



VICTORIAN INVENTIONS

1: THE CRYSTAL PALACE

JOHN RUSSELL: It was the biggest thing any of us had ever imagined. A huge exhibition. 15,000 companies exhibited their work. Whole railway engines were in there; huge, hefty pieces of machinery, and tiny, delicate pieces of jewellery. And it came from all over the world. One famous visitor wrote: "It seems as if only magic could have gathered this mass of wealth from all the ends of the earth." It wasn't magic - it was hard work. And I should know; my name's John Russell and I was one of the people who organised it...

But what really did look like magic was the building itself...it was huge...and it was all glass...and it was beautiful. The Crystal Palace they called it...

But there was nothing beautiful about the how the Crystal Palace came to be built. The fighting started when I read an article in a magazine and showed it to the organising committee...

J RUSSELL: Good morning to you, gentlemen...

I'd come to meet two distinguished men: Sir George Airy, a leading scientist of the day -

SIR GEORGE AIRY: Good morning, Russell.

J RUSSELL: - and the famous engineer, Isambard Kingdom Brunel -

ISAMBARD: Morning, Russell.

J RUSSELL: Just take a look at this - *The Illustrated London News*. A Mr Joseph Paxton clearly thinks he has a better idea for the exhibition building than the one we have designed.

SIR GEORGE AIRY: Who is this Paxton?

ISAMBARD: According to this, he's a gardener.

SIR GEORGE AIRY: A *gardener*?

ISAMBARD: Says here that he's built many greenhouses.

J RUSSELL: And his design is, really, a big greenhouse, built of glass and iron.

SIR GEORGE AIRY: You can't build something of the size we need out of glass and iron.

ISAMBARD: Well, Sir George, Mr Paxton disagrees. And he claims he can build it in 6 months.

SIR GEORGE AIRY: A building this size will take years, however you build it.

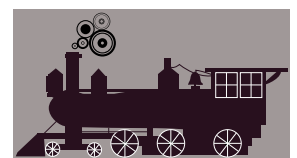
ISAMBARD: This Mr Paxton disagrees.

SIR GEORGE AIRY: Mr Paxton, the gardener, disagrees.

J RUSSELL: I could see what Sir George meant. No-one had ever built anything bigger than a greenhouse from iron and glass! But, the public, who were paying for the new building, liked Mr Paxton's idea, and so, in the end, we were forced to accept it...and building began.

But Sir George was still opposed to the new design...

SIR GEORGE AIRY: You know, Mr Brunel, we should abandon the exhibition now.





ISAMBARD: How so, Sir George?

SIR GEORGE AIRY: This building will not stand up. We'll look complete fools.

J RUSSELL: Mind out gentlemen, here comes Mr Paxton...

PAXTON: Ah, Mr Brunel, Mr Russell...and Sir George!

ISAMBARD: Mr Paxton. Good morning.

SIR GEORGE AIRY: Mr Paxton, can you explain how you intend to construct something of this size out of metal that will bend...and glass that will break?

PAXTON: Sir George, you must know that iron can be both light and strong. Mr Brunel, here, has shown us that. His ship *The Great Britain* is made of iron...and I haven't heard that she has sunk. Has she, Mr Brunel?

ISAMBARD: Indeed, she has not, Mr Paxton.

SIR GEORGE AIRY: But you haven't even cleared the ground. What about those trees? Why are they still there?

PAXTON: They will stay. Because the building is glass, they will live happily inside it.

J RUSSELL: When the building was finished, it was so big that the trees inside looked like mere pot plants. It was opened by Queen Victoria herself, at a magnificent ceremony, with thousands of people, and a huge orchestra...

ISAMBARD: Sir George, you can't still think that the choice of iron and glass was wrong, can you?

SIR GEORGE AIRY: I certainly can, Mr Brunel. When the orchestra strikes up, I fully expect the glass to shatter.

J RUSSELL: It would appear you are wrong, Sir George.

ISAMBARD: Just look around you. Our brick building would have been dark and gloomy; but this is all light. The iron pillars as so slender, the arches so elegant, they hardly look as if they're there at all. It's a triumph of mathematics. They call it 'The Crystal Palace'. And quite right too.

SIR GEORGE AIRY: Mr Brunel, you disappoint me! I didn't think you'd be impressed by all this glitter.

ISAMBARD: I tell you, Sir George, the next building I design is going to look very like this.

J RUSSELL: And it was. Mr Brunel's next building was the London terminus for the *Great Western Railway*: Paddington Station. All glass and elegant iron pillars reaching to the sky. Another 'Crystal Palace'.

