

Tractor doctor invents loader

Device protects loader and operator when bucket strikes immovable object

By Dee Goerge



Photograph: Minnesota Inventors Congress

Grant Hanson, Glenwood, Minnesota, invented the Safeloader. It won the F. Robert Starr Award (second place) at the 2006 Minnesota Inventors Congress.

Grant Hanson's Safe Loader drew positive reviews from bucket loader operators at the 2006 Minnesota Inventors Congress in Redwood Falls, Minnesota. Operators identified with the problem Hanson's invention solves: the bucket hits a raised, immovable surface, sometimes breaking the loader, usually jarring the driver, occasionally causing injury.

"What I designed into this thing is a cushion and a new pivot point," Hanson explains. Each loader arm has a knee that gives way when the bucket hits an immovable object. The bucket automatically rises over the object and levels off again.

The vehicle pushing the bucket keeps moving ahead, and the driver only feels a slight jar from the impact of hitting the object.

Hanson says the leading edge of the bucket rises up to various heights, according to how the linkage is designed. When put on new tractors or skid loaders with computer sensors, the arms can be set according to the speed the machine is operating at. During slower operations, the system can be deactivated so the loader stays rigid.

LAUNCHING AN IDEA

Hanson, Glenwood, Minnesota, used his Safe Loader for two years on his Dodge Ram 250 pickup – doing landscape work and moving snow – before sharing it for the first time at a Billings, Montana, show in February. He remembers that almost every bucket loader operator he met there had a story about hitting

objects. He met one man with a permanent limp because of a loader-related injury.

Since it reduces injuries, Hanson is more excited about the Safe Loader than any of the other inventions he's come up with in the past.

"I did this simply so I wouldn't have to weld the loader," Hanson explains. "But the deeper thing is that it could save lives."

The invention fits Hanson, the Tractor Doctor, who runs a business making in-field tractor and equipment repairs out of a remodeled ambulance. The ambulance has one of his other inventions – a system that allows brake fluid pressure to build at different rates in the front and back wheels. It allows for complete control in icy conditions. ▶▶

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►► “It worked,” Hanson says, “but my timing was wrong.” Soon after, General Motors came out with its antilock brake system.

So far the timing on the Safe Loader is good, and Hanson has begun the patent process. He hopes to find a company interested in manufacturing it. While designed for agricultural use on a tractor or skid loader, the market is broader because the loader also works on a pickup.

“Another growing favorite of northern operators is the loader-mounted snow blower,” Hanson says. “The Safe Loader linkage will allow the blower’s cutting edge to ride on the pavement or concrete. When this edge strikes imperfections, the operator won’t have to raise the loader. It will be automatic.”

CHILD INVENTOR

Hanson first started inventing things as a child. He added a two-speed transmission on his bicycle to make it a motor scooter. He remembers hanging sheets on three sides of his bed and placing a fan at the foot of the bed to blow under his sheet to keep him cool and mosquito-free on hot nights.

When he and his father and brothers fed hogs, Hanson created a device to weigh grain feeding into a grinder mixer. This made his life easier, Hanson says, but the inventions went no further.

“The Safe Loader is the first one that’s been suggested to go through the patent process,” he says. Hanson understands that patenting and getting his product in the market is a long, expensive process. He credits

the Congress for providing valuable information and referrals. He’s been active with the MIC for years and has served on its board.

“They get you in contact with companies that are reputable,” Hanson says. He’s heard horror stories from other inventors about companies interested only in getting inventors’ money and not providing any real help. Through its nearly 50-year history, the MIC has developed reputable contacts.

“We refer inventors to reliable resources,” says Deb Hess, MIC’s executive director. Besides patent and marketing information, inventors also want to know where trade shows are located to get public reaction.

At MIC’s 2006 event, there were many questions and comments about the Safe Loader, Hess says. Hanson split his time between an inside booth and outside the Redwood Area Community Center, demonstrating the loader by crashing it into a manhole riser. (Watch a video demonstrating the Safe Loader at www.safeloader.com.) A group of independent judges gave the Safe Loader first place in the Friend of Agriculture Award as well as runner-up for the Best of Show.

The positive reviews are encouraging, Hanson says. He hopes to team up with a good company to bring the Safe Loader to the market.

“We’re on the right track,” he says. “I personally am aware of two full-size farm tractors breaking in two when an immovable object had been struck. But even worse, sometimes people get hurt. If the Safe Loader can save one life, it’s worth it.” ■

SHARE YOUR INVENTION

Do you have an idea or invention sitting in your shop or barn? Or are you still milling around an idea in your head? Whatever the case, why not enter it in the 2007 Minnesota Inventors Congress (MIC)? The 50th Congress will be held June 8, 9, and 10, 2007, in Redwood Falls, Minnesota (www.inventorhelp.org).

EDUCATING INVENTORS

Organized in 1958, the MIC has held an annual invention convention every year. The convention offers inventors an opportunity to display their working models and prototypes to the public, network with other inventors, receive consultation from many different resource people, and make contact with the businesses that use the Congress as a trade show source for new product ideas.

Volunteers’ support and hospitality keep this event affordable and enjoyable for independent inventors.

In 1986, the Minnesota Legislature recognized the valuable work being done by the MIC. They provided a legislative grant to MIC during each biennium until June 30, 2002. This funding allowed the MIC to create the Inventors Resource Center (IRC). Professionals in the IRC help inventors find the information they need to progress in the invention development process. IRC also organizes educational opportunities like the Inventing Success seminars held throughout the year.

A toll-free assistance line (800/INVENT1) for inventors nationwide is available through the MIC Inventors Resource Center. Basic information is supplied to callers free of charge. ■



learn more

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