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Sports & Entertainment Beat

Skateboarding Experience Redesigned- Entrepreneur Patents the World's Only Suspension Skate Truck

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Some sports equipment inventions can have a huge impact on safety. In one example, an inventor found a way to improve safety for a skateboard, and, with this new design, the inventor founded a growing and thriving business. Fortunately, he was wise enough to protect the design through timely filing of a patent application

Skateboarding has enjoyed a resurgence in recent years. The market for skateboarding in the U.S. alone is close to $5 billion. Industry-gathered data shows that there are more than six million riders of skateboards in the U.S., more than half of whom are under 17 years old. Skateboarding events appear to be on target for inclusion in the 2020 Olympic Games, scheduled to be held in Tokyo.

Particularly with the advent of televised skateboarding events, skateboarding is becoming even more commonplace, with skateboarders practicing and attempting various acrobatic and airborne maneuvers. Some of these maneuvers can be dangerous and can result in serious injury. It has been reported more than 100,000 skateboard injuries occur each year worldwide, including several deaths.

While at least some injuries likely occur through accident or misuse, some appear to be attributable to the skateboard design, including the design of the suspension system. When there is a true suspension system, which is not common, a hard metal spring is used in each wheel assembly with a purpose of flexing on impact and absorbing the shock of the landing.

When there is no suspension system (or a limited one), injuries can occur through the rider absorbing the impact rather than the board assembly dampening it. Even when a suspension system exists, two possible failure modes can occur, particularly on high impact, each of which can result in serious injury. First, the spring may be limited in its ability to flex, and that limitation can increase with use as the suspension may become more inflexible. As riders become more proficient and try more daring maneuvers, the suspension system may flex less during such feats and much of the impact may instead be absorbed by the rider rather than the suspension system. As more shock-inducing maneuvers are attempted using the same suspension system, the possibility of reduced flexion can increase.

The second possible failure risk is that the metal in the spring can fatigue over time and crack. As a result, the suspension system can suffer a catastrophic failure, and the rider can be injured as a result.

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To overcome these problems, Paul Ivazes of Grass Valley, California, designed a new suspension spring and has a pending patent for the design. Through extensive testing, Mr. Ivazes found that his suspension system has improved shock absorption ability and that the life of the spring mechanism is at least double that of the more traditional suspension.

Several professional skateboarders have adopted the Ivazes design through his company, Avenue Trucks. In less than two years, the business has grown from just an idea to a business generating sales of tens of thousands of units. And, significantly, Paul Ivazes took the necessary steps in a timely manner to protect his idea from being copied as patent protection must be sought prior to public disclosure of an invention. Orders are arriving regularly, and Paul and his team are finding a strong business opportunity by improving safety, and relatedly, performance, with their unique design.

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Guest author, Barry Lewin, is a patent attorney with Gottlieb, Rackman, and Reisman, P.C., working in its New York office

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