

# Invaluable Assistance

by Beverly Klinck

In these days of stars and superstars, we often forget the invaluable assistance provided by those behind the scenes. For example, the important role that crutches, canes and walkers play in the lives of amputees and others with ambulatory limitations is not generally known though they are an integral part of these people's everyday lives. These assistive devices encourage independence by allowing maneuverability into places otherwise inaccessible and provide balance and support for upright body movement, thereby aiding circulation and kidney and lung function.

## History

A carving found on the entrance of an Egyptian tomb depicting a character leaning on a crutch-like staff links the crutch and cane to antiquity. Before evolving into the crutches and canes we now refer to as ambulatory aids, however, the staff was cast in many different roles. It has been used to attack and defend, has accompanied Biblical and mythological figures, church hierarchy and royalty as symbols of power and strength, has helped shepherds tend their flocks and has assisted wounded soldiers off battlefields.

In the 16th and 17th centuries, the cane (a shorter version) was an important accessory in fashion and a barometer for social status, and in the 18th century, England required cane owners to obtain licenses.

Gradually, the cane (walking stick) declined in popularity, and it is once again primarily portrayed as a helper to the sick



The Blue Keen Krutch

and injured, along with the crutch and less ancient walker.

## Modern Improvements

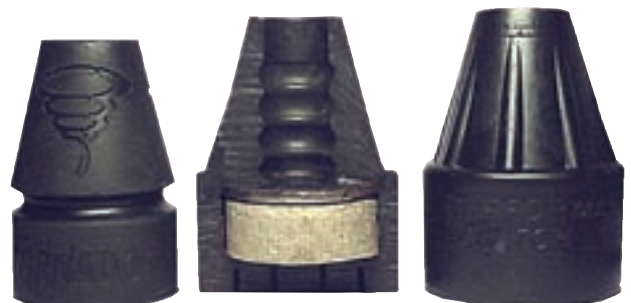
Over the years, newly developed materials and advanced technology have enabled manufacturers to provide models that weigh less and are more adaptable to individual needs including those of children. Though there are still wooden crutches and canes, and steel and titanium are sometimes used, the most popular material today is aluminum.

It is very likely that the people of antiquity would recognize today's underarm crutch as that most resembling the staff as they knew it and would be curious to

try it, the platform and forearm crutches, and the cane and walker. It is also conceivable that more recent inventions that have the potential to lessen chronic pain and prevent the accidents often experienced by long-term crutch users would impress them even more. Some of these innovations diminish the constant pressure on the upper body and/or wrists and hands that can cause damage to cartilage, bone, tendons and nerves and lead to such maladies as osteoarthritis and tendonitis; others are specifically designed to be slip resistant and more adaptable to uneven surfaces.

Among the products involved in this ongoing endeavor are shock-absorbing gel tips for crutches and canes, the Keen Krutch, the Strutter and the Sure Foot Cane.

The gel tips were invented by Thomas Fetterman, a long-term crutch user himself, the founder of Thomas Fetterman, Inc., and a member of the American Society of Inventors. Patented in 1988, the gel tips and the gel tips with rain rings are suitable for both standard and custom crutches and canes and are available in two sizes: Performance (2-3/8 inch) and Tornado (2 inch).



Tornado and Performance Tips

The tips are made from natural rubber with only 10 percent clay versus the 40 to 60 percent used in other major brands. Encapsulated in each tip is a thick pad of shock-absorbing gel that lessens the impact on the shoulders and arms. LiteStix, the 100 percent titanium customized crutches and canes on the Fetterman product list, come equipped with these.



Invacare's Offset Cane

osteoarthritis. Again declining to submit to a sedentary life, he teamed up with a life sciences major and three engineering students to construct the Keen Krutch, which was named to honor his grandfather, his staunch ally in realizing his victory.

The Keen Krutch has a contoured and padded underarm piece designed to increase blood circulation and decrease

nerve injury, fully adjustable handles to ensure a comfortable grip, a shock-absorbing spring system that reduces body stress, impact shock, and the effects of jarring, and a pivotal ankle joint that flexes and bends with the ground surface to provide stability.

Eleven years ago, a broken ankle set the stage for an ongoing drama featuring a unique ambulatory device. Harry Herman, an engineer, then in his early 60s,

was given crutches to use while his broken bone healed. He was dismayed to discover the degree of underarm pain and instability involved in their use and decided to do something about it. Nine years later he introduced the Strutter and subsequently the Sure Foot Cane to the public through Orthotic Mobility Systems, Inc.

Three of the most notable innovations of the Strutter are the foot, the underarm apparatus, and the spring system.

The foot, which is 6 1/2 inches long and 3 inches wide, has a shock absorber that reduces



The Strutter™

the impact to the underarm and a skid-resistant sole that adapts well to uneven terrain and difficult walking surfaces, such as grass, sand, mud, stones, etc.; the adjustable U-shaped padded underarm piece is held in place by a shoulder strap enabling weight to be distributed over a larger than usual area; and the spring system attached to the foot helps users move forward, retards them at the end of the stride, and permits upright standing.

The Sure Foot Cane has the same foot as the Strutter with the same slip-resistant and adaptable sole, a shock absorber that



Fetterman LiteStix

Vail Horton, now 26, founded Keen Mobility in 2001 aspiring to help others attain victory over their disabilities as he had done. Born without legs, this active child soon convinced his family that life in a wheelchair was not for him. Eventually, he was fitted with titanium legs, and for many years he achieved mobility with these and an ordinary wooden crutch. The day-to-day pressure on his upper-body gradually took its toll and while Horton was in college, he was diagnosed with



Sure Foot™ Forearm



Invacare's Paddle Walker



Rollite

softens impact to the hand and arm, and a spring system that aids walking and permits the cane to stand alone.

Both the Strutter and the Sure Foot Cane are lightweight, made from aluminum and stainless steel, are height adjustable, and have a 400-pound weight capacity.

The standard walkers have also been improved. In addition to being lighter in weight, they now have more height and width adjustment, fold more easily, have a higher weight capacity,



Roll-A-Bout Walker

and some come with a lifetime warranty. Some are designed for patients having the use of only one hand and some regular models are available in junior sizes. Also, the standard walker has inspired further development of its species.

Invacare's original Rollators, though functioning as walkers, took on a new look. They include three- and four-wheel models with bicycle-like handles and several added features. The newest, the Rollite, resembles a standard walker with four wheels while retaining the additions of the original Rollator. Both fold easily and are equipped with sturdy seats, flexible backrests and hand brakes. Unlike the original, the Rollite is constructed of aluminum rather than steel, weighs less, has a slightly lower weight capacity and costs less. A special basket is available for an added charge.

Another key player in the walker category is the Roll-A-Bout, invented eight years ago and now manufactured by a corporation with the same name. It was designed as an alternative to crutches for below-knee amputees, diabetic patients with foot and leg ulcers, and those with other foot, ankle and lower-leg injuries. This device has four wheels and an adjustable platform with two foam cushions, one to support the knee and one on which to rest the ankle of the injured leg. The Roll-A-Bout is propelled with the good leg, has brakes for movement control, and is adaptable to either leg. It comes in three models with varying height and weight capacities. The company offers a free, 7-day trial with a money-back guarantee.

## **Travel**

The Klick travel crutches and canes can fit in a suitcase or on a wheelchair or power vehicle. The crutches adjust from 25 inches to 59 inches, and the cane adjusts from 24 inches to 40 inches. Both have a programmable system whereby they open to the user's exact size in seconds. More information can be obtained from Thomas Fetterman, Inc.

All of the aforementioned devices can be used alone, but also work well as part of an ensemble coordinated by the user. ■

*Beverly Klinck is a freelance writer living in New York City.*

## **Companies:**

**Thomas Fetterman, Inc.**

[www.fetterman-crutches.com](http://www.fetterman-crutches.com)

**Keen Mobility**

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

**Orthotic Mobility Systems, Inc.**

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

**Invacare Corp.**

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

**Roll-A-Bout Corporation**

[www.roll-a-bout.com](http://www.roll-a-bout.com)