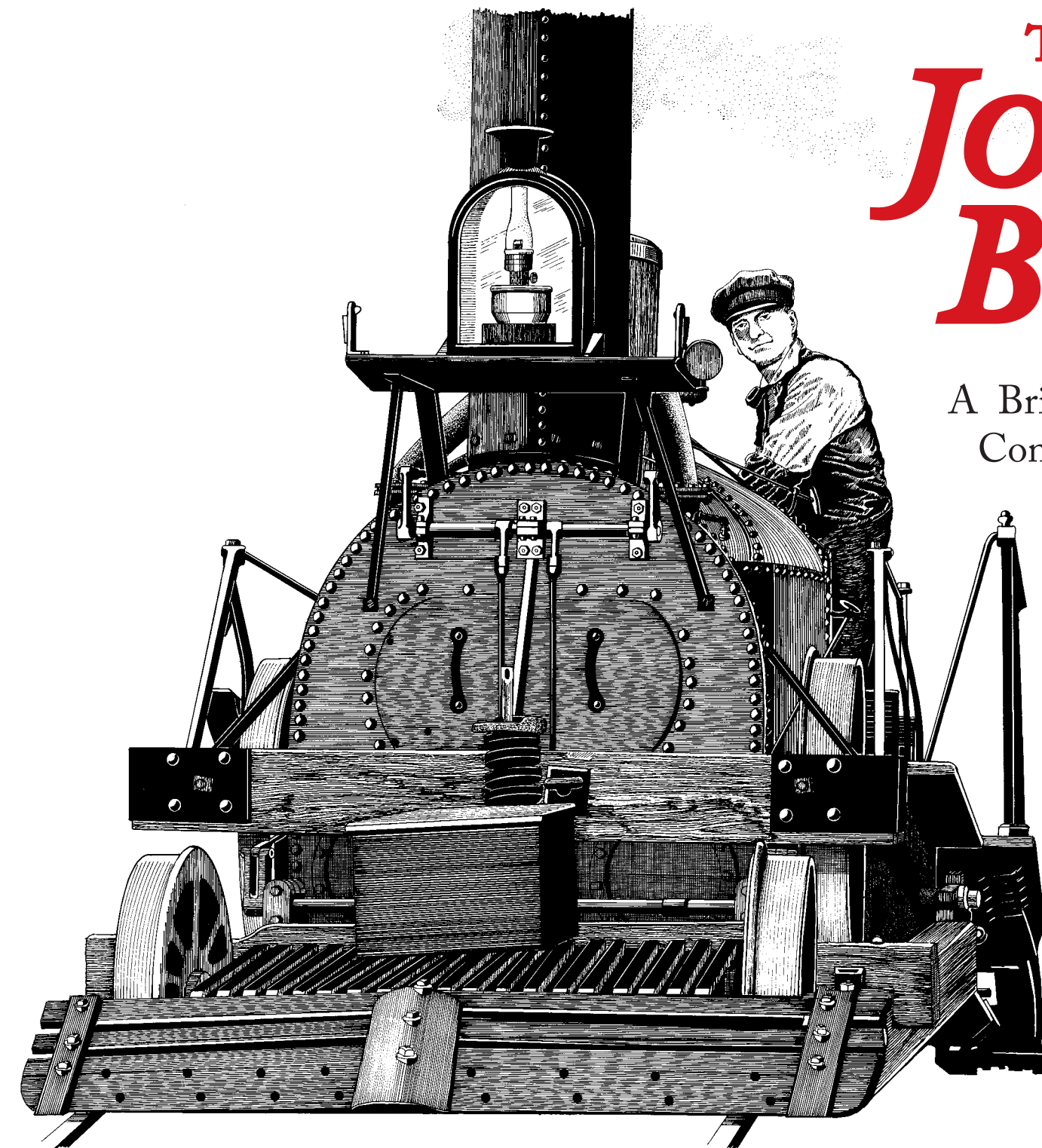


THE *JOHN BULL*

A British Locomotive
Comes to America

DAVID
WEITZMAN



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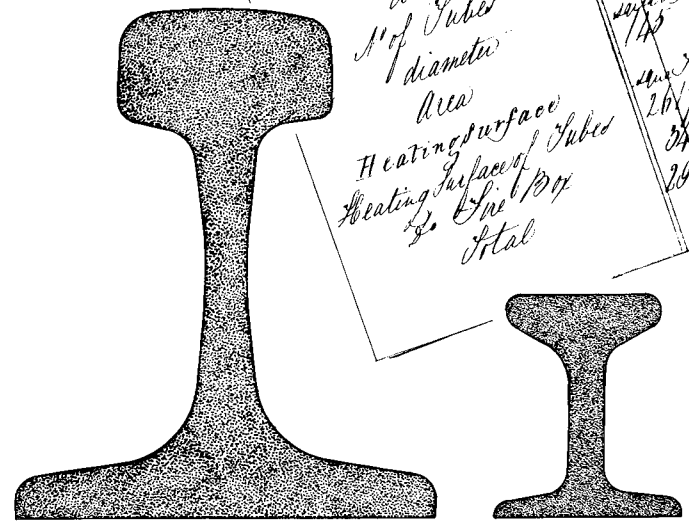
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Steven's name is misspelled on this record of the original order

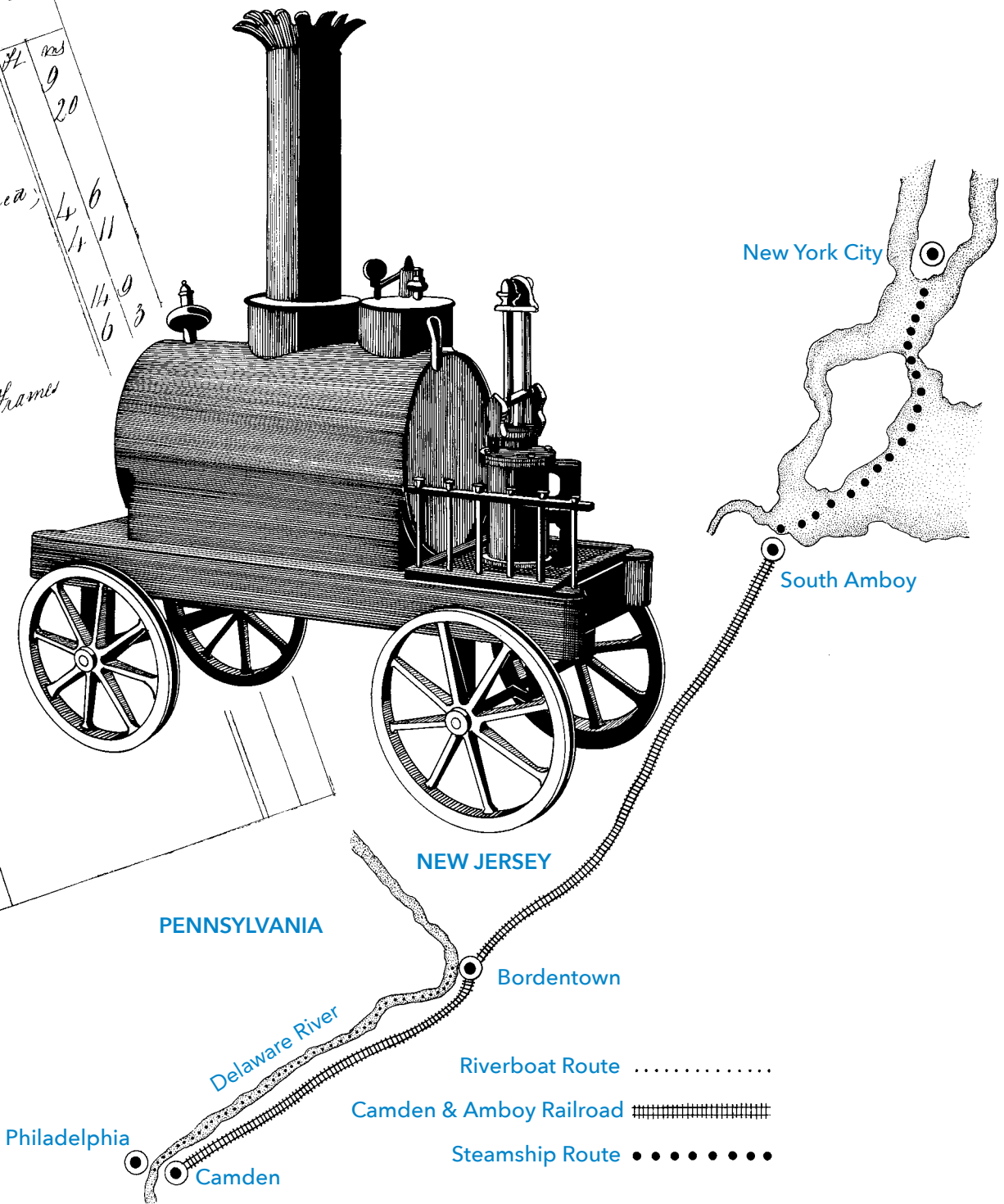
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Descriptions of No. Stephens' Locomotive constructed June 1831

St.	In.	cyt. lbs.	ms.
Boiler Diameter	2 6		9
Boiler Length	6 9		20
Smoke Box Length	2 2		
Smoke Box Width	4 1		
Depth below Boiler	2		
Fire Box Inside diameter	1 1/4		
Depth below Boiler	1 1/4		
Height	5 3/4		
Inside diameter	5 3/4		
Fire Grate Area	10 1/2		
Area of Fire Grate	13 1/2		
Chimney Diameter	1 1/2		
Area	1 3/4		
No. of Tubes	100		
diameter	1 1/2		
Area	2 1/4		
Heating surface of Tubes	26 1/2		
Heating surface of Fire Box	24 1/2		
Total	20 1/2		
Double Slide Valves	4 6		
Wheels	1 11		
Diameter	1 1/2		
Center	1 1/2		
Frame Length	6 3		
Width			
Wood Inside Frame			



Modern steel rail and Robert Steven's iron rail



George Stephenson and his first model steam locomotive, on the left.



Colonel John Stevens and Robert Stevens, father-and-son railroad builders.

Robert Stevens is shopping for a steam locomotive. That's not an easy task in America in 1830. Oh, there are a few mechanics tinkering away in shops and barns, and it won't be long before Americans build locomotives. But for now, few Americans have seen or even heard of a steam locomotive, to say nothing of knowing how one works.

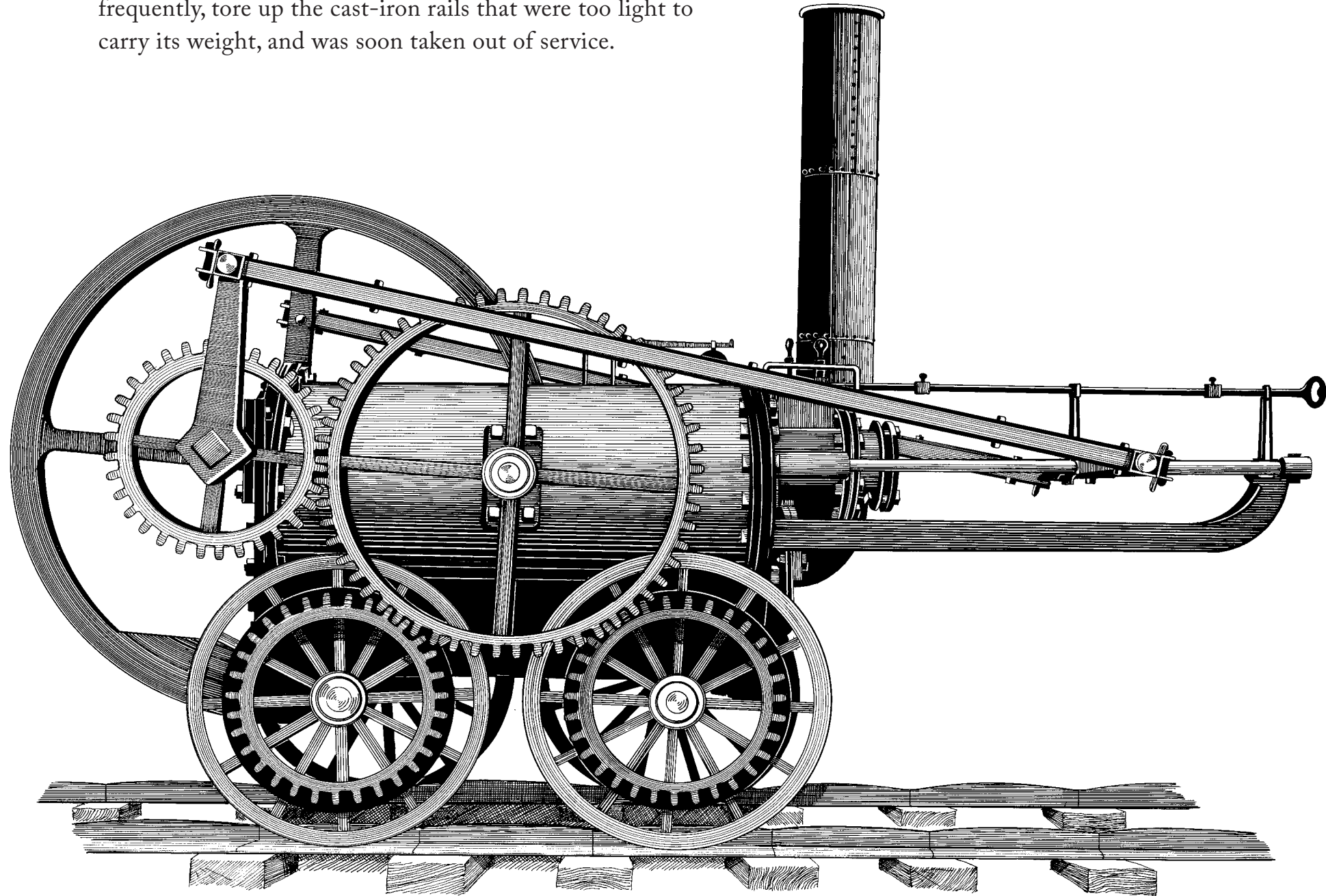
Robert grew up with steam power. In 1825, his father, Colonel John Stevens, had made a full-size locomotive that he ran around an oval track on the grounds of their home in Hoboken. That same year the Stevenses received a charter to form the Camden and Amboy Railroad and Transportation Company, connecting Philadelphia and New York, America's two most populous cities.

Americans need better transportation. Factories and farms are producing goods faster than they can be moved. The system of canals and turnpikes was a good start. But canals freeze and roads turn to mud in the winter. Ponderous freight wagons drawn by teams of horses lumber along rutted roads, taking weeks to get anywhere. And the expense! Shipping a bushel of wheat from Buffalo to New York City—about four hundred miles—ends up costing three times its market value.

If the *United States of America* is to become a fact rather than just a dream, then somehow people living in far-flung cities, towns, and farms spread across immense states and territories will have to be brought together. Railroads make that promise.

So Robert Stevens is on his way to Newcastle, England, and the shops of Robert Stephenson and Company. He has a lot of time on the month-long voyage, so he takes out his jackknife and begins whittling on a block of pine provided by the ship's carpenter. What emerges is his design for an iron T-rail that will one day become the world standard.

The history of the steam locomotive began in England in 1804, with Richard Trevithick's marvelous clockwork engine. It must have been quite a sight, all whirring gears, spinning crank and flywheel, belching smoke and sparks from its stack, piston rods shooting back and forth almost six feet. No wonder the first locomotives were called "fiery chariots." But while fun to watch, Trevithick's locomotive was slow—five miles per hour tops—broke down frequently, tore up the cast-iron rails that were too light to carry its weight, and was soon taken out of service.



The modern locomotive began with the *Rocket*, built by George Stephenson and his son, Robert, who since the age of nineteen had worked with his father on locomotive design and construction, becoming an expert. Not only was the Stephensons' design marvelously simple—instead of gears, the pistons drove the wheels directly through connecting rods—but the *Rocket* reached a speed of nearly thirty miles per hour! No one in all of history, up until that time, had ever traveled that fast.

