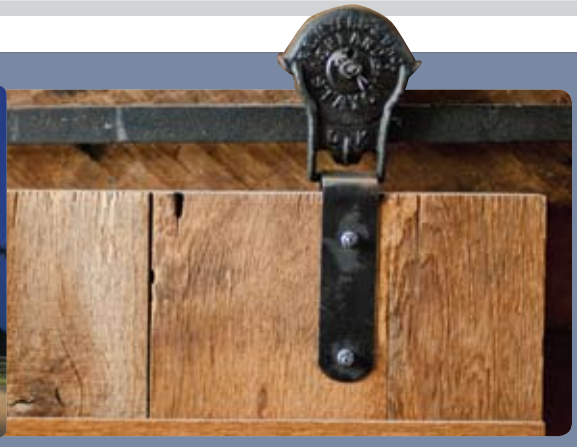

Bank Barns

By Gary DiGiuseppe

Even though few have been built in the last 80 years, thousands of bank barns still dot the countryside of the Eastern United States. For the most part, the structures range from New England down through the Middle Atlantic Seaboard states, and in some cases further west. Many were built by European immigrants who brought with them the styles and practices of their home countries.

A "bank barn" is so named because it is built into an embankment—the side of a hill. Animals were housed on the lower floor, and grain and feed was stored in the top layer. According to the U.S. National Park Service, "The hillside entrance gave easy access to wagons bearing wheat or hay. (Fodder could also be dropped through openings in the floor to the stabling floor below.)" The long side of the barn was built parallel to the hill and on the south side of it, to provide the animals more sun in the winter. But in some cases, the Park Service notes, there was no hill at all: "A 'bank' was often created by building up an earthen ramp to the second level."

Frequently, the structures had extended or cantilevered upper floors; this provided additional protection from the elements to the livestock. The overhang sometimes had to be propped up with additional columns or posts. The Park Service says in the earliest examples of bank barns, the narrow-end side walls are often stone or brick, with ventilation openings to ensure heat produced by the curing hay would not start a fire.

The overshoot on the upper level is called a forebay, according to Sally McMurry, professor of history at Penn State University; it usually projects 6-8' over the front side of the barn, extending out over the doors that lead to the barnyard. She says there were big doors on the upper level that "lead to a threshing floor, haymow, and sometimes there's a granary in there also."

Although the many bank barns that survive in Pennsylvania are usually referred to as German-style barns, McMurry says it's generally agreed the form originated in the Prattigau area of Switzerland and migrated to Pennsylvania with German-speaking Swiss people in the late 18th century, although there are a few earlier examples. She says, "It's associated with the rise of an agricultural economy that is moving away from emphasizing crop farming to a grain and livestock system. So you're keeping livestock in the bottom, you're keeping feed and straw and hay in the top, and it's a very efficient structure to facilitate that type of agriculture."

But ultimately, bank barns fell into disfavor. McMurry says critics believed the darkened lower level of the Pennsylvania-style barn allowd germs to flourish; in addition, as agricultural production became increasingly specialized in the late 19th and early 20th century, the bank barn was regarded as an inefficient way to maintain dairy herds. State and local regulators also required more windows to produce barns that were better lit and more open; the Pennsylvania barn, she says, "really didn't facilitate that kind of design."

Although many of the barns remain in use, some of their utility is limited. McMurry says, "Originally, they were built to hold loose hay, but then when bales came along they could store maybe three times as much or more. So sometimes there are structural problems that come along with that." In most cases, though, the barns were built with very heavy timber frames, and are tolerant of a number of different kinds of uses.

Although it's become increasingly rare for all of the above reasons for new bank barns to be constructed, there are still a few. McMurry notes the owners of a bed and breakfast not far from State College, who also work with local schools in environmental education, built a bank barn from scratch. It's expensive to build them now, though, and just as expensive to restore them; in most cases, they're constructed as locations for parties or equestrian events, or as residences.

Some of those current and future bank barn owners call on John Blackburn, whose Washington, D.C. firm, Blackburn Architects, specializes in barn renovation and equestrian facilities. He says in his 27 years in business, they've built facilities in thirty states and three foreign countries; one barn was even converted into a performing arts center. "We've just developed something recently called 'green barns'," he says, "which is all green materials—green systems, sustainable design." Although, he notes, the firm had in the past designed equestrian buildings around building materials found locally in the environment.

Blackburn is concerned with the aesthetic side of barn restoration. "The barn needs to look like a barn," he says. "A lot of people will change it, adapt it; make a house out of it, and somebody will look at it and say, 'That used to be a barn." He wants people to see a barn first, and then realize it's now a house. "I want them to appreciate and be sensitive to its original use, form and look," he says.

How do you do that? For one thing, it's how you detail the barn. Because most barns are built with timber frames and board siding, they don't offer the enclosure and protection needed for heating and air conditioning. At Blackburn's web site, www.blackburnarch.com, he features pictures of a project called the New River Barn that won the 2006 Southern Living award. "A lot of people like old barns because they like the timber frames—the old patina, the old wood nside—and they want to keep that," he explains. "So I wrap this barn in what's called SIPs, Structurally Insulated Panels." The panels are 4"-8" thick; after painting the faces and roof of the barn black and covering them with the SIPs, he in turn covered those with boards that matched the original siding.

"It's about 6" further out than the original face," Blackburn says, "but then when you go inside you have the original flooring and the original framework. The ceiling has the old slat boards on which the roofing was nailed down and the old, metal roofing, but on top of that is the SIPs, and on top of that is the new, metal roofing." When you're inside the barn, you see the original barn; when you're outside, you see a façade that mimics the way the original barn looked.

To all of this, Blackburn added additional amenities. He rebuilt the corn crib and added a sun deck; he also replaced the north wall facing with glass. Since the owner also owns all the land for a half-mile (as we said, this can get expensive), privacy was not a concern.

Blackburn has also renovated a few bank barns for their original purposes, but that can get tricky; he says the biggest drawback is the typically low ceilings. "A horse needs about 10' clear, because they'll rear up and they could injure themselves," he says. There are two viable options—lower the floor, or elevate the barn. He did the former for a barn in Ohio; in fact, he moved the entire structure a quarter mile away, because the county objected to its proximity to the road. "We actually picked up the barn and moved it," he says. "We created a new foundation below it, used the old stone rock in the foundation, and then created a basement that is higher."

And he's also built a couple of bank barns from scratch. In one case, the owner lived on 270 entirely wooded acres in central Virginia. They sought a barn they could disassemble and rebuild on the property but couldn't find one big enough to suit the owner's needs, so they built a prototypical 18th century barn from on-site wood, with a green motif—it all came from trees that were either already down but salvageable, or had to be felled for road construction.

Even with the SIPs enclosure, heating and cooling can be tricky because the buildings are so big. The New River Barn has a heated floor, and the duct work at ceiling level draws in the hot air as it rises and re-releases it lower in the structure. Blackburn says, "A lot of people will come in between the purlins—the framework on the inside—and put up insulation. That is the wrong thing to do, because it just destroys the look and it doesn't give you thickness of the insulation that you need."

Some of the bank barns in New England were built in the 1700s; Blackburn is working on a Massachusetts barn that was built in 1747, and will be disassembled and moved elsewhere. He's a history buff on these structures and says many of the bank barns still standing in Virginia's Shenandoah Valley were actually built in the latter 1800's; the original barns had been burned during the Civil Warm so the owners rebuilt on the same foundations. Blackburn has even worked on barns built as late as the 1930s, but there aren't very many of them—because they're not as old, less effort has been made to save them.

Sally McMurry is part of a Pennsylvania Historical and Museum Commission project to establish guidelines for the historic significance of bank barns and other farm buildings. She explains that while there are already some bank barns and other buildings in eastern Pennsylvania listed on the Park Service's National Register of Historic Places, they're there for their architectural significance. "What we're doing," she says, "is creating a resource that will satisfy a different National Register requirement, and that is for a relationship to agricultural history."