

In use for 5,400 years

Nails still hold man's world together

WASHINGTON — Ever since the earliest carpenter mashed his thumb for the first time, man has had plenty to say to nails.

"Goodbye!" is what he is saying today—at least to some nails. After 5,400 years of holding civilization together, nails are being yanked from many of their traditional roles.

Space-age glues and fasteners made of plastics, exotic alloys, and even everyday metals are replacing nails in some old jobs and taking on new ones beyond reach of the most ingeniously designed nail, the National Geographic Society says.

But the old standby is far from being dead as a doornail (used in the Middle Ages to stud and reinforce heavy front doors). As many nails as ever are being made in the United States—340,000 tons in 1971—with nearly as many imported—293,000 tons—mostly from Japan.

Yet, as a sign of the times, new ways have cast a shadow of sorts on the age-old trademark image of house building: a carpenter shoving his hand into a nail keg for more ammunition for his hammer.

Today, nail kegs turn up only in antique shops; nails now come in cardboard cartons and may be packed parallel like toothpicks so their points won't nick carpenters' fingers.

The traditional claw hammer is sometimes replaced by

a power pounder that makes its own nails from an attached coil of wire.

That's a far cry from the bronze nails used in Egypt about 3400 B.C. The Bible is full of references to nails.

Nails used in the crucifixion were believed to be about six or eight inches long, square-sided, and wrought by a blacksmith. They resembled the seven tons of nails dug up a few years ago from a Roman fort abandoned 1,900

vage them from the ashes. years ago in the face of attacking Scottish highlanders, and sold in part as souvenirs for up to \$7.50 each.

Until a Frenchman invented a wire nail-making machine in 1834, all nails were made by hand, hundreds of thousands by American colonists around winter firesides to stretch the family income.

These cut nails, fashioned from strips of iron, were so valuable old barns and houses were once burned down to sal-

Nails similar to these are still preferred in laying floors because their square points seldom split floorboards.

Nails still are sold in penny-weight sizes. For instance, a three-inch nail was and is called a 10 penny because that's what it cost for 100 of them.

Today nails are made of steel, aluminum, iron, and copper. Besides boards, they are banged into concrete and even steel by a nail gun powered by .22 blank cartridges.

They are designed with screw threads, ridges, barbs, and square edges to make it harder for them to work out. They may be blued like a gun-barrel, or galvanized to make them rustproof.

They are even sterilized because busy carpenters habitually hold nails in their mouths. But troubles can still come up: A few years ago surgeons investigating a carpenter's stomach pains discovered he had swallowed 160 nails of assorted sizes.

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