Adolph Ronning

Elk and Inventive Genius

Adolph Ronning earned his first patent while still in high school and went on to receive hundreds of other patents for items ranging from ensilage harvesters to explosive underwater mines.

PHOTOS: ADAIR KELLEY/BILL VOSSLER

BILL VOSSLER

ONE EVENING IN THE 1990s, Adair Kelley was watching a TV special about the exploration of the wreck of the *Titanic*. The Montevideo, Minnesota, woman watched as an underwater exploration vehicle glided around the wreck in the gloom, 12,467 feet below the surface of the North Atlantic Ocean, and found herself looking at something she hadn't expected to see. "I looked at the exploration vehicle," Adair Kelley recalls, "and I said, 'That's dad's propeller!'" It wasn't her father's actual propeller, of course, but a propeller built using a non-snarl design he had invented. She was very moved by the episode and amazed that her father's propeller design was still being used.

It's not surprising that Kelley encountered one of her father's inventions the way she did. If you have ever ridden in a powerboat, used a steam iron or a magnetic door latch, dimmed your car lights, or added a gasket to a lawn hose, you, too, have probably been in the presence of inventions conceived by the fertile mind of Adair Kelley's father. His name was Adolph Ronning, and he was a member of the Benevolent and Protective Order of Elks.

During his prolific inventing career, Adolph Ronning, of the Phoenix, Arizona, Lodge, was awarded patents or had patents pending virtually every week for fifty-five straight years, and many of these patents involved items Americans still use today, like the sewer gas trap, the window stay, or the motorcycle. "He was always working on something," Adair Kelley says, and this may have been very close to the literal truth. While stuck in an elevator one time in 1976, Ronning decided to use his five hours of captivity to sketch out an idea for which he later received a patent. It was a design for a manual elevator escape hatch.

Early Days

Adolph Ronning was born in 1893 and grew up on a farm near Boyd, Minnesota. His father died when he was seven years old, leaving him, his mother, and eight brothers and sisters to work the family farm. At this time, only a few of the children were old enough to do work around the farm, and because Adolph was one of them, his earliest inventions were designed to make agricultural work easier.

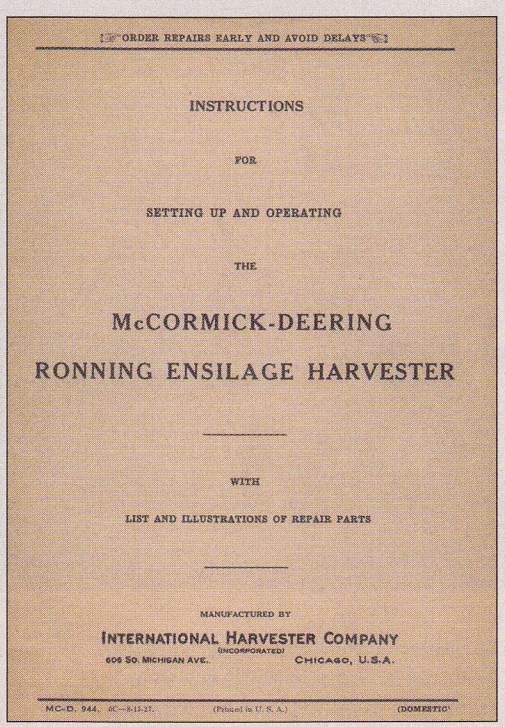
According to Adair Kelley, who is his youngest daughter, "He was a typical kid on a farm figuring 'There's got to be an easier way to do this.'" In his early quest to simplify agricultural work that was based on horse power, Ronning worked with his brothers to construct a tractor using an assortment of spare parts they found around the farm. This was quite a feat for a boy who was not yet ten years old, and there was still a great deal more to come. The only problem was funding.

During those early years, proceeds from the Ronning family farm were needed to support the family. There was little money left over with which to buy the expensive engines and parts Ronning needed to construct his inventions, so to earn the money he needed for his projects, he sold frozen fish out of a railroad boxcar, worked as a handyman painting silos for neighbors, and gave violin lessons. In this way, before he was even fully grown, he had begun working toward his first patent, which was a design for a horse-drawn ensilage harvester.

The patent for the harvester was issued in April 1912, while the young inventor was still in high school, but feeling sorry for his family's hard-working farm horses, which got hot and sweaty pulling a traditional harvester all day long, Ronning went to his drawing board and redesigned the harvester so that it could be pulled by a tractor and powered by the tractor's power take-off. This change brought him one step closer to the

realization of a goal Adair Kelley describes as "horseless farming." The next step was raising the money needed to manufacture the harvester. After graduating from high school in 1912, Ronning became a country school teacher and taught for two years to make enough money to move to Minneapolis and begin manufacturing his redesigned harvester. Then, in the 1920s, he licensed the manufacture of the harvester to the International Harvester Company.

Ronning's dedication to his chosen profession quickly became evident in the time he spent working on his inventions. He was known to work through the night, and his long hours of intense application resulted in numerous patents for important earthmoving and agricultural equipment, like the one-man power road grader (a device still in use today), an improved pneumatic elevator for loading silage into silos or bins, tractor implements, and a front wheel design for tractors that made it possible for them to negotiate rocks and potholes.


ORDER REPAIRS EARLY AND AVOID DELAYS

INSTRUCTIONS

FOR

SETTING UP AND OPERATING

THE

McCORMICK-DEERING

RONNING ENSILAGE HARVESTER

WITH

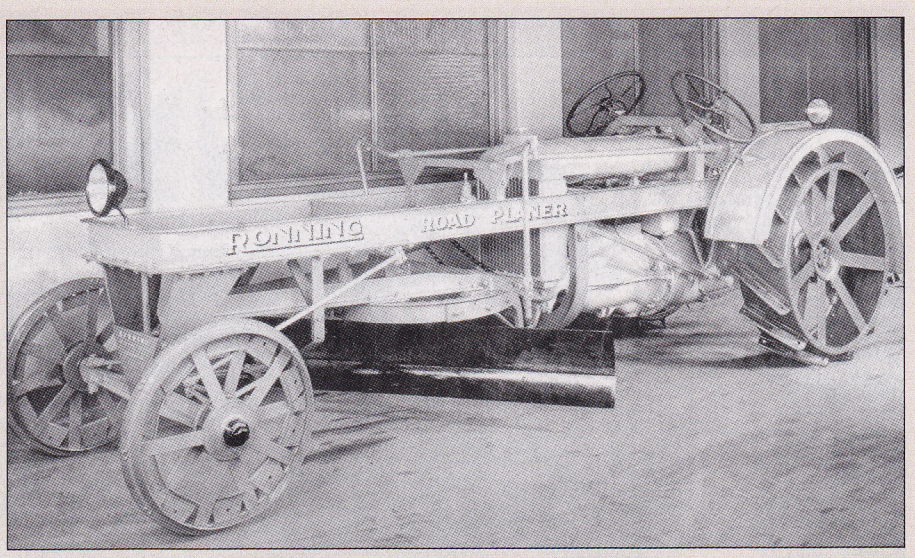
LIST AND ILLUSTRATIONS OF REPAIR PARTS

MANUFACTURED BY

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
606 So. MICHIGAN AVE., CHICAGO, U.S.A.

MC-D. 944. 4C—8-15-27. (Printed in U. S. A.) (DOMESTIC)

The International Harvester Company made a one-time exception to its tradition of not advertising the names of its products' inventors when it used Ronning's name on the cover of the instruction manual for its ensilage harvester.



During the 1920s, Adolph Ronning's one-man power road grader was produced by more than twenty companies.

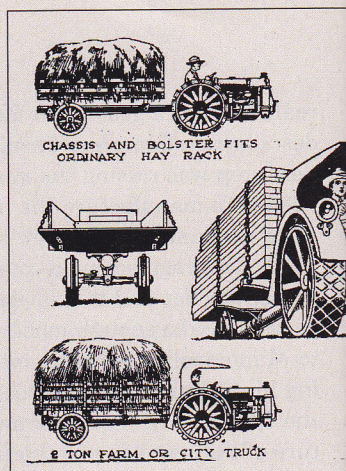
Ensilage Harvester

SILAGE is a fermented animal feed made from chopped up cereal crops such as corn or sorghum. The process of creating silage is known as ensilage, or silaging, and prior to the invention of the mechanical ensilage harvester, making silage was highly labor-intensive work. Silage crops such as corn had to be harvested manually and removed from the fields before being hand chopped and fermented in silos, bins, or on the ground under covers.

PHOTO: BILL VOSSLER

Mechanical ensilage harvesters, like this Ronning single-row harvester manufactured around 1923, helped take much of the manual labor out of the silaging process.

With the advent of machines like Adolph Ronning's mechanical ensilage harvester, however, much of this manual labor was eliminated. Ronning's harvester mechanically harvested the cornstalks, chopped them up, and transferred them and the grain from the stalks to an accompanying wagon, right in the field. When the wagon became full, it was replaced by an empty wagon while the full wagon was driven to the storage location, where its contents were unloaded. Ronning eventually developed an improved pneumatic elevator to more effectively move chopped silage from transport wagons to silos or bins. When used in combination with each other, his mechanical ensilage harvester and pneumatic elevator increased efficiency and helped ensure that the harvesting and silaging processes could be conducted virtually without interruption. —*JS*



Fordson-Ronning

178 Reasons for Buying Tractor

The Fordson-Ronning is powered by and attached est in first cost of equipment, the most economical in the strongest, and the most universally useful power

The Fordson-Ronning may be converted from a t **provided with a pulley for belt work.** Using regular 2 tons, with special spring mounted heavy duty Tim than 5 tons. Equipped with rubber tires, speedi-5—

The **Fordson-Ronning** steers easier, turns in a s has the largest drive wheels of any truck, pulls on over plowed fields, muddy roads and soft places, and waiting for the fields and roads to dry.

Write for catalogue and prices and learn of more Tractor Truck and see how you can **save enough in**

▲ **Ronning (center), his daughter, Adair, and a Deere and Company representative pose next to a John Deere tractor built using an agile front wheel assembly designed by Ronning.**

Adolph Ronning

Ronning's patents for agricultural machinery alone number in the hundreds. But he used his inventive genius to develop things for nonagricultural purposes as well. He invented outboard motors, an easier way to steer and control a loaded wheelbarrow, a method for cooling the wheels and brakes on cars, and improvements for power mowers.

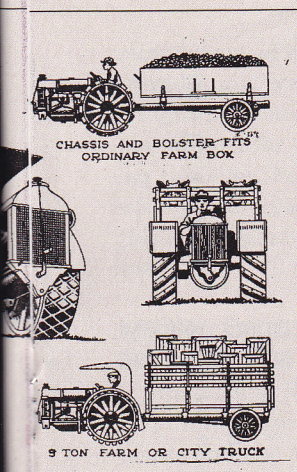
War Work

A little over a year before the start of World War II in Europe, Ronning devised a new propulsion and stabilization system for ships, and when the war began, he decided to use his considerable talents to support the war effort by offering his services, without pay, as a consultant to the US military. Ronning was a veteran of World War I, and like all Elks, he was very concerned about the welfare of US servicemen and women. He wanted them to have the best equipment possible, and Adair Kelley recalls him saying he wanted to use his inventive skills "to give them something to work with."

Ronning decided to offer his services to the war effort, without pay, as a consultant to the US military.

➤ **The tank stick control Ronning designed for the US Army can be seen sitting on the short, four-legged table in the right foreground of this 1940s photo of Ronning's workshop.**

This led Ronning to develop a number of devices with military applications, including a stick control for one of the US Army's new tanks, landing gear for planes, and "knee-action" hubs, a type of suspension that made jeeps and other vehicles more suitable for rough or sandy terrain. Ronning's World War II–era inventions also included designs for naval equipment, and during the war, he was awarded patents for a mine-sweeping device and an explosive underwater mine. He also designed PT boat and landing craft controls during the war.



Tractor Truck

FORDSON-RONNING Truck

The Fordson Tractor—the best serviced, the cheapest to operate, the best made, the simplest, the sturdiest, that money can buy.

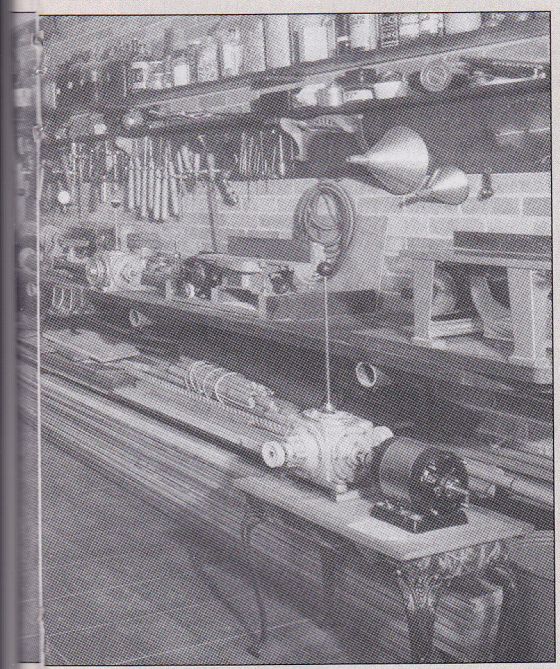
... a truck in 30 minutes and is the only truck ... steering carriage, truck will carry more than ... ing carriage, the same truck will carry more ... to 10 miles per hour.

... cle, and backs up better than any trailer, ... wheels, climbs out of sand and gravel pits, ... there" when other trucks are laid up and

... other reasons for buying a Fordson-Ronning ... equipment to buy a Ronning Ensilage Har-

◀ The Fordson-Ronning tractor truck was designed for farm or city work and could be quickly configured for either duty.

Ronning's long hours of intense application resulted in numerous patents for important earthmoving and agricultural equipment.



Kelley recalls her father's involvement in the war effort well. "One time," she says, "he had to leave our turkey dinner in Minneapolis and go to the airport because a bomber had landed with a bomb rack that didn't work, and he had to go fix it. For months, my mother and I spent many, many long evenings playing Monopoly

Ronning at Sea

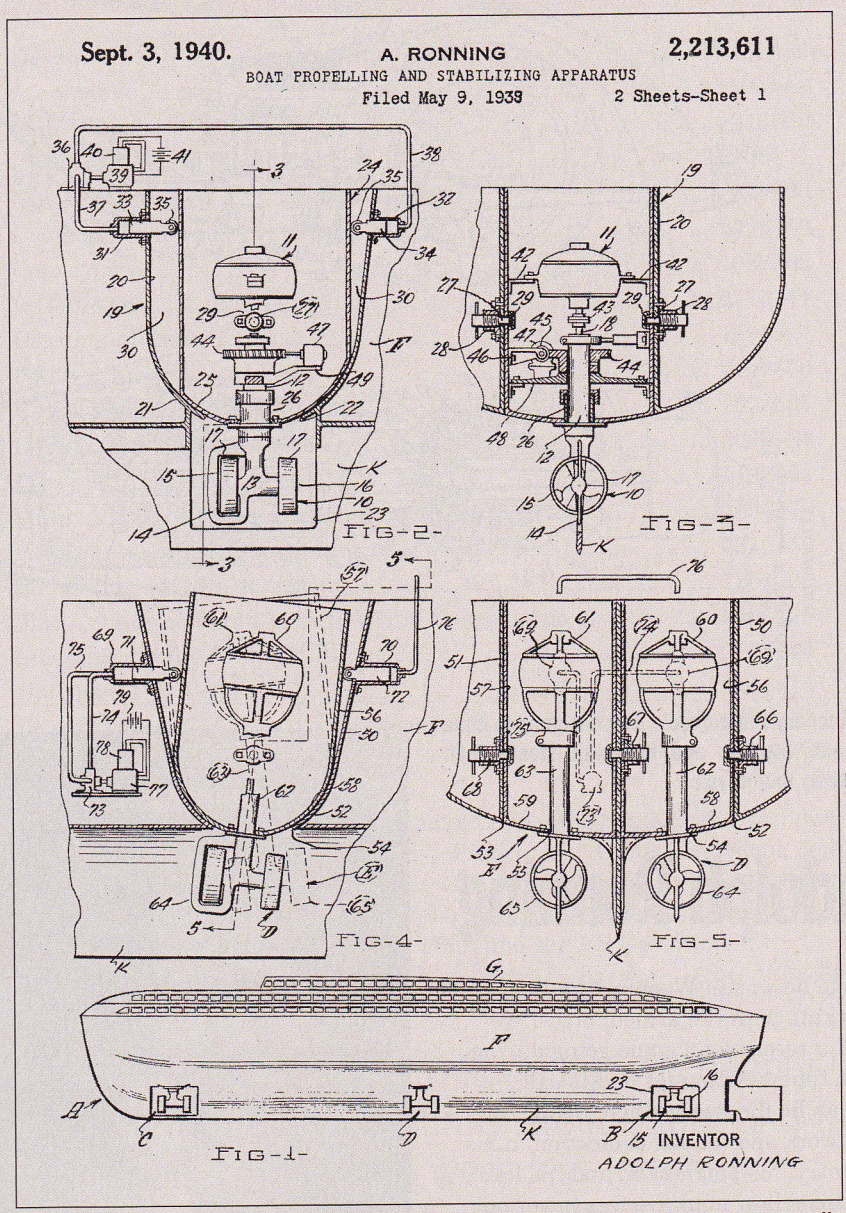
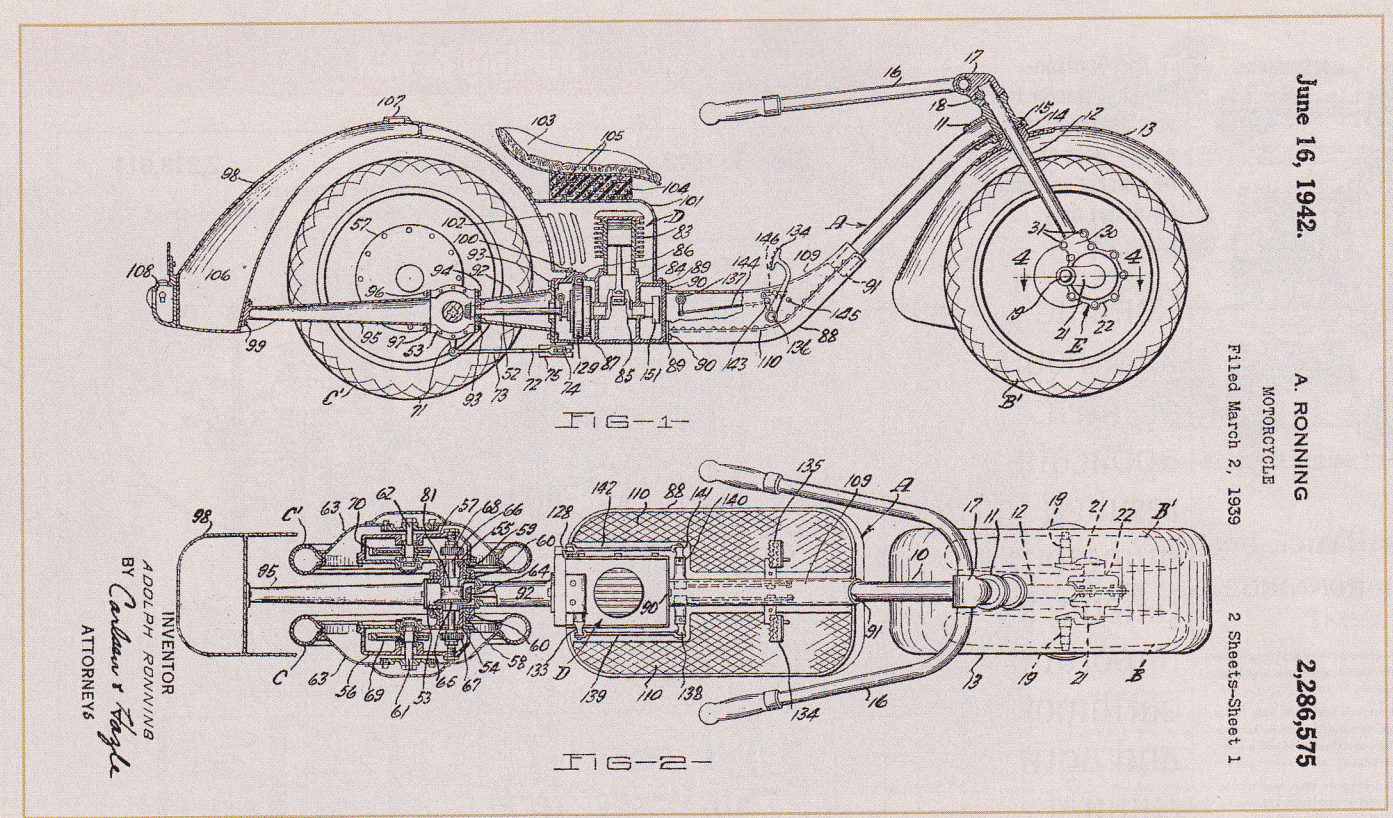


PHOTO: UNITED STATES PATENT AND TRADEMARK OFFICE

Ronning's ship propulsion and stabilization design was intended to control a vessel's pitch and roll and allow it to move in four directions.

ON May 9, 1938, Adolph Ronning submitted a patent application for a new type of marine propulsion and stabilization system. His design called for independently powered and pivoting propellers to be located on a vessel fore, aft, and amidships, thus allowing the vessel's pitch and roll, as well as its forward, backward, or side to side movement, to be controlled. Contemporary propulsion systems only moved vessels forward and backward, and as a result, larger vessels needed a tugboat to help them dock. But with the ability to move itself through the water laterally, Ronning's ship would be able to dock itself, regardless of its size.

Ronning was awarded a patent for his propulsion and stabilization system on September 3, 1940 (Patent No. 2213611). His exact design was never used, but its basic concept has lived on and has been incorporated into the propulsion and control systems of many types of vessels in the form of fixed, laterally thrusting propellers called bow and stern thrusters and in pivoting propeller pods known as azimuth thrusters. —*JS*



Ronning's motorcycle was designed to have greater traction and be more stable than existing motorcycles.

Adolph Ronning

while he was in Washington, DC, working with the armed forces. We had a record-long game going during this time, waiting for dad to call, which he did every single night. All his work showed his dedication to his country, his patriotism, and his love for his fellow man. He was never out to make a name for himself. He just wanted to make things work better."

The inventions Ronning developed for the war effort ultimately earned him major awards, but the most significant award was a special citation he was chosen to receive from the US government to recognize his design for the stick control for the US Army's new tank. Ronning's design

Adolph Ronning, shown here with his wife, Hildur, and his daughter, Adair, was a dedicated family man as well as an inventor and an entrepreneur. (Ronning's oldest daughter, Ruth, was away at college when this photo was taken.)

received one of only one hundred such citations and was selected from designs by thousands of nominees who had worked for the war effort. According to Kelley, however, Ronning wasn't interested in trophies and used this one in particular as a paperweight.

Inventor, Entrepreneur, and Family Man

But Adolph Ronning was more than just an inventor. As Adair Kelley points out, she and her older sister, Ruth, had a hands-on father who valued his family above all else. "He came to every one of my birthday parties," Kelley says, "getting down on all fours to give us 'horsey rides' on the lawn, coordinate games, or just be with us." She says the parties included the children of very prominent Minneapolis and St. Paul, Minnesota, families, who one time told her mother how lucky her daughter was. "Mother asked what they meant, and they said, 'Because she has a father who comes and plays with us,'" Kelley says.

Ronning's sense of family duty often came before his business ambitions, as shown by an episode relating to his involvement with the Morgan Harvester Co., a joint venture between Ronning and J. P. Morgan's nephew. "Morgan offered to support Dad's work if he moved to Buffalo, New York," Kelley says. "But he wouldn't have been able to bring along three of his brothers who had provided machinist, sales, and legal expertise to his companies and had been an integral part of his work from the time he was young. So he turned down this great opportunity, staying loyal to his family." Ronning's family and professional lives were often integrated in this way, and his brothers weren't the only family members who were involved in his work. Kelley describes her mother, Hildur M. C. Ronning, as the "sounding board" for her father's ideas. Hildur became an important part of his inventive process, and after her death, Adair became her father's assistant.

In typical Elks fashion, however, Ronning was concerned about more than just his own family. He was deeply interested in the community around him and in helping those who were less fortunate than he and his family were. His wife was a Swedish immigrant, and he sponsored many foreign families, helping them to immigrate to the United States and begin new lives. Also with true Elks spirit, Ronning reached out to ambitious young people in the community, serving as their benefactor and providing them with the means to attend college and to continue their education in pursuit of their goals.

Adolph Ronning continued to invent right up until his death in 1982 at the age of eighty-nine. Even while lying in the hospital at the end of his life, he continued to develop new ideas for new inventions and asked his daughter, Adair, to put them down on paper for him. Because he hadn't sought personal recognition for his work during his long and prosperous career, he was unknown to many people, and the medical personnel at the hospital thought he was hallucinating when he talked to them about all his patents and inventions. But personal recognition wasn't what Adolph Ronning had lived for. "His life was inventing," Adair Kelley says, "developing something new for the world around him. Not for the fame, but to make the world better. His satisfaction was in creating machines that worked in the field, on the road, in the air, on the water, or wherever." ■

In typical Elks fashion, Ronning was deeply interested in the community around him and in helping those who were less fortunate.

A Few Other Ronning Patents

Device	Patent No.
Automobile	D162884
Boat Propulsion Apparatus	2213609
Brake and Wheel Cooling Means	2708011
Circuit Controller	2929896
Compound Thermal Switch	2796553
Conveyer	1686533
Differential	2775141
Ditching Machine	1501621
Drain	2199675
Ellipsograph	1872505
Hose Gasket Making Device	2049624
Pneumatic Elevator	1490404
Power Driven Mowing Machine	1957079
Power Saw	2310152
Silo-Filling Fixture	1251696
Skid Counteraction in Vehicle Wheel Suspensions	2764425
Steerable Trailer Support	2605114
Universal Hitch Device	1406418
Vehicle Wheel Compensating Suspension	2612387
Window Stay	2217079

Adolph Ronning was also issued patents in other countries, including Japan, Brazil, Italy, West Germany, France, the United Kingdom, and Canada. Among the many companies and entities that have been licensed to manufacture his designs are Caterpillar, John Deere, International Harvester, Allis-Chalmers, Maytag, Ford, and the US Government.

—*Bill Vossler*