PRE-VISIT MATERIALS – Working in Early America

The following pages contain exerts from the book, *Craftsmen and the Beginnings of American Industry* by Edwin Tunis. The information here would serve as wonderful background information for students to have before their “Working in Early America” program, especially the section titled *New World, New Ways*, which gives more of an overview.

*New World, New Ways* – pages 11-14
*The Whitesmith* – pages 65-70
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I.

NEW WORLD, NEW WAYS

HAND CRAFTS changed little during the whole period here very loosely called "colonial," which, for our purposes, is extended from the first settlements to about 1850 when the industrial revolution was developing the muscles that would change the nation. The gradual growth of those muscles is part of this account, though most of it is concerned with the ways of professional artisans in small shops. Details of work and tools are hard to pin down for the first ninety years after Jamestown, and especially for the first fifty years. So you are reading about the eighteenth century here except where other dates are given.

British restrictions and the newness of the country strongly affected the development of crafts and the beginnings of American industry. These forces are briefly and incompletely sketched in this chapter along with some other matters that applied to all of the crafts.

At first the Southern colonies could export tobacco, pine tar, and turpentine—later they added rice, indigo, and cotton—to earn profits in the form of credit in England for buying most of their needs at about three times the normal English prices. So the planters made few things for themselves and needed to have few things made for them locally. Artisans who went south found the pickings slim.

Except for timber, the best of which was commanded by the British navy, the colonists north of the Mason-Dixon line had at first no export products that England wanted and therefore no credit and no money. They had to make for themselves whatever things they needed. Some of them used skills they learned in Europe; others learned skills they had never expected to need.

The Northern colonist in the 1630's cut and hewed the timber for his house and with the help
of his neighbors set it up and pegged it together. He brought little furniture with him, so he built his stools, tables, and beds himself. The settler's wife kept pace with him; she made her own soap and candles, and ground corn by hand for bread. As soon as flax could be grown and sheep raised, she spun linen and wool and wove them into cloth which she sewed into garments for her family. Two earlier books by this writer, Colonial Living and Frontier Living, discuss the homespun crafts.

As soon as the settlers became a little prosperous, they began to pay the more skillful of their neighbors to make things for them. They paid in goods rather than in money. While any surplus household product might well be sold or bartered, the making of no one thing occupied the whole time of any one householder. As soon as one did, it was a workshop craft. Real skill at any trade comes only with years of full-time work. When we think of the early artisan, we visualize a lone worker bent over his bench personally carrying out every step in the creation of each article he made. There were many such, but most had at least one journeyman helper and an apprentice or two.

**British Restrictions**

England encouraged her colonists to produce whatever would best serve the interests of her subjects at home and made laws to discourage any colonial production that competed with home trades. Since the American settlers were also loyal subjects, they increasingly resented this discrimination and it finally undermined the loyalty of most of them. England's attitude wasn't considered odd at the time, however shortsighted it may seem now. It was the practical application of a theory known as "mercantilism" which holds that a nation is more important than its parts—or its colonies; that it should try to make everything it uses; that it should strive to sell abroad but not to buy there; and that it should fill its vaults with all the coin it could lay hands on—and keep it.

Some causes and effects of the practical application of the theory went about like this: Wood, often in the form of charcoal, was used as fuel on both sides of the Atlantic Ocean in the seventeenth century and in most of the eighteenth. English forests had been used up, so America was to supply the mother country with fuel and with timber. English ironworkers wanted pig iron from the colonies, smelted here with American charcoal, but they wanted no such nonsense as colonial ironworkers making pots, pans, hinges, and tools from the pig. Such things were to be made overseas, shipped back, and sold for cash. So with wool. The English were sheep raisers and cloth weavers; their European market fell off in the seventeenth century. Obviously the colonies would take up the slack. As late as 1774, the last control law forbade export to this country of tools for making wool cloth. By that time, the colonies north of the Mason-Dixon line were absorbing two-thirds of Britain's colonial trade.

In 1660, the British government published a list of "enumerated articles" which colonials might ship only to British ports. This was contained in the first of the Navigation Acts. Some variation of the list remained in force until the Revolutionary War. It usually included tar, pitch, turpentine, hemp, masts, and spars—all for the navy—and cast pig iron, wrought bar iron, potash, pearl ash, hides—all raw materials for British artisans—and tobacco, which didn't grow well in England.

According to the mercantile system, the colonists were supposed to import only from England, including items like tea which the English imported themselves, and the Americans were expected to pay cash for nearly all they bought. Unfortunately, few legal ways were left for them to get their hands on any money. So they took illegal ways to get it; and what they got, they did their best to keep. They, too, were sound mercantilists. One way they got it was by trade with known pirates; another was by coastal smuggling. But the principal way was by the illicit trade of American ships with interdicted foreign ports. For example, some southern tobacco went quietly to Holland and to France and was bartered for cheese, for printed cottons, for silk, for brandy—all salable for cash in world ports. Rhode Island rum went to Africa to pay for slaves to be sold in the West Indies to buy molasses to make more rum. Molasses was
cheaper than rum or slaves, so the ship captain turned over to the owner a satisfactory take of Dutch florins and Spanish dollars. Boston and Salem, avoiding slaves, worked out other successful “three-cornered” trades. Most Americans admired such evasions of the law and abetted them. The fact that John Hancock, when he signed the Declaration with such a flourish, had a price on his head in London as a smuggler did not hurt his position as a respected Boston merchant.

Specialists

A few trained craftsmen came early to America, in fact, on the first boats: Blacksmith James Reed to Jamestown in 1607 with the original group of settlers; Cooper John Alden to Plymouth in 1620 on the Mayflower. No one has celebrated Reed in verse, but it was probably he who beat out Captain John Smith’s “little chisels” from the bog iron they dredged out of ponds near Jamestown Island.

Every succeeding boat brought artisans of some sort. Those who worked at their trades at all had to farm a little on the side. Quite a few of the settlers who came to Salem and Boston after 1628 had been weavers in England. Some of them worked with imported material until something had been raised that could be spun and woven. Such people had many new skills to learn, even farming itself.

Once life in the colonies showed signs of becoming ordered, people’s natural aptitudes led them to full-time work at some trade. Practice improved their skills; so a man who began as a housewright might end as a joiner, paneling the inside walls of houses and building neat staircases. His son might push his skill further, becoming a cabinetmaker. He would be apt to move from the home village, to venture a shop in a larger town. A man couldn’t get far in a hamlet where most of the surrounding farmers bought absolutely nothing but salt and nails, and quite often made their own nails.

Naturally, most craftsmen—and the best of them—gathered in the coastal commercial centers: Boston, Newport, New York, Philadelphia, with a few, not of first rank, in the south at Annapolis, Williamsburg, and Charleston. In Boston as early as 1647 there were professional weavers, feltmakers, furriers, ropemakers, brick- and tilemakers, three kinds of leatherworkers, six kinds of woodworkers, and seven kinds of metalworkers. Most of the other towns didn’t exist in 1647. The count of a list of men attainted of treason in Philadelphia during the Revolution shows thirty-five different trades. Since there were no Tories named on the list, and there must have been some insurgents who weren’t caught, probably more trades than that were practiced there. By the way, merely calling a man “carpenter” or “chandler” didn’t mean that he still worked at his trade. Whatever he did later, he remained John Smith, carpenter, or William Jones, chandler, for life.

A country artisan usually owned his house and farm, and worked at his trade in a shop out back. In a town of some size, the shop was on the first floor of a house that was likely to be rented. If his trade was a dirty one or if it required a forge, the craftsman’s workshop was in the back yard and only the sales room was behind the front door. The family lived and slept on the upper floor or floors, and cooked and ate in the cellar or in a kitchen built on to the house.

Status

Social position was a great matter to us ancestors but it wasn’t so rigidly fixed as it was in England. A smart, industrious American could get ahead not only financially but socially as well, particularly if he joined the “right” church and married the right girl. As a result, craftsmen penetrated every social level, but in the main, “substantial artisans” stood near the middle of the social structure. Such men were also called “mechanicks,” defined as those whose work made “more use of the Hand and the Body than of the Mind.” Semi-skilled laborers such as sawyers were inferior mechanicks. When the artisans became the moving spirits of the Sons of Liberty in the early 1770’s, the Tories called them all—from Paul Revere down—base mechanicks.

Except for the voice the New England town meeting gave to every householder in strictly
local affairs, the run of citizens had no chance of choosing their government. In most of the colonies only those who owned at least fifty acres of land or fifty pounds’ worth of personal property could vote, a privilege that had little chance of affecting their welfare. The thirteen colonies were actually run by thirteen cliques of wealthy gentlemen strictly for their own benefit. In part, the people approved of this: tradition and education made the gentry the natural rulers, but, though some of them preferred reform under the Crown, the substantial artisans wanted the right to pick their own gentlemen. It was to gain this point that most trades workers plumped for Independence.

How important were these artisans? How many of them were there? The careful estimates of careful men put them at about eighteen per cent in a total 1770 population of a shade over two million—a solid 360,000. Eighty per cent of Americans were farmers, widely scattered and hard to organize. That other two per cent were gentlemen. The mechanics were grouped in towns and villages close to the sources of news and were all known to one another in any one locality. They could organize and, not very convincingly disguised as “Mohocks,” they could heave a couple of cargoes of tea into Boston’s Fort Point Channel.

The Apprentice System

In England a labor surplus made any apprenticeship there a very desirable thing. The master was in a strong position. He could demand that a boy serve seven years; he could rigidly enforce discipline; and, in addition to the menial services he demanded of the novice, he could exact a cash premium from the parents who “bound out” the boy.

At no time was there enough labor in early America. Masters gladly took apprentices at no charge, both the voluntary kind whose parents offered them and the compulsory kind, the orphaned and the illegitimate, who were bound out by the town to ease the poor rates. Few Americans served seven years; five or four were more usual, and sometimes the boy shortened that term by running away as Ben Franklin did.

Somebody was always advertising in the newspapers for a missing apprentice.

The contract, called the indenture, enjoined the boy to behave himself and “faithfully his said Master shall serve, his secrets keep, his lawfull [sic] commands at all Times readily Obeys . . .” The master agreed to teach the apprentice his “mystery”—this word still appeared in legal documents but wasn’t much used in speech; it meant simply trade, nothing weird—to feed him, lodge him, dress him, and keep his clothes washed. At the end of his term the lad became a journeyman and was given “custom of country”—usually a new suit, four shirts, and two necklets. Compulsory apprentices didn’t come off quite so well.

Normally a master agreed to allow his apprentice to attend an evening school at the parents’ charge or sometimes at the master’s; in fact, some masters personally taught their “prentices to read, write, and cipher. Most towns had evening schools. They were privately run and gave only “useful instruction,” avoiding the Latin and Greek offered by the public schools. In addition to the three R’s, some evening schools taught “Merchants accounts” and even went on into higher mathematics and surveying.

Bad masters were all too frequent, though the courts sturdily backed any abused apprentice who could manage to get a case before them. On the other hand, the boys did little to make life easy for “the Old Man.” They seldom had been consulted when they were indentured and many lacked any interest in, or aptitude for, the trade they learned. So, in addition to the habit of
Soldiers still used flintlock muskets in the Civil War, though in 1816 a Philadelphia artist named Joshua Shaw had perfected the simpler and more dependable cap lock. Shaw drilled a small steel cone and threaded it into a touchhole. A copper thimble (the cap) with a little fulminate of mercury in its base fitted on the cone. When he pulled his trigger, a hammer fell on the base of the cap and the fulminate did the rest. Many a flintlock gun was altered to fire by percussion. Percussion pistols became common in the 1830’s; before that, flintlocks fired pistols.

The Whitesmith

A whitesmith is now called a tinsmith. What we call “tin” is, of course, actually tin plate—sheet iron coated with tin to prevent rusting. Early sheet iron was made in small pieces by repeatedly heating and flattening bar iron, at first under tilt hammers but, after 1800, by passing the bars between water-driven rollers. Tinners, as distinct from tinsmiths, cut the sheets to quite small sizes, the largest twelve by eighteen inches, pickled them in mild acid, scoured them with sand, and dipped them, wet, into a caustic iron pot filled with tin kept molten over a charcoal fire. A skim of tallow on the surface prevented air from oxidizing the tin. Since tin melts at 450° F, the fire didn’t have to be very hot. The tinner believed the tin penetrated the iron and formed an alloy with it, but they were wrong. No American sheet iron was tinned until 1839, and even then it had to be done with Cornish tin.

When a blacksmith at Newburyport, Massachusetts, made the first American “tinware” in 1880, his grease lamps were certainly uncoated sheet iron. The later whitesmith bought his tin-coated iron by the box at the nearest large town, cut it with bench shears to his wooden patterns, and shaped it by bending, crimping, and hammering. He worked a somewhat stubborn and restricted metal. overheating would destroy its coating and hammering too great a bulge in it would break the coating. Sometimes he did hammer it into a dome shape for a lid, but he seldom did so without retinning it unless he knew the finished job would be painted. Simple curves and even right-angle bends, if they weren’t too sharp, made no trouble.

The whitesmith stuck to boxes, cylinders, and cones, or combinations of those shapes. When he made a tin cup, he turned its lip edge over, not only to make it smooth but also to stiffen it. Any large article, like a pail, required additional stiffening in the form of an iron wire enclosed in the rolled-over edge.
The whitesmith used tools similar to those of workers in more ductile metals, but the simple shapes he made required far fewer special ones. In addition to the big shears anchored in a hole in his bench, he used hand snips for small cuts and nippers for trimming off tags and corners. His flattening anvil was a square block of iron set on a thick post. Bends of large diameter he usually made by tapping the metal with a mallet as he held it on a debarked log projecting horizontally from his bench. Straight and curved steel “edges” set in bench holes served as anvils for turning and rolling the edges of the tin. Hammers, punches, pincers, and files came near to completing his shaping equipment.

Tin can’t be welded; its joints have to be soldered. The colonial tinmith made a butt joint—that is, a joint uniting two flat pieces or the ends of a single piece used as the walls of a cylinder or a box—by lapping the edges or by turning the edges and hooking them together. In either case, he fluxed the joint with rosin so that the heat would not oxidize the tin, and ran molten solder between the lapped faces of the metal. When he put a bottom on a box or a can, he cut it slightly oversize and turned its edges up to a size that would fit exactly around the wall. Then he ran solder into the space between the wall and the little flange. He used a soft solder, probably one part lead and two parts tin, which melts at 330° F; it had no bismuth in it, as soft solder now has, because he didn’t know what bismuth was. The smith applied it by setting chips of solder along the fluxed seam and then running them in with heat from a soldering iron—actually copper—which he kept hot in a small charcoal furnace. A good smith left no solder visible on his joint.

Rain gutters and downspouts made to fit a particular building and a few special articles like chandeliers and extra large lanterns constituted the tinmith’s bespoke work but by no means ended the list of the things he made. Large stock items were cheaper forms of articles that were also made of better materials: tin dippers, strainers, and pans instead of iron ones; tin nails and cups instead of wooden or copper ones; tin lamps, lanterns, and candle holders instead of brass or pewter ones. Quite a few things—candle molds, candle boxes for handy storage, small tea and spice cans, tinderboxes, and sand shakers for sprinkling sand on letters to blot the ink—could be made of other metals but served their purpose just as well in tin. The list of tin articles is almost endless.
Sometime near the beginning of the eighteenth century, perhaps earlier, somebody invented the "roasting kitchen," a reflecting oven built as an arched-topped box on legs, with one open side to face the fire. A spit ran through it, a pan in the bottom caught drippings, and a door in the back gave entry for the cook's basting spoon. Some roasting kitchens were sheet brass or copper, but tin ones roasted meat as well as the fat.

Square tin lanterns had three or four glass sides, usually protected by crossed wires, while some round ones had no glass whatever and allowed their faint light to escape through several hundred small holes punched through from the inside in patterns. These round ones are often wrongly called "Paul Revere" lanterns, but America's most famous horseman would have had trouble seeing one across the Charles River, and, too, his actual glass-sided lantern still exists. A drawing of it is reproduced in the front of this book. Tin sconces hung on walls reflected their candles' light from back plates, either tall and narrow or round with crimped edges.

A tin chandelier held one or two rows of candles distributed around a rigid core with a ring in its top for hanging. When the cores were tin, they were perhaps a little too rigid to look better than quaint; turned wooden ones were better. Each candle stood in a tin socket fastened to the end of a tin arm, commonly S-shaped, and arranged radially with its mates around the core. Most chandeliers were painted black, but some were dark green or dark red.

The Newburyport tin betty lamps were far from being the last of their kind. Such lamps are known to have been made as late as 1850 and when the last one was used is anybody's guess. The betty existed in Europe long before America was discovered. Its design is an improvement on the primitive cruse which was nothing more than a grease-filled dish with a lip for a wick to rest in and to drip grease so freely that a second dish commonly hung below the first to catch it. The betty lamp burned grease and smoked, but it didn't drip because, though it was shaped like the cruse, its wick rested not in the lip but in a small slanting trough set a little back of the lip. The betty also had a hinged cover to limit the size of the flame, a refinement the cruse seldom had. Blacksmiths made iron betty lamps, but tin ones were easier to make and cheaper, though not as pretty.

After 1750, American whalers brought home increasing quantities of oil that gave more light with less smoke than any lamp oil ever used before. The reservoir of a whale-oil lamp could be made any size or shape that would permit a fair-size hole in its top for the burner, and of any material that could be readily shaped. Pewter, copper, brass, glass, and tin were all used, but the burners themselves were nearly always tin,
and since tin was the cheapest material, most of
the lamps were made of it.

Except in very cold weather when it needed a
little warming, whale oil was thin enough to
climb a wick held in a slightly tapered tube
which was soldered into a disk that had its edge
turned up to catch any overflow of oil. This was
a "drop burner." It was dropped over the hole
in the reservoir and it worked well except that
oil might spill if the lamp was moved. Some

![Drop burner](image)

![Tin whale-oil lamp with one bulb 1-eye lens; and a hand lamp with a hinged chimney](image)

American genius overcame this by adding a cork
which he kept in place by soldering a smaller
disk to the wick tube below it. The next step was
to screw the burner into the lamp; most of the
later ones were threaded. In all whale-oil
burners a vertical slot in the upper part of the
wick tube admitted the point of a pickwick to
raise the fabric—cotton was best—as burning
shortened it.

Ben Franklin found that a burner with two
wicks gave more light than two lamps would give
and that one with three wicks nearly equaled
four lamps. By heating each other, they vapor-
ized the oil more completely. Normally the
flame of a whale-oil lamp burned unprotected
with no chimney, giving a better light than a
candle but not making anyone blink with its
brilliancc. Hand lamps, intended to be carried,
did sometimes have mica chimneys like the one
illustrated. Some lamps, usually pewter ones,
were equipped with one or more thick convex
lenses to concentrate their light for reading, and
artisans often suspended spherical glass globes
filled with water in front of their work lamps or
their candles to focus the light.

Whale oil was expensive; the commonest kind
cost a dollar and a half a gallon, and sperm oil
which gave a brighter light, cost a dollar more.
West of the Appalachian Mountains it was hard
to get either kind at any price; the substitute was
oil squeezed from the fat of the four-footed
"prairie whale." Lard oil was thick; in fact, it
was nearly solid except in hot weather, so a

![Plug burner](image)

![Standard lard-oil burner](image)

special burner was devised for it. The brass
holder of a wide flat wick extended deep into the
reservoir and, after the lamp burned low a while,
the metal conducted enough heat downward to
liquefy the oil. A little pre-warming by the fire
hurried things up.

Around 1800 it was discovered that distilling
turpentine over quicklime would remove the
rosin from it and allow it to burn in a lamp with
a bright white light and no smoke. Unfortunately
it made a potential bomb of the lamp. If a spark
reached the gas that collected in the reservoir, a
fluid lamp exploded. It happened pretty fre-
fently. Around 1826, the danger was reduced
somewhat, at some cost of illumination, by
diluting the turpentine with alcohol. These
burning fluids are known generally as camphine,
and they were used along with whale oil and lard
oil until the introduction of kerosene after the
Civil War. The burners for fluid lamps were
quite like those for whale-oil lamps except that
the wick tubes were longer and slanted away
from each other; there were always two or three
of them. Nobody dared to blow out a fluid lamp, so each wick tube had an extinguisher cap chained to it.

All the tin sugar boxes, money boxes, candle boxes, lamps, coffeepots, and so on were useful and cheap, but people found them ugly. Then somebody thought of ornamenting them. The first work of this sort was known as japanned tin. Artisans in Wales so decorated tin soon after 1700, and later ladies, with time on their hands, trading pails and dippers for hides, tallow, spun yarn, rags, wood ashes, and feathers. And they learned to mind their profits and trade sharply. Success suggested longer trips, so they mounted horses and each set off with an apprentice bearing a pack horse carrying panniers full of tinware. Soon the Pattersons stayed home to keep shop and hired others to do their peddling, and they added notions like needles, pins, salt, spices, buttons, and almanacs to the packs.

Camphine lamps, glass and japanned tin

Tole: a money box and a tea caddy

did it as a “polite accomplishment.” They first gave the article several coats of dark brown asphaltum varnish and then embellished the surface by painting on bright colors. To keep from calling the product anything so common as tin, the elegant used the French word tole—which meant the same thing. Tole “took on” in the colonies in the latter half of the eighteenth century and remained popular well into the nineteenth, acquiring along the way a cheaper poor relation decorated with stencils. Any tin article that might appear outside the kitchen was tole, and some of the trays, tea caddies, and so forth are handsome.

A pair of Irish brothers, William and Edgar Patterson, who were trained whitesmiths, came to Berlin near Hartford, Connecticut, in 1798, and there went to work at their trade. They bought imported tin plate in Boston. Berlin, little more than a hamlet, offered a limited market for the Patterson products, so the brothers slung sacks over their shoulders and went peddling through the countryside. They took country pay,

Other craftsmen, often tinsmiths also, began looking out over the horizon for markets. After turnpike-building began in the 1790's, they could send out wagons carrying a larger stock and the Yankee peddler was soon a familiar and welcome visitor in remote settlements. The system became well organized. In the fall the master tinsmiths sent journeymen by boat to central points—to Charleston, to Richmond, to Albany, even to Montreal. These men worked all winter making stock for the peddlers to take out in the spring. Tinware remained the core of the trade, but the peddler loaded his wagon with every portable article that people living beyond stores would need or want: hardware and horn combs; books and brushes; clothespins and cheap jewelry; seeds, shoes, spectacles, and suspenders—with springs; plug tobacco; and Terry cloths with wooden works. When he had peddled his whole “shag,” his wagon was still loaded, but now with the stuff he had taken in trade. The peddler then returned to the seaport, sold his produce, his horses, and his wagon, buckled the
cash around his waist, and took ship for Connecticut where he gave the boss an accounting
and was paid off. Later peddlers used specially built wagons with compartmented bodies. These
they used for repeated trips.

There were cheaters, of course, but the story that the peddlers sold wooden nutmegs is
Yankee humor. In general, the load on the wagon was honest. The peddler was a “slick
article”—he got full value and more for what he sold—but many of his clocks are still running.

The Plumber

The plumber today is a pipe fitter who sometimes uses lead to seal a joint, and we use the
term lead bumer for a welder of sheet lead. But, until well into the nineteenth century, “plumb-
er” covered any craftsman in lead except perhaps the shotmaker, whose trade was too new to
have a proper craft name. Lead was scarce in early America and men cheerfully paid high
prices for a pound or two to cast as bullets. England gladly sold it to the colonists, who had
found none along the Atlantic seaboard. The French mined it in the Mississippi Valley quite
early in the eighteenth century and may have shipped some out of New Orleans to the English
colonies, but the supply never really met the demand until the opening of the Erie Canal
in 1825.

Though artisans could buy lead in “pigs” as it was cast at the mines, much of it was recast by
plumbers as sheets about thirty inches wide and seven feet long, which they sold rolled up to
make handling easier. They cast their sheets on sand-covered tables. This required at least three
men: two to carry hot lead from the furnace and pour it on the table, and one to gauge it flat with
a kind of wide wooden hoe called a strike. The

strike’s blade had square notches at both ends
which rode long guides that limited the width of
the sheet and also held the strike blade at a
fixed distance above the table so as to maintain
a constant thickness of the sheet. The pourers
moved down the table, one on each side, at as
steady a rate as possible, tilting their long ladle
to pour the metal evenly. The strikers pushed
his blade behind them. Quite early in the 1800’s
someone devised a rolling box with a controlled
slot to ride on the guides and spread the lead
water and harden the batch. Before it was quite cold, the soapmakers ladled it into large rectangular hardening molds. When the mass became strong enough to stand alone, they dumped it out and sliced it into bars about the size and shape of bricks by pulling brass wires through it, side on. The bars were dusted with slaked lime to keep them from sticking together when they were packed in wooden boxes. They were sold by weight and with no wrappers.

White soap got exactly the same treatment except that the rosin was omitted. The chief difference lay in the quality of the materials. However, such soap was cast in bar-size molds which yielded a raised impression of a crown on each bar. When a prejudice against the Crown appeared about 1776, the chandlers replaced it with an eagle.

The Potters

Archaeologists have found the dump at Jamestown where a competent potter tossed his spoiled pieces soon after 1625. The earliest American potter known by name was Philip Drinker who worked in Massachusetts in 1635. Pottery was more important to the colonials than it is to us. Large towns supported considerable works with several kilns and a number of potters, and almost every village had its one-man “pot house” operating at least part time. Mrs. Laura Woodside Watkins has listed the names of three hundred potters who worked before 1800 in New England alone. An enterprise set up in New Jersey in 1784 to make “white and chinney ware” failed because its promoter didn’t learn beforehand that there was “noe clay in the Country that would make white ware.” Actually there was, but he missed it. The Cornelius pottery started in New York in 1730. William Crolius married a Cornelius daughter and their descendants still made pottery in the late 1800’s.

All very early American pottery was “redware,” shaped from plain brick clay that was colored naturally by iron oxide. It varied from pink to an almost fiery red. It was soft and leaky. After about 1725, some potters began to make better stuff but some still made redware well after 1800.

Clay is earth leached from ancient rocks and is largely aluminum silicate. Its fine particles, each only five thousandths of a millimeter in size, make it tend to stick together and also make it easy to shape when it is wet. Kaolin is white, but most clay is colored by some mineral impurity: red, yellow, tan, gray, or blue. The proportions of their elements make some clays produce harder pottery than others and hardness can also be improved by what the potter adds to his clay.

The colonial potter found the stuff he dug was full of unwanted junk such as pebbles and the remains of old leaves and roots. His first job was to clean it. If he wasn’t too particular, he could use a device like the one illustrated to push it through an iron sieve. He would then mix it like brick clay in a pug mill. If he wanted it really clean for good pots, he mixed it with a lot of water, skimmed off the floating vegetable impurities, and decanted the clay soup, leaving the pebbles behind in the tub. Allowed to stand, the clay would settle and the potter could draw off most of the excess water.

Pure clay will crack when it is heated, so the potters “tempered” it by mixing in a sixth part or even a fifth part of clean sand while the clay was still quite soupy. For the later and harder stoneware, they added powdered flint as well as
sand. It seems almost impossible to powder flint, but it could be done by heating the stone red-hot and throwing it into cold water before going to work on it with a sledgehammer or a stamping mill.

There was still too much water in the clay mix and it had to be got rid of by evaporation, often hastened by heat. When the mass had thickened, it was gathered into lumps and stored for weeks in a damp cellar to cure. Just what happened to it isn’t clear. Old writers speak of fermentation and decay, but there seems to have been nothing to ferment and nothing to decay. Take it as cured. But the clay still had air bubbles in it. A strong-armed apprentice beat it thoroughly with a club and then “wedged” and “slapped” it—that is, he cut slices off it with a wire and slapped them back together again. Then he kneaded it.

At this point the clay was quite wet and soft. It would yield instantly to pressure, yet it was stiff enough to hold any shape imposed on it. It could be shaped by pressing into plaster or metal molds; such things as spouts and handles were made that way and stuck on later with thin clay called slip. It could also be modeled into almost any shape the craftsman was skillful enough to give it. But most plates, bowls, pans, crocks, mugs, cups, and jugs were round and the potter could “throw” them on his wheel.

The potter’s wheel is a circular table revolving on a vertical shaft. The colonials sometimes belted the shaft to a crank-turned pulley and sometimes a water wheel turned it. But more often it was a kick wheel, operated by the potter’s own feet nudging a flywheel at the bottom of the shaft. In any case, the object was to spin the mass of clay around its own center and thus assure that the vessel being formed would be perfectly round.

To see skill shape clay on a wheel is to watch a small miracle. The wet lump seems to take on a life of its own as it flows upward under the potter’s hands and swells and shrinks at his will into the wanted form. The colonial potter didn’t seek novelty, but stuck to standard articles and made each piece as nearly like others of its kind as he could. He would fill one drying board after another with paint pots all alike. Colonial paint didn’t come in cans; painters mixed it themselves in jars.

When a board was filled, assistants set it on pegs driven in the wall and left the clay to dry. After a day or so, when it was hard but still damp, the potter stuck handles on if the piece required them. Slip decoration, if any, also went on with the clay still damp. Slip for this purpose was a fluid mix of white clay and water. Most often the potter applied it by dribbling it from a small “slip cup” (pitcher) in flowing patterns, much as some modern artists dribble paint. Another way, much favored by the Pennsylvania Germans who were good at it, was to dip the whole article in white slip and, when it had set up, to scratch patterns through it, the lines revealing the red of the body. This is called sgraffito. The pottery stood on the shelf until it became bone-dry—green, as they called it—it was then ready for firing.

The kiln was circular and was built of common brick. For redware it had a domed top; for harder stuff the top was conical, though no text seems to explain why. If, as with redware, the pottery must be glazed in a second firing, the pieces stood in saggars (seggers, the old potters called them) which were stacked in the kiln.
Saggars were themselves pottery; they had circular bottoms and fairly high perforated sides. Their purpose was to equalize the heat and to keep direct flame from the ware. The potters closed the kiln and gradually built up a hot fire of small wood, maintaining it for twenty-five hours. After that time, they allowed the kiln to cool as slowly as possible to avoid cracking and didn’t open it until it was nearly cold. Accidents happened anyway and a potter expected to lose about a fourth of his production from breakage in the kiln.

Redware as it came from firing was no harder than a modern flowerpot and it was just as porous. To make it useful, the potters glazed it, on the inside only for cooking pots but all over for most things. Even glazed, most utilitarian “sweated” the liquids left standing in them. The glaze was red or white lead (oxide) and sand, ground together between the stones of a hand mill and watered to about the consistency of house paint. For an all-over glaze the potter dipped the piece and often missed a few spots where his fingers gripped it. For inside only, he poured some glaze in, slued it around, and poured it out again. He let the glaze dry and refired the pots to vitrify it. The heat turned the lead oxide to glass.

Lead glaze after firing was as colorless and transparent as varnish, but the potters could color it brown by adding manganese before firing, or green by adding copper oxide. The worst thing about lead glaze was that it was lead—and therefore poisonous. It could poison the potter who got it on his hands or the user who ate acid foods that had stood in a glazed vessel. Because it avoided this and because it was watertight and stronger, stoneware gradually supplanted redware.

Up to the firing point, the method of making stoneware was the same as has been described, but it required special clay, usually gray or tan, with a lot of silica in it. This clay needed longer and hotter firing to harden it, but it became very hard indeed after forty hours of heat. No saggars could be used to protect stoneware in the kiln because of the way it was glazed at its first firing. Just as the fire reached its hottest point, the potter opened the kiln and threw in some common salt which vaporized in the heat and combined with the silica in the clay. Saggars would interfere with the salt vapor reaching the pots.

Many potters decorated stoneware by cutting the outlines of a flower, a bird, or a fish in the damp clay and filling them in with slip colored blue with cobalt. Later they got careless. They skipped the outlines and merely splashed on some cobalt slip with a brush.

In its heyday, redware appeared at meals, along with pewter, as plates, cups, and so forth. Stoneware was made into such things, too, but less often because, just as it was coming into its widest use a few years before the Revolutionary War, the colonists became interested in white ware or Queensware. This wasn’t porcelain or “china,” but good white pottery, salt-glazed like the stoneware. At first it came from England but American potters quickly learned to make it. Even in the backwoods of western North Carolina, Brother Gottfried Aust of the Moravian colony made “a good product not very different from Queensware” in 1774.
Brother Aust also made clay pipe “heads” to be used with hollow reed stems. His brass and lead molds were made in two halves. He pressed them full of clay and then reamed out the bowls and the holes for the stems. He shipped most of them north for sale.

The Block Printers

The term here covers two separate but related trades, the equipment and methods of which were almost alike: the printing of woven fabrics and the printing of wallpapers. Americans imported printed cotton calicos and printed paper wall hangings from at least as early as 1700. Both began to be made here after the mid-1700’s and both required teamwork. One “paper stainer” in Philadelphia employed thirty helpers.

Early European wallpaper makers printed the same wood block endlessly all over a small sheet. The blocks were usually square and the designs on them were geometric. The first papers sold in this country were either of this kind, or they were small floral designs printed in rows with every other row inverted. John Rugar of New York is recorded as having produced several patterns of paper hangings in 1765. He may have made one or the other of these, but he could have been more advanced. The householder bought the wallpaper sheets in quires from a stationer and stuck them on to his wall himself, or he hired an upholsterer to do it for him.

In France, early in the eighteenth century, Jean Papillon succeeded with a design that joined onto itself when duplicated and thus yielded a continuous “repeat.” Some of his blocks were three feet square. He printed only one key color and very beautifully added othen with stencils. His repeating patterns suggested the ideas of continuous rolls of paper, and these were created by pasting sheets together. Such rolls were advertised in New England in 1739. The British paper stainers imitated Papillon and also imitated and improved the French flock papers which were supposed to look like cut velvet. The makers of these printed the designs with glue and sprinkled them, while they were still wet, with chopped, dyed wool. Of course the wool stuck.

Around the middle of the century, Chinese scenes on paper began to reach Europe and soon American ships in the China trade brought them directly here. Some of these murals were entirely hand-painted, but most were woodcut outlines filled in by hand with color. They came in wide strips twelve feet long and, mounted side by side, the strips revealed a detailed landscape. Most American ceilings were low so as to conserve heat, so thrifty Yankees often cut the strips in half and hung the bottom of the landscape in the front parlor and the top of it in the back one. France and England made scenic papers around 1800 but, though some Americans painted scenery on walls, they didn’t try to make it portable.

This country’s wallpaper makers were held down at first by the scarcity of rags which were the only known raw material for paper, but they made it increasingly as a growing population wore out its shirts and shifts. After John Rugar, Plunket Ficson, upholsterer, advertised locally printed wallpaper in Philadelphia in 1769. In the same town, in 1785, Joseph Dickinson made paper with “pia grounds that fly marks will not be perceptible upon; also dark grounds which the smoke will not considerably affect in twenty years.”

It seems that the oldest surviving American wallpaper that can be dated with certainty is some made by William Poynett in 1794. Poynett advertised in a Philadelphia newspaper that he made flock patterns and plain patterns “cheaper