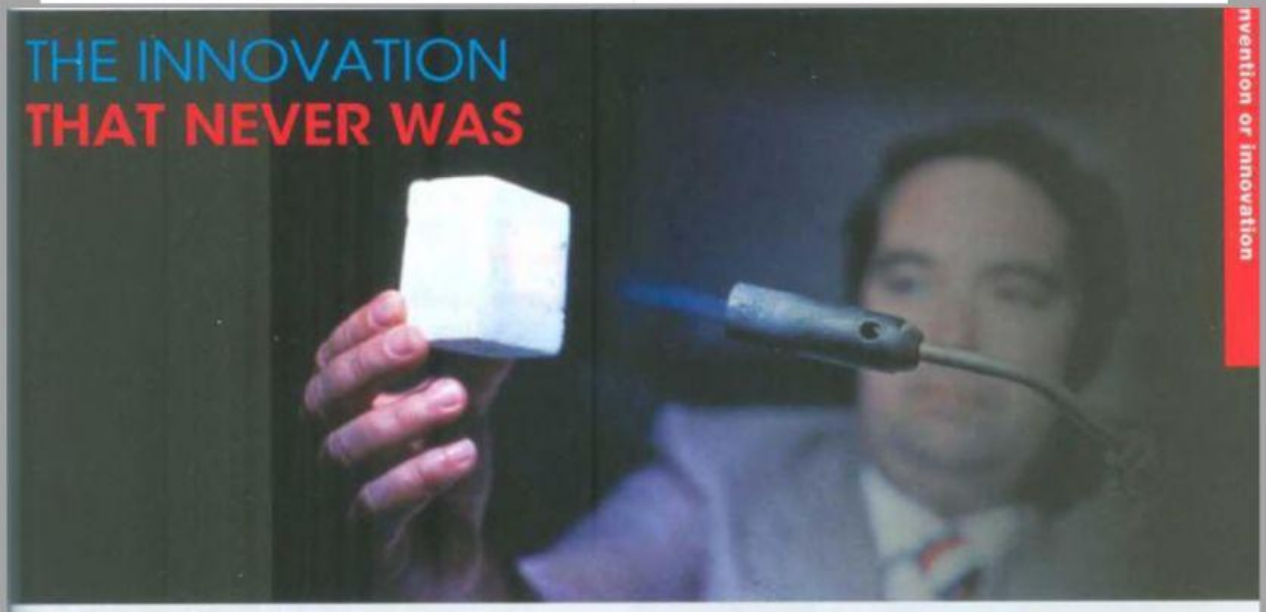
Read the article. Which of these problems did Maurice Ward face converting his idea into a commercial success?

a getting the funds to develop the idea
b protecting the idea from imitators
c finding others who believed in the potential of his idea
d something else

Read the article again. Find information in the article that supports these statements.

1 There are many obstacles to getting inventions adopted.
2 Maurice Ward was a man who liked to experiment.
3 Starlite was a 'wonder material'.
4 The possibilities for Starlite seemed limitless.
5 Maurice Ward exhibited the natural protectiveness of an inventor.
6 His secret did not die with him.

THE INNOVATION THAT NEVER WAS



The path which each invention must take from initial conception to licensing to full-scale adoption is never easy. Standing in the way is the scepticism of the research community, the claims of other inventors and last, but not least, the protectiveness of the inventor himself. No case illustrates this better than the story of Maurice Ward, the creator of the wonder material, Starlite.

Maurice Ward and his family ran a ladies' hairdressers in Yorkshire, England. Ward was a tinkerer by nature and liked to mix his own hair dyes and products, claiming that they were more effective than the products supplied by cosmetics manufacturers like L'Oréal and Garnier. In the 1980s his tinkering found a new outlet when he bought an industrial extruder – a machine that forms plastics – and began experimenting with making different types of sheet plastic. Then in 1985 something happened which was to change his life.

A British Airtours plane bound for Corfu caught fire at Manchester Airport just before it took off. Although the plane was still on the ground, the results of the fire were devastating: within forty seconds, 55 of the people inside had suffocated from smoke and toxic fume inhalation. Ward determined that he would make a material that would be much more fire-resistant than the plastics from which the interior was largely constructed. He began trying out different mixtures in a kitchen food blender. When he found a formulation that looked promising, he would extrude it into sheet form and then test its fire resistance with a blowtorch. The results got better and better until finally he hit on a material that would resist temperatures of 2,500° Celsius, not give off toxic fumes and still remain cool enough to be touched. Starlite was born. In one demonstration (still viewable on YouTube) Ward heated an egg coated with Starlite with a blowtorch for five minutes and then cracked the egg open to reveal its insides, cool and uncooked.

A world of opportunity opened out before Maurice Ward: the best fire-resistant clothes ever seen, safer planes and buildings, shields for military vehicles, applications for rockets and space travel. The possibilities were endless. And he, the inventor, would be wealthy beyond his wildest dreams. Early negotiations with various companies – ICI, Boeing, BAe and NASA – demonstrated that its properties were even more amazing than first thought. When fired at with a military laser, it was found that Starlite could withstand a heat flash equivalent to that in a nuclear explosion. Yet here we are, thirty years on, and Starlite is still an unpatented and unexploited material. So what went wrong?

Naturally, Ward kept the formula a secret. He never wrote it down, only telling the exact proportions of its 21 ingredients to a few of his closest family members. He refused to apply for a patent, since that would involve revealing its composition. No one else was allowed to analyse it, nor was any company given a sample for fear that they might reverse-engineer it. In themselves, these factors might not have precluded a deal, but the talks with Boeing and NASA foundered on Ward's unacceptable demands. He refused to sign confidentiality agreements and he insisted on retaining majority control (51 per cent) of the product in any deal.

Consequently, no deal was ever struck and in May 2011 Maurice Ward died. It would be incorrect to say that he took his secret to the grave because some of the family still know it, but he certainly took his own dreams of personal wealth and fame with him. Why? Was it greed? Was it that, as an amateur, he felt a lack of respect from the scientific community? Or was he simply too protective of his idea to bring himself to share it with others? We may never know. What is certain is that his loss is the world's loss too.

LIVEWORKSHEETS