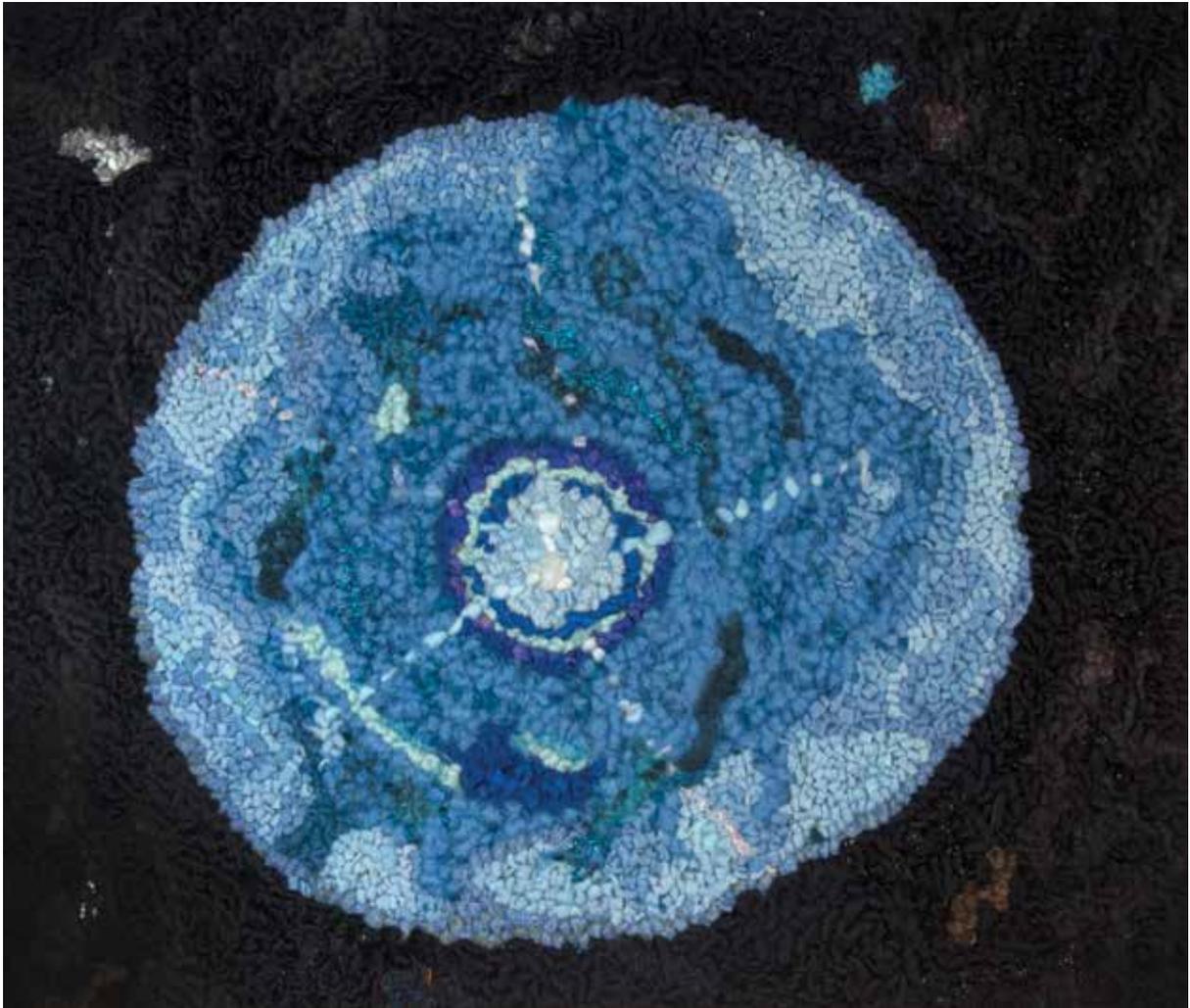


# A Pathway to the Stars through Science and Art

## HOOKING THE SOUTH POLES OF OUR SOLAR SYSTEM

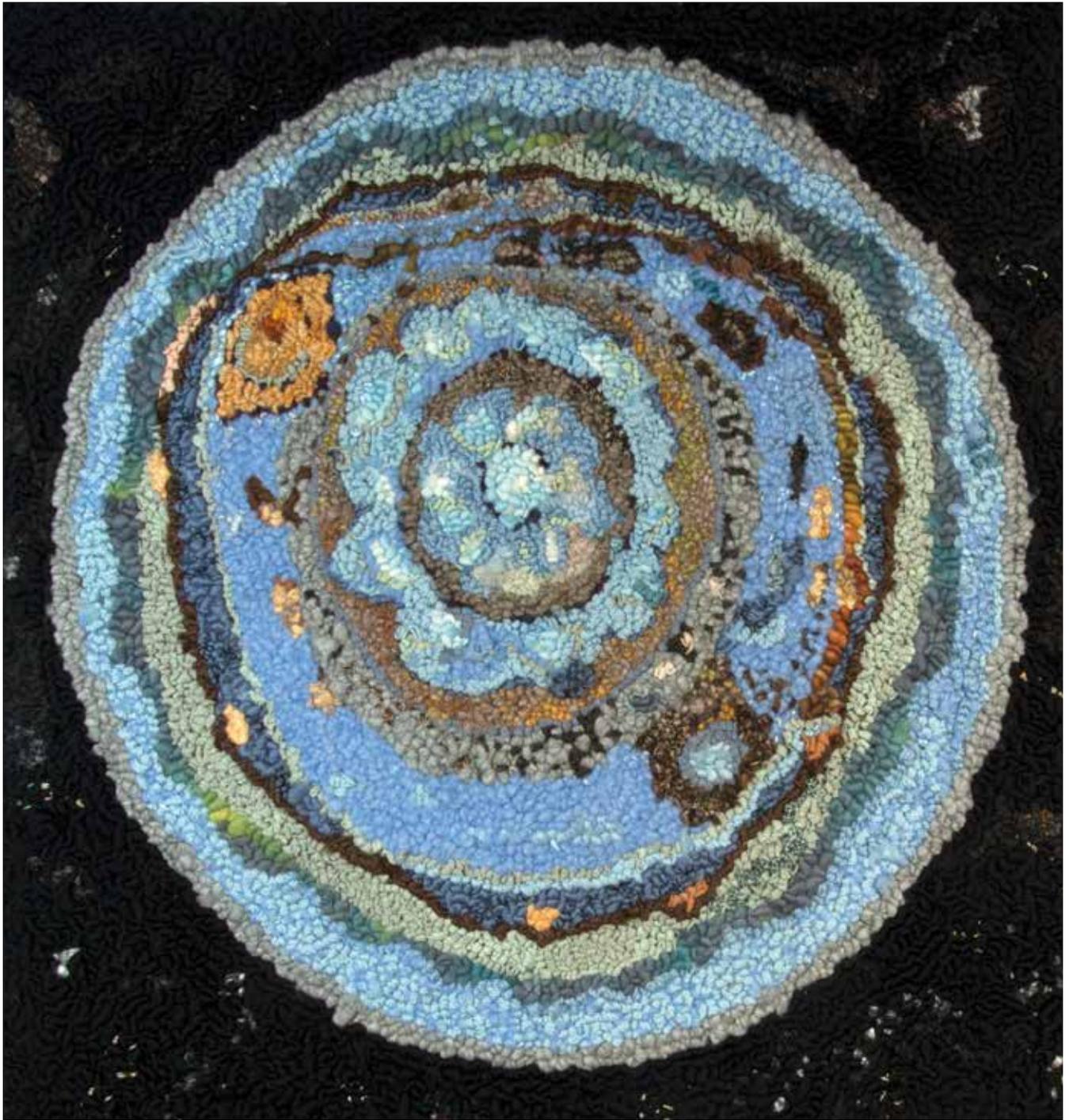
BY SUSAN GABY-TROTZ



**South Pole of Neptune**, 20" x 17". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Images from Voyager 2 Space probe 1986. Designed and hooked by Susan Gaby-Trotz, 2017.

*Methane, hydrogen, and helium gases give the planet its blue color. Uranus is in the background.*

A dear friend once told me that I was a knitter of ideas and people. I love that image: taking strands of colorful thoughts and weaving them into something that makes people think and see differently. This idea was at the core of my 40-year teaching career where I melded literature, art, science, and mathematics into exciting units of study. My project of hooking the south poles of the planets in our solar system is the latest example of my life as a knitter of things I love.



**South Pole of Jupiter, 27" x 26".** #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen.  
*Images from the Cassini space probe NASA 2000. Designed and hooked by Susan Gaby-Trotz, 2017.*

People ask how I came up with the idea of pairing the south poles of the planets with rug hooking. It all began one sleepless night as I was passing time on my tablet. An image of the south pole of Jupiter, taken by the Cassini space probe, passed by my news feed. The image was marvelous with its lacy scallops of sharp blues and soft corals encircling Jupiter's south pole.

My imagination caught fire. I wondered if there were other images of the south poles of our planets. A quick search revealed

hundreds of thousands of images taken by unmanned space probes as they whizzed around the planets over the past 30 years. I was off on my own voyage of discovery.

I sifted through scientific data and chose a variety of the space probes' images. Mercury's south pole is a topographical representation showing the craters made as meteors crashed into the planet. Venus has two howling vortices, while Mars has a calm ice cap that looks like a lotus flower. But could I trans-



**South Pole of Saturn, detail.**  
 28" x 19". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Images from Cassini spacecraft NASA 2004 with near infrared colors. Designed and hooked by Susan Gaby-Trotz, 2017.



**South Pole of Uranus and the Milky Way, detail.** 32" x 18". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Images from Voyager 2 spacecraft, 1986. Designed and hooked by Susan Gaby-Trotz, 2017.

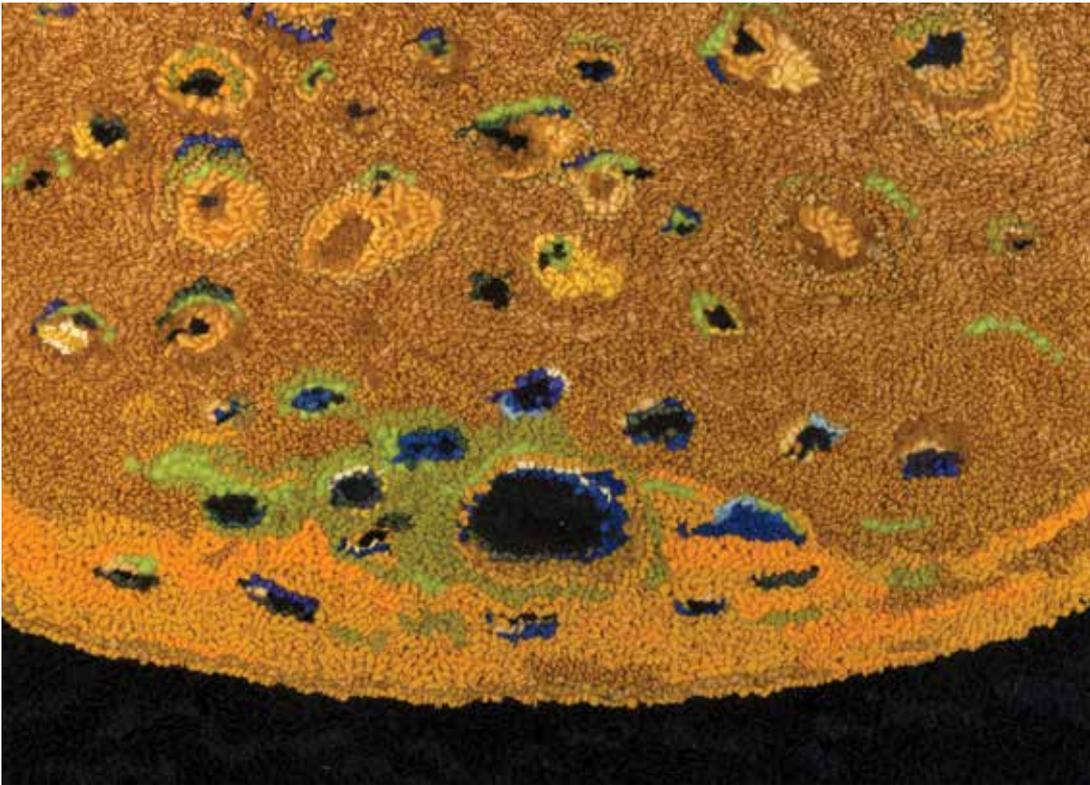
*This is the view of the Milky Way from the Hubble Telescope and from Earth's International Space Station. Neptune can be seen in the distance.*

late the scientific data into pieces of art that were true to both disciplines?

In all areas of my life, my creative thinking comes in visceral bursts. I feel my heart beat quickly and my energy explodes. While I was working, the majority of my creative energy flowed into my work and family. Now as a retired teacher, I have the

luxury of using that time and creative energy to percolate and develop my art. What a gift!

As I cast around for a new medium, I was drawn to the work of my great aunt Margaret Hannant, who took up rug hooking in the 1950s when she was in her late 60s. She hooked what she loved: flowers, her houses, roosters, and my favorite pine tree



**South Pole of Mercury, detail.**

25" x 19". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Images from Messenger space probe 2008. Designed and hooked by Susan Gaby-Trotz, 2017.

False color topographical map showing the impact of meteorites on the planet's surface. The sun's gravity pulls Mercury's atmosphere away from the planet.



**South Pole of Venus, detail.**

17" x 16". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Images from European Space Agency's Venus Express, 2007. Designed and hooked by Susan Gaby-Trotz, 2017.

Visible and Thermal Imaging Spectrometer (VIRTIS) shows the hot twin vortices at Venus' South Pole.



*In all areas of my life, my creative thinking comes in visceral bursts. I feel my heart beat quickly and my energy explodes.*

**South Pole of Earth**, 33" x 29". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Image from International Space Station. Designed and hooked by Susan Gaby-Trotz, 2017.

The image shows the curve of the Earth's atmosphere, Antarctica, and a partial view of the Antarctic Ocean with cloud covering. The tip of south America is visible.

that overlooked the valley at our farm.

So I set about learning the basic techniques of rug hooking from a group of rug hookers who met regularly at Martina Lesar's log cabin, north of Toronto. I fell in love with Martina's selection of hand-dyed wool fabrics and the meditation of the loop-by-loop sound of the fabric pulling through the holes in the linen. I studied online with Deanne Fitzpatrick from Nova Scotia, who freed me from the expectations of perfection and taught me to follow my heart. Both women have strong artistic practices, are generous teachers, and emphasize self-exploration of the medium: traits that appeal to me.

I am also lucky enough to live in downtown Toronto near the fabulous Romni Wools and the Knit Café. I prowl these two stores hunting for textiles that spur my imagination: gorgeous wools, imaginative synthetics, sumptuous sari silks.

Jupiter was the first rug in my "South Pole" series. I started with a rough sketch and then loosely drew the image onto linen backing. I realized that although the image was scientific, the rendering of it involved many artistic decisions. I chose colors closely aligned with the Cassini space probe's image. Just as a metaphor enriches the understanding of a poem or prose, so did the interplay of the scientific knowledge deepen the experience of looking at the rug. Although my rug is somewhat true to the data, I wouldn't want to navigate the landing of a space probe using my rug!

My next piece, Mars, had a different set of challenges and colors. The subtle rusty browns and reds of the iron oxide in the soil evoked a more moody piece. The stark whites of the frozen lotus-like icecap added life to the somber colors. I loved working quietly on this piece. I enjoyed only showing a segment of the south pole of Mars with no representation of the blackness of space. Again, by disrupting the circular nature of a planet by showing a close-up, the viewer can focus on the subtleties.

While making this piece, I decided that each of the eight pieces had to bring a different visual challenge to the viewer. I felt confident that the pixelated space images translated well into the finished hooked rug pieces.

# Woolly Woolens

... Where Color and Quality are a Priority



Birch Village, 19" x 36, \$79

- ◆ "Walls of Wool"
- ◆ Mill Dyed and Hand-Dyed Wool
- ◆ Patterns and Supplies
- ◆ Classes and Workshops



816-519-4795

[www.WoollyWoolen.com](http://www.WoollyWoolen.com)

Janice Johnson

Shop located in a county setting close to Kansas City and historic Independence, Missouri



**South Pole of Mars,**  
*detail. 18" x 18". #4- to 8-cut and hand cut wool and jersey, sari silk, wool roving, wool and synthetic yarn on linen. Image from Mars Express spacecraft, 2015. Designed and hooked by Susan Gaby-Trotz, 2017.*

*This image shows frozen water and carbon dioxide in white, dry river beds, and soil containing iron oxide.*

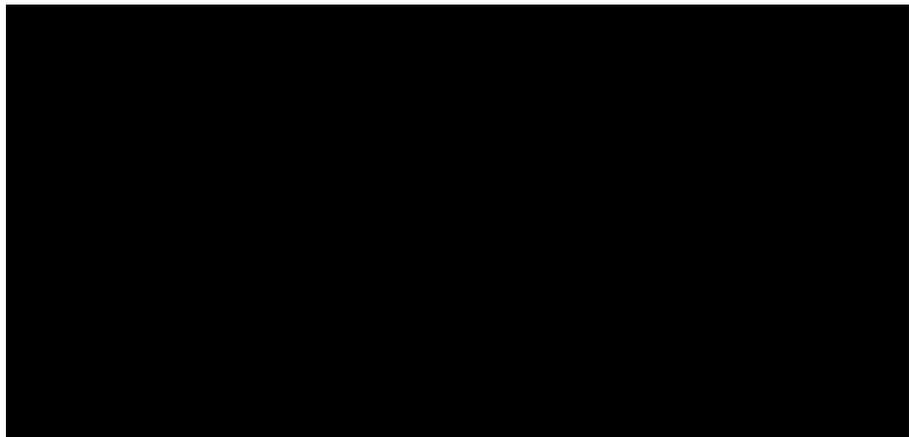
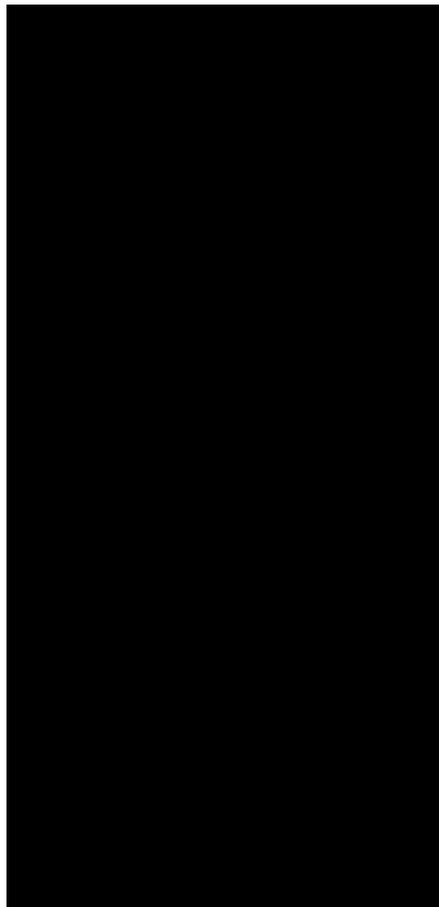
And so the process of the creation of this series went on for the next year. Over time, I experimented with using more textures and materials, especially when I showed the blackness of space. I started adding gold and silver threads to show the stars. One of my last pieces, Uranus, challenged me. The unclear space-probe images of Uranus only show a turquoise ball that rotates on its side. Here's the problem: Where was the south pole if the planet was on its side? I decided to let my imagination take flight, and to pretend that I was on Uranus looking out at our galaxy, the Milky Way. I used an image of the Milky Way, taken by the Hubble Telescope. I have no idea if the Milky Way is that colorful when seen from Uranus, but I will leave that to future scientists and artists to determine.

Here I come to one of the most important parts of my creative process in this project. I meet once a month with eight artists at the studio of Toronto artist, Betty Kaser. These women

have been practicing visual artists for many decades. They have strong academic art backgrounds, and are avid gallery goers. We have celebrated our triumphs and encouraged each other to persevere through the difficult patches. We bring our own work to the meetings, and share a collective dialogue about the work. I am the anomaly in the group as the only rug hooker; I enjoy this unique position as it makes me look at my work through the same lens as any other piece of fine art. These women have helped me to work without fear of traditional boundaries and the discussions are always respectful and pointed. When I work, I often can feel when a section of my rug feels right and when it feels "off." They have helped me develop a new artistic vocabulary as I worked on the eight planet pieces.

Now I am beginning to explore the micro world of cells to knit hard science with the art of rug hooking in a different way. I now have a whole new world to explore. **RHM**

**Susan Gaby-Trotz** lives in Toronto, Ontario, with her artist husband, Frank Trotz, their elderly cat Abby, and their collie dog, Joe, who is content to just be beautiful. She is the proud mother of two daughters, Anna and Sarah, who are both artists. Susan can be reached at her at her website: [www.susangabytrotz.ca](http://www.susangabytrotz.ca)



### Rugs by the Sea

Cape May, New Jersey



**New Dates**  
for Classes in 2019!

**Week 1: Sept. 8-13**

- Ingrid Hieronimus
- Kathy Spellacy
- Kris Miller
- Diane Stoffel

**Week 2: Sept. 15-20**

- Cammie Bruce
- Michele Micarelli
- Capri Boyle Jones
- Lisanne Miller

**Week 3: Sept. 22-27**

- Katie Allman
- Chizuko Hayami
- Lucille Festa

Visit [rugsbythesea.wordpress.com](http://rugsbythesea.wordpress.com)  
for more information

## PREMIER FABRIC CUTTING EQUIPMENT

*The Original. The Only. The Best.*



*"Becky Bee" Designed & hooked using cassettes #3 - #12  
~ by Julia Bohl of Bettendorf, IA*

Visit [www.beelinearttools.com](http://www.beelinearttools.com) or call 866-218-1590 to  
find a Distributor near you!



### Bee Line-Townsend

Fabric Cutting Equipment