

# Gems, Gems

## Nature's Beautiful Accidents

**By VICKI MOESER**  
Smithsonian News Service

It's about as big as a gem can be and still fit on a ring. The nearly 38-carat Chalk Emerald is said to have the ultimate color for such a gem—a brilliant, transparent green. While this emerald's history may not be as well known as the Hope Diamond's, there is a certain notoriety surrounding it just the same.

The emerald reputedly is one of a set of earrings worn by Cleopatra and was once the property of an Indian maharajah. More recently, it belonged to the wife of a Washington, D.C., financier, Mrs. O. Roy Chalk.

Several years ago, Mrs. Chalk wore her emerald ring to a reception at the White House during a state visit by Britain's Queen Elizabeth II. Afraid her emerald might outshine the Queen's jewels, Mrs. Chalk tactfully twisted the ring around her finger to hide the gem in her palm. Shortly after that episode, the emerald ring was donated to the Smithsonian Institution, where it now sits on display in the Hall of Gems at the National Museum of Natural History.

The Chalk Emerald is in good company. The legendary Hope Diamond, an extraordinary blue diamond weighing 45.5 carats, is nearby. So is the Logan Sapphire. Weighing 423 carats, the Logan is about the size of an extra-large hen's egg and one of the largest blue sapphires known to exist. Another neighbor is the Rosser Reeves Ruby, quite likely the world's finest star ruby.

According to John White, curator in charge of the National Gem Collection, "The Smithsonian's gem collection is probably the best publicly exhibited gem collection in the world." Aside from the crowd-gathering aspect, White says, "it's perfectly reasonable, and in fact traditional, the natural history museums to display gem collections, since gems are cut and polished bits of minerals."

"There are close to 9,000 pieces in the Smithsonian's gem collection," he says, "but they're not all on display. Typically, the most 'important' gems are on exhibition. In our case, that's about 2 percent of the collection."

White hastens to note, however, that the national collection of

gems is not mainly jewelry. "The vast majority of exhibited gems are unset, faceted pieces that best illustrate the desirable characteristics of each type. Set gems are displayed only if the jewelry is historically important or its beauty is greatly enhanced by the setting."

The National Gem Collection celebrated its 100th anniversary in 1984. "But it wasn't until 1958 when the new gem and mineral hall opened that the collection experienced spectacular growth," White says.

That was also the year the Smithsonian received the Hope Diamond. The public's imagination was captivated and, shortly afterward, the institution received the Vetlesen collection of carved Chinese jade objects—one of the finest private collections of carved jade in existence. "Over the next few years," White says, "the gem collection grew from being merely a very fine public exhibit to one of great stature."

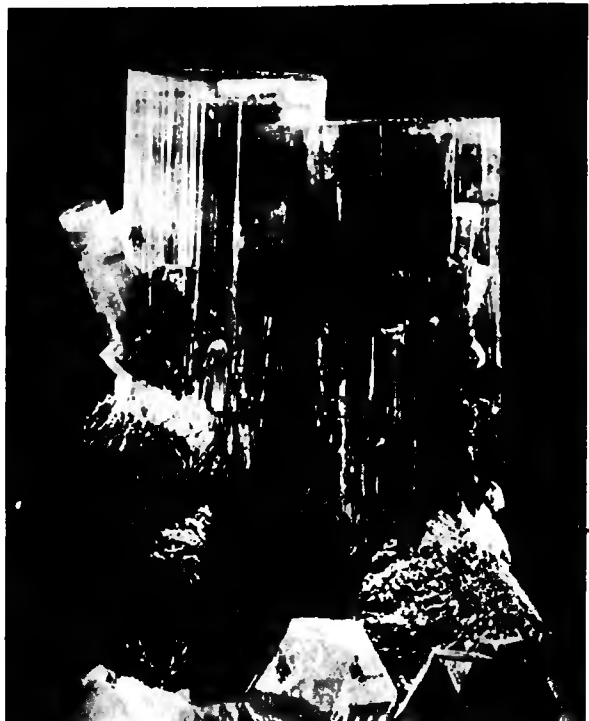
To Jeff Post, the Smithsonian's associate curator of mineralogy, gems are "the best crystals from different types of minerals. To be

useful as a gem, a mineral must have characteristics such as beauty, brilliance, durability and rarity. The harder a gem is, the larger and more perfect the crystal, and the more intense its hue and tint, the more valuable the specimen."

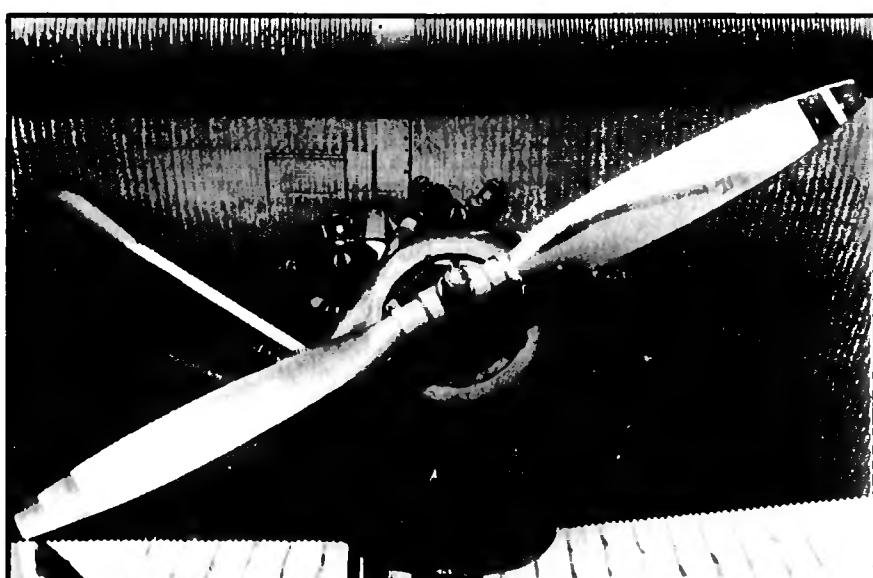
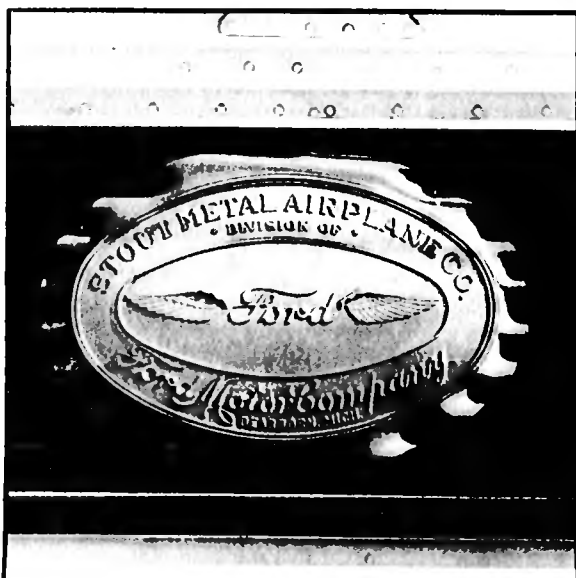
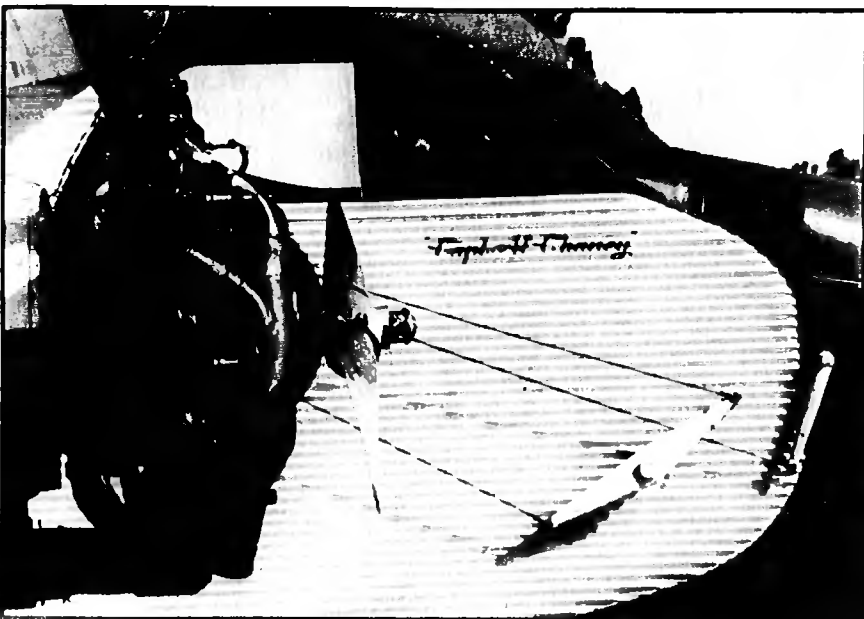
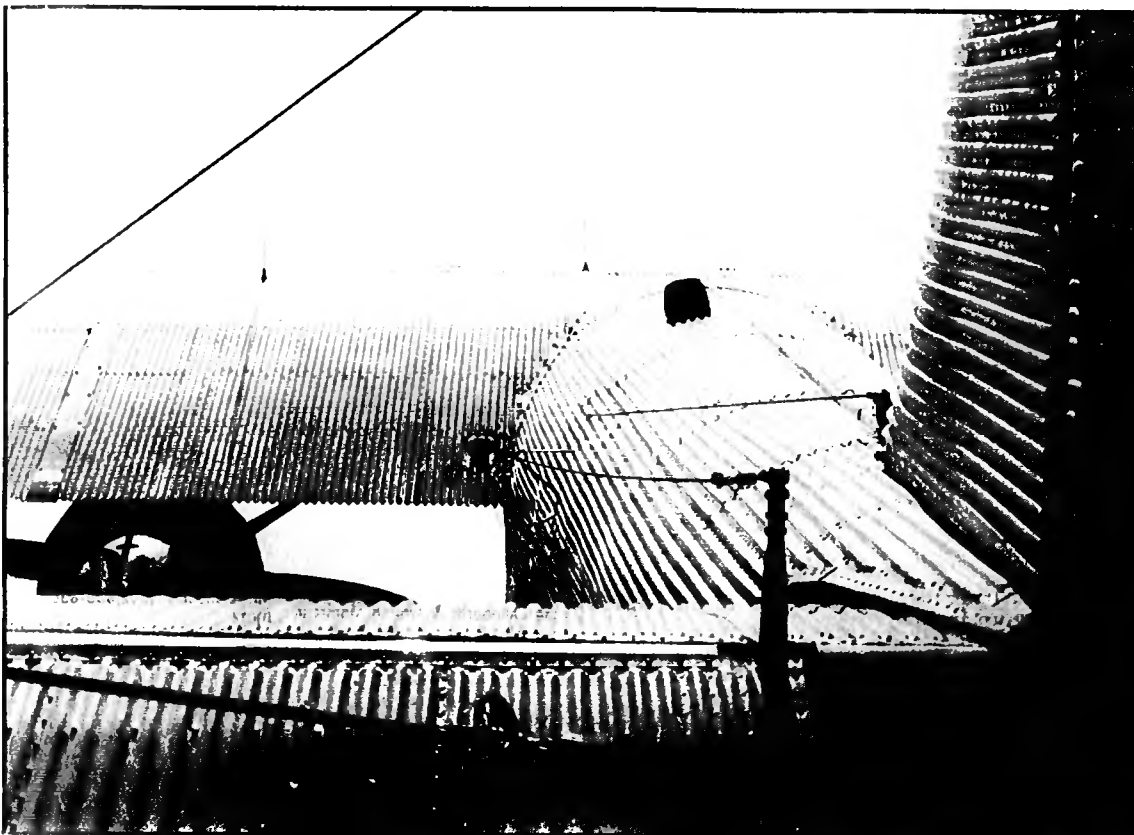
There are about 3,000 different known minerals found in the Earth's crust, each a natural substance having a definite chemical composition and specific physical characteristics by which it can be distinguished from others. "Several hundred kinds of mineral species account for the most familiar minerals," Post says. "Of those, only a couple dozen, including quartz and feldspar, make up the vast majority of the Earth's crust. Fewer than a hundred mineral species are traditionally used as gems." Some gems, such as pearls, coral and amber, technically are not minerals; rather, they are derived from living organisms.

There are a number of reasons why most mineral crystals do not make good gemstones. "Some are too rare," Post explains.

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Tourmaline crystals such as this one contain several colors, and different colored gemstones may be cut from them.



### Another Glimpse

Al Chaney's 1928 Ford Tri-Motor, nicknamed the "Tin Goose," is the world's oldest flying metal airplane. It is the only one of nine such planes that hasn't been relegated to a museum. It was first piloted by Charles A. Lingbergh and is the only airplane ever to fly Henry Ford. The 55-year-old Chaney brought the Tri-Motor into Washington last month as part of a barnstorming tour of the United States. (Ric Carter photos)