



Ariella Hirsch Earns Gold Award with Project, “Helping Hands for Veterans”

Simi Valley Girl Scout invents articulated arm for wheelchair users

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When Ariella Hirsch was selling Girl Scout Cookies outside of a local grocery store, she noticed a man in a wheelchair carrying his plastic grocery bags clenched in his teeth as he wheeled to his car. She wondered how uncomfortable that must be and thought that there must be a better solution for people who use wheelchairs.

"Since electric wheelchairs are not easy to get, many need a second person to load and unload groceries or any packages that need to be carried, thus limiting a person's independence. A pushchair is more portable, but [you have to] carry items on the back of the chair, which the user cannot easily access," said Ariella.

This 16-year old Girl Scout decided she wanted to invent an articulated arm that could carry items while remaining accessible by the wheelchair user. The device would have a handle to carry bags and attach to the back of the chair, allowing the user to swing it around to the side while shopping. They could then rotate the arm back behind them with a small motion and get the carried items out of the way. She would call the invention the “Helping Hand.”

Ariella enlisted the help of Bob Martinez from the Ronald Reagan Marine Corps League Detachment #597 to develop a project plan. They discussed construction materials, searched if similar products existed online, and created a timeline. Ariella also reached out to Kellee Bartha, an engineer from L3, and Sadia Teranova, a biomedical engineer from Amgen, to consult on the device's design. While attending a concert held by the Veterans of Foreign Wars (VFW), Simi Valley Post 10049, Ariella spoke with veterans about her project and how it might impact the organization's members.

Ariella wanted individuals with basic construction skills to be able to easily recreate her prototype at home, so she developed a website, www.helpinghand4vets.com, with



downloadable step-by-step instructions. For materials, she settled on PVC pipe, which is low in cost and can be purchased at any local hardware store. “I wanted it to be easier than building with Legos,” she said. After testing some modifications, she built a unit from scratch and updated her DIY kit instructions with each step.

“The Helping Hand will live on with the help of the VFW and other Veteran organizations that will have access to my website and free do-it-yourself downloadable instructions,” said Ariella. “The device is easy to build, and the parts can come off the shelf from any home improvement store. Anyone can access the site, and I plan to make kits to send out to some veteran support groups so that they can distribute a few pre-made Helping Hands.”

The finished product that Ariella created with the help of her team can hold 12 pounds of weight, which could include a gallon of milk and some other typical grocery items. She also made a short video presentation for service groups and Veterans organizations interested in recreating her product and applied for the patent of her invention.

“Often wheelchair users only have a backpack or a small mesh bag on their wheelchair, and neither is easily accessed by the user,” Ariella said. “With the Helping Hand, people in wheelchairs have access to everything they are carrying. So, everything is in reach, and both hands are free!”

To learn more about the Gold Award and the Girl Scouts that are making a difference in your community and the world at large, visit [here](#).

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About Girl Scouts of California's Central Coast

Girl Scouts of California's Central Coast serves over 8,800 girls across six counties and is committed to making the Girl Scout Leadership Experience available to girls in ways that impact their lives both in the moment and into the future. Girls participate in troops, individual projects, council events, day camps, resident camps and more. A variety of leadership, outdoor skills, and Science, Technology, Engineering, and Math (STEM) based programs and events provide girls with opportunities to learn and explore in fun and informative ways. To join or volunteer in Santa Cruz, San Benito, Monterey, San Luis Obispo, Santa Barbara or Ventura County, visit: <http://www.girlscoutscoc.org>.