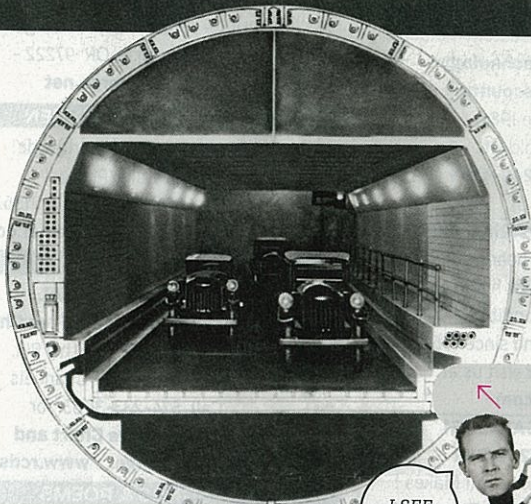


A Brief History of the . . .

# Tunnel

Tunnel building may be boring, but it's never dull! From spoons to high-tech TBMs, we dig into the long, winding story of the tunnel. BY AMANDA GREEN



**2180-2160 B.C.:** Babylonians dig a 3000-foot-long tunnel under the Euphrates River.

**1681:** France's 515-foot-long Royal Canal in Languedoc is inaugurated; its tunnels were blasted using gunpowder.

**1867:** Tunnel construction booms when Swedish engineer **Alfred Nobel** (yes, that Nobel) patents dynamite.

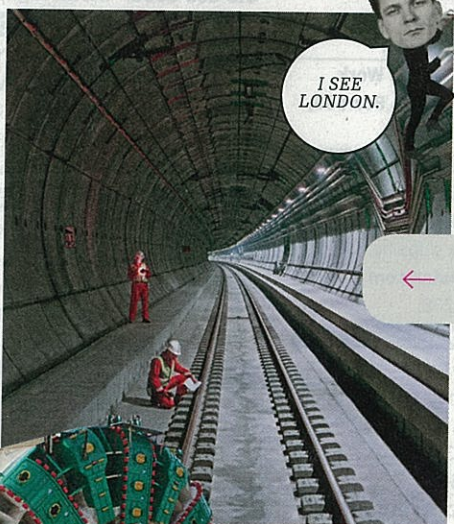


**1927:** The Holland Tunnel uses a ventilation system to remove exhaust. On either side of the Hudson River, 84 fans in four buildings change the tunnel's air every 90 seconds.

**1952:** James S. Robbins comes up with a dam good idea and designs the modern tunnel-boring machine (TBM) for South Dakota's Oahe Dam project.



**1962:** Inspired by a PopMech issue, three Alcatraz inmates escape through a tunnel they dig with stolen spoons. They paddle out into San Francisco Bay on a makeshift raft and are never seen again.



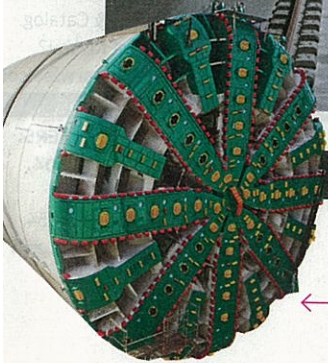
**1963:** In *The Great Escape*, which is based on a true story, prisoners escape from a German POW camp by digging three tunnels they name Tom, Dick, and Harry.

**1988:** Japan's 33-mile-long Seikan Tunnel, the world's longest and deepest railway tunnel (787 feet below sea level), connects the islands of Honshu and Hokkaido. Alas, many time- and cost-conscious travelers stick to flying.

**1994:** After 192 years of planning and six years of building, the Channel Tunnel runs under the English Channel, connecting England and France. With a price tag of \$21 billion, it's the costliest construction project to date.

**2005:** Smugglers dig a 360-foot-long tunnel from a Quonset hut in Canada to the living room of a house in Lynden, Wash. Police admire its lights, ventilation, and concrete floor.

**2010:** New York City turns on the first TBM for the Second Avenue Subway line, a project 81 years in the not-making. Builders later use cut-and-cover and drill-and-blast methods.



**2013:** The world's largest TBM, at 7000 tons and 57.5 feet wide, begins a tunnel to replace Seattle's Alaskan Way Viaduct. It will be the widest in North America.

DON'T TELL ANYONE YOU SAW ME . . .

