

that is 112 years old," he said. "It cut like oak and is in the pink of condition."

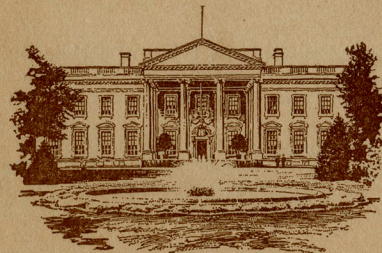
Miscellaneous pieces of the old lumber have been sold at auction and a number of patriotic and historical societies have purchased some of the larger pieces. Old hand wrought nails of our forefathers time, used in holding the timbers together, today rusty, bent and showing signs of having yielded to time, are being eagerly sought as souvenirs.

It is apparent that if the trusses had not been abused the White House roof might not have required replacement for ages. It was only recently, after nine centuries that the timbers in the roof of the Westminster Hall, London, had to be reinforced—because of weevil infestation. In some of the old stone chateaux of France hemlock timbers have withstood time better than the walls. It remains to be seen whether modern steel frame construction will endure any better than heavy timber construction. Certainly steel ships do not last longer than their wooden predecessors on the high seas.

Incidentally, it might be said that we may have to return to timber for much structural work in which it has been replaced by steel. The diminishing iron ore supplies of the world may require that steel shall never be used where renewable, potentially inexhaustible wood will do. A member of the U. S. Geological Survey says that the iron mines of the Lake Superior region will be worked out in about thirty years—and iron does not grow again. The improvement of antirot and fire-resistant treatments of wood may make it even more desirable than steel for some of the purposes in which the latter has succeeded the former.

However that may be, the half section of the White House truss that the government is to preserve will be a reminder to future generations of the incalculable service the primeval forests of America were to the formative days of the nation. From settler's board shack or log cabin to the stately mansions of the president the forests sheltered and protected the swarming millions. Without forests we would not be the mighty nation we are. It may well be that the new forests—the continuous forests—that will take their place, even though their time comes so slowly, will play an equally important part in the future.

(Reprint of Newspaper article widely published in 1927)



WHITE HOUSE TIMBER



Souvenirs made from Timber removed from the
White House after 112 years of service



National Lumber Manufacturers
Association

WASHINGTON, D. C.

IN a storehouse of the Office of Public Buildings and Public Parks in Washington, is an ancient wooden roof truss—just old timber until you know its history.

But as soon as Lt. Col. Grant III, chief of the office, can find a suitable place to house the truss it will come forth proudly from the old lumber pile and be exhibited as one of the nation's historic relics.

The truss is one of those removed from the roof of the White House in the renovation of the mansion now nearing completion. After literally holding the roof over the heads of the presidents of the United States for the last 112 years, these trusses are in excellent condition as far as the wood is concerned, and a half section of one will be preserved not only for its historical association but as an example of the remarkable durability of wood. Twenty-six presidents have lived in the White House since the trusses were put in place.

In 1814, after the Battle of Bladensburg, the British soldiers with their flaming torches, came thronging up Pennsylvania Avenue and burned the White House, the fire destroying the interior and seriously damaging some of the masonry. President Madison and his famous wife, Dolley, made a dramatic departure from the executive mansion, fleeing up Pennsylvania Avenue just ahead of the British.

Reconstruction was begun shortly after the fire, the new roof being held in place by sturdy wooden trusses. Today these trusses, with their timbers in almost as good condition as when they were cut 112 years ago, are interesting as examples of early workmanship. The timbers, all hand sawn, are held together not only by mortising but with dowels and heavy wrought iron straps pounded out by hand.

When the old roof was removed it was found that there was practically no deterioration of material in any vital place in the massive main roof timber trusses and only the ends of the timbers forming the trusses over the north portico were damaged by powder post beetles. Builders of a century ago were not familiar with the use of preservatives to lengthen the life of the exposed wood and did not treat the material as would the builders of today.

Overloading an attic that was not designed for occupancy of any kind and certain defects of construction, as well as subsequent "tinkering" rather than any deterioration of the wood, are said by army engineers to have been responsible for the unsafe condition of the roof.

A report of the Office of Public Buildings and Public Parks, under whose supervision the renovation of the historic building is being carried out says in part:

"Although nearly all of the removed timbers, with the exception of those over the north portico, were in a good state of preservation, most of the trusses had long since ceased to act as such. At some time in the past, the upper chord of one of the main trusses had been cut entirely through and a section removed to make room for a light wall;

that the truss did not collapse was evidence that it was no longer acting as a truss."

"In partial explanation of the failure of the trusses, it may be said that they were apparently designed to carry only the roof loads on their upper chords. Because of lack of space in the lower stories, however, the attic space was used for the storage of records, and after 1902 for servants' quarters and general storage, bringing heavy loads on the lower chords. As a result of this overloading many of the intermediate joints were pulled apart, and the end joints, where the end posts were mortised into the lower chords, had in some cases completely failed by longitudinal shearing. The lower chords had settled upon and were being supported by the interior partitions of masonry or wood and were carrying the roof and attic loads as beams. They were seriously weakened by splices, and at several points by notches cut in the lower surface to accommodate the wooden troughs that formerly carried the roof drainage, some of the notches being so deep that only about four inches of solid wood remained."

Nothing, it appears, could be done short of entire reconstruction to correct the abuse of the trusses.

Additions to the attic made in 1902, despite the fact that the weakening of the trusses was noted as early as 1873, materially increased the direct load on the horizontal members and indications of their failure became more evident.

Incidentally it is worth while to divert from the thread of the story long enough to mention the fact that President Grant, who occupied the White House in 1873, and to whom the condition of the roof was first reported, was the grandfather of Lt. Col. U. S. Grant, III, under whose direction the present renovation of the mansion is being carried out.

In 1926, an appropriation of \$375,000 was made for "reconstructing the roof, attic, and ceilings of the second story of the executive mansion" and actual construction was begun on March 14, 1927. The first operation was the erection of a temporary wooden roof over the entire building to protect the interior from damage until the new roof was in place.

Forests of various sections of the country have contributed to the renovation of the mansion. Northern white pine from Minnesota and southern yellow pine are being used for the millwork; Louisiana pine for the sub-flooring, and hardwood from the middle west for the top flooring. Such new structural timber as was required in the new permanent roof was treated with wood preservatives and it is confidently expected that it will last as long as the iron, steel and slate with which it is associated.

W. F. Lusk, construction superintendent on the renovating job, speaks enthusiastically of the condition of the old lumber removed from the White House.

"It took me about fifteen minutes with a sharp hand saw to cut through the top of a ten-by-ten