

FOAM-DOME HOMES

They look a little strange, but they're economical and their owners love them.

By Kimberly Greer
Photograph by Ken Spencer

THE PEOPLE who own these houses are crazy," says Albert B. Moore, the man who designed and built them. Driving along the back roads of rural northwest Connecticut, the 75-year-old Moore points to his creations like a proud father. One looks like an elephant's head, complete with trunk; another seems like a pair of huge snowballs that were pushed together; a third resembles a giant baked Alaska.

Nine of them stick out of a countryside dotted with the century-old barns and white clapboard homes common to New England. So unusual are the homes that the post office of Litchfield marks "IG-LOO" on mail destined for one of them.

"My wife thinks I'm crazy," says Moore,

Kimberly Greer is a Newsday staff writer.

who sports a bushy handlebar mustache and closely cropped white hair. He uses the word "crazy" a lot. But he is fond of his creations. He calls them his "children."

The bearish-looking, energetic septuagenarian has spent the past 10 years building these oddly shaped dwellings — his own patented design. A graphic artist and illustrator, he began his construction career at 65, an age when most people retire. His designs are similar to the geodesic domes made famous by L. Buckminster Fuller in the 1950s. But Moore claims he devised his own designs, inspired by artist Alexander Calder, known for his spinning mobiles of the 1960s.

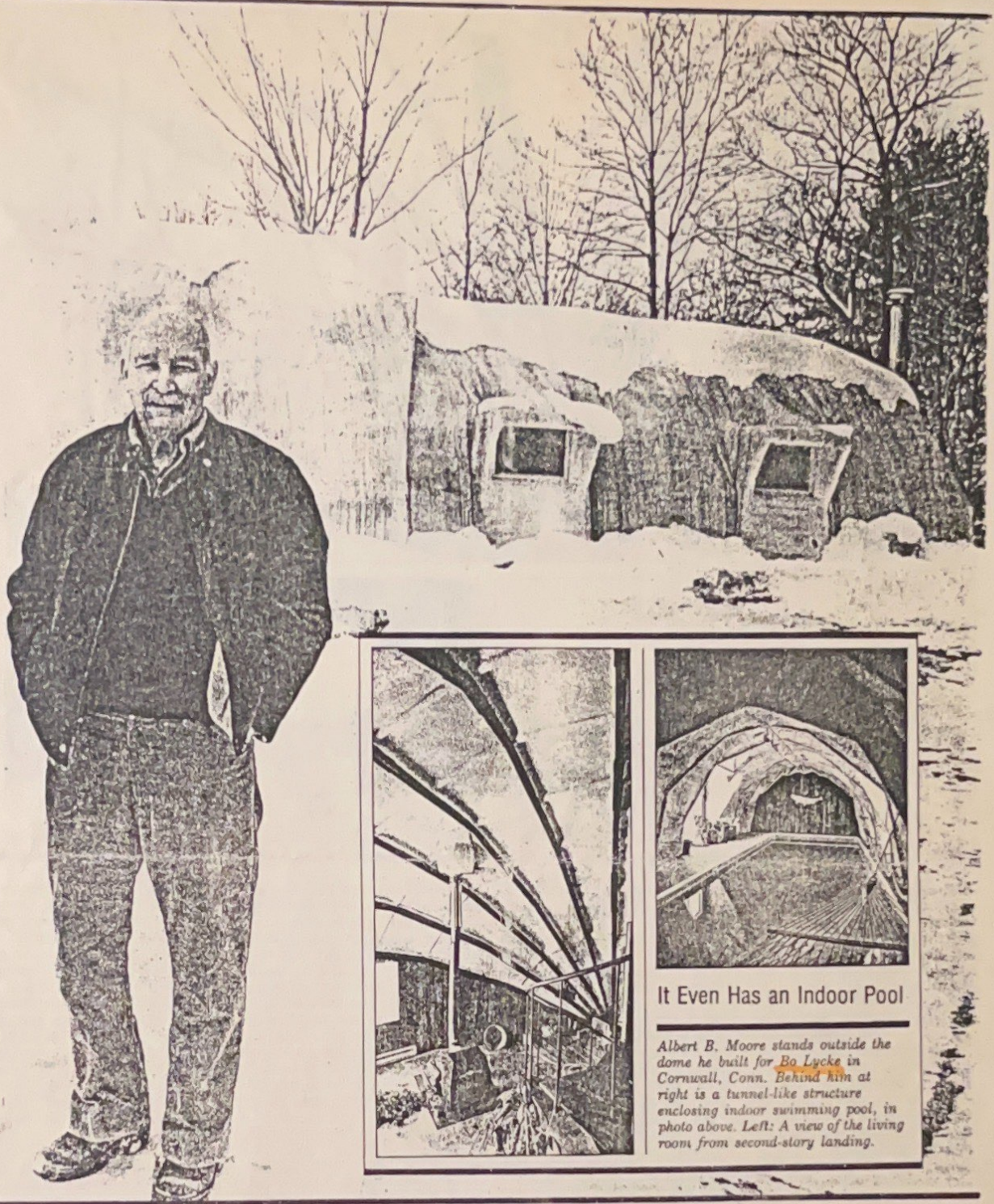
Moore's structures consist of a steel frame coated with polyurethane foam that dries to form a solid, tortoise-like shell.

The people who, Moore says, were crazy enough to buy his foam domes seem to share many of his sentiments. "I adore it. It's spacious and yet feels cozy," says Marjorie Page, 67, an artist's agent for whom Moore built his first 1,100-square-foot

foam dome for \$15,000 in 1975. "The moon is round, the sun is round, the world is round. Why shouldn't a house be round?"

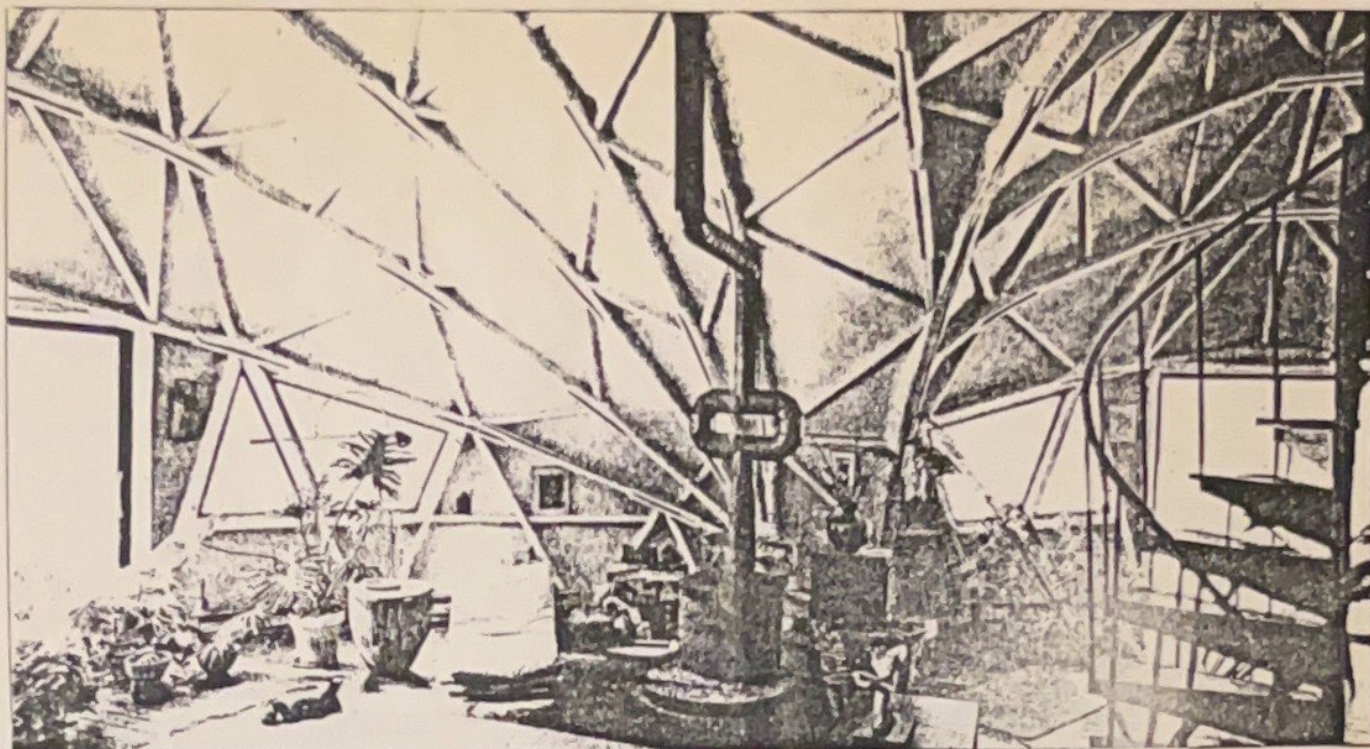
To be sure, Moore is part of a subculture in the building industry that is actively challenging the conventional wisdom of how houses should look. There are now about 150,000 domed houses in the United States, constructed of everything from wood to fiberglass, says the National Dome Council, a trade group that is part of the National Association of Home Builders. Though that is only 0.2 per cent of all homes, it reflects a 150 per cent rise in 10 years. Domes may reach 10 per cent of the home market by the end of the century, contends Ray Howard, a council official.

And Moore, standing in one of his cocoon-like homes — the walls and high ceiling a maze of triangles, rectangles and squares — touts the benefits of domes. Because of their shape, he says, it takes much less outside wall to enclose a given volume — meaning that they use less energy than conventional homes of the same size. "The



It Even Has an Indoor Pool

Albert B. Moore stands outside the dome he built for Bo Lycke in Cornwall, Conn. Behind him at right is a tunnel-like structure enclosing indoor swimming pool, in photo above. Left: A view of the living room from second-story landing.



The First of Its Kind

Top: This is the living room of Moore's first foam dome, owned by Marguerite Page of Cornwall, Conn. The circular staircase at the right leads to a sleeping loft. Far left: The exterior of the home looks like two snowballs pushed together. The odd-shaped windows were custom-made. Left: The exposed beams of the living room serve as a bookcase.

less surface area, the less heat escapes," Moore explains. In addition, the polyurethane foam coating on the homes provides very high quality insulation and requires less maintenance, Moore contends.

Building costs are lower, too, Moore notes. Domes don't have an intricate framing system of studs and beams, and so they cost about \$40 per square foot vs. \$55 for a home with similar appointments. There are also structural advantages. Because of their shape, domes can withstand greater wind and snow loads and are more resistant to earthquakes. And since there are no interior load-bearing walls, room layout is more flexible.

Not everyone is so positive about

foam domes, however. Some communities have banned domed homes as architecturally inharmonious. What's more, some bank loan officers are reluctant to finance the unusual structures, citing limited appeal in the resale market. Even dome enthusiasts concede such homes may not be the shape of things to come. "They're never going to be a thing of the future," says Wendel R. Wendel, head of Space Structures, a Plainview firm that builds large industrial domes.

Adds Daniel Lea of the Urethane Foam Contractors Association: "You won't see entire Levittowns built of foam domes." Even some domed-home makers say Moore's creations are too avant-garde. Says

Bob Casey, president of Domes America, a Clarendon Hills, Ill., builder whose domes are sided with shingles. "I don't think the average person wants to live in something that looks like a cocoon."

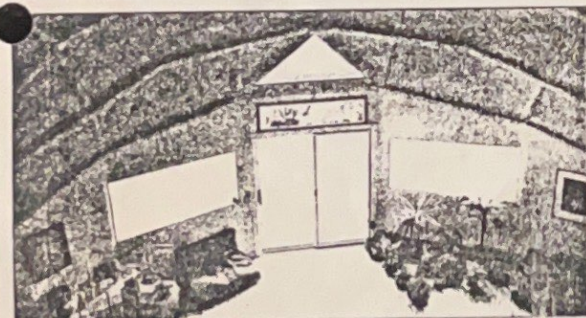
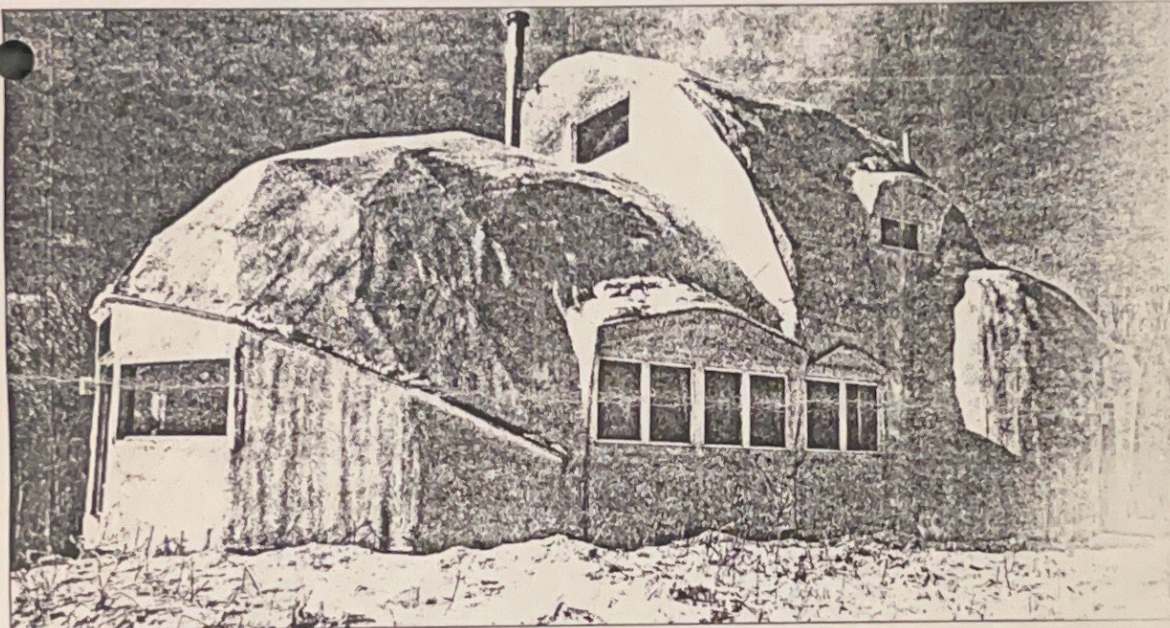
None of which seems to matter much to Albert Moore. "I don't give a damn what other people think," says the inventor, whose gravelly voice alternates between enthusiasm and wry amusement. "It is technologically right. They call it avant-garde; I call it the next step. They are behind the times, trying to modify something to fit public taste." But he concedes: "I don't say they are beautiful."

Twenty years ago, Moore, an illustrator for *Cosmopolitan*, *Esquire*

and *The New Yorker*, wasn't thinking about building houses; he wanted to sculpt. Fliddling in his home studio, he drew a dome comprised of many small triangles and quadrangles, figuring he could use it in his art forms. But when he began making wood models, Moore found he could enclose space, and soon realized the potential for housing.

He teamed up with Anthony Ghi, his son's high school friend who, fortunately, was the local building inspector. "He knew all the codes up and down," says Moore. Ghi helped him meet building safety codes and choose the right building materials.

For 10 years, Moore and Ghi improved upon the design in their spare time, selling prototypes as



The State of the Art

Top: Moore's most recent house, built last year in Litchfield, Conn., for John and Marjorie Dawson and John Hensley. It cost \$120,000 and has a 700-square-foot bedroom. Far left: Living room's sliding glass door; above them, a stained-glass window designed by Moore and the couple. Left: Another view of the living room; above is the bedroom loft.

screened gazebos, domed green-houses and sheds for tools and farm equipment. At the suggestion of a local roofer, he sprayed a model with polyurethane foam, which gave the structure an insulation R value of 32, more than double that of the typical house. Then, about 10 years ago, Moore met Marjorie Page. She had a piece of property in Cornwall, but not enough money to build a conventional house. "I had \$10,000 and figured he would build a chicken coop," she recalls. "We never had anything in writing. It was a question of trust. I liked his face."

Moore first made drawings of the 1,100-square-foot foam dome. The 34-foot-wide and 14-foot-high structure included a second-story sleep-

ing loft connected to the first floor by a metal, circular staircase. "I wanted to show her what it would look like — that I wasn't going to build a normal house," says Moore.

From the outside, the house looks like two snowballs pushed together with odd-shaped, triangular and rectangular windows. The home has electric baseboard heating, but Page rarely uses it, preferring the wood-burning stove in the center of the sun-filled living room. As proof of the building's energy efficiency, Page's first-year heating bill — before she bought the stove — was only \$109.

Another foam-dome owner is Bo Lycke, a Manhattan businessman who met Moore eight years ago

through a local artist. The 2,800-square-foot foam dome Moore built for him has two upstairs bedrooms, a sauna, an indoor pool and a commanding view of the Housatonic River. The cost: \$82,000.

Simple as the domes may seem from afar, the construction components are space-age. The dome is comprised of thousands of geometric tubular steel sections, held in place by steel rods and aircraft cable, interwoven so that outside forces, such as wind or snow, are distributed over the entire sphere: There are no stress points.

Once in place, the frame is covered with a finely woven fiberglass mesh. The dome is then sprayed with a four-inch-thick coating of

polyurethane foam, which serves as a durable, lightweight and energy-efficient shell in 12 hours.

Because the foam dries when exposed to the sun's ultraviolet rays, the exterior is coated with silicone paint, which also repels moisture. Textured, finished cement is applied to the interior so that the highly flammable foam meets fire codes. The entire house takes about a week to build.

Yet, despite their relatively low cost and high energy efficiency, only a handful of advertising agencies in the Northeast have chosen to step into foam-dome homes. "I don't want to live in a renovated house," Moore won't let us live in his, he says.