

- 6 The Reader Page
- 8 Calendar
- 10 PM Everywhere

HOW YOUR
WORLD WORKS

- 13 A helmet that gives fighter pilots X-ray vision
- 18 The shared element in body scanners and rainbows
- 20 Why your deodorant has a shelf life
- 22 **Things Come Apart:** Rowing machine
- 24 **Applejack:** The return of a classic American spirit
- 26 Great Unknowns

KNOW-HOW

- 29 The best new products for your home and garage
- 36 **Tool Test:** Wood chippers and tubing cutters
- 40 Shop Notes
- 42 How to stay "Made in the U.S.A."—and still stay in business
- 45 **Getting Started in:** Canning and pickling
- 48 Ask Roy

DRIVING

- 53 How to put the sun in your gas tank
- 56 Are data apps for your car worth it?
- 58 **Reviews:** New rides from Mercedes, Honda, and Ferrari
- 60 My Ride: A Porsche worthy of a childhood poster

THE LIFE

- 63 **The Montana Range**
The city-kid-turned-rancher running an environmental experiment in Montana

PROJECT

- 101 **A Kid's Bed**
How an Ikea meltdown inspired a one-of-a-kind bed
By Chad Stokes

POPULAR MECHANICS
FOR KIDS

- 106 Make battle bots with a toothbrush!

STUPID OR AMAZING?

- 112 Online voting
By Mark Warren

COVER
STORY

70

THE RIGHT KIND
OF CRAZY

NASA's Jet Propulsion Laboratory is behind almost every amazing first in the history of space travel. And behind JPL are 3,000 engineers and 500 scientists. Meet the robot-building, Mohawk-wearing, mad scientists who are going to get us to Mars—and the toys they're going to do it with.

BY JACQUELINE
DETWILER

78

AMERICA'S BEST
HARDWARE STORES

An abridged survey of the places we turn to when in doubt and in need. While we ostensibly visit hardware stores for paint, spare keys, birdseed, and hammers, we're at the best ones for something else, too: solutions.



86

WHAT'S SO TERRIFYING
ABOUT THE CLOUD?

If you've ever sent an email attachment using Outlook, streamed a movie on Netflix, or posted a picture to Instagram, you've put data into the Cloud. Now it's time to actually understand it. And learn to use it better.



94

SAWDUST &
SWEAT & SUNSHINE &
MUSIC

Matt Artinger builds beautiful—and beautiful-sounding—custom guitars for a living. He also crafts works of art from World War II bombers and .45-caliber bullets. Both, it turns out, are the same thing.

BY KENDALL HAMILTON