

THE INVENTIVE IDEAS OF WILLIAM KAMKWAMBA

MALAWI

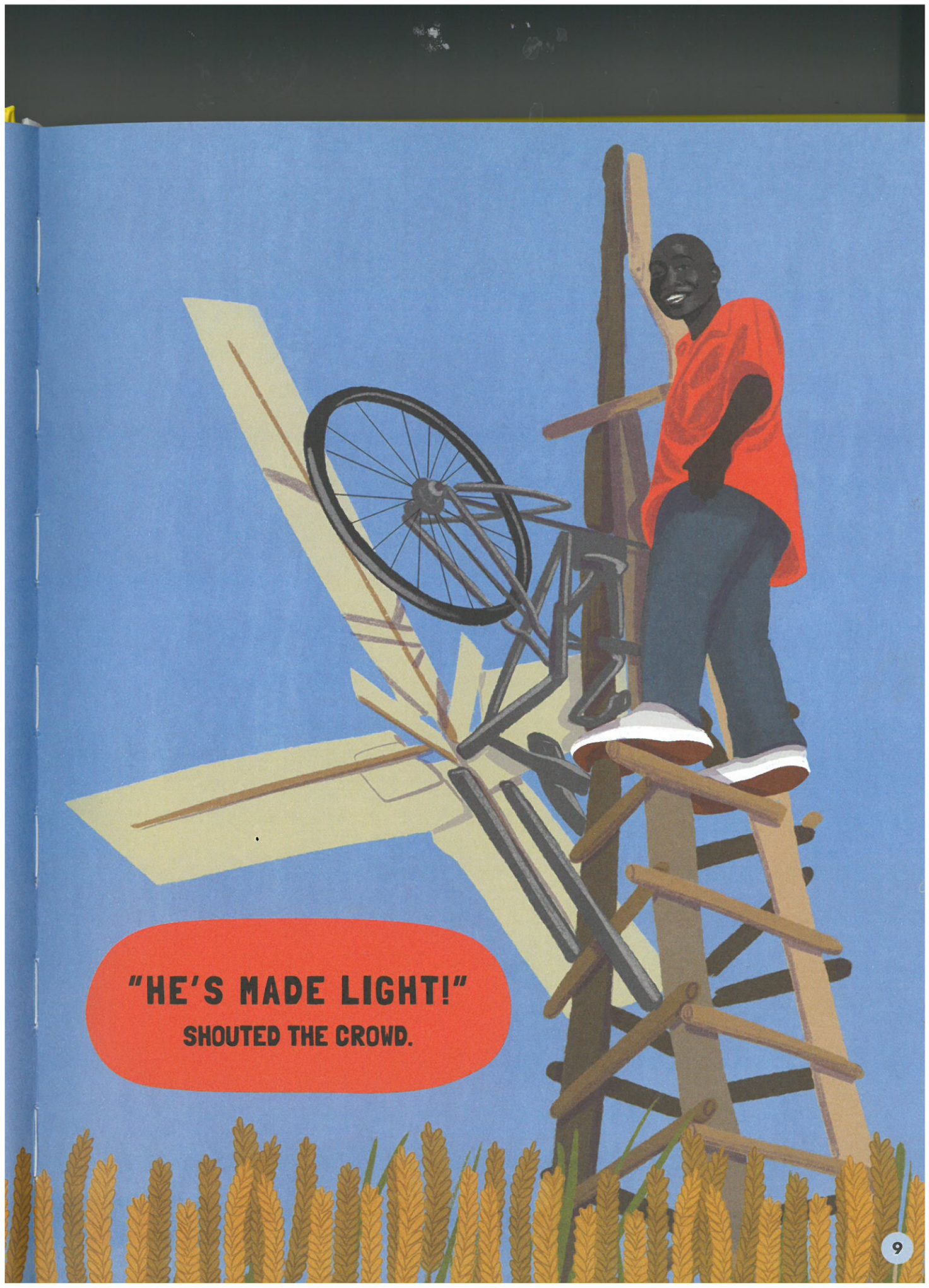
William balanced on top of the tower that he had built from wood and bamboo. It was a strange-looking contraption. It had an old bicycle wheel attached to the top, a large fan alongside it and various other machine parts. A gust of wind blew and the fan's blades began spinning around. William held up a light bulb that was attached to the machinery. The bulb flickered and died. Then it lit up brightly.

"He's made light!" shouted the crowd, which had gathered below to watch this crazy boy. They were right. William had made electricity. But how?

A few months before, 14-year-old William Kamkwamba had been sitting in the library, trying not to think about how

hungry he was. This wasn't an everyday kind of hunger – this was starvation. The maize harvest had failed in Malawi that year and there was hardly anything to eat. People were starving, selling anything they could just to buy a few grains. Nobody had food or much money. William went to the library to learn because his family could not afford to pay his school fees.

A book called *Using Energy* caught William's eye. He'd always been interested in how things worked and had spent hours fixing old radios. On the book's cover was a picture of tall, grey towers with large, spinning blades. William was intrigued. He flipped through the pages to find out more. These machines were called wind turbines and they used the energy from wind to make power. This was exciting!



**"HE'S MADE LIGHT!"
SHOUTED THE CROWD.**

If William had a windmill, maybe he could make electricity to light the dark nights in Malawi. He might be able to pump water to the fields to help to grow the crops. Electricity would be the answer to many of his family's problems.

William set to work straight away. He knew what he wanted to make, but finding the right materials was difficult when there were only bits of scrap around. He used lots of different things: a washing line, an old bicycle frame, plastic pipes. William heated and flattened the pipes, then cut them into blades for the windmill.

It took him a long time to gather everything he needed but, after several months of hard work, he had finally built his windmill.

THE MOMENT WHEN HE PRODUCED LIGHT FOR THE FIRST TIME WAS INCREDIBLE!

The windmill was able to power four lights and two radios in his family home. Soon, everyone in the village wanted one.

William's windmill got him a lot of attention. He was invited to speak at a TED conference about his idea – and about his dreams of building a bigger windmill to help the village. His speech was a great success and he got lots of help and advice from the people he met at the conference.

Since then, William has been working on many projects for his area. Lots of them are sustainable, including solar power and lighting for several homes, a deep-water well with a solar-powered pump for clean water and an irrigation system for crops. William is full of bright ideas. His inventive thinking shows that something huge can be achieved from very little.

WHERE IS HE NOW?

William's story is told in his book, and the film of the same name, *The Boy Who Harnessed the Wind*. He is now working on a project that encourages young people to follow in his footsteps and create something practical to improve their lives and that of their community.

HOW TO BE AN INVENTOR

1. Look at the world around you and find a problem that needs solving.
2. Be creative! Use your imagination to think differently about the way things work.
3. Keep a book in which to make notes and sketches of your ideas.
4. Make a prototype. This is a working model of your idea.
5. Test your idea out. Ask family and friends what they think.
6. Make your product! Do some research and ask an adult to help you to contact companies that might be interested in producing it.

GREEN MEASURES IN YOUR OWN HOME

Here are some simple things you can do to be more environmentally friendly.

- **Use less water.** Take shorter showers and definitely don't leave the water running while you brush your teeth.
- **Think about how you get around.** If you can, walk or cycle to where you need to be. If you need to use transport, get a bus or share the car journey with friends.
- **Remember to save electricity whenever you can.** Turn lights off when you leave the room and use energy-efficient modes on your devices.

ANN MAKOSINSKI

CANADA

Ann Makosinski invented a thermoelectric torch when she was just 15 years old. The light is powered by the heat of the hand that holds it. She was inspired to create it after hearing that a friend in the Philippines was struggling to study because she couldn't afford to pay for electricity after it got dark in the evening.