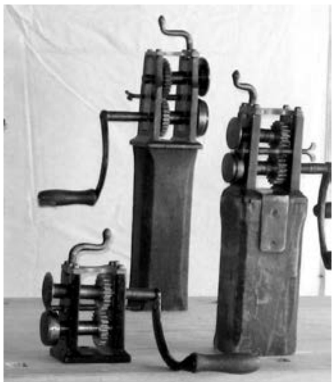


*Figure 41 (above). Before circa 1850, tinsmiths made wooden bases to hold machines.*

*Figure 42 (right) After 1850, detachable iron standards were sold with the machines.*

machines. After circa 1830, Seth Peck marked his machines (Figure 33).

In 1843 Peck conveyed his rights to the machines to newly-formed Peck, Smith & Company (Figure 34), and, thereafter, his machines were so marked (Figure 35). Other companies—Solomon Stowe in Southington, Connecticut (Figure 36); Aaron Whitney of Woodstock, Vermont; and Roys Wilcox in East Berlin, Connecticut—began to manufacture machines.

A set of tinners machines consisted of a folding machine, a grooving machine, a small burring machine, a large burring machine, a small turning machine, a large turning machine, a wireing machine, and a setting-down machine (Figures 37-40).

The early machines were purchased without a base, and the tinsmith would have made a wooden post to hold them (Figure 41). Starting in about 1850, detachable iron standards were being included with the machines (Figure 42). The main advantage of these new stands was that unlike on the wooden posts, which were fixed, the iron standards could rotate. These machines greatly improved the production in the shops which, in turn, made tinware available to everyone.

## Products

Almost all tinware is constructed in three basic forms: square, cylindrical, and cone (Figures 43 and 44). Tinplate is not easily formed into round spherical shapes except for small items such as domed lids (as seen in the coffee pots and other items in Figures 43 and 44). During the American Revolution, the supply of tinplate from England was, of course, cut off. What little tinplate tinsmiths could obtain was made into camp kettles (like those shown on the left in Figure 43) and tin cartridge boxes (Figure 45) as an alternative to leather ones. The majority of items made by tinsmiths were common lighting devices, cooking, and kitchen items and serving and storage items (Figures 46-49). Most all of these products were bright and shiny tin but dulled with use and age. Tinsmiths also made house heads for under the gutters, conductor pipes, or down spouts (Figure 47).

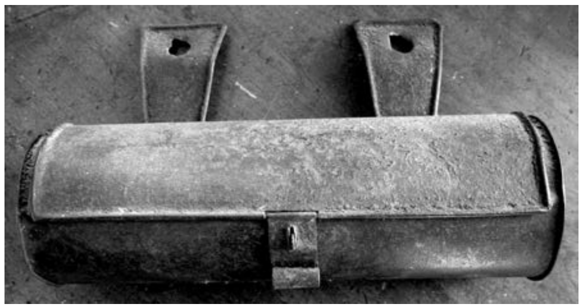
By 1810, most of the larger shops, such as those operated by James Upton, Oliver Filley, and Zachariah Stevens, were also japanning and flowering tinware (Figure 50).

*Figures 43(above). Reproductions of typical eighteenth-century tin items.*

AUTHOR'S COLLECTION

*Figure 44 (right). Typical nineteenth-century tin items. These and the items in Figure 50 illustrate the basic shapes into which tin could be formed—square, cylindrical and coned.*

*Figure 45 (below). A tin cartridge box from the Revolutionary War in America. Tin was used as a replacement for leather in the war.*



*Figures 46–49. Typical tin household items.*

*Figure 46 (above, middle). A hanging candlebox, 1780-1840.*

*Figure 47 (right). House heads for gutters and downspouts on houses.*

*Figure 48 (near right). A small, three-sheet tin kitchen or roasting oven.*

*Figure 49 (far right). An eighteenth-century pierced lantern.*

*Figure 50 (below). Examples of japanned and flowered tinware.*

Japanning is a mixture of clear varnish and asphaltum. The flowering was done by women hired by the tin shop. The designs were executed with light brush strokes using primary and secondary colors mixed with turpentine and varnish.

By the 1850s stamping companies were selling factory-made tinware with stamped out parts with japanned and stenciled finishes, which signaled the beginning of the end of the handmade tinware industry. The small tin shops still produced work but turned away from household items towards duct work and tin roofing.

## Author

Longtime EAIA member William McMillen (Figure 51) is a master tinsmith. He regularly teaches courses in tinsmithing at the EAIA workshops at Eastfield Village, where he is a regular instructor. This article will be followed with one that describes how a tinsmith forms seams and the purpose of the various tin machines.

*Figure 51. The author.*