



0. SOURCE OF THE WEALTH - Story Preface

1. OIL IN TEXAS

2. SOURCE OF THE WEALTH

3. HOWARD HUGHES: AN ORPHAN

4. HOWARD TAKES CONTROL

5. HOWARD MAKES MOVIES

6. HOWARD IN THE AIR

This image depicts a Hughes rock bit (as the updated version appeared in 1939). The photo was taken by Robert Yarnall Richie in April of 1939 and is part of the Robert Yarnall Richie Photographic Collection at Southern Methodist University. The image is online thanks to the DeGolyer Library, Southern Methodist University, via its SMU Libraries Digital Collections at Flickr.

One of the best things Howard Hughes, Sr. ever did was to partner with Walter Benona Sharp, a respected Texas oil operator. Hughes had a flair for salesmanship; Sharp had a knack for finding oil.

At the beginning of their partnership, however, both men were dismayed with the fishtail drill - the current state of art for oil-drilling. Not only was the process interminably slow, it was woefully inadequate. A drill bit that could penetrate soft soil could not penetrate rock formations - and oil was often located underneath rock.

By 1908, when Hughes and Sharp were thinking about how to devise a better drill, Howard Sr. met a man named Granville A. Humason who had fashioned a crude model drill bit made of spools. The prototype included two cone-shaped cutters which kept rotating when they touched a surface.

Although he had tried to sell his idea to oil-well drillers, no one took Granville seriously. Hughes thought the idea made sense, and Granville gladly accepted his \$150 offer to buy the spools. Hughes then convinced Walter Sharp to give him \$1,500 to turn the concept into a product that could be patented.

Traveling to his parents' home (in Keokuk, Iowa), Howard worked on his ideas. Later his brother Rupert described the moment when everything seemingly made sense:

[He] called for a breadboard from the kitchen, fastened paper on it, and, sitting at a dining room table, began to sketch his model. He emerged from the family dining room with an Archimedean cry of 'Eureka' and the picture of a bit that had no less than 166 cutting edges!

That drawing became the basis for a rolling-bit patent application which Hughes' lawyers submitted to the U.S. Patent Office on November 20, 1908. While the government was assessing its merits, Hughes and Sharp tested a prototype at an oilfield in Goose Creek, Texas. For eleven hours, the new drill-bit bored through fourteen feet of solid rock. Stunned men in the field dubbed it the 'rock eater.'

On August 10, 1909, the U.S. Patent Office issued H.R. Hughes two patents: 930,758 and 930,759. Although Hughes was listed as the sole inventor, it is still a mystery whether Walter Sharp participated in the design.

Lack of credit for the invention probably mattered little to Sharp who - until his death in 1912 - equally shared the considerable profits generated by the drill bit which Sharp-Hughes Tool Co. made and leased to nearly every oil-well driller in Texas.

Within five years, Hughes had patented his invention (which had the unbelievable ability to grind rock without grinding itself) in at least thirteen foreign countries. The company had a near-worldwide monopoly supplying drill bits.

J.E. Brantly, a respected historian of oil-well drilling, noted the bit was "one of the great inventions and developments of the entire oil well drilling industry." Although two engineers from Hughes Tool increased the cutters from two to three in 1933 - Patent No. 1,983,316 was approved December 4, 1934 - the design's main features have remained essentially unchanged since 1909.

As the Hughes family continued to grow wealthy from the famous invention, however, young Howard would soon endure a double tragedy.

See Alignments to State and Common Core standards for this story online at:

<http://www.awesomestories.com/asset/AcademicAlignment/SOURCE-OF-THE-WEALTH-Aviator>

See Learning Tasks for this story online at:

<http://www.awesomestories.com/asset/AcademicActivities/SOURCE-OF-THE-WEALTH-Aviator>



Howard Hughes - Family Home

Image of home online, courtesy [Fondren Library at Rice University](#).

PD

View this asset at:

<http://www.awesomestories.com/asset/view/Howard-Hughes-Family-Home>



Keokuk, Iowa - Map

Map image online, courtesy Arizona State University.

PD

View this asset at: <http://www.awesomestories.com/asset/view/Keokuk-Iowa-Map>