

# SPORTS

## Science of the sole

BY JEROME WATT  
Staff Writer

**T**he average athlete might not give a lot of thought to running shoes, but shoe manufacturers have it down to a science.

"There's no such thing as a shoe that will make you go faster," Scott Knowles, product manager for Fila Canada, said. "They can help you (perform) by reducing fatigue."

The three shoe companies with offices in York Region — Fila, Nike and Reebok — put a lot of time and energy into making comfortable running shoes that prevent injury and improve performance.

"It's easily two years from the initial design until the shoe reaches retail," Mr. Knowles said.

Running shoes are based on running action that involves a heel strike, roll to the midfoot and toe-off on the ground.

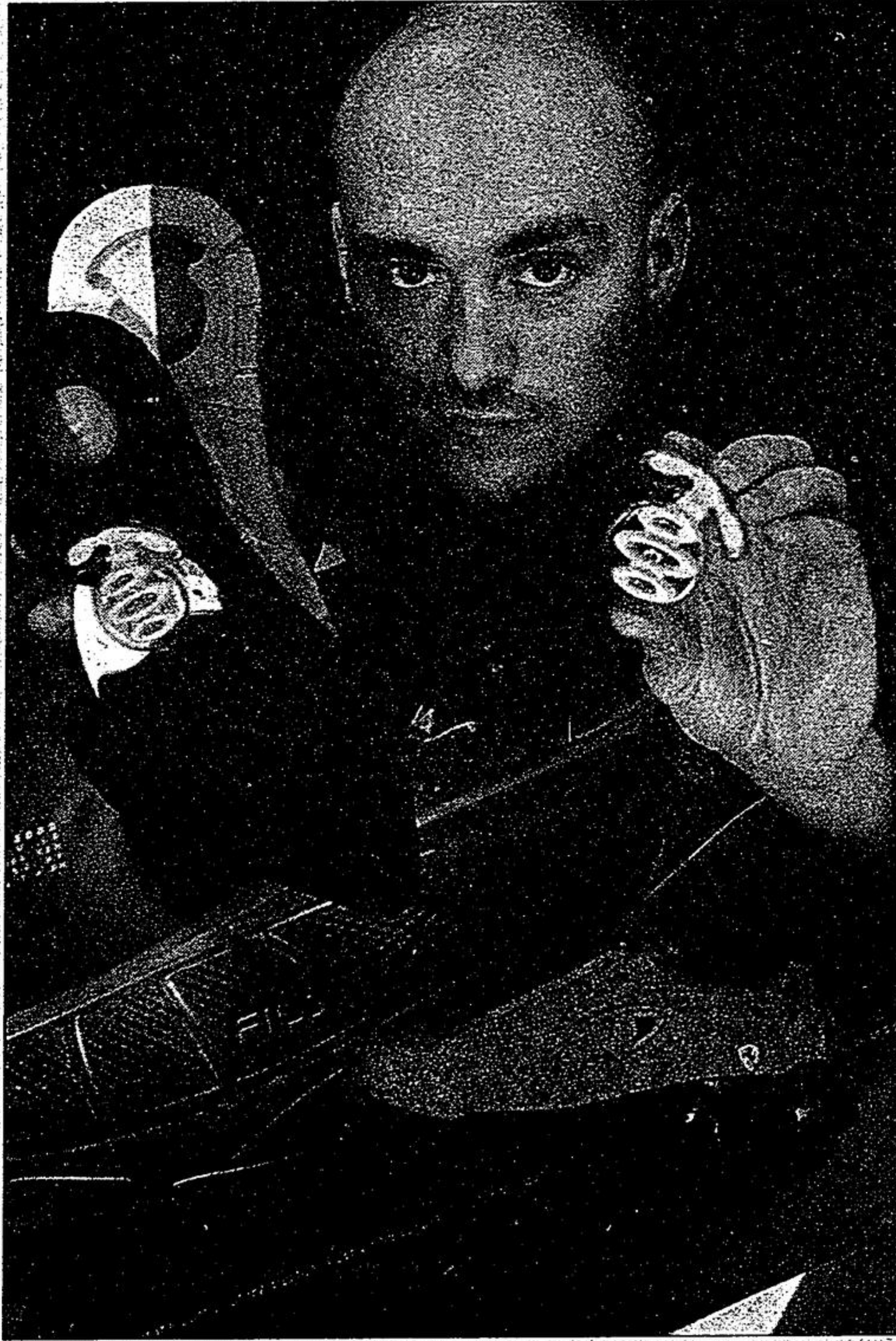
The design of the shoe begins with the bottom, or outsole, which often has flex grooves. When the foot hits the ground, the grooves spread and help absorb the pressure.

"We have these horizontal and vertical flex grooves," Richard Sullivan, product manager for Reebok Canada, said. "When you run, your toes spread and flex with the grooves."

The rubber on the outsole cushions the foot and helps prevent wear and tear.

"We have a high abrasion rubber on the heel areas, the high-wear areas," Mr. Sullivan said. "We have a blown rubber for when you land on your toes."

The portion of the shoe that covers the upper part of the feet, known as the upper, is made of a mesh material that allows feet to breathe. Each shoe manufacturer has its own system of cushioning in the midsole, which provides the cushioning for the foot and is



STAFF PHOTO/STEVE SOMERVILLE

Scott Knowles, footwear product manager at Fila Canada Inc., shows off his company's latest shoe technology.

located between the outsole and the insole of the shoe.

Fila offers a technology called 3ACTION, which is a pod filled with ambient air. Inside the pod are "elastic pistons" that absorb shock and are designed to ensure stability.

Mr. Knowles said the typical

running gait applies pressure to both the heel and the toe of the foot. Fila puts the 3ACTION pods in the heel of all its shoes and in the toe of its higher-end models.

Fila also employs a technology called Speed Tech, which uses a Kevlar carbon frame.

"It's a Kevlar carbon frame

that goes along the bottom of the shoe along the outsole," Mr. Knowles said. "It's very, very lightweight. It has great elasticity and great resistance with the Kevlar. Because of the combination of the two, it improves the elasticity of the shoe and increases the propulsion of the shoe."

Reebok has DMX technology, which makes use of an air bladder that works with the running motion.

"As you land on your heel, it forces air into the forefoot pod. It is an air transfer back and forth," Mr. Sullivan explained. "As you push off with your toes, it forces air back into the heel. You don't really feel it, but it does give you an active cushion. Runners don't want to feel it."

*'There's no such thing as a shoe that will make you go faster.'*

According to its website, Nike uses air cushions and Nike Shox, made of a highly resilient foam in columns that absorb the impact.

Shoes are manufactured for the way a person runs. There are three basic types of runners: overpronators, normal pronators and supinators.

An overpronator's gait or running style is characterized by a person's feet rolling in too much. The majority of runners fall into this group. In order to correct this, shoe companies build up the inside of the shoe, the medial area, and the outside of the shoe, the lateral area.

"For overpronation, we insert medial stability to give you support so you don't turn over on the inside of your foot and expend all that energy," Mr. Sullivan said.

See **WRONG**, page 19.



Roger Varley

## Been There, Done That Lack of lawn doesn't deter lawn bowlers

It was several degrees below zero, a cold wind was blowing and night had fallen: the perfect time for — lawn bowling?

So think members of the Newmarket Indoor Lawn Bowling Club, whose numbers hover around 50. The lack of summer breezes, chirping birds and the smell of greensward doesn't prevent these bowlers from following their passion. Even during winter, bowling is available six days a week.

With snow covering the green outside, four men's teams gathered Saturday evening inside the long, cinder-block clubhouse, competing for the club's Challenge Cup.

The two 90-foot-long, green-carpeted pitches resembled a curling rink minus the ice and brooms. But it's not just a carpet. Four to five inches of fine sand form the base. On top of the sand is a thick underpad, which, in turn, is topped by three layers of indoor-outdoor carpeting.

As the last two teams finished their game, Frank Zazzara, a 34-year veteran, gave me a few pointers on the art of indoor lawn bowling.

"This is a lot faster than outdoors and there's no weather concerns," he said. "I like a fast green and a true green and indoors is as true as you can get."

After showing me how to hold the

See **TOP** page 19.

<b>Golf Shirts</b> Starting at <b>\$19.99</b>  Greg Norman, Callaway, Reebok, Indian Motorcycle <b>Men's Golf Shirts</b> All Under <b>\$50.00</b>	<b>RAM</b> <b>"LX 400"</b> Men's RH 12 Pc. Set Steel Shaft <b>\$249.99</b>	<b>Gloves</b> Wilson, Powerbilt, Spalding <b>2 FOR \$20.00</b>  <b>Pull Carts</b> Starting at <b>\$39.99</b>  <b>Titleist "975J" Drivers</b> Now Only <b>\$399.99</b>	<b>Proselect</b> <b>"Blaze" Boxed Sets</b> MRH/MLH, Steel Shaft <b>16 Pc. \$299.99</b> LRH, Graphite Shaft <b>17 Pc. \$299.99</b> incl. Bag, Putter, Headcovers	<b>Textrans</b> Men's Windshirts Now Only <b>\$49.99</b> Or <b>2 For \$79.99</b>	<b>Goliath "Escape" Clubs</b> Various Lofts STEEL <b>\$29.99</b> GRAPH. <b>\$49.99</b>  <b>TaylorMade</b> "320" & "360" Irons Steel Shaft <b>\$699.99</b> Graphite Shaft <b>\$849.99</b>
<b>Find It @</b> 					
<b>DiMarco Golf</b> 5221 HWY. #7 EAST www.dimarcogolf.com			<b>CLEARANCE CENTRE</b> 905-479-5077		