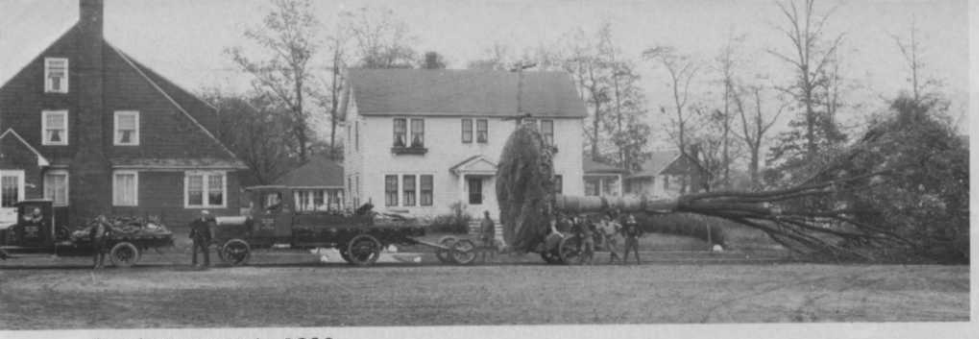
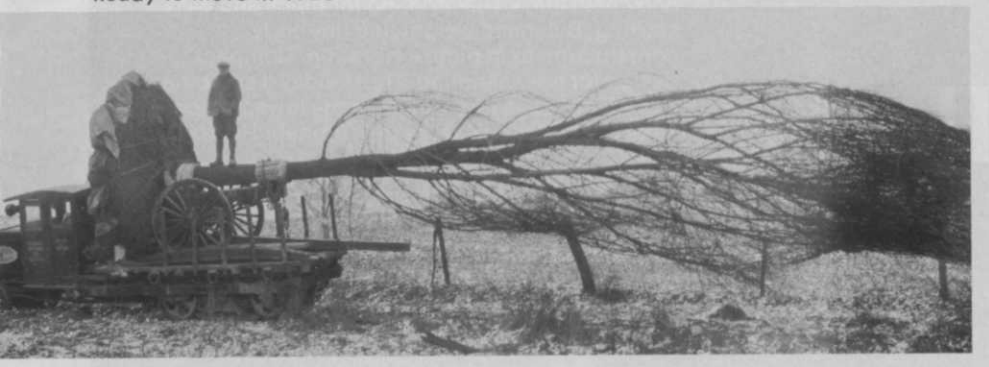


Ready to move in 1928



On track in 1934

Wagon-wheeled cart of 1927

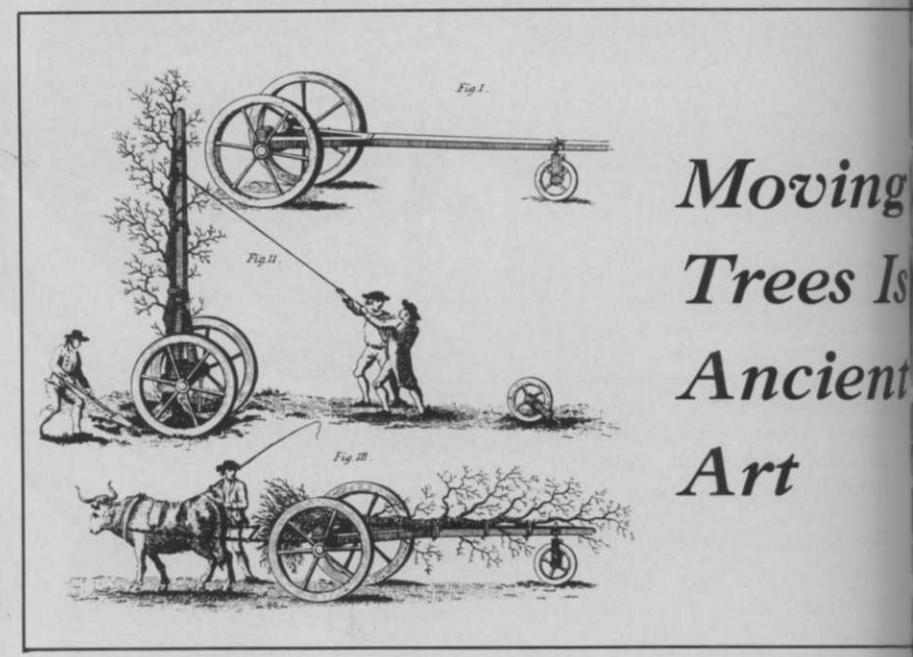
At school in 1930

Lacing—1988 and now

By HAROLD DAVIDSON
Department of Horticulture
Michigan State University

Photos Courtesy of the
DAVEY TREE EXPERT COMPANY

The old illustration of tree-moving (to the left of the headline) is from a book published in 1794 entitled "A practical Treatise on Planting and the Management of Woods and Coppices" published by the Dublin Society.



Moving Trees Is Ancient Art

ALTHOUGH we have little information on the early history of tree moving, it is known that the Greeks and the Romans must have moved large trees, as it is recorded in their writings that when they wanted to designate something that was impossible or at least difficult to perform, they said, "it was like transplanting an old tree."

Also, we find reference to a Greek physician, Anatolius, who was a contemporary of the Emperor Constantine, who undoubtedly had some skill in the art of transplanting since he wrote:

"To transplant a tree successfully, be careful to prune the smaller branches, without injury, to the larger ones; also it is important to leave the entire root system untouched. Place the tree carefully in

a large pit and cover up the roots with a quantity of good mold and manure."

Marco Polo recorded some 700 years ago that the Great Mongol Emperor Kublai Khan had large trees transplanted to his hill.

The hill, within a bow-shot of the Great Palace, was 100 paces in height and a mile in compass, entirely man-made, and was covered with trees that never lost their leaves.

The trees were dug with all the roots and earth attached and were transported with the aid of elephants. No matter how big the tree, the Emperor had it transplanted to his "Green Mount," and in this way he had the most beautiful collection of trees in the world.

Louis XIV, in developing the gardens of Versailles, tried to equal the glories of Greece and Rome by having extensive plantings made around his palace. It is recorded that the gardeners for Louis developed "a great transplanting machine" to move large trees considerable distances. In fact, the forests around Versailles still exhibit evidence of the tree movings that were accomplished during this period in history.

Rootpruning was first practiced as an aid to transplanting by Lord Fitzharding who was the Lord Treasurer to King Charles II. Fitzharding had the trees pruned one or two years prior to transplanting. This was accomplished by removing the earth and cutting all of the "collateral" roots, forcing the tree upon its side and then severing the taproot.

First Transplant Machine

Up until the early 1700s, most of the trees were lifted out of the ground with the aid of large wooden cranes braced with iron and worked with ropes and pulleys. Trees were placed upright on low platforms and dragged by the strength of men and horses to their new locations.

However, sometime in the 1700s "Capability" Brown, a noted professor of landscape horticulture, developed a transplanting machine. This consisted of a strong pole about 15 feet in length attached to two high wheels acting on an iron axle. After the tree had been dug, the transplanting machine was backed into place, the pole lashed to the bowl of the tree, which was then literally ripped out of the ground by the strength of men and horses pulling on a large rope attached to the upper part of the pole.

Sometime around 1750, a nurseryman by the name of Boutcher who lived in Edinburgh, Scotland, began the practice of conditioning trees, somewhat like Lord Fitzharding. He transplanted his trees periodically so that they would develop a fibrous root system and a good top prior to transplanting. This conditioning period took between 12 to 16 years.

At about the same time, Dr. Robert Graham, a professor of botany at the University of Edinburgh, transplanted a large number of rather rare plants at the Botanical Garden. These plants had to be moved to make way for new buildings.

Parisian Successes, Failures

In the mid-1800s, the arborists for the city of Paris developed a transplanting machine in order to move large quantities of trees for planting along the streets of Paris.

This machine consisted of a cart with a very strong tree sling; the sling being operated by a series of chain winches located at the four corners of the cart. After the ball had been excavated, the cart was backed in place on wooden planks, the chains lowered and placed around wooden beams which were slid beneath the ball. The tree was then hoisted out of the hole by having four men simultaneously turn handles attached to cast iron winches which raised the tree out of the ground, which was then transported with the aid of the transplanting machine to a new site.

The Parisian arborists apparently had considerable success in transplanting: elms, planetrees, horsechestnuts, ailanthus, catalpa, paulownia, and willows; but they had little success in transplanting: robinia, crataegus, birch, laburnum, and honeylocust.

In the United States, tree moving was practiced by some of the early Long Island nurseries. Hick's Nurseries developed a large tree-moving machine in 1870, and it is recorded that by 1895 it was moving trees 60 feet tall and 24 inches in diameter. In fact, some of the large trees were transported on barges which caused considerable consternation among the mariners of New York harbor.

Few improvements were made in the art of large-tree-moving up until the time of World War II, but shortly thereafter many new devices for transporting of large trees, once they had been dug and properly burlapped or boxed, were placed on the market. Within recent years, a number of large tree diggers have been introduced into the trade which have completely revolutionized the art of transplanting large trees.