“JUST ARRIVED FROM THE EAST”:
MANUFACTURED AND IMPORTED BUILDING MATERIALS IN EARLY
NINETEENTH-CENTURY INDIANA

A THESIS
SUBMITTED TO THE GRADUATE SCHOOL
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BY
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This thesis examines the availability and use of manufactured and imported building materials in southern and central Indiana before 1850. Specifically, it seeks to identify the extent to which materials such as paint, machine-cut nails, window glass and prefabricated sash, architectural hardware, and cast iron stoves were imported into the region from both foreign and domestic sources. It examines the transition from handmade and hand-wrought to standardized, mass-produced, and prefabricated building materials and explores the impact of emerging American consumerism, changing economic policy, and advancements in technology and transportation on the built environment of the Indiana frontier.
ACKNOWLEDGEMENTS

I dedicate this thesis to my son, Spencer, whose arrival significantly delayed the writing process but also inspired me to achieve my goals. This thesis would not have been possible without the continuous support and encouragement of my family, especially my parents, Michael and Mary Manning, as well as my sister, Becca Manning, whose editing expertise and writer’s perspective are always appreciated.

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I would also like to express my appreciation to the Delaware County Historical Society for providing access to the Moore-Youse Home. Finally, I am extremely grateful to the Interlibrary Loan Services staff at Ball State University for going above and beyond to help me locate and obtain early nineteenth-century newspapers and other obscure sources.
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Chapter One: Introduction

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Scope of Research

The advent of the railroad and increased mechanization brought about by the Industrial Revolution in the second half of the nineteenth century initiated a radical increase in the availability of domestically manufactured building materials. This period
in American architectural history has been thoroughly examined by scholars, and reproductions of late nineteenth- and early twentieth-century mail-order catalogs depicting architectural materials abound (figure 1.1). Much less attention has been paid, however, to the earliest stages of this transition. Therefore, the chronological scope of this thesis is limited to the less documented period in the first half of the century, which includes Indiana’s frontier and settlement era, the early years of statehood, and the period before 1850—the period of transition from handmade to mass-produced.

An additional factor influencing the scope of this thesis is the availability of relevant historical documents for research, which correlate to settlement patterns and early nineteenth-century population distributions. The earliest Euro-American settlements in what is now Indiana were established along the Ohio and Wabash Rivers, eventually extending into the interior along smaller waterways. The central plains portion of the state was settled next, with substantial development resulting from the selection of Indianapolis as the state capital and construction of the National Road. The northern third of the state was in general settled last, with land immediately adjacent to Lake Michigan being the exception. This trend was in part the result of land availability. Native American tribes retained their lands in the northern portion of the state until the 1820s and ‘30s. The final tract of tribal land in Indiana, the Miami Reserve, was ceded to the United States in treaties of 1834, 1838, and 1840, resulting in delayed survey and settlement of that portion of the state (figure 1.2).1 It is for these reasons that this thesis

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Figure 1.1. Page from the 1895 Montgomery Ward catalog, which offers a glimpse of the wide variety of architectural hardware available by the last decades of the nineteenth century. *Source: Montgomery Ward & Co., Catalogue and Buyers’ Guide No. 57, Spring and Summer 1895* (repr., New York: Dover Publications, 1969), 384.
Figure 1.2. Map of Indiana showing dates of treaties ceding land to the United States. 
focuses primarily on the southern and central portions of the state where early Euro-American settlement and associated historical documents make such a study possible.

Five primary locations throughout southern and central Indiana were selected for focused research, including Bloomington, Brookville, Indianapolis, Madison, and Vincennes. These communities were selected to provide geographic variation and because they were home to some of the earliest newspapers in the state—a major component of documentary research. Three of the communities (Madison, Vincennes, and Bloomington) are located in the southern third of the state, which was generally settled first, while two communities were selected from the central portion of the state (Brookville and Indianapolis). One city is located along the Ohio River (Madison), one along the Wabash River (Vincennes), one along the Whitewater River (Brookville), and two are essentially landlocked or are situated on non-navigable streams (Bloomington and Indianapolis). One of the communities is situated along a canal (Brookville) and one is located along the National Road (Indianapolis). In addition, examples from other areas are included where relevant. This variety was chosen in order to explore the way in which early methods of transportation—river, canal, and road—affect the availability of manufactured and imported building materials in early nineteenth-century Indiana.\footnote{There is some debate as to whether the White River, along which Indianapolis is situated, could be considered a navigable stream for the purpose of transporting goods into the interior. See Chapter Two for further discussion.}

\footnote{Transportation was certainly not the only factor affecting the commercial growth of the early Indiana communities. For example, the designation of Indianapolis as the state capital and the founding of Indiana College (now Indiana University) at Bloomington certainly had a considerable effect. However, detailed analysis of these and other factors is beyond the scope of this paper.}


**Research Questions**

The following research questions were developed for this thesis:

1) What manufactured building materials were available in early nineteenth-century Indiana and when did they first appear?

2) What are the sources of manufactured building materials available in Indiana in the first half of the nineteenth century? Were these materials manufactured locally, regionally, along the eastern seaboard, or imported from outside the United States?

3) To what extent were manufactured and imported building materials actually used in construction? Can these materials be identified in extant buildings and archaeological contexts?

4) How did factors such as international trade, national politics and economics, and advancements in technology and transportation affect availability of these materials? By what means were manufactured building materials imported, transported, marketed, and distributed?

**Methodology**

Background research was conducted using secondary sources to help establish historical context. Books and articles on a wide range of topics were reviewed in order to develop a firm understanding of transportation routes, settlement patterns, early building
methods, economics and trade, emerging consumerism, and other areas of related research. This information is contained largely in Chapter Two.

Analysis of primary records—principally historical newspapers from Indiana and adjacent states—provided data on the availability of manufactured and imported building materials as evidenced in advertisements for such materials (table 1.1). Scholars in a variety of fields have used print advertising to assist with research goals. Historical newspapers provide a wide assortment of information on past commerce and trade as well as other areas of interest. A large number of historical newspapers were reviewed for this thesis, with special attention paid to advertisements as a means of providing data on the availability of manufactured and imported building materials in early nineteenth-century Indiana.

Indiana’s first newspaper, the *Indiana Gazette*, was founded in 1804. The first decades of newspaper journalism in Indiana were slow; however, by 1850 at least ninety-five weekly newspapers were being published in Indiana with several more daily, tri-weekly, and semi-monthly papers being printed as well. The typical early nineteenth-century newspaper contained as much as 40 percent advertising, providing a wealth of information on trade and commerce in Indiana during this period. According to historian John William Miller:

> In many ways the newspaper advertisement offers the best glimpse of pioneer life. The wants, needs, and desires of the early settlers, as well as many of their attitudes and assumptions, are openly displayed on the advertisement pages of the pioneer Hoosier journals.

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5 Ibid., 72.
6 Ibid., 74.
Table 1.1. Historical newspapers reviewed by author

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<tr>
<th>Location</th>
<th>Publication</th>
<th>Dates Reviewed</th>
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<tr>
<td>Cincinnati, Ohio</td>
<td>Centinel of the North-Western Territory</td>
<td>Nov. 9, 1793—June 4, 1796</td>
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<td></td>
<td>Freeman's Journal</td>
<td>July 9, 1796—Mar. 25, 1797</td>
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<td>Western Spy and Hamilton Gazette</td>
<td>May 28, 1799—Dec. 13, 1804</td>
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<td>Sept. 22, 1810—Mar. 22, 1816</td>
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<tr>
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<td>Bloomington Republican</td>
<td>Jan. 6, 1827</td>
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<td></td>
<td>Bloomington Republican and Indiana Gazette</td>
<td>Sept. 15, 1827—Nov. 3, 1827</td>
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<td></td>
<td>Bloomington Post</td>
<td>Nov. 6, 1835—Sept. 1, 1841</td>
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<td>Indiana Tribune</td>
<td>Nov. 27, 1847—Nov. 18, 1848</td>
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<td>Indiana Tribune and Monroe Farmer</td>
<td>Nov. 25, 1848—Apr. 20, 1850</td>
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<td>Brookville, Ind.</td>
<td>Brookville Enquirer and Indiana Telegraph</td>
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<td>Indianapolis, Ind.</td>
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<td>Weekly Republican Banner</td>
<td>Nov. 1, 1848—Sept. 4, 1850</td>
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<td>Muncie, Ind.</td>
<td>Muncietonian</td>
<td>June 15, 1837</td>
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Additional historical sources were used where available. Archaeological reports and extant houses built before 1850 provided ancillary information on the actual use of manufactured and imported building materials. When taken as a whole, the data proves overwhelmingly that early nineteenth-century Indiana was not quite the uncivilized
frontier wilderness it has been made out to be; many early settlers brought with them established preconceptions about what a proper home should look like and sought to secure modern amenities for their homes as soon as they were able.
Chapter Two: Historical Context

Romanticized American myth paints a picture in which pioneers in Indiana blazed trails through a vast, untouched wilderness and constructed log homes with nothing more than the axe over their shoulder and the raw materials at hand (figure 2.1).\(^7\) The image of the primitive yet quaint frontier log cabin was widely propagated by the presidential campaign of William Henry Harrison, billed “The Log Cabin and Hard Cider Candidate” (figure 2.2).\(^8\) Ironically, Harrison never lived in a log cabin and was in fact responsible for the construction of Grouseland, one of the grandest homes in Indiana (figure 2.3). The two-story brick mansion, located in Vincennes, was completed in 1804 and occupied by Harrison until 1811. National folklore surrounding Abraham Lincoln and his humble beginnings in a log home also contributed to what is commonly referred to as the “Log Cabin Myth.” Both Lincoln and Harrison helped popularize the image of the tough but honest frontiersman and his simple home made of logs.

Figure 2.1. Romanticized depiction of pioneer life, including the felling of logs and the construction of a cabin. Source: Jack Larkin, Where We Lived: Discovering the Places We Once Called Home: The American Home 1775 to 1840 (Newtown, CT: Taunton Press, 2006), 229.

Figure 2.2. Campaign advertisement supporting William Henry Harrison, “The Log Cabin and Hard Cider Candidate,” which depicts a primitive log cabin with stick chimney and a roof held down with poles. Source: Indiana Journal (Indianapolis, IN), May 9, 1840:2.
It has been argued, however, that the “longstanding image of the axe-wielding cabin builder, who with brawn and courageous will transformed standing forests into snug shelters, is attractive but is nonetheless an exaggeration.”\(^9\) While the very earliest buildings in Indiana were indeed constructed of logs, material folklorist Warren E. Roberts is quick to distinguish the difference between the hastily built, temporary, round-log cabins first constructed as shelter, and the more carefully built, hewn-log houses that survive in Indiana today.\(^10\) Unlike their predecessors, hewn-log homes were solidly built

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and frequently boasted clapboard siding, glass-pane windows, cast iron hardware, and plastered and painted surfaces.\textsuperscript{11}

The image of the pioneer log cabin is part of a broader trend that romanticizes and dramatizes America’s frontier past. Narrative accounts of pioneer life in Indiana, such as Johnson’s \textit{A Home in the Woods} and Esarey’s \textit{The Indiana Home}, as well as the many pioneer accounts published in local histories during the last decades of the nineteenth century, tend to idealize the frontier period. More recently, however, historians have argued against the claim that early pioneers “lived simple lives, uncomplicated by the interdependencies that characterized the emerging commercial and industrial urban society of the Jackson era.”\textsuperscript{12} In his research on the American frontier, historical archaeologist Robert Mazrim attributes some of the confusion to well-intentioned historians of the late nineteenth century who imagined the American frontier as a “harsh, unyielding environment that stripped newly arrived pioneers of many of their ancestral traditions, as well as the accouterments of a dawning industrial revolution.”\textsuperscript{13}

It has been shown, however, that American consumerism was well established on the eastern seaboard by the late eighteenth century. Mazrim explains:

Throughout the eighteenth century, the middle classes had been offered an increasingly wider range of refined goods, technologies, and comforts that had once been the province of only the most wealthy. By the time the English colonies had been transformed into the first American states, many elements of what we would consider a reasonably modern life were familiar to families of even limited

\begin{itemize}
\item \textsuperscript{11} Warren E. Roberts, \textit{Log Buildings of Southern Indiana} (Bloomington, IN: Trickster Press, 1996), 775-88, 124-27. Roberts presents a lengthy discussion on the issue of clapboard siding on log homes.
\item \textsuperscript{12} Martin Ridge, foreword to \textit{A Home in the Woods: Pioneer Life in Indiana}, by Oliver Johnson (Bloomington: Indiana University Press, 1978), xix-xx.
\item \textsuperscript{13} Robert Mazrim, \textit{The Sangamo Frontier: History and Archaeology in the Shadow of Lincoln}, (Chicago: University of Chicago Press, 2007), 17.
\end{itemize}
The beginnings of the factory system and an ever-increasing international trade introduced a new era of mass production and mass consumption.\textsuperscript{14}

It appears then that settlers migrating to Indiana would not have been unfamiliar with manufactured and imported goods. Mazrim argues that “the cultural traditions of the immigrants who moved west were hardly ‘stripped away’ by the environment in which they built their log houses.”\textsuperscript{15} Tuttle and Perry concur that the “people who participated in the westward movement did not isolate themselves from the rest of the country . . . They kept in contact with the regions from which they had moved through the media of trade and traders.”\textsuperscript{16} As Bushman points out, “civilization spread through the West almost concurrently with the population. Scarcely a corner of the land could be found without some refinement, even at the extremities of the frontier.”\textsuperscript{17} It seems plausible, if not likely, that early immigrants to Indiana would seek to build and furnish their homes with manufactured and imported goods as soon as they were able.

The analyses of Bushman, Mazrim, and Tuttle and Perry correspond with documentary research conducted for this thesis. Even in the earliest decades of the nineteenth century, Indiana settlers were constructing substantial homes and businesses that incorporated a wide variety of manufactured building materials imported from regional commercial hubs such as Cincinnati, eastern manufacturing centers in Pittsburgh, Philadelphia, and Boston, and from overseas sources in Europe and Asia. While heavy building materials such as brick and log timbers were almost certainly of local origin—hand-formed and hand-hewn—many smaller manufactured components

\begin{footnotes}
\item[15] Ibid., 17-18.
\item[17] Bushman, 388.
\end{footnotes}
such as paint, machine-cut nails, pre-cut window glass, complicated iron and brass hardware, and cast iron stoves were regularly imported into Indiana and other areas of the western frontier.

Although it is true that most of these goods were concentrated in the larger towns and cities—especially those along the Ohio and Wabash Rivers—and were more prevalent among the wealthier residents, even settlers of more modest means and those in remote settlements had access to such materials. The William Conner House, located near present-day Fishers, was not located on a major navigable waterway, but, as Cottrell points out, “while many of the materials for the house were obtained and processed locally, items such as glass, paint and hardware tied the Conner House into a world-wide mercantile network.” Furthermore, residents such as Conner served as tastemakers and trendsetters, perhaps inspiring those of lesser means to outfit their homes with similar materials as they were able.

**Economic Climate**

As British colonies, the American settlements played a crucial role in the world economic system during the seventeenth and eighteenth centuries. Colonists were expected to hunt, trap, mine, gather, grow, and harvest the many raw materials of the Americas, which were then minimally processed before being shipped overseas. In England, highly skilled craftsmen and small-scale manufacturers transformed these raw materials.  

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materials into finished products that were then redistributed for consumption in America, Australia, and other British colonies. In order to enforce this system, which naturally benefited the English, laws and regulations were established to discourage and prohibit American manufacturers from competing with their English counterparts. Even after the American Revolution, a majority of the finished products available in the United States—especially finished iron and steel products—continued to be imported from England until at least 1850.19

Several events, however, forced the United States to speed up its transition from a colonial to an industrial economy. Understandably, the American Revolution put a serious damper on the availability of imported goods. The War of 1812 served to further emphasize the country’s precarious economic position caused by its heavy reliance on foreign—particularly British—imports. On both occasions, Americans suddenly found themselves without the rich fabrics, hand-painted ceramics, exotic teas and spices, finely crafted hardware and cutlery, and a multitude of other goods to which they had become accustomed. As a result, American politicians, investors, and merchants cried out for an increase in domestic production.

The United States government sought to boost domestic manufacturing by imposing a variety of tariffs on imported good, a way of helping American manufacturers remain competitive in the post-war market.20 Even so, it would be decades before the United States finally began to acquire some measure of economic independence. Tuttle and Perry describe the situation thus:

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20 Tuttle and Perry, 218-25.
Many new manufacturing industries had been started during the war [of 1812] to counteract the shortages of imports from England. Because they had operated at a cost disadvantage compared with similar products that were manufactured in England and imported into the United States, they commanded higher prices than their imported competitors. The British manufacturers hoped to regain the markets they had lost during the war by underselling products made in the United States, and forcing manufacturers in the United States to close their doors.\textsuperscript{21}

In response to American competition, the British government passed laws to prohibit the export of machines, models, drawings of machinery, and skilled craftsmen and mechanics in an attempt to prevent Americans from establishing their own manufacturing enterprises.\textsuperscript{22} The ban was not completely effective, however, and British trade secrets soon made their way to the United States.\textsuperscript{23}

In addition to borrowing liberally from the British, Americans soon began to create their own mechanical innovations. Between 1816 and 1860, more than 38,000 American patents were issued, with the greatest bulk of these (nearly 17,000) issued in the period between 1856 and 1860.\textsuperscript{24} New inventions and machines reduced the time and work required to complete a task, resulting in increased production, reduction of labor and transportation costs, and widespread standardization of everything from guns to clocks to hinges. By the 1830s, the transition from homemade to factory-made goods was nearly complete.\textsuperscript{25} Although foreign imports still played a crucial role in the new American economy, domestic manufactures became more widespread and accessible as

\textsuperscript{21} Tuttle and Perry, 131.
\textsuperscript{22} Ibid., 123.
\textsuperscript{24} Tuttle and Perry, 204-05.
evidenced in the westward shift of manufacturing to Pittsburgh and Cincinnati.\textsuperscript{26} Items that were once only available as English imports were now made in American industrial centers.

**Early Transportation**

While both imported and domestic manufactured goods were available in the United States in the first half of the nineteenth century, getting them to the Indiana frontier was another matter. A navigable waterway was essential for transporting manufactured goods to early Indiana communities. Madison, Vevay, Vincennes, New Albany, and Evansville, all located on major rivers, were some of the first towns in Indiana for that very reason. There was one major hindrance, however. The Falls of the Ohio, a series of shallow rapids located in the vicinity of present-day Louisville, Kentucky, made conveyance of goods past that point difficult. Merchants either had to wait days, even weeks, for the river to rise or had the option of unloading their boats, portaging goods to the other end of the Falls, and reloading before continuing their journey down the Ohio.\textsuperscript{27} Thus in 1825, a series of locks were built to bypass this particular impediment to western commerce and trade.\textsuperscript{28}

\textsuperscript{26} Tryon, 268.
\textsuperscript{28} Paul Fatout, *Indiana Canals* (1972; repr., West Lafayette, IN: Purdue University Press, 1985), 1-21.
As a result of their economic importance, the Indiana legislature designated certain streams as public highways to aid in navigation. Manufactured and imported goods were transported over land to Pittsburgh where they were loaded on flatboats and keelboats and shipped down the Ohio River (figure 2.4). In 1817, an advertisement placed in the Vincennes *Western Sun and General Advertiser* announced “part of a shipment just arrived from Pittsburgh by keel boat.” Shipments of merchandise usually arrived twice a year, in spring and fall, when hundreds of flatboats and other small watercraft maneuvered down the Ohio. Upon arriving in Indiana, those same boats were loaded with local products—pork, corn, whiskey, and lumber—and continued downstream to New Orleans. It was said that “from more than half the counties that compose the State the produce of the agriculturist may be transported from his farm by steam or flat boats.” Many of the domestic products were then shipped up the Atlantic coast to Eastern cities or shipped overseas where they were transformed into manufactured goods.

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29 Official designation as a navigable waterway did not necessarily mean a particular waterway was in fact navigable, or navigable by all types of watercraft. There is some debate as to whether the White River, along which Indianapolis is situated, could be considered a navigable stream for the purpose of transporting goods into the interior. Although it was officially recognized as such by Congress and used to a great extent for the movement of agricultural products downriver by canoe, flatboat, and keelboat, upriver transportation was much more difficult and virtually impossible for steamboats. Only one steamboat ever succeeded in ascending the river to Indianapolis, although several attempted the journey. For further discussion concerning navigation of the White River, see Jacob Piatt Dunn, *Greater Indianapolis: The History, the Industries, the Institutions, and the People of a City of Homes* (Chicago: Lewis Publishing, 1910), 1:16-25.

30 Advertisement placed by John Ewing, *Western Sun and General Advertiser* (Vincennes, IN), December 20, 1817:3.

31 *J. F. Kimball & Co.’s Eastern, Western, and Southern Business Directory: Containing The Cards and Circulars of Merchants, Manufacturers, and Others, in the Principal Cities of the East, West, and South; To Which Is Added A State Register of Ohio, Kentucky, and Indiana* (2nd annual issue; Cincinnati: J. F. Kimball, 1846), 117.
The first steamboat appeared on the Ohio River in 1811. Although flatboats and keelboats could be poled upstream if necessary, the introduction of the steamboat permitted faster travel and made it possible for large volumes of goods to be shipped down the Atlantic coast and up the Mississippi and Ohio to consumers in Indiana.\textsuperscript{32} Within three decades, there were hundreds of steamboats on the Ohio and Mississippi Rivers and the Great Lakes. Although enterprising steamboat captains attempted to navigate Indiana’s smaller streams, they were impeded by shallow water, temperamental currents, snags, and sandbars.\textsuperscript{33} In 1834, the town of Logansport offered several hundred dollars as reward to any steamboat captain who could ascend the Wabash River to the


\textsuperscript{33} Sanford C. Cox, “A Steamer Trip from Lafayette to Logansport in 1834,” \textit{Indiana Magazine of History} 24, no. 4 (December 1928): 317.
Although one made the trip, the passage was deemed too difficult to repeat and steamboats were subsequently relegated to Indiana’s larger waterways.

Water routes, while the quickest and most efficient, were not the only means of transportation in Indiana during the first half of the nineteenth century. Primitive roads such as the Wilderness Road and the Michigan Road helped settlers move into the interior and made it possible for merchants to follow with cartloads of manufactured goods. Esarey describes the difficult journey over land and the evolution of the road system:

The roads were mere bridle paths. The coach roads were continuous mud holes. In course of time the mud was replaced with poles to make the corduroy; the poles with boards to make the plank roads; [and] the boards with stone to make the pike.35

Despite the complications of overland travel, Hoosier farmers herded their hogs to markets in Madison and Cincinnati, bringing back manufactured goods on their return trip. Goods were often transported from river towns using large, sturdy, two-wheeled carts pulled by oxen.36 As road conditions improved, teams of horses pulling large wagons replaced the cart and oxen. In the 1830s, teamsters regularly hauled merchandise from Madison to Indianapolis, a trip that took about ten days. It was said that a team of four horses could haul as much as 3,000 pounds over decent roads.37

34 Cox, 317.
36 Johnson, 23; Ridge, xvi.
Further progress in overland travel arrived with the National Road. Begun in Cumberland, Maryland in 1811, it reached as far as eastern Indiana by 1827.\(^{38}\) The road was completed to Indianapolis in the early 1830s, although an exact date cannot be assigned as it seems to have been constructed and subsequently improved in bits and pieces.\(^{39}\) The earliest form of the road was a simple widened path cleared of trees but with stumps, potholes, and wagon ruts marring the mud surface. Eventually, corduroy and planks were laid in some areas while a few sections, including several miles in and around Indianapolis, were macadamized or paved with stone.\(^{40}\)

Like other modes of transportation, canals were also used to transport farm products to river markets and to bring manufactured goods into the interior. After the success of the Erie Canal in New York, plans were devised to construct a similar canal system in Indiana. In 1828, work began on the Wabash and Erie Canal to connect the Ohio River with Lake Erie via the Wabash and Maumee rivers; however, major construction did not begin until the early 1830s. The canal was completed to Lafayette in 1840 and reached Lake Erie through Ohio in late 1842, thereby connecting commerce on the Great Lakes with that of the Ohio River.\(^{41}\)

Another important artificial waterway in Indiana was the Whitewater Canal, which broke ground in 1836. By 1839, it was completed as far north as Brookville,


\(^{40}\) Sulgrove, 107.

connecting to the Ohio River at Lawrenceburg. Soon after, however, work began in Ohio to join the Whitewater directly to Cincinnati via an alternate branch at Harrison. This portion was completed in 1845, about the same time the Whitewater Canal was completed as far north as Cambridge City, thereby connecting commerce in Indianapolis (via the National Road) to Cincinnati markets. Both the Whitewater and the Wabash and Erie Canal saw considerable success for about a decade before being superseded by the rapidly expanding network of railroads.

The first railroads in Indiana were intended to serve as extensions of the waterways the state had become so dependent upon, having one end connected to either the Ohio River or the Wabash and Erie Canal. Although there was some rail transportation by the end of the first half of the century, most of the railroads in Indiana were constructed after 1850. Begun in 1837, the Madison and Indianapolis was the first railroad in the state. The first 15-mile section from Madison to Graham’s Ford was completed in 1838, but it was not until the fall of 1847 that the route was completed all the way to Indianapolis. As a result, wagons continued to haul goods from river markets into the interior of the state through the first half of the nineteenth century.

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43 James M. Miller, “The Whitewater Canal,” Indiana Quarterly Magazine of History 3, no. 3 (September 1907): 112.
44 Simons and Parker, 1.
46 McFarland and Cottman, 8.
Trade and Commerce

Whether manufactured in New York or imported from England, Hoosier merchants played a vital role in getting goods to the Indiana frontier.\(^47\) According to Gruenwald:

The task of making such a life livable fell to merchants who provided farmers with access to the kinds of goods they needed to maintain a reasonable level of comfort. In addition to necessities such as tools and cloth, merchants provided the settlers with looking glasses, pins, china, gloves, shadow boxes, inkstands, candlesticks, hooks, buttons, locks, and chocolate.\(^48\)

Merchants usually made the journey east twice a year to purchase merchandise in cities such as Philadelphia and Baltimore. Those goods were then transported over land by cart to Pittsburgh where they were stored until conditions on the Ohio River were favorable for their safe passage to Indiana by flatboat or keelboat.\(^49\) Once merchandise reached the major towns along the Ohio and Wabash Rivers, merchants stocked the boxes, crates, and barrels in their storerooms for sale to local customers. In addition, a portion of the merchandise was sold to country merchants who conveyed it over rough roads to small stores in the interior. Other goods were purchased by peddlers on horseback who roamed the backwoods, plying their wares to those living on the edge of civilization.\(^50\) By this process, merchandise made in England could make its way to even the most remote Hoosier settlement.

\(^{47}\) For an excellent history and analysis of the role of merchants in the Ohio Valley, see Gruenwald. For an abbreviated history of storekeeping, see Laurence A. Johnston, *Over the Counter and on the Shelf: Country Storekeeping in America, 1620-1920* (New York: Bonanza Books, 1961).

\(^{48}\) Gruenwald, 29.

\(^{49}\) Ibid., 31-32.

\(^{50}\) Tryon, 264-65.
Although some historians have argued that the majority of early Indiana pioneers were only able to live at the subsistence level, never able to afford the manufactured goods the wealthier settlers could, the quantity of goods being imported into the region as evidenced by newspaper advertisements of the period suggests that there was an active market for such commodities. Furthermore, because manufactured goods could be purchased without cash—as almost every merchant accepted local produce and products of the forest as payment—such goods were within the financial reach of a majority of Indiana’s early settlers. To obtain a few panes of window glass or several pounds of cut nails, a settler could trade surplus oats, rye, wheat, corn, whiskey, flax, hemp, linen, cotton, rags, pork, beef, lard, tallow, feathers, beeswax, honey, hides and furs, ginseng, dried apples, beans, onions, cordwood, saw logs, and other local products (figure 2.5).\textsuperscript{51}

Merchants then sold these items to town residents or shipped them south to New Orleans.

Figure 2.5. Advertisement placed by a Vincennes merchant notifying the public that he accepts a variety of local products in trade. \textit{Source: Advertisement placed by John Ewing, \textit{Western Sun} (Vincennes, IN), September 17, 1814: 3.}

\textsuperscript{51} This list of items accepted in trade was compiled from newspaper advertisements reviewed by the author. Also see Johnson, 29-30.
Chapter Summary

The myth that early settlers to Indiana and other western frontiers lived in isolated, primitive log cabins has long held sway over American popular belief. More recently, however, historians have shown that this was not the case. Changing political and economic conditions in the new nation brought an awareness of the dangers of continued reliance on foreign imports. In response, Americans increased domestic manufacturing and explored new methods of production. It was in this era of dramatic change and modernization that the Indiana frontier was settled.

Far from being isolated, an expanding network of rivers, roads, canals, and later railroads, all helped Hoosiers stay connected to friends and family in the east and made it possible for manufactured and imported building materials to make their way into the frontier. Furthermore, money was usually not required to purchase such goods, as merchants were willing to accept agricultural and forest products in exchange.

In the following chapters, this thesis will look at five of the most common types of manufactured and imported building materials available in Indiana in the first half of the nineteenth century. The first chapter examines whitewash and lead-based pigmented paint, followed by chapters on wrought and cut nails, pre-cut window glass and prefabricated sash, cast iron hardware, and cast iron stoves. The picture that emerges is one of obvious American consumerism in which settlers sought to quickly banish the trappings of frontier life and replace them with comparatively sophisticated homes and businesses that resembled those they had left behind.
Chapter Three: Whitewash and Paint

Although many of the first emigrants to Indiana were living in simple hewn log houses, early attempts were made to make even the most humble buildings more attractive and welcoming. Even in the years before statehood, whitewash and interior and exterior paints were available on the Indiana frontier. Sources indicate that whitewash and paint were frequently applied to exterior surfaces in Indiana during this period and were probably even more common as an interior application. In early nineteenth-century America,

Many people could not afford to paint the exterior of their houses, at least not with an expensive pigment like white lead, which had to be renewed every twenty years or so. But few failed to paint their interiors, where a good coat of paint was an investment that might last a generation or longer.\textsuperscript{52}

The cheapest and most common method of covering a surface was achieved by applying a coat of whitewash—a mixture composed primarily of lime and water with

sizing and binders added. Whitewash is a versatile finish that can be used on wood, brick, and stone; however, it is water soluble and thus requires regular reapplication. Because it was so cheap and could be made with common ingredients, whitewash was probably the first form of house paint in Indiana.

Historical documents give some indication as to the use of whitewash in Indiana during this period. As early as 1796, a French traveler described Vincennes as a village “which contains about fifty houses, whose cheerful white relieves the eye, after the tedious dusk and green of the woods.” In 1817, a tailor in Madison announced that he had “removed his shop from the white house on Main Cross-street,” while another local shop owner advertised that he was “opening a general assortment of Merchandize in the white building.”

In addition, Roberts observed the presence of whitewash on the interior plastered surfaces of log houses in southern Indiana, noting that “It usually appears, too, as if many coats of whitewash have been applied over the plaster.” Hutslar, in his study of log construction in neighboring Ohio, concurs. Besides recounting historic accounts of log

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54 Ibid. 196.
56 Advertisement placed by William Wallace, Indiana Republican (Madison, IN), August 2, 1817:4; Advertisement placed by John Sheets, Indiana Republican (Madison, IN), August 2, 1817:4.
57 Roberts, Log Buildings of Southern Indiana, 126.
homes in Ohio painted white, he also cites physical evidence of whitewashed log houses in Clark County, Franklin County, and Wayne County, Ohio.\textsuperscript{58} Furthermore, he adds:

Probably many log houses were painted between 1830 and 1850 when there was a fad for Greek Revival architecture throughout the state. The white marble temple was the symbol of classic purity, and few brick, stone, and frame buildings, old or new, remained unpainted. It would have been natural to follow the current fashion and paint a log house.\textsuperscript{59}

In 1834, a merchant in Brookville advertised whitewash for sale; however, most Hoosiers probably mixed their own whitewash.\textsuperscript{60} Early nineteenth-century recipes for whitewash were widely printed in national and regional publications such as the 

*American Penny Magazine and Family Newspaper* and *The Southern Planter*.\textsuperscript{61} One recipe provided do-it-yourselfers with the following directions:

> Take clean lumps of well-burned lime, slake in hot water in a small tub, and cover it to keep in the steam. It should then be passed through a fine sieve in a fluid form to obtain the flour of lime. Add a quarter pound of whiting or burnt alum, 2 pounds of glue dissolved over a slow fire. . . . [and] put on warm with a paint brush.\textsuperscript{62}

Although whitewash was a common surface application, oil-based pigmented paints were the coating of choice during the early nineteenth century.\textsuperscript{63} Noted for its pure whiteness and opacity, white lead was one of the most important ingredients in nineteenth century house paint and served as the foundation for almost every other color.\textsuperscript{64} White lead was, however, relatively expensive during the first half of the nineteenth century,

\[\textsuperscript{59} Ibid., 446.\]
\[\textsuperscript{60} Advertisement placed by D. Price, *Indiana American* (Brookville, IN), May 16, 1834: 4.\]
\[\textsuperscript{62} Hawkes, 196.\]
\[\textsuperscript{63} Garvin, 86.\]
selling for ten to twenty cents per pound.\textsuperscript{65} This was due in part to the fact that white lead could only be created by a slow chemical reaction and to that fact that prior to the War of 1812, most of the white lead available in the United States was imported from Europe.\textsuperscript{66}

According to one architectural historian:

For centuries, the best paint for interior and exterior use has been white lead mixed in linseed oil. White lead (basic lead carbonate) is a fine powder. Traditionally, the pigment was made by exposing sheets of metallic lead to the acidic fumes of grape skins or vinegar and to gentle warmth in specially fashioned clay vessels stacked within sealed chambers for a period of several months.\textsuperscript{67}

Despite its scarcity and cost in the first decades of the nineteenth century, white lead was available for sale in Vincennes as early as 1818, where it could be purchased either dry or ground in oil.\textsuperscript{68} Dry white lead could be purchased in a powder form or as small cakes or lumps.\textsuperscript{69} Ground white lead premixed with oil was known as “keg-lead” or “tub-lead.”\textsuperscript{70} The resulting paste was sold in tins weighing anywhere between one and one-hundred pounds each.\textsuperscript{71}

In 1820, there were only three manufacturers of white lead in the United States whose combined production totaled less than 400 tons annually—not enough to meet the demand.\textsuperscript{72} Furthermore, the white lead produced domestically was generally of a poorer

\textsuperscript{66} Ibid.
\textsuperscript{67} Garvin, 87.
\textsuperscript{68} Advertisement placed by John Ewing, \textit{Western Sun and General Advertiser} (Vincennes, IN), March 7, 1818:2.
\textsuperscript{70} Gardner, 5.
\textsuperscript{71} Garvin, 87.
\textsuperscript{72} J. Leander Bishop, \textit{A History of American Manufactures from 1608 to 1860: Exhibiting the Origin and Growth of the Principal Mechanic Arts and Manufactures, from the Earliest Colonial Period to the Adoption of the Constitution; and Comprising Annals of the Industry of the United States in Machinery,
quality. For these reasons, good quality white lead remained cost prohibitive until both domestic manufacturing increased and faster production methods were developed in the late nineteenth century that made it possible to produce a quality product more cheaply.

**Paint in Indiana**

As white lead became more affordable, more and more buildings were painted with lead-based pigmented paints. Evidence suggests that paint was not only available but being used on the interiors and exteriors of buildings in the Northwest Territory by the late eighteenth century. Hutslar remarks that “Bright colors were popular for wood partition walls and all interior woodwork: Red, blue, yellow, and green, in varying shades and intensities, have been found in log houses.” Roberts recounts a similar use of interior paint in a log home in Indiana:

In one log house, the Ketcham house that stood about ten miles south of Bloomington until it was taken down in 1976, remarkable painted decorations were found on the walls under many layers of wallpaper. At the time I visited the house, most of the plaster had been torn away from the interior walls. Some, however, remained above the fireplace, and moisture had caused the wallpaper to peel off this section of the plaster. Painted directly on the plaster were large designs of a markedly “primitive” character in vivid shades of green, red, and black.

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73 Pulsifer, 322.
74 Gardner, 173; Garvin, 87.
75 Garvin, 87.
76 Hutslar, 445.
During archaeological excavations at the site of Fort Knox II near Vincennes, several pieces of plaster with remnants of paint were recovered. The site was occupied from 1811 to 1817, which would make this some of the earliest material evidence for interior paint in Indiana. According to Gray:

Although small, these fragments provided incontrovertible proof that plaster was used in the construction of the buildings of Fort Knox II. More importantly, one piece of plaster was coated with whitewash, and another with blue pigment. Apparently, attempts at beautifying their surroundings with paint were made by the soldiers at the fort.\(^\text{78}\)

Although less common, the exteriors of homes and businesses were also painted on occasion. In 1817, it was noted that Brookville possessed approximately eighty buildings, “a great number of them handsomely painted.”\(^\text{79}\) In 1814, an advertisement from Vincennes announced the opening of a new store in “the Red House opposite to Mr. Ch. Graeter’s Tavern.”\(^\text{80}\) In 1839, a merchant in Bloomington advertised his business, which he described as being located in “the red frame building,” an 1833 advertisement from Brookville announced the opening of a new tavern “in the yellow building,” and in 1835 a merchant in Vincennes advertised his location in the “Yellow Store” on Market Street.\(^\text{81}\) Thus it appears that after white, red and yellow were two of the most common colors used on building exteriors in Indiana in the first half of the nineteenth century.


\(^\text{80}\) Advertisement placed by Owen Reilly, *Western Sun* (Vincennes, IN), March 12, 1814:3.

\(^\text{81}\) Advertisement placed by R. P. Jennings, *Bloomington Post* (Bloomington, IN), June 14, 1839:3; Advertisement placed by J. Woods, *Brookville Inquirer* (Brookville, IN), May 3, 1833:4; Advertisement placed by S. & W. J. Wise, *Western Sun and General Advertiser* (Vincennes, IN), September 12, 1835:3.
It is interesting to note the surprisingly wide variety of pigments available to consumers in Indiana during this period. The following list of pigments was compiled from newspaper advertisements and gives the reader some idea of the selection of colors available to early Hoosiers: black lead, Chinese blue, chrome yellow, chrome red, chrome green, cochineal, Frankfort black, French green, indigo, ivory black, lamp black, Paris green, patent green, Prussian blue, red lead, rose pink, Spanish brown, Terra de Sienna, Turkey umber, Venetian red, verdigris, vermilion, white and red lead, and yellow ochre.

The earliest and cheapest pigments were derived from ochres and other colored earths and included Spanish brown, yellow ochre, turkey umber, Terra de Sienna, and Venetian red. The black pigments, including lamp black and ivory black, were made from soot and charred bone. Pigments such as Prussian blue and cochineal were derived from animal and insect byproducts, while others such as indigo were obtained from plants. White lead and verdigris were created by a chemical process in which metal—namely lead and copper—were subjected to corrosive acids and the resulting rust carefully collected and ground into a powder. Other pigments such as vermilion, chrome yellow, and chrome green were created by more complicated chemical processes.\(^{82}\)

Although the above list is too extensive to permit detailed histories of each pigment, it is important to discuss a few of the more common pigments. The yellow color previously described was most likely derived from yellow ochre. In 1801, a Cincinnati

general merchant advertised “yellow oaker” for sale. Curiously, yellow ochre does not appear for sale in Indiana advertisements until the 1830s, although it was likely available much earlier since it had made its way to nearby Cincinnati some thirty years prior.

The red tint was almost certainly derived in whole or part from Spanish brown, a common earth pigment derived from burnt umber or burnt ocher, which created what one source described as a “dark dull red, of a horse-flesh colour,” said to be “of great use among painters, being generally used as the first or priming colour that they lay on upon any kind of work; being cheap and plentiful, and a colour that works well.” In fact, Spanish brown appears for sale in Madison as early as 1813 and in Vincennes the following year, indicating that it was widely available at a relatively early date.

Originally obtained from Spain, Great Britain began producing Spanish brown pigment by the seventeenth century. Some of the Spanish brown advertised for sale in early Indiana newspapers likely refers to material imported from England. However, in 1812 a Cincinnati merchant advertised “Red Paint, equal to Spanish Brown, by the keg,” which suggests a substitute pigment or domestically derived red ochre pigment was being sold in place of hard-to-get imported Spanish brown pigment during the war (figure 3.1). In his research on eighteenth-century paint in Newport, Rhode Island, Robert Foley suggests colonists were digging up their own iron oxide pigments to use in place of Spanish brown, and it is not hard to imagine that enterprising individuals on the Indiana

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83 Advertisement placed by John M. McCullaugh, *Western Spy and Hamilton Gazette* (Cincinnati, OH), October 10, 1801:4.
84 William Butcher, ed., *Smith’s Art of House-Painting* (London: R. H. Laurie, 1821), 9; Eastaugh et al., 349.
85 Eastaugh et al., 349.
frontier were doing something similar in the first half of the nineteenth century. In fact, in his investigations of standing log houses in Indiana, Roberts observed “traces of an old brick red paint which has penetrated into the wood, rather than forming a film on the surface as modern paints do.”

Roberts adds:

A location has been pointed out to me a few miles west of Bloomington where a deep reddish-purplish colored clay is found. The two older men who showed me this spot told me they had heard that people used to get this clay at this place for making paint.

This suggests the possibility that Hoosiers were making their own paint from local clay deposits as a cheap substitute for imported Spanish brown.

Figure 3.1. Early advertisement for red paint for sale in Cincinnati, Ohio. Source: Advertisement placed by Josiah Halley, Western Spy (Cincinnati, OH), September 5, 1812:4.

Foreign Sources of Paint

While it is possible that some of the pigments sold by Indiana merchants were locally derived, most of the pigments were purchased from eastern wholesalers who in

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88 Roberts, Log Buildings of Southern Indiana, 126.
89 Ibid.
turn imported the pigments from Europe or Asia. Because the processes and recipes for making certain pigments were highly guarded by English painters’ guilds, many of the pigments had to be imported from England. In 1845, a Cincinnati druggist advertised his services in an Indiana newspaper, noting that he was an “Importer of DRUGS, MEDICINES, PAINTS, [and] OILS,” which suggests he secured at least a portion of his wares from foreign sources.90

Hawkes concurs that “Many rare or difficult to manufacture pigments continued to be imported through the 19th century.”91 In 1843, a druggist in Madison advertised two casks of yellow ochre from France and 1,500 pounds of English lamp black among his most recent stock (figure 3.2).92 In addition, the Tariff of 1824 singled out red and white lead, “dry or ground in oil,” for a duty of four cents per pound.93 A list of Chinese exports to America printed in the Indiana Republican in 1819 included 182 piculs of vermillion, which indicates that Asia was one source of imported paints.94 Vermillion was also supplied by England. In fact, vermillion was not manufactured in the United States until 1860; thus, all vermillion sold in Indiana before this date must have been imported from overseas.95

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90 Advertisement placed by Caleb S. Burdsal, Indiana American (Brookville, IN), April 25, 1845:3.
91 Hawkes, 194.
92 Advertisement placed by John W. Donohue, Republican Banner (Madison, IN), June 7, 1843:3.
94 “American Trade to China,” Indiana Republican (Madison, IN), April 17, 1819:3. A picul is a unit of weight used in some parts of Asia, approximately equal to 133 pounds or the load a grown man can carry.
Figure 3.2. List of paints, pigments, dyes, chemicals and drugs for sale in Madison, including domestic and foreign sourced pigments. Source: Advertisement placed by John H. Donohue, Republican Banner (Madison, IN), June 7, 1843:3.
Domestic Sources of Paint

In 1829, a Madison paint merchant advertised a variety of pigments “lately received from Cincinnati and Baltimore.”\(^{96}\) In 1832, Hodges & King of Madison advertised a fresh supply of medicines and paints “Just Received Direct From Philadelphia.”\(^{97}\) And in 1836, Vincennes merchants Decker & Browne advertised a new selection of merchandise including paints that were “selected by one of the firm in New York, and Philadelphia.”\(^{98}\) While many of these paints were probably imported from overseas and sold wholesale to Indiana merchants, certainly some of the pigments were manufactured domestically.

Factories in Philadelphia were manufacturing as many as twenty-two different pigments by the beginning of the second decade, and several small factories in Pittsburgh produced red lead. New York also developed a thriving paint industry. As early as 1806, Anthony Tiemann of Manhattanville, New York (modern-day Manhattan) began producing paint pigments. Some of his earliest colors included rose pink, Dutch pink, French green, and ultramarine blue, adding Prussian blue in 1809 and chrome yellow in 1820.\(^{99}\) Tiemann retired in 1839 and the business was continued by his son under the name of D.F. Tiemann & Co. Interestingly, in 1840 a Madison, Indiana merchant advertised “10 boxes Tienan’s [sic] Chrome Green” for sale, as previously seen in figure

\(^{96}\) Advertisement placed by Nathaniel Driggs, *Indiana Republican* (Madison, IN), March 11, 1829:4.
\(^{97}\) Advertisement placed by Hodges & King, *Indiana Republican* (Madison, IN), June 21, 1832:3.
\(^{98}\) Advertisement placed by Decker & Browne, *Western Sun and General Advertiser* (Vincennes, IN), September 10, 1836:4.
\(^{99}\) Tiemann, 621.
3.2, which almost certainly refers to this company. At the time, D.F. Tiemann was one of the few producers of chrome green in the United States.\textsuperscript{100}

White lead was first manufactured in the United States in 1804 by Samuel Wetherill of Philadelphia.\textsuperscript{101} By the 1830s, much of the white lead available in Indiana was manufactured in the United States. In 1836, white lead manufactured by Breckenridge & Co. of Pittsburgh was advertised for sale in Indianapolis (figure 3.3).\textsuperscript{102} In 1846, a Vincennes merchant advertised 180 kegs of white lead in oil manufactured by P. Brunot of Pittsburgh, and that same year a Madison merchant advertised 100 kegs of white lead manufactured by Avery & Ogden, also of Pittsburgh (previously seen in figure 3.2).\textsuperscript{103} Research shows that these manufacturers were only three of eight Pittsburgh factories producing white lead during this period.\textsuperscript{104}

![Figure 3.3. Advertisement for Pittsburgh white lead manufactured by Breckenridge & Co. of Pittsburgh. Source: Advertisement placed by Scudder & Hannaman, Indiana Journal (Indianapolis, IN), June 11, 1836:4.](image)

\textsuperscript{100} Advertisement placed by J. B. Colwell & Co., \textit{Western Sun and General Advertiser} (Vincennes, IN), May 23, 1840:3.

\textsuperscript{101} Tiemann, 621.

\textsuperscript{102} Advertisement placed by Scudder & Hannaman, \textit{Indiana Journal} (Indianapolis, IN), June 11, 1836:4.

\textsuperscript{103} Advertisement placed by J. B. Colwell & Co., \textit{Western Sun and General Advertiser} (Vincennes, IN), May 23, 1840:3; Advertisement placed by Polleys & Butler, \textit{Republican Banner} (Madison, IN), October 7, 1840:4.

\textsuperscript{104} George H. Thurston, \textit{Allegheny County’s Hundred Years} (Pittsburgh: A. A. Anderson & Son, 1888), 220.
Paint Manufacturers in the Lower Ohio Valley

By the middle of the century, paint manufacturing had spread as far west as Cincinnati. An 1831 advertisement from Madison lists “60 Kegs Cincinnati white lead for sale.” Two of the more prominent Cincinnati paint manufacturers were Robert McCandless and Richard Conkling, who began manufacturing white lead together as early as 1828. It was said that they used the Dutch method of production, whereby “They cast their lead in sheets and rolled it in spirals, as was the custom in England and Holland.” McCandless and Conkling eventually separated, although both the Conkling and McCandless families continued to manufacture white lead and paint for years. In 1846, an Indianapolis merchant advertised “Pure and No. 1 White Lead, (McCandles [sic] & Co’s. brand) for sale by the box and keg,” and R. Conkling & Co. advertised their white lead manufactory in Brookville (figure 3.4) By the end of the first half of the nineteenth century, Conkling, Wood & Co. had expanded their offerings to include white lead, red lead, Paris white, chrome green, chrome yellow, chrome red, Paris green, Chinese blue, and other “assorted colored paints” (figure 3.5).

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106 Pulsifer, 321.
108 Advertisement placed by G. T. Browing, *Indiana State Journal* (Indianapolis, IN), June 17, 1846:4; Advertisement, *Indiana American* (Brookville, IN), November 6, 1846:3.
Figure 3.4. Advertisement for R. Conkling & Co. white lead manufactory in Cincinnati, Ohio. Source: Advertisement, Indiana American (Brookville, IN), November 6, 1846:3.

Figure 3.5. Advertisement for Conkling, Wood & Co., a paint manufacturer in Cincinnati, Ohio, which appeared in an Indiana newspaper. Source: Advertisement placed by Conkling, Wood & Co., Indiana State Journal (Indianapolis, IN), December 3, 1849:3.

Chapter Summary

Although a majority of Indiana homes and businesses in the first decades of the nineteenth century were probably not painted, there is overwhelming evidence in the
form of narrative accounts, newspaper advertisements, extant buildings, and archaeological remains that indicate paint and whitewash were widely available and that their popularity and use increased by mid-century. In fact, it appears that paint was used on both interior and exterior surfaces of buildings. Even log homes, often considered austere and primitive, were whitewashed and occasionally embellished with pigmented interior paints.

In the first decades of the nineteenth century, most pigments and white lead were imported from England, France, or China. As domestic manufacturing expanded, American companies in Philadelphia, New York, and Pittsburgh began to produce paint pigments. By the 1830s, paint and white lead manufacturing had spread as far west as Cincinnati. Changing tastes in architecture brought about by the Greek Revival movement further popularized the use of paint, especially white, as an exterior treatment. No longer a luxury, paint was both accessible and affordable to the vast majority of Hoosiers. The stage was set for the rise of polychromatic paint schemes in the late nineteenth century.
When considering building materials, after bricks, lime, and lumber, no building material is more essential than the nail. According to Garvin, “The nail was, and still is, the most humble yet the most important of all forms of hardware.” Even early log homes, often touted for their ability to be constructed without iron nails, did in fact frequently use nails, especially in the application of exterior siding. Despite claims to the contrary, Warren E. Roberts—who has examined more than 400 log buildings in southern Indiana—concludes that siding was very common, if not universal, on hewn log homes in early nineteenth-century Indiana. And siding requires nails—lots and lots of nails.

Until the late eighteenth century, all nails were handmade. Each nail was individually forged from a strip or rod of wrought iron by a specialized nail maker or, less frequently, a general blacksmith. Garvin describes the process:

The process involved bringing the rod to a red or yellow heat in the forge and drawing it to a point by blows of a hammer on an anvil. The nailmaker then cut the tapered section from the rod, inserted it in a die or tool that exposed the cut

110 Garvin, 74.
111 For more on this discussion, see Roberts, Log Buildings of Southern Indiana, 75-89.
112 Garvin, 74.
end, and flattened the projecting end into a nail head with further blows of the hammer. A skilled nailmaker, working with malleable wrought iron, could accomplish this in less than a minute, without reheating the rod in the process (figure 4.1).\(^\text{113}\)

![Wrought nails](image)

**Figure 4.1. Illustration of hand-forged nails. Source:** Adapted from Eric Sloane, *A Reverence for Wood* (New York: Funk & Wagnalls, 1965), 24.

While not a particularly difficult or time-consuming process, the sheer number required by the booming frontier suggests that nails were being imported into Indiana in some quantity. Most blacksmiths did not have the ability to keep up with local demand while continuing to do other necessary work such as forging horseshoes and making and repairing ploughs, edge tools, and other equipment essential to life on the frontier.

Most of the iron and iron products used in the colonies, including wrought nails and nail rods, were imported from England up until the time of the American Revolution.\(^\text{114}\) Although scattered ironworks were established in North America starting in the early 1600s, the colonies struggled to achieve self-sufficiency in the manufacture of iron, inhibited by raw material of both poor quality and limited quantity. After achieving political independence, American investors encouraged the exploitation of

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\(^{113}\) Garvin, 74.

richer iron ore deposits in central and western Pennsylvania in order to help reduce economic dependence on pricey English iron.\footnote{Garvin, 75.}

In addition to the development of more productive ore deposits, American inventors began experimenting with methods for increasing nail production. The result was the machine-cut nail, in which a machine would slice a sheet of iron into wedge-shaped nails tapered on only two sides (figure 4.2).\footnote{Harris, 89.} Unfortunately, tracing the history of the machine-cut nail is difficult, as many of the records describing patents awarded for nail-cutting machines and improvements were destroyed in the Patent Office fire of 1836.\footnote{See Maureen K. Phillips, “‘Mechanic Geniuses and Duckies,’ a Revision of New England's Cut Nail Chronology before 1820,” \textit{APT Bulletin} 25, no. 3/4 (1993): 4-16, for the early history of machine-cut nails.} We do know that the first machine-cut nails were made in the United States in the 1780s but were of a poor quality and limited production. Experimentation continued, however, and by the first decades of the nineteenth century the quality of machine-cut nails had greatly improved.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{machine-cut-nails.png}
\caption{Illustration of machine-cut nails. \textit{Source:} Adapted from Eric Sloane, \textit{A Reverence for Wood} (New York: Funk & Wagnalls, 1965), 24.}
\end{figure}
The first cut nails were individually headed by hand. Around the turn of the century American inventors devised methods for simultaneously cutting and heading nails, which greatly sped up the nail-making process. In 1809, an editorial in the Vincennes *Western Sun* emphasized the importance of this development:

The invention of Odiorn [sic][118] to cut and head nails, enables us to make with ease, at a reduced price, our whole supplies. This article has sustained a complete revolution, and is settled forever in our hands. The noise of an European mob of nail makers of the year 1775, is substituted by the rattle of a score of mills, in as many American country positions, tended each by a dozen artists and laborers, who can make without opportunities of mobbings, or chance of sickness from confinement our whole quantity for consumption and shipment—This most useful manufacture, which cheapens the construction of every ship, barn, and house we build.[119]

Indeed, it was not long before cut nails were available as far west as the Indiana frontier. As early as 1817, cut nails were advertised for sale alongside wrought nails at both Vincennes and Madison.[120] Even though cut nails were soon available in every settlement of any size, they did not completely replace wrought nails for several decades. In fact, wrought nails continued to be advertised for sale up through the 1840s and it is assumed that their use continued for some time after.[121]

As new technologies for producing cut nails made them less expensive, the cost of wrought nails, which took considerably more time and effort but held better than cut nails, increased. A list of current prices from Madison, Indiana in 1831 shows that Boston and Philadelphia nails cost just slightly more than Juniata nails (both assumed to be cut),

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118 The Odiorne brothers did not actually invent the process, as that honor is generally assigned to Jesse Reed of Massachusetts from whom they purchased the patent rights, but they are often credited with popularizing its use. See Phillips, 9-11.
120 Advertisement placed by John McGiffin & Co., *Western Sun* (Vincennes, IN), July 19, 1817:2; Advertisement placed by David M’Clure & Co., *Indiana Republican* (Madison, IN), September 27, 1817:2.
and that wrought nails were considerably costlier than either type (figure 4.3). Even with the availability of cut nails, wrought nails continued to be made. As late as 1851, Cincinnati had four shops employing a total of twelve people that produced wrought nails.123

Figure 4.3. Prices of nails in Madison, Indiana in 1831. Source: “A Review of the Madison Market,” *Indiana Republican* (Madison, IN), June 9, 1831:3.

Nails in Indiana

The earliest advertisement for nails in Indiana appeared in 1814 when they were listed among the inventory of a Vincennes merchant.124 Ads for nails appeared in Madison in 1817 and in Indianapolis by 1822, the first year a newspaper was published in that city.125 It is important to note that lack of printed advertisements for nails does not necessarily mean that they were not available, and in fact is it very likely that they were available almost as soon as the first Hoosier merchant set up shop. Lists of the U.S.

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123 Cist, 257.
Army’s expenditures for Fort Knox in the year 1811 include both wrought and cut nails purchased from local Vincennes merchants.126

Not a single advertisement was encountered during the course of research that indicate hand-forged nails were being made in Indiana by general blacksmiths, leading to the conclusion that the vast majority of nails, both wrought and cut, were imported into Indiana.

**Domestic Sources of Nails**

Indiana newspaper advertisements provide a wealth of information on the origins of nails being sold in early nineteenth-century Indiana. Some of the early advertisements indicate that shipments originated along the eastern seaboard, noting simply that they included “Eastern Nails” or nails described as “eastern made.”127

In his research on the American iron industry, Robert B. Gordon tells us that “By the 1760s Pennsylvanians had established themselves as the leading iron producers in North America,” erecting most of their ironworks within a forty-mile radius of Philadelphia.128 This is evident in some of the earliest advertisements in Indiana, which indicate that both wrought and cut nails came primarily from Philadelphia in the first decades of the nineteenth century.


127 Advertisement placed by Collins & Wilson, *Indiana Republican* (Madison, IN), September 16, 1830:3; Advertisement placed by McCarty & Williams, *Indiana Journal* (Indianapolis, IN), September 22, 1832:3.

Another common source for nails was Boston, Massachusetts. Boston nails were made from iron derived from the southeastern Massachusetts iron-making region. In 1830, a Vincennes merchant advertised a recent shipment of 125 kegs of “Boston cut nails.” That same year, a Madison merchant advertised that he had received via New York and New Orleans “3, 4, 6, 8, 10, & 20d Boston wrought and cut Nails,” and another Madison merchant advertised “double refined 3d Boston Nails” for sale as late as 1845 (figure 4.4).

![Image of advertisement]

**Figure 4.4. Advertisement for Boston nails. Source: Advertisement placed by Weyer & King, *Madison Courier* (Madison, IN), August 16, 1845:3.**

Although nails were coming from Philadelphia and Boston, the most frequently cited source for nails imported into Indiana was western and central Pennsylvania. By the early nineteenth century, Pittsburgh had become known for iron manufacturing:

The character of the charcoal-made iron is shown in a remarkable degree in the quality of wrought-iron nails manufactured at Pittsburgh. These are exceedingly tough, bend like wire, and are very different from the brittle articles of a similar class usually produced in England. There are 14 or 15 establishments for the manufacture of nails in the above city, producing from 8,000 to 10,000 kegs of 100 lbs. weight each, giving about 1,600 tons of nails per week.

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129 Advertisement placed by Wurts & Reinhard, *Western Sun and General Advertiser* (Vincennes, IN), March 13, 1830:3.

130 Advertisement placed by John Alling, *Indiana Republican* (Madison, IN), July 1, 1830:4.

131 Advertisement placed by Weyer & King, *Madison Courier* (Madison, IN), August 16, 1845:3.

Furthermore, Pittsburgh had the advantage of being located on the Ohio River, which made transportation of heavy iron to the western markets much more cost effective, thereby reducing the price paid by western customers. As early as 1817, nails from Pittsburgh were advertised for sale in Vincennes (figure 4.5). Two years later, a Madison merchant advertised that he “intends going to Pittsburgh, about the first of September for the purpose of purchasing a stock of iron, steel, &c.”

![Figure 4.5. Advertisement for nails manufactured in Pittsburgh. Source: Advertisement placed by John Ewing, Western Sun (Vincennes, IN), March 1, 1817:1.](image)

The Juniata Valley, located in central Pennsylvania in the vicinity of Altoona, was another rich source of iron deposits. The quality of Juniata iron was well-known, and it supplied many of Pittsburgh’s rolling mills during the early nineteenth century. Juniata nails made their appearance in Indiana in the early 1820s when they were advertised for

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134 Advertisement placed by John Ewing, *Western Sun* (Vincennes, IN), March 1, 1817:1.
135 Advertisement placed by Wm. W. Thom., *Indiana Republican* (Madison, IN), August 14, 1819:3.
136 Gordon, 76.
sale in Madison and Indianapolis. They continued to be advertised into the 1840s, where they appeared for sale in Brookville.

Some of the advertisements that appeared in Indiana newspapers identify specific brands of iron nails made in forges and rolling mills in Pennsylvania. For example, in 1829 a merchant in Madison advertised 30 kegs of “Bowens’ Juniata Nails” for sale, which most likely referred to a rolling mill in Pittsburgh operated by R. Bowen who, although he manufactured his nails in Pittsburgh, most likely obtained his iron from the Juniata Valley (figure 4.6).

![Figure 4.6. Advertisement for Bowen brand nails. Source: Advertisement placed by J. E. Hubbs Co., Indiana Republican (Madison, IN), September 9, 1829:4.](image)

In addition, several Indiana merchants advertised that they sold Shoenberger brand nails (figures 4.7 and 4.8). The Shoenberger forge, built in 1804, was located in the Juniata Valley near Petersburg. The forge was owned and operated by Dr. Peter Shoenberger, said to be “one of the most prominent Pennsylvania ironmasters.” In the 1820s he expanded operations, establishing a rolling mill at Pittsburgh to process Juniata

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137 Advertisement placed by Wm. J. Lodge, Indiana Republican (Madison, IN), June 23, 1823:4; “Cincinnati Wholes Price-Current,” Indianapolis Gazette (Indianapolis, IN), June 15, 1824:3.
138 Advertisement placed by R. Tyner, Indiana American (Brookville, IN), March 3, 1848:3.
139 Advertisement placed by J. E. Hubbs Co., Indiana Republican (Madison, IN), September 9, 1829:4; Swank, 227-228.
140 Advertisement placed by John W. Robertson, Republican Banner (Madison, IN), February 14, 1838:3; Advertisement placed by Polleys & Butler, Republican Banner (Madison, IN), October 7, 1840:4; Advertisement placed by Kellogg & Yandes, Indiana State Journal (Indianapolis, IN), June 18, 1849:3.
141 Gordon, 75.
iron and presumably to take advantage of access to western markets provided by the Ohio River.\textsuperscript{142}

Figure 4.7. Advertisement for Shoenberger brand nails. \textit{Source:} Advertisement placed by John W. Robertson, \textit{Republican Banner} (Madison, IN), February 14, 1838:3.

Figure 4.8. Advertisement for Shoenberger iron and nails. \textit{Source:} Advertisement placed by Polleys & Butler, \textit{Republican Banner} (Madison, IN), October 7, 1840:4.

\textbf{Nail Manufacturers in the Lower Ohio Valley}

Although most of the nails used in Indiana appear to have derived from forges and rolling mills in Boston, Philadelphia, and western and central Pennsylvania, nail

\textsuperscript{142} Gordon, 75.
manufactories were eventually established in western cities. Regional sources of nails most likely resulted in increased availability and reduced cost of both cut and wrought nails. In 1796, Daniel May of Cincinnati placed a want ad for “nailors,” noting that he wished to hire “a number of industrious men who understand the business” (figure 4.9). By 1812, a nail factory had been established in Cincinnati that used Juniata iron in the making of nails (figure 4.10). This suggests that nails, either wrought or cut, were being made in some quantity in Cincinnati very early on and probably sold to settlers and country merchants in neighboring Indiana Territory.

Figure 4.9. Help wanted advertisement for nail makers. Source: Advertisement placed by Daniel Mayo, *Freeman’s Journal* (Cincinnati, OH), August 13, 1796:3.

In 1834, agents for the Covington Rolling Mill advertised in a Brookville newspaper “A complete assortment of NAILS, all warranted of superior quality.” In 1841, P. Doran of Vincennes, Indiana, “agent for the Covington Iron Works,” advertised

143 Advertisement placed by Daniel Mayo, *Freeman’s Journal* (Cincinnati, OH), August 13, 1796:3.
144 Advertisement placed by Francis Carr, *Western Spy* (Cincinnati, OH), September 5, 1812:4.
145 Advertisement placed by C. MacLaester & Co., *Indiana American* (Brookville, IN), May 16, 1834:4.
Figure 4.10. Advertisement for a nail factory in Cincinnati, Ohio. Source: Advertisement placed by Francis Carr, *Western Spy* (Cincinnati, OH), September 5, 1812:4.

100 kegs of nails for sale. The following year, an agent for the Covington Rolling Mill advertised in a Brookville newspaper. These advertisements no doubt refer to nails manufactured in the vicinity of Covington, Kentucky, a town located just across the Ohio River from Cincinnati. Covington’s first rolling mill was established in 1829 and was in fact the first in the state of Kentucky. The location along the Ohio River simplified transportation of nails to Indiana and other Western states and territories.

Indiana Hoosiers also got into the nail manufacturing business. In 1839, a Bloomington newspaper included an advertisement for an iron store in Madison that used

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146 Advertisement placed by Thorn & Tracy, *Western Sun and General Advertiser* (Vincennes, IN), October 16, 1841:2.
147 Advertisement placed by R. Buchanan, *Indiana American* (Brookville, IN), October 7, 1842:3.
148 Swank, 287.
Juniata iron in the manufacture of nails (figure 4.11). Little information could be found on this particular enterprise. The 1882 *Atlas of Franklin County, Indiana* mentions only one ironworking establishment in the county in the nineteenth century—a forge “built by an Eastern man, named Tillotson, [. . . which] was arranged to take power from the river. [. . .] This establishment was of comparatively short duration, as its owner died of consumption, not long after its completion.”

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**Figure 4.11.** Advertisement for a nail factory in Madison, Indiana. *Source:* Advertisement placed by Weyer & Agnew, *Bloomington Post* (Bloomington, IN), September 6, 1839:4.

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149 Advertisement placed by Weyer & Agnew, *Bloomington Post* (Bloomington, IN), September 6, 1839:4.

Chapter Summary

We have seen that nails were available on the Indiana frontier at a very early date. Despite popular myth, Roberts has shown that much of the architecture in Indiana during the first half of the nineteenth century—including log houses—employed nails in their construction. Furthermore, evidence suggests that nails were not made by local blacksmiths but were instead imported from England, Boston and Philadelphia, and later from Pittsburgh, the Juniata Valley, and even as near as Cincinnati and Covington, Kentucky. Exploitation of more productive and better-quality iron deposits combined with innovations in nail technology—especially the invention of the machine-cut and headed nail—all help the United States wean itself off imported iron. During this period, merchants began to advertise American-made nails by brand name, with products by Bowen and Shoenberger appearing in Indiana. Nails, like other types of manufactured goods, served as one more link that tied frontier Indiana to the international trade network, America’s expanding manufacturing system, and the burgeoning consumerism of the young capitalist nation.
Chapter Five: Window Glass and Prefabricated Sash

In the late eighteenth and early nineteenth centuries, window glass was manufactured by highly skilled craftsmen who sold the finished product by the box to professional glaziers, builders, merchants, and homeowners. Up until the twentieth century, window glass was made in one of two ways. The first method produced crown glass and involved blowing a hollow sphere of hot molten glass, attaching it to a metal rod called a pontil, and spinning into a large, nearly flat, circular disk—a crown—ranging from four to six feet in diameter (figure 5.1). Individual panes were then cut from the disk in a variety of dimensions depending on the size of the crown, as seen in figure 5.2.\footnote{151} Cylinder glass, also called sheet glass, was made by blowing a cylinder of molten glass that was then cut along its length and flattened on a hot table. Due to differences in the manufacturing processes, cylinder glass was not as brilliant as crown glass and often contained minor inclusions and flaws.\footnote{152}

\footnote{151}{Garvin, 92; Harris, 85.}
\footnote{152}{Garvin, 92-93; Harris, 89.}
Figure 5.1. Wood engraving depicting craftsmen making crown glass. Source: Edward Hazen, Popular Technology; or, Professions and Trades (New York: Harper and Brothers, 1843), 178.

Figure 5.2. Diagram showing how sheets are cut from 48-inch (left) and 49-inch (right) crown glass. Source: Garvin, 92, Adapted from William Cooper, Crown Glass Cutter and Glazier’s Manual (Edinburgh, 1835).
Window Glass in Indiana

Despite a dearth of domestic glassworks, window glass was available for purchase in the lower Ohio valley as early as 1795 when a Cincinnati merchant listed it among his inventory. In Indiana, window glass appeared for sale in Vincennes as early as 1815, in Madison by 1817, and in Indianapolis by 1822; however, other evidence suggests that imported window glass was available in Indiana at an even earlier date. A list of expenditures made for Fort Knox in 1811 included twenty squares of window glass purchased from local Vincennes merchant George Wallace Jr. for a little over three dollars—nearly seventeen cents per pane.

As transportation and commercial networks improved, the price of window glass dropped. In his narrative of Indiana life in the 1820s, Baynard Rush Hall describes a scene in which a backwoods Indiana resident sets off for town to buy, among other things, four panes of window glass:

My friend Sam to-day had come to town with two silver-fip-penny-bits, and a roll of tow linen; and he intended to buy four panes of glass, 8 by 10’s, half a pound of store-coffee, eighth of a pound of store-tea, one quarter pound of gunpowder, and a pound of lead: also, if they could be got cheap, a string of button moles and a needle.

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153 Advertisement placed by Daniel Mayo, Centinel of the North-Western Territory (Cincinnati, OH), October 24, 1795:3.
154 Advertisement placed by John Ewing, Western Sun (Vincennes, IN), December 30, 1815:3; Advertisement placed by David M’Clure & Co., Indiana Republican (Madison, IN), September 27, 1817:2; Advertisement placed by Luke Walpole, Indianapolis Gazette (Indianapolis, IN), July 6, 1822:3.
After a considerable amount of bargaining, Sam concludes his purchase and sets out for home, at which time Hall recounts the circumstances leading up to the purchase of the coveted window glass:

Be it remembered, part of his purchase was [. . .] four small panes of glass, intended to illuminate their new cabin, and make its native darkness visible in the day. A sort of window had, indeed been made by skipping a log in the erection; but our friends had begun to be richer, and it had been lately voted to have a sash of four lights at ten cents each, it being most specially for this, the twelve yards of tow-cloth had been woven, and this very day sold at Spiceburgh.¹⁵⁷

Thus we see how even settlers living in remote parts of the state with limited access to river commerce and with little in the way of actual money might have embellished their homes with manufactured and imported building materials such as window glass.

**Foreign Sources of Window Glass**

Both crown glass and cylinder glass were imported from England through the mid-nineteenth century.¹⁵⁸ Minor glassworks were established in the American colonies in the seventeenth and eighteenth centuries; however, the product was of low quality and not nearly enough to satisfy domestic demand. In fact, window glass was not manufactured in the United States in any great quantity until the late nineteenth century.

To help domestic manufacturers compete with imported English window glass, the Tariff of 1824 imposed a duty of $3.00 per hundred square feet for panes measuring eight by ten inches or less, $3.50 per hundred square feet for ten by twelve inches, and

¹⁵⁷ Hall, *The New Purchase*, 219. According to Hall, Spiceburgh was located approximately fifty miles southwest of Indianapolis.
¹⁵⁸ Harris, 85, 92.
$4.00 per hundred square feet for glass larger than ten by twelve inches.\footnote{159} Even so, much of the window glass used in the United States continued to be imported for several decades. In a 1904 article on American glass manufacturers, Gillinder notes that although window glass was manufactured in New England, New York, and Pittsburgh by the 1850s, “the bulk of the product was of poor quality, and the window-glass did not in any way measure up to the imported glass.”\footnote{160} Even as late as 1880, 25 percent of the window glass used in the United States continued to be imported from England.\footnote{161}

**Domestic Sources of Window Glass**

Although most of the window glass for sale in early nineteenth-century Indiana was probably imported from England, some of it appears to have derived from American manufacturers on the eastern seaboard. A number of Indiana newspaper advertisements list window glass among goods recently received from cities such as Philadelphia, Pittsburgh, and Baltimore.\footnote{162} In the early nineteenth century, Pittsburgh and surrounding Allegheny County, Pennsylvania, became known for the manufacture of glass. In 1826, there were nine glass works in operation in Pittsburgh and the surrounding area, including

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\footnote{159}“Abstract on the New Tariff,” *Indianapolis Gazette* (Indianapolis, IN), June 22, 1824:1.  
\footnote{161}Ibid.  
\footnote{162}Advertisement placed by John Ewing, *Western Sun* (Vincennes, IN), December 30, 1815:3; Advertisement placed by Dickson & Wilson, *Western Sun and General Advertiser* (Vincennes, IN), December 11, 1819:3; Advertisement placed by Wm. Burtch, *Western Sun and General Advertiser* (Vincennes, IN), June 26, 1823:3; Advertisement placed by John H. Canby & Co., *Indiana Republican* (Madison, IN), April 23, 1828:3; Advertisement placed by J. K. Hemphill, *Post* (Bloomington, IN), December 9, 1836:2.
five window glass factories. By 1856, the number had grown to nineteen firms with a total of thirty-three factories, just under half of which produced window glass.163

As early as 1800, an advertisement for the Pittsburgh Glass Works appeared in Cincinnati’s Western Spy and Hamilton Gazette (figure 5.3).164 The advertisement was placed by James O’Hara and Isaac Craig, who established the first glassworks in Allegheny County in 1796 and began making window glass two years later.165

Figure 5.3. Advertisement for O’Hara and Craig’s Pittsburgh Glass Works. Source: Advertisement, Western Spy and Hamilton Gazette (Cincinnati, OH), March 19, 1800:3.

163 Thurston, 193.
164 Advertisement, Western Spy and Hamilton Gazette (Cincinnati, OH), March 19, 1800:3.
165 Thurston, 180.
Other early American glass manufacturers appear in Indiana newspapers as well. Beginning in 1818 and continuing into the 1830s, advertisements for Geneva window glass appeared in Madison newspapers (figure 5.4). The New Geneva Glass Works, established in 1797 by Albert Gallatin under the name of Gallatin & Co., were located at the settlement of New Geneva, Pennsylvania. Unlike O’Hara and Craig, who began their firm by manufacturing glass bottles, jars, and vials, the New Geneva Works specialized in window glass from the beginning and continued its manufacture until the 1830s. The Ihmsen Glass Works was another Pittsburgh manufacturing firm that appears in Indiana newspapers. In 1844, a Cincinnati merchant advertised window glass manufactured by Ihmsen in Brookville (figure 5.5). Research reveals that the company was established in 1812 by a group of eight investors, including Charles Ihmsen, and was still in operation in the late 1880s.

Figure 5.4. Advertisement for Geneva window glass. Source: Advertisement placed by L. & N. Lodge, Indiana Republican (Madison, IN), March 10, 1830:3.

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166 Advertisement placed by Jacob G. Doyle, Indiana Republican (Madison, IN), October 17, 1818:3; Advertisement placed by L. & N. Lodge, Indiana Republican (Madison, IN), March 10, 1830:3; Advertisement placed by L. & N. Lodge, Indiana Republican (Madison, IN), June 21, 1832:3.  
167 Gillinder, n.p.; Thurston, 182.  
168 Advertisement placed by O. Aldrich, Indiana American (Brookville, IN), April 12, 1844:2.  
169 Thurston, 185-86.
Glass Manufacturers in the Lower Ohio Valley

Window glass also appears to have been manufactured in the lower Ohio Valley in the first decades of the nineteenth century. In 1819, an advertisement placed by Pugh & Teater in a Vincennes newspaper announced that the Cincinnati Glass Works “are now in complete operation, and the proprietors are ready to furnish Window Glass, of any size” (figure 5.6). According to Ford’s *History of Hamilton County, Ohio*, Pugh and Teater established their glassworks at Moscow, “an old village of Delhi [Township], now extinct,” sometime before 1826, making it the first glassworks in the lower Ohio Valley. Little else is known about the factory; however, in 1831, Moscow window

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170 Advertisement, *Western Spy* (Cincinnati, OH), March 22, 1816:4; Advertisement placed by Pugh & Teater, *Western Sun and General Advertiser* (Vincennes, IN), December 11, 1819:3.
glass was listed in the *Indiana Republican*’s compilation of current Madison prices, indicating the establishment remained in operation for at least five years.\footnote{\textit{A Review of the Madison Market}, *Indiana Republican* (Madison, IN), June 9, 1831:3.}

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CINCINNATI GLASS-WORKS

The public are informed that these works are now in complete operation, and the proprietors are ready to furnish Window Glass, of any size, or hollow ware to suit any orders which they may be favored with, on the shortest notice. They pledge themselves that the quality of their glass is not inferior to any manufactured in the western country. Orders from a distance will be promptly attended to and a liberal credit will be given, where good references can be made. They will not ask for anything better than Cincinnati bank paper in payment.

PUGH & TEATER.
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\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure5_6.jpg}
\caption{Advertisement for Pugh & Teater’s Cincinnati Glass Works. \textit{Source:} Advertisement placed by Pugh & Teater, \textit{Western Sun and General Advertiser} (Vincennes, IN), December 11, 1819:3.}
\end{figure}

**Prefabriated Window Sash**

Due to the time-consuming nature of their manufacture, window sash were frequently assembled off-site by specialized craftsmen and later by sawmills and sash factories.\footnote{Chad William Slider, “Window-Making in America: A Study of Craftsmen, Sawmills, Glassworks, and Hardware from Jamestown to the Civil War” (Master’s thesis, Ball State University, 2007), 42.} Prefabricated sash were probably made in standard dimensions that could be inserted into virtually any building. According to Garvin,
Because the making of a sash by hand is painstaking and delicate work, joiners of the 1700s or early 1800s devised a fair method of charging for their labor. They billed a customer by the number of ‘squares of sash,’ or openings for lights of glass, that they fabricated.174

As glass became less expensive and larger panes became available, the number of lights—and the overall price of window sash—decreased.175

In his graduate thesis, *Window-Making in America: A Study of Craftsmen, Sawmills, Glassworks, and Hardware from Jamestown to the Civil War*, Chad Slider discusses the practice of prefabricating window sash in Delaware and North Carolina.176

We also know that a similar practice occurred in Pennsylvania, where “As early as the 1720s a Philadelphia carpenter advertised for sale standardized window frames, painted and glazed, for immediate installation.”177

Interestingly, in 1838, prefabricated window sash were available for sale in Vincennes, Indiana.178 Several years later, another Vincennes merchant advertised that he “kept on hand a constant supply of [. . .] window sash.”179 Prefabricated sash were also offered for sale in Muncie.180 It is unknown whether sash were produced by local craftsmen or imported from outside the region; however, in 1841, a Muncie joiner advertised that he kept “constantly on hand an assortment of sash and seasoned lumber

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174 Garvin, 149-50.  
175 Ibid., 150.  
176 Slider, 64-66.  
177 Hawke, 12.  
178 Advertisement placed by J. Donovan, *Western Sun and General Advertiser* (Vincennes, IN), December 8, 1838:3.  
180 Advertisement placed by Baxter & Wachtell, *Muncietown Telegraph* (Muncie, IN), May 1, 1841:3.
suitable to execute [sic] any job that may be entrusted to his care,” suggesting that at least some prefabricated sash were made locally (figure 5.7).  

![Advertisement](image)

**Figure 5.7.** Joiner’s advertisement for prefabricated sash and blinds. *Source:* Advertisement placed by Wm. S. Collis, *Muncietown Telegraph* (Muncie, IN), March 27, 1841:3.

By the 1840s, factories in nearby Cincinnati specialized in the manufacture of window sash, blinds, doors, planed flooring, weatherboarding, and other wood architectural components.  

According to Cist’s *Sketches and Statistics of Cincinnati in 1851*, no less than twenty-five sash, blind, and door factories were in operation in Cincinnati in that year; however, Cist also notes that all but two continued to rely on hand manufacture, indicating that machine manufacture of sash was still relatively rare.  

One of the factories that did use machinery was that of Hinkle & Guild, who advertised eight-

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181 Advertisement placed by Wm. S. Collis, *Muncietown Telegraph* (Muncie, IN), March 27, 1841:3.

182 Advertisement placed by T. C. Newton and J. Sharp, *Indiana American* (Brookville, IN), July 17, 1846:3; Advertisement placed by Kellogg & Davidson, *Indiana State Journal* (Indianapolis, IN), October 19, 1847:3.

183 Cist, 236.
by-ten-inch sash for 3½ cents per light, and ten-by-twelve-inch sash for 4½ cents per light (figure 5.8). Prefabricated sash were in such demand that by mid-century a planing factory had been established in Indianapolis for the manufacture of sash and doors for the local market.

Chapter Summary

It has been shown that window glass was available on the Indiana frontier by the end of the second decade of the nineteenth century, if not before. Even remote Army outposts and Hoosier pioneers of limited means were able to secure a few panes of glass when needed. Most of the early glass was imported from England, and English glass continued to dominate the market until the second half of the century. However, Pittsburgh soon developed an emerging glass industry, and small glassworks also appear in the vicinity of Cincinnati. American manufacturers such as Ihmenson and Pugh & Teater advertised their products in Indiana newspapers, continuing the trend of branding associated with rising American consumerism. In addition to pre-cut window glass, prefabricated sash also appear during this period, advertised for sale in both Vincennes and Muncie, although there is some indication that unlike window glass, sash were made by local craftsmen.

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184 Advertisement placed by Hinkle & Guild, Indiana American (Brookville, IN), August 4, 1848:4; Cist, 237.
Figure 5.8. Advertisement for prefabricated window sash and other wood building materials. *Source:* Advertisement placed by Hinkle & Gould, *Indiana American* (Brookville, IN), August 4, 1848:4.
Figure 6.1. Illustration from an early nineteenth-century magazine depicting a variety of
door hardware, including a bolt, strap hinge, and rim lock with knob. Source: Cover
illustration, Dwight’s American Magazine and Family Newspaper 3, no. 42 (October 16,
1847).
In the early nineteenth century, *hardware* was an all-encompassing term that could indicate any of number of items made of metal. An early nineteenth-century dictionary defines hardware simply as “Manufactures of metals, utensils made of brass, steel, iron, &c.”\(^{186}\) Although the earliest Indiana newspaper advertisements for hardware do not refer specifically to architectural hardware (hinges, latches, locks, etc.), it is very likely that Hoosier merchants did carry some of these items in their inventory. In 1817, a Madison merchant advertised “Hardware well assorted” and listed knob locks among other general hardware items such as saws, sheep shears, tea kettles, and coffee mills.\(^{187}\)

Although a wide variety of architectural hardware appears to have been available in Indiana during the first half of the nineteenth century, this chapter limits discussion to door hinges, latches, and locks. Research has shown that these were the most common architectural hardware items (other than nails) to be advertised in early Indiana newspapers. Hinges, latches, and locks were frequently stamped, embossed, or otherwise marked with the name of the manufacturer, which can help establish origin and tells us something about the manufacture and import of building materials in the first half of the nineteenth century.


\(^{187}\) Advertisement placed by John Pugh, *Indiana Republican* (Madison, IN), May 17, 1817:3.
A Brief History of Architectural Hardware

Strap hinges are one of the simplest forms of metal hinges and were used on both interior and exterior doors in America during the eighteenth century.\textsuperscript{188} As the name implies, a strap hinge consists of a long narrow leaf or iron strap riveted or nailed across the surface of a door and having either a short leaf mounted to the door frame or a pintle attached to a spike driven into the adjacent wood or masonry (figure 6.2).\textsuperscript{189} Local blacksmiths hand forged most strap hinges until the mid-nineteenth century, at which time factory-made strap hinges became available.\textsuperscript{190} By the early nineteenth century, however, strap hinges had largely been replaced by other forms, although they continued to be used on large, heavy doors such as those found on barns, industrial buildings, and the front doors of some houses.\textsuperscript{191}

\begin{figure}[h]
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\includegraphics[width=0.5\textwidth]{strap_hinge}
\caption{Figure 6.2. Illustration of a strap hinge. \textit{Source:} Harris, 320.}
\end{figure}

\textsuperscript{190} Garvin, \textit{A Building History of Northern New England}, 81.
While strap hinges were commonplace on front doors and outbuildings, H and HL hinges were the standard for interior doors throughout the eighteenth century, declining in popularity with the introduction of butt hinges in the 1780s. An H hinge, as the name implies, resembles the letter H, while an HL hinge has a horizontal extension added to one side (figure 6.3). The earliest H and HL hinges were made of wrought iron or cut out of heavy sheet iron. Although certainly some H and HL hinges were made by local blacksmiths, their popularity and the massive quantities needed meant that American merchants had to import most of the H and HL hinges from England where craftsmen produced them in highly specialized shops or small factories. The popularity of H and HL hinges continued into the early part of the nineteenth century when cast iron butts supplanted them as the most common form of interior door hinge.

Figure 6.3. Illustrations of H (left) and HL (right) hinges. Source: Adapted from Harris, 173, 175.

192 Harris, 175.
By far the most common type of interior door hinge during the early nineteenth century was the butt. A butt hinge consists of two rectangular metal plates that meet at a knuckle joint (figure 6.4). Instead of being fixed to the face of the door, one plate is mortised into the edge and the other to the door jamb. The earliest butt hinges were made of sheet metal; however, in 1775, Izon & Whitehurst of England invented a process for casting butts.\textsuperscript{196} The impact of cast iron technology on the hardware industry is immeasurable. Unlike earlier wrought hinges whose manufacture was labor-intensive, hundreds of identical and interchangeable butt hinges could be cast from the same wood mold, reducing labor costs and thus the cost of the finished product.\textsuperscript{197}

![Figure 6.4. Page from an undated English trade catalogue illustrating the various sizes of cast iron butt hinges available. Source: Streeter, “Early American Wrought Iron Hardware: H and HL Hinges, Together with Mention of Dovetails and Cast Iron Butt Hinges,” 42.](image)

\textsuperscript{196} Mercer, 13; Streeter, “Early American Wrought Iron Hardware: H and HL Hinges,” 42-43, 49; Williams and Williams, 104; There is some argument over whether this patent represents the first instance of cast butt hinges. For further discussion, see Peter J. Priess and Donald Streeter, “Priess and Streeter Correspondence on Hinges,” \textit{Bulletin of the Association for Preservation Technology} 6, no. 2 (1974): 25.

\textsuperscript{197} Streeter, “Early American Wrought Iron Hardware: H and HL Hinges,” 47.
Although merchants were importing cast butts from England by the 1780s, they were not widespread in the United States until about 1800.\textsuperscript{198} According to late renowned blacksmith and hardware historian Donald Streeter, the effect on American architecture was substantial:

The cast butt was, in its way, as important a development as the inventions of the cut nail, machine cut screw, or the circular saw, in its effect on building construction. No longer need hinges be mounted on the surface with clinched nails, nor doors be hung flush with the trim, thus allowing deeper mouldings around them, and calling in turn for mortise locks.\textsuperscript{199}

Another type of hinge encountered in Indiana in the early nineteenth century was the parliament hinge (figure 6.5). A parliament hinge is a modified butt hinge that has been extended to provide clearance over architectural projections such as heavy door moldings.\textsuperscript{200} The appearance of parliament hinges signifies the increasing sophistication of American architecture.

\begin{figure}[h]
\centering
\includegraphics[width=0.3\textwidth]{parliament_hinge.png}
\caption{Illustration of a parliament hinge. \textit{Source: F. J. Butter, An Encyclopedia of Locks and Builders Hardware} (Willenhall, England: Josiah Parkes and Sons, 1968), 205.}
\end{figure}

\begin{flushright}
\textsuperscript{198} Streeter, “Early American Wrought Iron Hardware: H and HL Hinges,” 43; Williams and Williams, 104.
\textsuperscript{200} F. J. Butter, \textit{An Encyclopedia of Locks and Builders Hardware} (Willenhall, England: Josiah Parkes and Sons, 1968), 205.
\end{flushright}
Another category of architectural hardware widely available in early nineteenth-century Indiana includes bolts, latches, and locks. Before the advent of the door lock, which did not come into general use in America until after the Revolution, doors were secured from the inside by a bar or bolt that slid into a socket or staple on the door frame. 201 Although effective at securing a door, bolts can only be engaged from the inside and are thus useless for protecting an unoccupied building or room.

A slight improvement over the simple bolt was the latch, which holds a door closed by means of a flat bar that slides or falls into position but that can be opened from both the inside and outside. 202 The earliest latches were made of wood and operated from the outside by pulling on a string or leather cord threaded through a hole in the door and tied to the latch bar inside (figure 6.6). 203 These primitive latches were locked by simply pulling the string inside, resulting in the expression “the latch string is out,” which literally meant that a house was unlocked and visitors were welcome.

Figure 6.6. Early wood latch with latch string. Source: Harris, 198.

201 Butter, 53; Harris, 201.
202 Harris, 198.
203 Ibid.
By the early 1700s, wrought iron thumb latches were in wide use throughout the American colonies.\textsuperscript{204} A thumb latch consists of a metal lever on the exterior that when pressed with the thumb lifts the interior latch bar or releases a catch to provide entry.\textsuperscript{205} Originally, American colonists imported wrought iron thumb latches from the Suffolk region of England, giving rise to the term “Suffolk latch.” The term soon evolved to identify any wrought iron thumb latch, including those made domestically by American blacksmiths.\textsuperscript{206} The wrought iron Suffolk thumb latch remained popular until the nineteenth century when it was replaced by the Norfolk latch, which is similar to the Suffolk but has a metal plate behind the grasp (figure 6.7).\textsuperscript{207} Like the Suffolk latch, Norfolk latches were originally made of wrought iron and imported from England; however, soon parts were being made of cast iron with backplates constructed of machine-rolled sheet iron (figure 6.8).\textsuperscript{208} As with butt hinges, standardization of cast parts made the Norfolk latch cheaper to produce, which in turn made it more affordable.\textsuperscript{209} Norfolk latches remained popular in the United States until the 1840s, by which time rim locks had achieved widespread use.\textsuperscript{210}

Although the terms are sometimes used interchangeably, a lock is different from a latch in that it includes a mechanism to prevent a door from being opened without a

\textsuperscript{205} Harris, 333.
\textsuperscript{206} Cotton, 37; Harris, 323; Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 19.
\textsuperscript{207} Harris, 323.
\textsuperscript{208} Cotton, 39; Garvin, 83; Harris, 227.
\textsuperscript{209} Cotton, 39.
\textsuperscript{210} Cotton, 38; Garvin, 82; Harris, 227; Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 19.
Figure 6.7. Illustrations of wrought iron Suffolk (left) and Norfolk (right) thumb latches. *Source:* Adapted from Harris, 227, 323.

Figure 6.8. Diagram of the inner workings of a cast iron Norfolk thumb latch. *Source:* Butter, 258.
key. Stock locks were one of the earliest forms and consisted of a metal mechanism enclosed in a wood casing mounted to the surface of a door. Plate locks, in which the locking mechanism was mounted on a metal plate set in a wood casing, were a slightly later development (figure 6.9). Eventually, all-metal locks replaced the earlier stock and plate locks.

Figure 6.9. Two English locks. The upper lock is a plain stock lock with rear casing removed to show how the mechanism is set directly into the wood. The lower lock is the slightly better-grade plate lock, in which the mechanism is mounted on an iron plate set into the wood. Source: Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 12.

211 Butter, 66; Harris, 97.
212 Harris, 201; Walker, 346.
The most common type of lock in America during the late eighteenth and early
nineteenth centuries was the surface-mounted iron or brass rim lock, also known as a box
lock or case lock (figure 6.10).²¹³ Rim locks have their mechanism encased in a flat,
rectangular metal box mounted to the edge of a door.²¹⁴ Another type of lock used in the
United States in the first half of the nineteenth century was the mortise lock (figure 6.11).
Mortise locks require a cavity to be cut in the edge of a door into which the entire
mechanism is inserted, with the exception of the knobs and projecting end of the latch
and bolt.²¹⁵ Mortise locks had the advantage of bypassing fancy moldings but did require
thicker doors. Although mortise locks were made in England in the late eighteenth
century, they were not widely used in the United States until the 1830s or ’40s when
interior doors were thicker and able to house the interior workings of a mortise lock.²¹⁶

![Figure 6.10. Early nineteenth-century iron rim lock with brass knob. Source: Donald Streeter, “Early American Wrought Iron Hardware, English Iron Rim Locks: Late 18th and Early 19th Century Forms, Bulletin of the Association for Preservation Technology 6, no. 1 (1974): 40.](image)

²¹⁴ Harris, American Architecture, 278.
²¹⁵ Garvin, 84.
Figure 6.11. Illustration of an American mortise lock dating to the late nineteenth century. *Source:* Adapted from Garvin, 84.

**Architectural Hardware in Indiana**

As new towns were established on the Indiana frontier and the stream of migrants continued, the demand for architectural hardware increased. Local blacksmiths were kept busy shoeing horses, repairing and sharpening axes, adzes, hoes, knives, and other edge tools, and repairing ploughs. This left little time to make specialized and complicated building hardware such as cast iron butt hinges and rim locks. An 1832 newspaper advertisement from Indianapolis details some of the work of a blacksmith of this period (figure 6.12).\(^2\) Production of architectural hardware is prominently absent from the advertisement. In fact, not a single mention of architectural hardware or nails was found in any of the advertisements placed by Indiana blacksmiths examined during the course of research.

\(^2\) Advertisement placed by Edmund G. Boston, *Indiana Journal* (Indianapolis, IN), September 22, 1832:3.
of research, which leads to the conclusion that such items were not made locally in any large quantity. Streeter concurs that although “the myth that American village blacksmiths made most of the hardware persists . . . it has no basis in historical fact.”

He adds,

There is no question that local smiths did forge strap hinges, simple thumb latches, shutter catches, and the like, which could be done with ordinary forging tools. The great body of other hardware—the locks, H and HL hinges, spring latches and the like—were made, however, by men trained through apprenticeships in those specialties.

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Figure 6.12. Advertisement describing the work of a blacksmith. Source: Advertisement placed by Edmund G. Boston, Indiana Journal (Indianapolis, IN), September 22, 1832:3.

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218 In her Master’s thesis, which looks at early nineteenth-century construction techniques along Indiana’s eastern National Road, Katherine J. Molnar argues that, “In addition to shoeing horses and fixing wagon wheels, blacksmiths also produced necessary building hardware, such as nails and ties.” Although Molnar provides plenty of evidence for the existence of blacksmiths in Indiana during this period, she provides no evidence that blacksmiths were producing nails or architectural hardware. See: Katherine J. Molnar, “Early Nineteenth Century Construction Techniques Along Indiana’s Eastern National Road (1830-1850)” (Master’s thesis, Ball State University, 2007), 77-78.


220 Ibid.
The earliest evidence for the presence of architectural hardware in Indiana comes from the previously mentioned list of expenditures for Fort Knox, which shows that in 1811-12 building materials for the fort were purchased from local Vincennes merchants. Among the items acquired were butt hinges and one ‘knob latch’ (possibly a rim latch or lock).\textsuperscript{221} The first known newspaper advertisement for hinges in Indiana dates to 1814 when merchants J. & W. L. Coleman of Vincennes announced they were selling “Hinges assorted.”\textsuperscript{222} In 1817, a merchant from Madison also advertised hinges for sale.\textsuperscript{223} Many of these early advertisements do not specify a particular type of hinge, and while one would assume that at such an early date they were strap, H or HL hinges, the Fort Knox documents prove that cast iron butt hinges were available for purchase in Indiana at this time.

Surprisingly, only one advertisement for H or HL hinges was identified during the course of research.\textsuperscript{224} However, archaeological excavations at the Brouillet House Site in Vincennes, occupied from about 1814 until around 1830, recovered a cast iron HL door hinge that was probably of non-local origin.\textsuperscript{225}

We also know that strap hinges were still being offered for sale in Indiana in the 1830s and ’40s, probably for use primarily on outbuildings. In 1836, a Vincennes merchant advertised “80 Pair Strap Hinges,” and a Madison hardware dealer advertised a

\textsuperscript{221} Gray, The Archaeological Investigations of Fort Knox II, Knox County, Indiana, 1803-1813, 146-48.
\textsuperscript{222} Advertisement placed by J. & W. L. Coleman, Western Sun (Vincennes, IN), December 10, 1814:4.
\textsuperscript{223} Advertisement placed by David McClure & Co., Indiana Republican (Madison, IN), September 27, 1817:2.
\textsuperscript{224} Advertisement placed by Jno. Ewing, Western Sun and General Advertiser (Vincennes, IN), September 20, 1820:4.
\textsuperscript{225} Marlesa A. Gray, The Brouillet House Site—A Preliminary Report, report on file, Glenn A. Black Laboratory of Archaeology (Bloomington: Indiana University, 1975), 20-21.
shipment of 1,500 pounds of strap hinges as late as 1843.226 Many of these strap hinges were probably wrought in English shops and imported into Indiana, although it is possible that some of them were made by local Hoosier craftsmen.

In his investigation of log houses in southern Indiana, Roberts observed that “Most houses of the first half of the nineteenth century [. . .] seem to have been supplied with cast-iron butt hinges fastened to the door and to the wood frame with wood screws.”227 In fact, the hinge type most frequently encountered in Indiana newspaper advertisements of the early nineteenth century is the butt hinge. As early as 1816, a merchant in nearby Cincinnati advertised the arrival of a shipment of 310 dozen butt hinges, some of which surely made their way into neighboring Indiana.228 In 1822, “Butts and screws” were advertised for sale in Indianapolis,229 and they appeared for sale in Vincennes in 1827 and in Brookville by 1834.230 An 1829 advertisement from Madison lists “hinges and screws” for sale, which almost certainly indicates butt hinges because strap and H and HL hinges were usually hung with clinched nails.231 Parliament hinges also appeared for sale in an 1827 Vincennes newspaper advertisement, suggesting changing tastes in architecture.232

226 Advertisement placed by Burtch & Heberd, Western Sun and General Advertiser (Vincennes, IN), September 10, 1836:4; Advertisement placed by K. & W. Wells, Republican Banner (Madison, IN), June 7, 1843:3.
227 Roberts, Log Buildings of Southern Indiana, 124.
228 Advertisement placed by E. Pearson & Co., Western Spy (Cincinnati, OH), March 22, 1816:4.
229 Advertisement placed by John Givan, Indianapolis Gazette (Indianapolis, IN), April 3, 1822:3.
230 Advertisement placed by Muir & Ormsby, Western Sun and General Advertiser (Vincennes, IN), September 15, 1827:2; Advertisement placed by D. Price, Indiana American (Brookville, IN), May 16, 1834:4.
231 Advertisement placed by I. T. Canby, Indiana Republican (Madison, IN), June 10, 1829:3; Garvin, 78.
232 Advertisement placed by Muir & Ormsby, Western Sun and General Advertiser (Vincennes, IN), September 15, 1827:2.
A variety of bolts and latches also appear to have been available during this period. In the early 1820s, merchants in Vincennes advertised round, square, and flat bolts for sale; in 1835, bolts were listed among the inventory of a Brookville merchant; and in 1836, an Indianapolis hardware dealer advertised “Bolts of various sizes for dwelling houses” as well as “Heavy store Door Bolts.”

In 1830, a Madison merchant advertised “Norfolk latches and door trimmings” for sale. Norfolk latches were also advertised in Indianapolis and Brookville. Roberts observed few original door latches on log buildings in Indiana, but the ones he did identify were all of the Norfolk form and “appear to be of an early manufactured type, for the handles seem to be cast iron, and the iron casting was not normally done by blacksmiths.”

Door locks were also available in the lower Ohio Valley at a surprisingly early date. In 1801, a Cincinnati merchant advertised a shipment of hardware recently received from Philadelphia, which included locks. The earliest known advertisement for locks in Indiana dates to 1814, when a Vincennes merchant advertised “door & cubbord [sic]

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234 Advertisement placed by G. McCulloch & Co., *Indiana Republican* (Madison, IN), July 1, 1830:3.

235 Advertisement placed by John Jamison, *Indiana Journal* (Indianapolis, IN), December 20, 1836:4; Advertisement placed by Tyler Davidson & Co., *Indiana American* (Brookville, IN), April 14, 1843:3.


locks” for sale. And in 1817, a Madison merchant advertised, “Locks, of various kinds.”

Indeed, it seems a wide variety of locks could be purchased in Indiana during the first half of the nineteenth century. Stock locks appear for sale in Vincennes, Madison, Brookville, and Indianapolis, and iron rim locks were advertised in Vincennes and Indianapolis. Although they were not widely available in the United States until the 1840s, advertisements for mortise locks appear in Indianapolis in the 1830s. By 1850, locks were prevalent enough that Joseph Garratt of Madison advertised his services, which included repairing locks and fitting keys.

**Foreign Sources of Architectural Hardware**

Although many newspaper advertisements indicate that wholesalers in Philadelphia, New York, and Baltimore supplied hardware to Indiana merchants, much of the hardware available in Indiana during this period was imported into the United States

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239 Advertisement placed by Isaac B. King, *Indiana Republican* (Madison, IN), May 8, 1819:3.
from England.\textsuperscript{244} In fact, some scholars estimate that perhaps as much as 95 percent of the hardware used in America in the late 1830s was imported.\textsuperscript{245} Most of the architectural hardware and other finished iron and steel products were made in and around Birmingham, England. Located in the West Midlands region, Birmingham is surrounded by rich iron and coal deposits that helped transform it into a major industrial center. Nearby towns and hamlets were home to countless foundries, mills, smith shops, and other associated industries that produced a vast array of products in a variety of metals including iron, brass, and steel. Streeter describes “small family shops, [where] smiths turned out just one or two kinds of hardware, rim locks, stock locks, hinges, bolts, or some other specialty.”\textsuperscript{246} By the early nineteenth century, the Birmingham hardware industry was well established with a reputation known around the world.\textsuperscript{247} According to Knight’s \textit{Popular History of England},

> Every house that was newly built in England during the eighteenth century gave a stimulus to the activity of Birmingham to provide its locks and bolts. Every acre of ground that was cleared for building in the American Plantations made a similar demand upon the labour of the iron-working district.\textsuperscript{248}

Trump claims “there was such great confidence in door hardware from England” that Americans continued to install British hardware in their homes and businesses well into the nineteenth century.\textsuperscript{249} Early newspaper advertisements confirm that English hardware was in fact available in Indiana and the surrounding region. An 1847

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\textsuperscript{245} Hall, “The American Doorknob.”
\textsuperscript{248} Ibid.
\textsuperscript{249} Trump, “Early Brass-cased Rim Locks,” 117-18.
\end{flushright}
advertisement placed in the Vincennes *Western Sun and General Advertiser* by a Louisville, Kentucky merchant notes a new selection of goods, including butt hinges, received “direct from Manufacturers, and of their own importation, from Sheffield and Birmingham.” An advertisement in a Brookville newspaper also announced a recent shipment of American and European hardware, including goods imported from Birmingham and Sheffield (figure 6.13).

Included in the advertisement in figure 6.13 is a listing for “5,000 doz. Clark and Baldwin’s Butt Hinges, all sizes.” Close examination of interior doors of the Borland House near Bloomington, Indiana reveals cast iron butt hinges marked “BALDWIN PATENT” and “THO CLARK” (figure 6.14). Cast iron butts marked “THO CLARK” have also been identified in houses in Virginia and South Carolina that date to the 1830s through the 1850s. Although both Baldwin and Clark butt hinges are frequently found throughout the eastern United States, relatively little information is available on either manufacturer. Streeter identified cast butts marked “BALDWIN PATENT” and “THOS CLARK” among the private collection of James Sorber, widely considered to be the most extensive collection of early American hardware in existence. Garvin claims that cast butts marked BALDWIN PATENT are of New England manufacture; however, he admits that no American patent for a hinge issued to a person with the last name of

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250 Advertisement placed by Emory Low & Co., *Western Sun and General Advertiser* (Vincennes, IN), October 22, 1847:3.
251 Advertisement placed by Tyler Davidson & Co., *Indiana American* (Brookville, IN), April 14, 1843:3.
252 Advertisement placed by Tyler Davidson & Co., *Indiana American* (Brookville, IN), April 14, 1843:3.
American and European Hardware.

The subscribers are now receiving their spring importations of Birmingham and Sheffield Hardware, direct from the manufactories. — Our assortment of American Hardware is large, extensive and direct from the first hands. Merchants who visit New York and Philadelphia, may be assured of obtaining their supplies in such quantities and prices, as will be entirely satisfactory. Our stock on hand, and advice of shipment embraces:

20 casks Trace Chains, ass'd 61 and 7 feet, 12 to 20 link;
5 casks of Curry Combs, ass'd 6 and 8 bar;
10 do 5,000 doz. "Clark and Baldwin's" Butt Hinges, all sizes;
3000 g.train Screws, "James" and American;
100 doz. "Carpenter's" Knob Locks and Latches, 4 to 9 inches;
2,000 doz. Files of all descriptions — "Butcher's" and "Greaves;"
5,000 doz. Sheffield Table and Pocket Cutlery;
20 cases "Waldron's" Grain and Grass Scythes, 6 to 54 inch.

American Hardware.

100 doz. "O. Ames" Spade, and Shovels, all sizes;
10 casks Iron Wire, all No.'s. 0 to 35;
100 cases Cut Tacks, Brad and Spearblades;
10 do Mill and Cross Cut Saws, all sizes;
100 doz. "Collins & Co" and "Williams" warranted Axes;
150 doz. American Scythes, embracing all best makers;
250 doz. American Sickles, embracing all best makers;
100 doz. Cast Steel Hoes, ass'd 4 to 7 inch.
10 cases "Roper" and "Russell's" American Cutlery;
100 doz. "Greenwood's" Cincinnati Butt Hinges, 2 to 8 inch.

— ALSO —

Planes of all descriptions, Cincinnati Locks and Latches; Sad Irons; Wagon Boxes; and Dog Irons, Rifle Barrels and Gun Trimmings; Guns, Rifles and Pistols; Saddlery; Horse, Wool and Cotton Cards, Norfolk and American Latches; Cabinet Maker's Trimmings, Cincinnati and Juniata Nails, &c., &c.

Tyler Davidson & Co.,
No. 118 Main street,
One door above the Commercial Bank.
April 5th, 1843.

Figure 6.13. Advertisement for American and European hardware, including Clark and Baldwin butt hinges, Carpenter knob locks and latches, and Greenwood butt hinges. 
Source: Advertisement placed by Tyler Davidson & Co., Indiana American (Brookville, IN), April 14, 1843:3.
Baldwin has been located. Hommel has proposed that Baldwin was an English manufacturer of cast iron butt hinges who exported his product to the United States. Unfortunately, there is no conclusive evidence to determine the origin of Clark and Baldwin butt hinges. However, as they are listed in the top half of the advertisement in figure 6.13 along with imported hardware, and not in the lower section identified as “American Hardware,” this author believes they are of English origin.

Figure 6.14. Cast iron butt hinges marked “BALDWIN PATENT” (left) and “THOS CLARK” (right) from the Borland House, Bloomington, Indiana. Source: Adapted from photographs by author.

Locks were another form of hardware imported from England in the early nineteenth century, and for good reason. According to Streeter, “The few locksmiths in America at that time could not have supplied the great quantities needed, or the variety

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255 Garvin, 81.
required." Furthermore, he notes, “Even the simple rim lock called for precision craftsmanship of a high order. This was nothing for the village smith to attempt.”

Many of the locks imported into America came from Staffordshire, England’s lock-making center, which was also located in the West Midlands region. In fact, the towns of Willenhall, Wolverhampton, and Bilston became famous for lock and key making and were the principal lock manufacturers in the world for nearly a century. Garvin adds:

During the eighteenth century, most rim locks used in North America were handmade in England. The manufacture of these complex mechanisms required great skill in forging the fixed and moving parts of the lock and in hand-filing each moving piece to the close tolerances required for smooth and faultless operation.

Although advertisements for a variety of locks and latches appear in Indiana newspapers throughout the first half of the nineteenth century, it is usually impossible to determine their precise location of manufacture. One type of lock with a definite English origin does appear, however. Advertisements show that locks and latches made by Carpenter & Company were available in Indiana by the late 1830s. Invented by James Carpenter of Willenhall and patented in 1830, the Carpenter rim lock soon made its appearance in the United States. Carpenter locks were made primarily for export and their wide distribution in the United States attests to this fact. Carpenter locks have a distinctive lever-type latch and round brass knobs. They can be identified by the brass

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258 Ibid., 43.
261 Garvin, 83.
262 Garvin, 84; Robert T. Trump, “The Carpenter-Type Lock,” Antiques 66, no. 6 (1954).
patent seal mounted on the iron casing and by the brass strips of the latch keeper, found only on the larger locks, which carry the manufacturer’s name along with the initials of the reigning British monarch.

Carpenter locks and latches were offered for sale in Indianapolis as early as 1837, only a few years after James Carpenter was issued his English patent (figure 6.15). In 1843, another Indianapolis merchant advertised “100 doz. Carpenter’s Knob Locks and Latches, 4 to 9 inches” (seen previously in figure 6.13). Furthermore, Carpenter rim locks and latches of varying sizes have been identified in the aforementioned Borland House (figures 6.16 through 6.18). The brass latch keepers, where present, are marked “W. R.,” representing William Regent and indicating the locks and latches were manufactured during the reign of King William IV (1830-37) and are most likely original to the house.

England was not, however, the only source of foreign architectural hardware used in America:

While newspaper advertisements of the period point to England as the primary source for all kinds of hardware for the English colonies, French, German, and Dutch settlers preferred and used hardware from their homelands. Each group had its own distinctive style and manner of solving common building problems.

The French were among the first Europeans to settle in Indiana, and as a result, there likely continued a demand for French door locks (figure 6.15). Furthermore, the lower

264 Advertisement placed by Young, Pottage, & Co., Indiana Journal (Indianapolis, IN), December 16, 1837:4; See also, Advertisement placed by Seibert & Buehler, Indiana Journal (Indianapolis, IN), March 16, 1839:4.
265 Advertisement placed by Tyler Davidson & Co., Indiana American (Brookville, IN), April 14, 1843:3.
267 Trump, “The Carpenter-Type Lock.”
Ohio Valley had a large German population, and newspaper advertisements correspondingly indicate the availability of German hardware during this period as well. In 1832, McCarty & Williams of Indianapolis advertised “German and Side Board and other Locks” for sale.\(^{269}\) Two other Indianapolis merchants listed German locks and latches among their offerings during this period (figures 6.15 and 6.19).\(^{270}\) Unfortunately, very little is known about German locks in the United States, although Streeter observed the following difference:

\(^{269}\) Advertisement placed by M’Carty & Williams, *Indiana Journal* (Indianapolis, IN), June 30, 1832:4.

\(^{270}\) Advertisement placed by Young, Pottage, & Co., *Indiana Journal* (Indianapolis, IN), December 16, 1837:4; Advertisement placed by John Jamison, *Indiana Journal* (Indianapolis, IN), December 20, 1836:4.
Figure 6.16. Cast iron Carpenter rim lock with brass knobs, patent seal, and latch keeper from the Borland House, Bloomington, Indiana. Source: Photograph by author.

Figure 6.17. Close-up of a Carpenter & Co. brass patent seal on an iron rim lock from the Borland House, Bloomington, Indiana. Source: Photograph by author.
German keys generally operated through tubes which extended from the lock through the door, so they had no shoulders to act as bearings on the surfaces of the lock plates and to keep them centered in the lock. To prevent them from being thrust entirely through the lock, the key bit was given an asymmetrical profile, an S shape, or other form. This was not usual with the English locks, although it was done on occasion, particularly with simple closet dead bolt locks.271

Identification of such a lock in a building whose construction dates to this period would greatly enhance our understanding of the use of German hardware in Indiana.

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Figure 6.19. Advertisement for a variety of hardware, including English and German locks and latches. *Source:* Advertisement placed by Joseph M. Moore & Co., *Indiana Journal* (Indianapolis, IN), September 10, 1836:4.

**Domestic Sources of Architectural Hardware**

As previously discussed, certain political and economic pressures resulted in expansion of domestic manufacturing in the late eighteenth and early nineteenth centuries. As Americans struggled to compete with foreign imports, new industries were born. One such industry was the manufacture of architectural hardware, but progress was slow and most of the architectural hardware sold in America continued to be imported through the first quarter of the century. Eventually, however, the reputation and popularity of domestic hardware increased as it “became better suited for the American
market, more competitive in pricing, and successful in overcoming the image of being inferior to imports."\cite{Hall272} According to Streeter,

Hundreds of patents were granted in the first half of the 19th century for improvements in the manufacture of locks and latches. Companies were formed, and they developed to a high degree the making of cast iron hardware of all kinds. American lock makers were making complete locks of this material while the English still were making them almost entirely by hand.\cite{Streeter273}

As mentioned previously, much of the documentary information concerning early American hardware innovation and manufacturing was lost in the Patent Office fire of 1836.

We do know that stock locks were being produced in the United States by 1830 and that, by mid-century, cast iron rim locks were also being manufactured here.\cite{GarvinStreeter274} Many early American lock makers were English immigrants who brought with them forms and techniques from their home country.\cite{Streeter275} Streeter has identified numerous examples of early American locks but acknowledges the difficulty in tracing their history.\cite{Streeter276} He has observed, however, that early American locks differ in appearance from their English counterparts in that the latch bolt is generally located below the deadbolt—a reversal of the English arrangement—which makes it possible to distinguish between them.\cite{Streeter277}

In her index of nineteenth-century American lock patents, National Park Service architectural historian Carole L. Perrault identifies 158 patents for locks issued between

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\begin{footnotesize}
\textsuperscript{272} Hall, “The American Doorknob.”  \\
\textsuperscript{273} Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 4.  \\
\textsuperscript{274} Garvin, 84; Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 12.  \\
\textsuperscript{275} Streeter, “The Historical Development of Hand Forged Iron Builders’ Hardware,” 4.  \\
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1826 and 1850. Residents of New York were issued the most patents, followed by Massachusetts, Pennsylvania, New Jersey, Connecticut, and Ohio. The state of New York appears to have led the country in the invention and manufacture of locks. In fact, in 1836, an Indiana merchant advertised that he had “received direct from the manufactory [in] New York, a large assortment of superior Locks.” Unfortunately, little is known about the New York lock industry during this period.

Substantially more is known, however, regarding the lock industry in Connecticut. One of the first locksmiths in the United States, Stephen G. Bucknall, was an English immigrant who established his trade in Watertown, Connecticut in 1832. Soon after, clock manufacturer Lewis, McKee & Co. hired Mr. Bucknall to manufacture locks, and thus the Connecticut lock-making industry was born. According to Garvin,

During the 1830s, Connecticut emerged as the leading producer of metal wares, ranging from brass clock movements and firearms to builder’s hardware, in New England. Connecticut companies made a specialty of door latches and locks, dramatically reducing the traditional American reliance on imported British hardware.

The first lock patent issued to a Connecticut resident was assigned to the Blake brothers of New Haven in 1834, who later formed the Blake Brothers Lock Company. Other prominent Connecticut lock manufacturers of the first half of the nineteenth century include the Russell and Erwin Company (which later merged with P. & F. Corbin

279 Advertisement placed by Joseph M. Moore & Co., Indiana Journal (Indianapolis, IN), September 10, 1836:4.
280 For a business history of many of the early Connecticut lock companies, see Thomas F. Hennessy, Early Locks and Lockmakers of America (Des Plaines, IL: Nickerson & Collins, 1976).
281 Hennessy, 5.
282 Garvin, 84.
to form Corbin Russwin), North and Stanley (established in 1829 and sold to Russell and Erwin in 1850), and the Yale Company. Linus Yale, Jr., son of the original Yale lock manufacturer, later improved on his father’s designs to create the modern pin tumbler lock we use today.

**Hardware Manufacturers in the Lower Ohio Valley**

By the 1840s, locks were being manufactured in nearby Cincinnati, as evidenced by an advertisement placed by G. Haycock that announced his “lock factory and Brass foundry, where locks of every description and brass castings can be had at the shortest notice.” In addition, a Brookville merchant advertised “Cincinnati Locks and Latches” for sale in 1843.

By far the most prominent manufacturer of architectural hardware in the west was Miles Greenwood, who founded the Eagle Iron Works in Cincinnati in 1832. Reputed to be the first American manufacturer of cast iron butt hinges, Greenwood was also soon one of the largest manufacturers of butt hinges in the nation. By 1851, the company was selling about $15,000 worth of hinges annually, and by 1868 they were manufacturing more than 1,500 different items, including thirty varieties of locks and

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286 Advertisement placed by G. Haycock, *Indiana American* (Brookville, IN), May 1, 1846:3.

287 Advertisement placed by Tyler Davidson & Co., *Indiana American* (Brookville, IN), April 14, 1843:3.

latches.\textsuperscript{289} Cincinnati’s proximity to fast-growing western markets was no doubt instrumental in Greenwood’s success. Cist remarks,

The whole west, is now supplied from this city [Cincinnati] with the various hardware for building and our own consumption, no limited supply, in a city which constructs one thousand five hundred houses annually within its limits and immediate suburbs, is furnished entirely by this settlement. Nearly all the hinges sold in our hardware stores, are of Cincinnati manufacture, and the few that are brought from abroad are sold to country customers only.\textsuperscript{290}

The quality of Greenwood’s butt hinges was also frequently noted. In his report on American industry and manufacture, Englishman George Wallis reported that,

In the important item of butt hinges there can be no doubt of the great superiority of those manufactured by Messrs. Greenwood, alike as regards the general quality of the metal as in the adaptability of strength or weight of material to size. In the finish of the joints great accuracy is obtained, whilst the labour of filing is saved by grinding the joints of the hinges on stones adapted to the purpose, and driven by steam-power. About $15,000 or $20,000 worth of these butt hinges are produced yearly.\textsuperscript{291}

And in 1851, Charles Cist, an American, wrote the following:

It is in the department of hinges, however, that most important article of builders’ use, that the superiority of those made in Cincinnati, is distinctly manifest. The English hinges are unequal in thickness, imperfectly jointed, and too light for service, and are, therefore, apt to give way when exposed to sudden jars or strains. M. Greenwood’s hinges, on the contrary, are made substantial, and cast as evenly as if made by machinery.\textsuperscript{292}

Greenwood butt hinges appear for sale in Brookville, Indiana in 1843 (previously seen in figure 6.13).\textsuperscript{293} In addition, the Moore-Youse Home in Muncie, Indiana, built in 1849, still retains original Greenwood cast iron butt hinges on several interior doors.

\textsuperscript{289} Cist, 196; Eastwood, n.p.
\textsuperscript{290} Cist, 196.
\textsuperscript{292} Cist, 195.
\textsuperscript{293} Advertisement placed by Tyler Davidson & Co., \textit{Indiana American} (Brookville, IN), April 14, 1843:3.
(figure 6.20). Examples of Greenwood hinges have also been identified in existing nineteenth century buildings in Ohio.\textsuperscript{294} Perhaps further investigation of historic buildings in the region will reveal additional examples of Greenwood butt hinges or other Greenwood architectural hardware.

Figure 6.20. Cast iron butt hinge marked “GREENWOOD, CIN O.” from the Moore-Youse Home, Muncie, Indiana. \textit{Source:} Photograph by author.

Surprisingly, there is virtually no evidence of cast iron architectural hardware being manufactured in Indiana before 1850. The earliest record is a patent for a lock issued in 1858 to Spencer Hiatt of Indianapolis.\textsuperscript{295} No other information on Hiatt has


\textsuperscript{295} Perrault, 66.
been located; however, his patent may indicate a nominal amount of lock manufacturing occurred in Indiana during this period.

**Chapter Summary**

Despite the common misconception that local blacksmiths made most of the architectural hardware on the Indiana frontier, there is abundant documentary and physical evidence to the contrary. As with window glass and nails, the earliest architectural hardware in Indiana was imported from England, although it appears German and French hardware was also available. English Carpenter rim locks and latches and Clark and Baldwin butt hinges have been identified in early nineteenth-century newspaper advertisements as well as in situ in existing houses constructed during the period.

American manufactures struggled to compete with English handcrafted hardware, but by the third decade of the nineteenth century a foundling hardware industry had emerged on the eastern seaboard, especially in New York and Connecticut, where immigrant English lock makers helped establish some of today’s prominent lock companies.

As technology improved, the making of hardware became more mechanized. Cast metal technology in particular led to the development of the cast iron butt hinge and sophisticated rim and mortise locks. By mid-century, the manufacture of architectural hardware had spread as far west as Cincinnati where entrepreneur Miles Greenwood
founded the highly successful Eagle Iron Works; however, it appears little if any architectural hardware was manufactured in Indiana during this period.
Chapter Seven: Cast Iron Stoves

While some architectural historians might categorize cast iron stoves as furnishings, their impact on American architecture is undeniable. With the advent of the freestanding stove, the traditional fireplace and hearth, so long the center of the home, largely disappeared. More fuel-efficient and better adept at heating a room, stoves quickly gained in popularity in the United States, especially in the colder northern states and in urban areas where fuel was at a premium.  

According to Hawke, “By the mid-1820s the coal-burning cast-iron stove, warmly endorsed by a stream of articles in the Franklin Institute’s journal, had become a standard item in most northern [American] homes.”  

Besides being practical, stoves were also relatively affordable, ranging in cost from five to twenty-five dollars. As a result, the cast iron cook stove eventually became “the one technological innovation most workingmen could offer their wives.”

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297 Hawke, 207.
298 Ibid.
299 Ibid., 237-38.
Stoves in Indiana

Hoosier historian Logan Esarey claims there “were not many cook stoves in pioneer Indiana. A few might have been found as early as 1820, after which they appeared in increasing numbers. Perhaps one family in five had a stove by 1840.”300 In his examination of hundreds of log houses in southern Indiana, Roberts reached a similar conclusion:

In Anglo-American areas in southern Indiana, fireplaces were almost universal before about 1875. It was only after that date that stoves came into wide use. In houses that had been built with fireplaces originally, the fireplaces often were closed up and stoves installed after 1875. Transportation was undoubtedly an important factor in determining the use of stoves. In the nineteenth century, stoves usually were made of cast iron and very heavy. Hence it was costly to ship a stove any distance, and it was not until the network of railroads was established that stoves could be obtained at a reasonable cost by most people. It is quite likely that people who lived close to the Ohio River had stoves at an early date because of relatively inexpensive river transportation. It is also likely that people who lived in larger towns had stoves before most rural dwellers.301

However, documentary evidence shows that despite their bulk and weight and the difficulty of transporting them over land—some weighed nearly 250 pounds—cast iron stoves were by no means unknown in early nineteenth-century Indiana.302 In fact, in 1837, an Indianapolis stove and iron dealer proclaimed: “Stoves for cooking are in very general use, and are now considered an almost indispensable article for housekeeping, particularly so in the Northern, Middle, and Western States.”303 In her history of stoves, Priscilla Brewer explains that even on the frontier, stoves were deemed a modern necessity by many women “who had successfully made the sometimes difficult transition

300 Esarey, A History of Indiana, 422.
301 Roberts, Log Buildings of Southern Indiana, 10-11.
302 Brewer, 35.
303 Advertisement placed by Joseph Grover, Indiana Journal (Indianapolis, IN), March 4, 1837:3.
from fireplaces to stoves, [and] were reluctant to return to traditional methods.”304 Emigrants from New England, Pennsylvania, and eastern Ohio had likely become accustomed to cast iron stoves for both heating and cooking, and it is little wonder that they would go to considerable effort to obtain one once established in Indiana.

Despite the accounts of historians who claim stoves were rare in Indiana in the first half of the nineteenth century, by the 1830s stoves were arriving in river towns in large shipments—as many as one-hundred at a time (figure 7.1).305 Interestingly, early Madison resident James B. Lewis claimed that “Up to 1828, there was no such thing as a cast stove” in that town, adding that until “John Sheets brought a seven plate stove from the east to town for his stove . . . there were no cook stoves until 1835 or ’36.”306 Despite his assertion, we know that as early as 1819 at least one merchant was selling cast iron stoves in Madison. James Cochran, who operated a tin and sheet iron manufactory, advertised “a variety of castings, from Pittsburgh with a variety of patent stoves, calculated to heat and cook together”—nine years before Lewis alleges the first stove appeared in Madison (figure 7.2).307

Besides appearing in Madison in 1819, newspaper advertisements also reveal that stoves were available in Vincennes as early as 1820, in Brookville and Indianapolis by the early 1830s, and in Bloomington by 1840.308 Their presence in Indianapolis and

304 Brewer, 142.
305 Advertisement placed by Burtch & Heberd, Western Sun and General Advertiser (Vincennes, IN), September 10, 1836:3.
307 Advertisement placed by James Cochran, Indiana Republican (Madison, IN), April 10, 1819:3.
308 Advertisement placed by J. & W. L. Colman, Western Sun and General Advertiser (Vincennes, IN), March 11, 1820:4; Advertisement placed by R. Tyner, Indiana American (Brookville, IN), December 20, 1833:4; Advertisement placed by W. N. Jackson, Indiana Journal (Indianapolis, IN), December 9, 1834:4; Advertisement placed by D. Batterton, Indiana Gazette (Bloomington, IN), September 4, 1840:4
Bloomington is particularly interesting because neither of these communities were located on navigable waterways, which meant that the stoves had to be transported by wagon over rough roads. Thus, it would appear that the absence of reliable water
transportation did not prohibit some determined Hoosiers from obtaining cast iron stoves if they were willing to pay the extra expense of transportation. In fact, in 1835, Muncie resident Thomas Kirby imported “one of the improved Franklin Alterable Cooking stoves” from Cincinnati, paying the exorbitant sum of fifty dollars, which almost certainly included the cost of overland transportation.309

**Domestic Stove Foundries**

Unlike paint, nails, window glass, and architectural hardware, cast iron stoves do not appear to have been imported from England or any other foreign country. In fact, stove use and manufacture is one area in which Americans were ahead of their British contemporaries. The British, it appears, preferred the ambiance of an open fireplace to the efficiency of a stove.310 Cast iron stoves were, however, popular in Pennsylvania German homes as well as in those of French Canadians.311 As a result, Pennsylvania foundries were casting stoves for heating as early as the 1720s, and cooking stoves by the 1760s.312 In fact, it was the increasing German-American population combined with the efforts of proponents such as Benjamin Franklin that helped the cast iron stove achieve widespread acceptance in America.313

310 Brewer, 24.
312 Ibid., 26, 33.
In 1854, visiting Englishman George Wallis observed that “The manufacture of [cast iron stoves] may be said to be distributed all over the United States; but there are certain localities in which they form an immense staple trade.”314 Most of the stoves sold in Indiana in the first half of the nineteenth century appear to have originated in either Pittsburgh or Cincinnati. Wallis also noted that

the wants of the settlers create a constant demand in [Pittsburgh and Cincinnati], both of which from their favourable position as regards the supply of raw material and fuel, together with ready means of transport throughout the whole of the Mississippi and Missouri districts, have the supply of the markets of the West.315

Although New York had developed a booming stove industry in the vicinity of Troy and Albany, it was the foundries of Pittsburgh that supplied most of the stoves to the west in the first decades of the nineteenth century. In 1819, an advertisement for “C. Postley’s Patent Cooking Stoves or Portable Kitchens,” produced by Pittsburgh manufacturer H. Miller & Co., appeared in a Madison newspaper.316 And in 1838, a Vincennes merchant advertised cooking, Franklin, and wood stoves “just received direct from Pittsburgh, by steamboat” (figure 7.3).317

Although Pittsburgh controlled the western stove market through the 1830s, by the following decade, Cincinnati had emerged as a major producer of cast iron stoves. By mid-century, it boasted more than forty foundries in operation, a third of which manufactured primarily stoves.318 One source estimated that 50,000 stoves were

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314 Wallis, 42.
315 Ibid.
316 Advertisement placed by H. Miller & Co., Indiana Republican (Madison, IN), June 26, 1819:3.
317 Advertisement placed by Maddox & Gass, Western Sun and General Advertiser (Vincennes, IN), June 2, 1838:3.
318 Cist, 192.
manufactured in Cincinnati each year, and another proposed that as many as one thousand stoves were manufactured in that city *each day*. While these are probably exaggerations, it is evident that Cincinnati foundries supplied a substantial portion of the western stove trade. Not only did they have the advantage of being situated on the lower Ohio River and thus closer to the western market, which greatly reduced transportation costs and resulted in competitively lower prices, it was one observer’s opinion that “the designs of cast iron articles manufactured at Cincinnati, are superior in point of fitness to those of Pittsburgh, since the latter are of a more conventional and antiquated character”\(^\text{320}\)

\(^{319}\) Cist, 192; Wallis, 42.  
\(^{320}\) Wallis, 43.
Several Cincinnati foundries seem to have dominated the market, or at least were more aggressive in their advertising. One, the Phoenix Foundry, was operated by W. & R. P. Resor. Resor’s stoves were widely advertised in Indiana, appearing for sale in Madison, Brookville, Vincennes, and Indianapolis and available in a variety of models including the “Phoenix,” the “Double Oven,” and the “Crescent” (figure 7.4). Another major supplier of stoves was S.H. Burton & Co., which manufactured Buck’s Patent Cooking Stove. This particular model was one of the most widely advertised in Indiana during the period, appearing in newspapers in Bloomington, Brookville, Indianapolis, Madison, and Vincennes (figure 7.5). A third Cincinnati manufacturer whose stoves were advertised in Indiana was W. C. Davis & Co., which claimed to manufacture stoves “in every variety of use and pattern, and on a very extensive scale.”

### Indiana Stove Foundries

Evidence suggests that very few stoves were manufactured by Indiana foundries in the first half of the nineteenth century; however, it seems a few enterprising Hoosiers did try their luck at the business of casting stoves. As early as 1830, a Madison foundry

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321 Cist, 198.
324 Cist, 197; Advertisement placed by John H. Fudge, *Indiana American* (Brookville, IN), March 19, 1850:3.
advertised that they made “Castings of all kinds, such as Mill Geerings [sic], Stoves, Ploughs, Portable Furnaces, Waggon [sic] Boxes, &c. &c.” (figure 7.6). Interestingly, a published history of Madison claims that the first stove foundry in that town wasn’t established until the 1850s, thus this particular enterprise was probably short-lived and of little consequence.326

In 1837, Indianapolis merchant Joseph Grover advertised Grover’s Improved Patent Cooking Stoves for sale.327 It is unknown whether Grover was actually manufacturing stoves or merely acting as a distributor for an eastern company, but he obviously had no qualms about attaching his name to the product. In addition, the

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325 Advertisement placed by Brace, Lewis & Shields, *Indiana Republican* (Madison, IN), September 16, 1830:3.
326 Current Events Club, 19.
327 Advertisement placed by Joseph Grover, *Indiana Journal* (Indianapolis, IN), March 4, 1837:3.
Indianapolis Steam Foundry, established by Underhill and Wood in 1835 and remaining in operation for almost twenty years, also advertised stoves and ‘cast iron fire places’ (probably Franklin stoves or iron fireboxes) for sale, but it was said to have been “a small
business, and did only such casting as was required by country customers, millers, and farmers.  

In Monroe County, an advertisement placed by the Virginia Furnace announced that “Orders will receive prompt attention for Hollow Ware, Grist and Saw Mill Machinery, Cooking and Fire Stoves, Mould Boards, including any other article in the casting line” (figure 7.7).  

Established in 1839 by Virginia native Randolph Ross and operated under the name of Randolph Ross & Son’s Virginia Iron Works, this relatively

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328 Advertisement placed by R. R. Underhill, Indiana Journal (Indianapolis, IN), November 7, 1840:3; Dunn, 344; Sulgrove, 444, 463.
329 Advertisement placed by Randolph Ross, Bloomington Post (Bloomington, IN), September 4, 1840:4.
small enterprise was only in operation for about five years. Undoubtedly, the quantity of cast iron stoves produced by the company was nominal.

In 1841, a Vincennes merchant advertised for sale “the latest premium Cooking Stoves—also stoves for burning wood or coal, made at the furnace on the Wabash,” which most likely refers to the Indiana Furnace in Vigo County near Terre Haute, established in 1839 (figure 7.8). Little else is known about this enterprise, but it is assumed that like the others it was short-lived.


331 Advertisement placed by N. Smith, Western Sun and General Advertiser (Vincennes, IN), October 16, 1841:3; Swank, 315.
Other small-scale Indiana stove manufacturers include William E. Childs of Brookville, who advertised himself as a merchant and manufacturer of Green’s Patent Cooking Stove (figure 7.9), and David Batterton of Bloomington, who advertised himself as a “Manufacturer of tin and sheet iron ware & cooking stove furniture.” The Vincennes Foundry, established in 1845, sold odd stove plates but does not appear to have manufactured stoves in their entirety. Attempts to locate additional information on these early Indiana stove manufacturers proved unfruitful; therefore, it likely their production was limited and their existence short-lived.

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333 Advertisement placed by W. S. Canan & J. B. Miller, *Western Sun and General Advertiser* (Vincennes, IN), June 21, 1845:3.
Chapter Summary

Like other types of manufactured building materials, cast iron stoves appear to be more widely available in Indiana than previously thought. Due to their weight and bulk and the difficulty of transporting them over land, river towns were the first to have access to cast iron stoves, although earlier than some historians would claim. It also appears that even interior settlements like Indianapolis, Bloomington, and Muncie managed to secure obtain stoves.

Unlike building materials discussed in previous chapters, stoves were one of the few products that were exclusively American in origin. Although several small foundries in Indiana advertised cast iron stoves and stove plates, foundries in Pittsburgh and Cincinnati appear to have provided most of the stoves sold in Indiana in the first half of the nineteenth century.
Chapter Eight: Conclusion

As this thesis has demonstrated, both documentary and physical evidence suggest that many of the building materials used in Indiana in the first half of the nineteenth century were more sophisticated than commonly believed. In contrast to the romantic myth of the pioneer family who constructed a log cabin by hand using nothing more than the materials provided by nature, this thesis reveals that emigrants to Indiana frequently incorporated imported and manufactured materials in the construction of their homes and businesses. Even before the advent of the railroad and the large-scale manufacturing that are the hallmarks of the Industrial Revolution in the second half of the nineteenth century, Hoosiers were importing a wide variety of manufactured and mass-produced building materials, reflecting the influence of emerging American consumerism on the built environment of the Indiana frontier.
American Consumerism, Advertising, and Branding

Despite claims that early settlers in Indiana were isolated from distant markets, this thesis has shown that in fact Hoosiers were connected to the eastern seaboard through a complicated and extensive network of navigable rivers and streams, overland paths, unimproved roads, and newly constructed canals, even before tracks were laid for the first railroad in the state. Newspaper evidence overwhelmingly shows that every settlement of any size had available to them the products of both the eastern United States as well as those of distant countries such as England, France, Germany, and China. Frequently romanticized as the era of the rustic frontier, in fact many early Indiana settlers were well acquainted with the commercial products of a rapidly expanding international economy and sought to recreate homes that resembled those they had left behind. According to Mazrim,

Throughout the eighteenth century, the middle classes had been offered an increasingly wider range of refined goods, technologies, and comforts that had once been the province of only the most wealthy. By the time the English colonies had been transformed into the first American states, many elements of what we would consider a reasonably modern life were familiar to families of even limited means. The beginnings of the factory system and an ever-increasing international trade introduced a new era of mass production and mass consumption. The result would change forever many ancient folkways, and give birth to the modern consumer.334

One of the more surprising results of research was the extent to which building materials were being advertised by name brand. Instead of advertising just window glass or nails from an unnamed distributor, merchants advertised Shoenberger nails, Avery and Odgen’s white lead, paint made by D. F. Tiemann & Co., Ihmenson window glass,

334 Mazrim, 20.
Carpenter locks, Greenwood butt hinges, and stoves cast in the foundries of Pittsburgh and Cincinnati. These early signs of name branding heralded an explosion of advertisement in the second half of the century, best embodied perhaps by the mail-order catalogs of the 1890s and early twentieth century.

From Foreign Imports to Domestic Manufacturing

The first decades of the nineteenth century were marked by political and economic turmoil in the United States. With very little in the way of established industry, most of the finished goods sold in this country had to be imported from foreign sources, particularly England. After the War of 1812, however, Americans became more cognizant of the consequences of their dependence on imported goods and sought to expand domestic manufacturing. Even so, Americans continued to rely heavily on imports through the first half of the nineteenth century.

The earliest American manufacturing interests were established in cities such as Philadelphia, Boston, New York, and Baltimore. But by the 1830s, manufacturing had shifted west to central and western Pennsylvania. Factories in Pittsburgh and the Juniata Valley produced white lead for paint, machine-cut nails, crates of window glass, and an increasing variety of cast iron stoves.

By the 1840s, Cincinnati had developed a strong manufacturing presence. Products such as white lead, nails, window glass, prefabricated window sash, cast iron hinges and stoves were now being made regionally, greatly reducing the cost to the customer. Although there are a few indications of manufacturing in Indiana during this
period, it wasn’t until after the Civil War that a strong manufacturing industry emerged. Thus, the vast majority of the finished products sold in Indiana in the early nineteenth century had to be imported from outside the state.

During the course of research, it became apparent that from the beginning of the nineteenth century—earlier, in fact—Cincinnati played a key role in the commercial network of the Indiana frontier as one of the only communities in the region where manufactured and imported goods could be obtained. As Hoosier settlements grew and towns flourished, Cincinnati assumed the role as a wholesale market from which goods from eastern states and foreign countries were distributed to Indiana towns further down the Ohio River and over land to places such as Bloomington, Indianapolis, and Muncie. According to Kemper, in the 1830s,

Muncie could not produce all the necessities of life, many of which had to be brought in from the larger centers. Cincinnati was the trading metropolis, and [ . . . ] those who used to cover the distance between these places with team and wagon [ . . . ] could make the trip in a week, but more frequently in two weeks. 335

It was not long before Cincinnati established growing manufacturing interests of its own, producing products such as white lead, cast iron hardware, prefabricated window sash, and cast iron stoves for Indiana and other western markets.

A Building Boom in Indianapolis

Not surprisingly, Indianapolis newspapers contained the largest variety and most detailed advertisements for building materials during this period. In 1822, only one year

335 Kemper, 106-07.
after Indianapolis was selected as the site of the new capital, the first advertisement for architectural hardware appeared. The listing included locks and latches, bolts, butt hinges, and nails. Even though Indianapolis was without a fully navigable waterway, manufactured and imported building materials still managed to make their way to the new capital. Dunn explains:

There was never any approach to general privation and hardship in Indianapolis after the first two years, though there was some inconvenience for a time on account of the isolation of the place. The difficulty and expense of transporting goods from the outside operated somewhat like a tariff tax to stimulated domestic manufacture, but even that condition was improved by the gradual improvement of wagon roads.

Though the foundling capital suffered from low population growth for many years—there were only 1,000 residents in 1827, and just over 1,600 residents in 1835—a bit of a building boom occurred in the late 1830s, spurred by the construction of the National Road and the Whitewater Canal. According to Dunn, “The work on the National Road and the canal brought many laborers here, and trade of all kinds was much stimulated. Prices of real estate began to jump, especially near the water-power of the canal.” This sudden growth is evident in the newspaper advertisements. In 1837, Seibert & Buehler opened a new hardware and paint store offering a wide variety of building materials, including locks, latches, bolts, butt hinges, window glass, and more than a dozen different colors of paint (figure 8.1). Although Indianapolis didn’t truly prosper until after the completion of the Madison and Indianapolis Railroad in 1847, it is

336 Advertisement placed by John Givan, Indianapolis Gazette (Indianapolis, IN), April 3, 1822:3.
337 Dunn, 1:93.
338 Dunn, 1:99.
339 Ibid., 1:100.
interesting to note the diversity and volume of building materials available to residents via overland transportation in the pre-railroad era, despite the lack of navigable waterways.

Figure 8.1. A wide assortment of architectural hardware, paint, and window glass offered for sale in Indianapolis. *Source*: Advertisement placed by Seibert & Buehler, *Indiana Journal* (Indianapolis, IN), March 4, 1837:4.
Contribution to Existing Knowledge

Miller and Nelson, in their introduction to Jandl’s *The Technology of Historic American Buildings*, acknowledge that “To completely understand the use of building materials and craft and construction processes means that we can repair, or restore as accurately as possible, those examples of our material culture that we find worthy of preservation.”\(^{341}\) While providing information beneficial to the accurate restoration of historic buildings was not the primary focus of this thesis, it is also true that an enhanced understanding of building materials might aid historic preservationists and others in their interpretation, preservation, and restoration of Indiana’s historic structures. Frequently, materials which are judged to be too modern or not historically accurate (as in the case of siding on log houses) are removed in favor of a more “historic” appearance. Such misinterpretation not only does an injustice to those who desire to know about Indiana’s past, it also destroys valuable information that can help historians and other researchers gain a better understanding of the early history of Indiana.

In the discipline of historical archaeology, all too often building materials uncovered during excavations are simply counted, perhaps generally described, and then largely dismissed (with the exception of window glass and nails, which are frequently used to help date a site or feature when no other evidence is available).\(^{342}\) During the

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research for this thesis, a number of archaeological reports were examined to determine if any imported or manufactured building materials had been excavated and identified that would contribute to this paper. Unfortunately, it was discovered that the level of detailed analysis required was not present. Having also trained in the field of historical archaeology, it is this author’s observation that such neglect of potentially valuable information by historical archaeologists is not a rare occurrence but instead appears to be the norm. However, this thesis has shown that analysis of building materials can in fact reveal a lot about exchange networks, the emergence of American industrialization and consumerism, and might even be able to correlate socioeconomic status and buying power of imported goods on the Indiana frontier. It is hoped that future excavations of the historic period in Indiana consider this potential and correspondingly incorporate comprehensive analysis of building materials into their research designs.

**Potential for Future Research**

There are always certain avenues of inquiry that, while related, cannot be fully explored within the original scope of a research objective. While conducting research for this thesis, several themes showed promise for future research. One such area concerns early Hoosier craftsmen, who appear early and frequently in the pages of Indiana newspapers. Advertisements demonstrate that, along with manufactured building materials, specialized labor was also being imported into the region in the form of

professional carpenters and joiners, brick makers, bricklayers, stone masons, nailors, plasterers, sash-makers, glaziers, plumbers, and even professional housepainters and wallaperers. These and other professional craftsmen appear at surprisingly early dates, and in-depth research and analysis of the professionalization of the building trades in Indiana during this period could comprise an entire thesis on its own.

Another area of research that offers potential for further research concerns other types of building materials that were present in Indiana during the first half of the nineteenth century but were not discussed in this text. They include: wallpaper; carpet; lighting fixtures; window hardware (including sash weights and latches); lead plumbing, roofing and guttering; imported wood and stone such as mahogony and Italian marble; decorative cast iron components such as railings, balustrades, and columns; and milled products such as shutters, blinds, doors, siding, floorboards and trim. The early appearance of wallpaper was particularly intriguing. While not as common as paint, nails, window glass, architectural hardware, and stoves, these items were nevertheless present in several Hoosier communities and deserve further study.

Because of time and geographic constraints, investigation of extant early nineteenth-century buildings in Indiana was limited to two sites: the Moore-Youse Home in Muncie and the Borland House in Bloomington. Examination of other structures in a variety of locations has the potential to reveal additional information concerning the availability and use of manufactured and imported building materials. It would be particularly interesting to see if other brand names and sources of foreign and domestically manufactured building materials could be identified in situ.
And finally, although more than one-hundred hours were spent reviewing historical newspapers, which revealed a wealth of data pertinent to the research objectives of this thesis, examination of additional primary sources would greatly enhance our understanding of the complicated system of trade and commerce that existed between manufacturers, importers and wholesalers, frontier merchants, and customers. Merchants’ account books and other related primary documents from local archive collections would be particularly relevant to this study and have the potential to provide detailed information on exchange networks, both domestically and abroad.


“A Brilliant Whitewash.” *American Penny Magazine and Family Newspaper* 1, no. 17 (May 31, 1845): 266.


*J. F. Kimball & Co.'s Eastern, Western, and Southern Business Directory; Containing The Cards and Circulars of Merchants, Manufacturers, and Others, in the Principal Cities of the East, West, and South; To Which Is Added A State Register of Ohio, Kentucky, and Indiana*. 2nd annual issue. Cincinnati: J. F. Kimball, 1846.


Thurston, George H. *Allegheny County’s Hundred Years.* Pittsburgh: A. A. Anderson & Son, 1888.


