

# INTRODUCTION

The Chance Encyclopedia of Anchoring is based on more than 94 years of Chance anchoring leadership. It is an accumulation of anchoring knowledge that is unsurpassed. Rely on the Encyclopedia as your source for anchoring know-how, and look to your Chance Man — the man in the green hat — to bring you even more expertise. Your anchoring will be better for it.



94+ years experience under this hat

The Encyclopedia has been prepared to assist engineering and operating personnel in selecting the best anchor for each application. Because it is not possible to select a single anchor for general applications, Chance provides many different anchor designs for specialized applications.

Final anchor selection for a specific installation is dependent upon a number of considerations including subsurface soil conditions, holding capacity requirements and installing equipment. Rely on your Chance Man to help you weigh all the variables that affect anchoring. He's an expert backed by the best anchoring know-how in the world.

## HISTORY OF EARTH ANCHORS

In the beginning, there were convenient trees to tether an animal, tie up a boat or guy a structure. With the clearing of land, wood stakes were often used.

With heavier loads to support (and no available trees), the log deadman became the forerunner of the patent anchors. Deadmen are still occasionally used today. Early patent anchors were attempts to simulate the root structure of a tree with steel. Unfortunately, only God can make a tree, so the early drive-type anchors had little use.

The earliest patent anchor was a screw foundation designed in 1833 by a blind English brickmaker, Alexander Mitchell. Mitchell's screw foundations were used in the construction of lighthouses and beacons throughout the world. There were few improvements in patent anchoring until February 1, 1876 when the Picket Stake was assigned patent number 172915. However, acceptance was limited. While these were the earliest of the patent screw anchors, it was not until the late 1950s when Chance introduced the Power-Installed Screw Anchor (PISA®) that screw anchoring found favorable, widespread acceptance.

The world's first practical earth anchor was invented in 1912 by Albert Bishop Chance. A disastrous ice storm hit the Centralia, Missouri telephone system managed by Mr. Chance. New poles had to be put in, new wire strung and almost every pole had to be straightened and reanchored. There wasn't time for deadman anchor installations. The elements became the mother of invention as Mr. Chance invented the anchor that became known as the "Never-Creep." Anchoring took its first step toward becoming a science with the Never-Creep.

Originally, this anchor consisted of a half of a two-foot length of pole with a hole through the middle for the rod. The rod had an eye hand forged and welded by a blacksmith. It was fitted with a threaded end and nut — no galvanizing.

In practice, the rod was driven to hit a pre-drilled anchor hole. The log anchor was held in the hole by one lineman lying on the ground while a second lineman pushed on the rod until it

## CHANCE ANCHORING CONTRIBUTIONS

- THIMBLEYE® Guying Fixtures
- Cone Anchors
- Expanding Rock Anchors
- Swamp Screw Anchors
- Soil Classification Methods
- 8-Way Expanding Anchors
- Pole Keys
- Cross-Plate Anchors
- Portable Anchor Test Units
- Soil Test Probe
- Power-Installed Screw Anchors (PISA®)
- Power-Installed Foundations
- INSTANT FOUNDATION® System
- Extra High-Strength Plate Anchors
- Multiple-Helix Screw Anchors
- Pipeline Screw Anchors
- Screw Anchors for Industrial, Farm or Recreational Applications
- Anchor Training Materials
- SQUARE ONE® High-Strength Anchors
- Torque Indicators
- Anchor Installers
- TOUGH ONE® High-Strength Anchors
- Corrosion-Resistant Anchors
- High Strength Tooling
- SOIL SCREW® Retention Wall System

threaded the hole. The nut was held by a wire device on the end of a broom handle while the rod was rotated to engage the thread.

This was the state of the art practiced at Centralia when a Western Union inspector came to inspect "SKY-ROCKET" lightning arrestors manufactured by Mr. Chance for rural telephone and telegraph wires. The inspector liked the anchor he saw and sold Western Union on the use of the anchor. He prodded Mr. Chance into obtaining a patent and going into anchor manufacturing. Chance was on its way to becoming the world's leading manufacturer of anchors.

The first commercial "NEVER-CREEPS" were cast iron. They were so fragile they were shipped packed in barrels like dishes. With the addition of creep guards and a change to malleable iron, there was little further improvement until World War II forced a change to wrought steel.

To complement the line, A. B. Chance bought the patent rights and tooling of a Canadian Expanding Anchor in 1927. A base plate, nut retainer, forged top plate and new sizes were added until the steel expanding anchor encompassed sizes from six-inch 2-Way through a 12-inch 4-Way design. This was the standard of the utilities until the introduction of the Chance "8-Way" Expanding Anchor in 1947. Expanding anchors originally evolved from drive and drive-pull anchors.

In the 1930's, Mr. Chance purchased the "Wej-Lock" Anchor Company and moved the operation to Centralia.

The "Cone" anchor was originated by the Bierce Company\* and Mr. Chance received a patent on an improved cone soon afterward. The holding capacity of a cone anchor was not understood at first. Now we know when holding capacity of an expanding anchor, plate anchor and cone anchor are compared, results show the entire surface of the cone compares

*\*The Specialty Device Company, a successor to the Bierce Company, was purchased by Chance in 1953.*