National Gallery for America’s Young Inventors
1998
ADAM COHEN

HOME: NEW YORK, NY
SCHOOL: HUNTER COLLEGE HIGH SCHOOL
AGE: 17
INVENTION: THE ELECTROCHEMICAL PAINTBRUSH

ADAM E. COHEN HAS LONGLY DREAMED OF A CAREER AS AN INDEPENDENT INVENTOR, AND HE IS WELL ON HIS WAY TO MAKING THAT DREAM COME TRUE.

AND WHEN HE WAS TRL, HE BUILT AN ALARM CLOCK THAT WOULD AWAKEN HIM BY PLAYING A PERSONALIZED MESSAGE OF HIS CHOICE.

ADAM VISITED PRINCETON UNIVERSITY WHEN HE WAS FIFTY. THERE HE WITNESSED A DEMONSTRATION OF A SCANNING TUNNELING ELECTRON MICROSCOPE.

THE ELECTROCHEMICAL PAINTBRUSH.

...AND PROMPTLY WENT HOME AND BUILT ONE OUT OF LEADC. ADAM THEN PROSPECT TO FASHION HIS ELECTRON MICROSCOPE INTO...

THIS AMAZING DEVICE "PAINTS" MICROSCOPE LINES OF COPPER SO SMALL THAT IT CAN FORM 50 WORDS SIDETO-SIDE IN A SPACE THE WIDTH OF A HUMAN HAIR. THIS IS SIXTEEN TIMES SMALLER THAN COPPER LINES PRODUCED BY DEVICES PRESENTLY USED TO FABRICATE MICROCHIPS.

THE INCREDIBLE INVENTION WAS AWARDED 1ST PLACE IN THE 1997 WESTINGHOUSE SCIENCE & TALENT SEARCH, AND 3RD PLACE IN THE INTERNATIONAL SCIENCE AND ENGINEERING FAIR.

WHILE THE ELECTROCHEMICAL PAINTBRUSH IS BEING PATENTED, ADAM IS STUDYING PHYSICS AND CHEMISTRY AT HARVARD UNIVERSITY.

ILLUSTRATOR: PHIL ROSE

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 STORY: L. GRANT
JEREMY KISER


EVEN AS A TODDLER, JEREMY KISER DEMONSTRATED HIS FONDNESS FOR ORDER AND STRUCTURE BY SPREADING MUCH OF HIS TIME CREATING ROWS OF RAISINS ACROSS THE KITCHEN FLOOR.

WHEN JEREMY WAS 17, HIS_uncleuggested the need for more effective safety devices at train intersections to prevent collisions with cars and buses.

JEREMY SOON PROGRESSED FROM USING RAISINS TO MAKE PATTERNS ON UNCOVER TO USING A PENCIL AND PAPER TO PRODUCE ART. JEREMY'S TALENTS ARE NOT LIMITED TO ART, HOWEVER, HE IS ALSO A TAUGHTER WRITER AND INVENTOR.

THIS GAVE JEREMY THE IDEA FOR THE GUARDIAN ANGEL - AN INVENTION COMPRSISED OF TWO SIMPLE PARTS: AN INEXPENSIVE RADIO TRANSMITTER INSTALLED IN TRAINS, AND A RECEIVER INSTALLED IN BUSES AND CARS.

WHEN A VEHICLE APPOACHES A TRAIN TRACK, THE TRANSMITTER SIGNALS THE BUS OR CAR IF A MOVING TRAIN IS WITHIN A DISTANCE OF ONE-FOURTH OF A MILE.

THE GUARDIAN ANGEL RESERVED 2ND PLACE HONORS IN THE 1997 LUST/PUARGERELL SCHOLARSHIP AWARD PROGRAM.

SEVERAL INDIVIDUALS IN STATE GOVERNMENT HAVE EXPRESSED INTEREST IN INSTALLING THESE DEVICES IN TRAINS AND BUSES. JEREMY IS PRESENTLY DEVELOPING HIS INVENTION TO INCLUDE BOTH A STONGER AND A NOICE WARNING SYSTEM.

JEREMY IS UNCERTAIN WHAT HE WILL DO IN LIFE, BUT PLANS TO PURSUE A CAREER IN ART, LAW, OR ENVIRONMENTAL SCIENCE.
Ariel's parents first recognized their son's problem-solving ability when he began to unravel a jar lid at the age of 6 months.

But Ariel soon moved from taking things apart to putting things together.

Over the next several years, he generated a string of inventions, including everything from a cherry picker to a better toilet plunger called the "Thunder Plunger."

These scissors are equipped with a protractor that allows the user to easily cut precise angles and depths without having to use a pencil.

While doing a geometry assignment that required cutting specific angles from a sheet of paper, Ariel got the idea for the calibrated angle and depth scissors.

The calibrated angle and depth scissors won first place at the 1997 Grapermenta Young Inventors Award Program.

Ariel and his family were flown to Sears headquarters in Orlando where Bob Villa personally presented the award.

Ariel plans to attend college and study engineering in order to fulfill his dream of going into space as a civilian astronaut.
Karen Mendelson was born in Cleveland, Ohio, and moved to Massachusetts when she was two years old.

At the age of three, Karen's nursery school teacher told Mrs. Mendelson to buy some books for her because she was already starting to read on her own.

When she was in sixth grade, Karen did a science project on fiber optics. She was later invited to present her project at City Hall.

In 10th grade, Karen read about victims of carbon monoxide poisoning. This occurs when fuels are burned in enclosed spaces and can cause flu-like symptoms, often resulting in death.

Karen's battery-powered invention can quickly measure carbon monoxide poisoning by measuring light transmission through blood that is drawn from a pin prick.

Her device won Karen 2nd place at the Intel International Science and Engineering Fair in 1997 and was then featured on NBC, as well as in Business Week and Popular Mechanics.

The next year, she won 1st place at the Intel Science Fair for inventing a device that can measure hemoglobin without drawing blood from the patient.

Karen is one of only two students from the U.S. invited to visit Stockholm for the awarding of the Nobel Peace Prize. Karen plans to attend college and earn a Ph.D. in medical research.
BRIAN SCHREYER


THOUGH BRIAN SCHREYER CLAIMS TO BE JUST AN AVERAGE TEENAGER, HIS ACCOMPLISHMENTS ARE ANYTHING BUT AVERAGE.

ASIDE FROM BEING AN ABOVE-AVERAGE MUSICIAN, HE IS ALSO AN ACCOMPLISHED SAILOR, AND WORKS PART-TIME AS AN EMERGENCY MEDICAL WORKER WHERE HE HAS USED CPR TO SAVE LIVES.

FOR BRIAN, THE DEFINING MOMENT IN HIS LIFE WAS HIS EXPERIENCE WITH AN OUTWARD BOUND EXPEDITION WHEN HE MADE A THREE-WEEK TREK THROUGH THE ROCKY MOUNTAINS.

ONCE, WHILE ASSISTING A VICTIM OF AN AUTO ACCIDENT, BRIAN NOTICED THAT THE POLICEMAN ON THE SCENE HAD TO SPEND HIS TIME DIRECTING TRAFFIC RATHER THAN ASSISTING WITH MORE URGENT MATTERS.

THIS GAVE BRIAN THE IDEA FOR A PORTABLE TRAFFIC SIGNAL THAT LAW ENFORCEMENT COULD USE UNDER EMERGENCY CONDITIONS.

HIS INVENTION, THE EMERGENCY TRAFFIC SIGNAL, WAS AWARDED THIRD PLACE IN THE 1995 GURAGELFSTA SCHOLARSHIP AWARD PROGRAM.

DUE TO THE INFLUENCE OF HIS EMERGENCY MEDICAL WORK, BRIAN CREATED A SECOND POTENTIALLY LIFE-SAVING INVENTION — THE HEL-P (HIGHWAY EMERGENCY LINK TO THE POLICE) WHICH WON THE 1995 INTEL SCIENCE TALENT SEARCH. BRIAN PLANS TO PURSUE A CAREER IN EITHER MEDICAL SCIENCE OR LAW.

ILLUSTRATOR: PHIL ROSE

STORY: L. GRAND

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BRANDON WHALE

He is also a very gifted artist and the illustrator of his school newspaper.

In 1995, Brandon's mother received a pacemaker implant. Afterwards, she had to provide frequent checks to the hospital via a telephone monitor by connecting sensors to her wrists.

Brandon prepares sealed plastic packages containing small electrolyte-soaked sponges. He also improved the wristbands to provide a tighter fit.

These sessions were very time consuming because the sensors were too loose and they did not provide a solid electrical connection.

Brandon's research revealed that PEDIVYTE™, a common children's medicine, contained electrolytes which help improve electrical conductivity. Fortunately, he had used PEDIVYTE to treat his pet lizard, so he still had some on hand.

Brandon's improvements have made the lives of many pacemaker users much simpler.

In 1998, Brandon's invention won the student ideas for a better America competition.

Brandon's story has been reported in countless newspapers and magazines. He has also appeared on Home Improvement, Family Guy, and The Rosie O'Donnell Show.

Brandon has also formed his own company, Pedivyte, to provide other pacemaker users with these upgrades.