THE BARN CLEANER.

Where the Patz® story begins.

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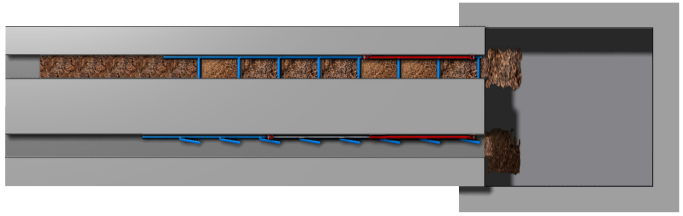
THE WORLD'S FIRST CONTINUOUS-LOOP BARN CLEANER

Paul Patz, the inventor of the Patz barn cleaner, was just a kid working on a farm back in the 1920's. His job was feeding and milking 40 head of dairy along with cleaning the barn gutters. Barn gutters would fill up with waste materials, which included bedding, feed, and manure. Using a pitch-fork, Patz would manually remove the waste from the gutters, put it in a wheelbarrow, and dispose of it. As you can imagine, it was a hard job that no one wanted to do. After years of completing this messy and backbreaking task day in and day out, Patz decided there must be an easier way to get the job done.

Litter Carrier

He shopped around and found a machine called the 'litter carrier'. This carrier was loaded by hand (with a pitchfork), and then pushed on a hanging rail through the barn as the gutter was cleaned. The rail extended outside the barn where the manure in the litter carrier was manually dumped into the barnyard for storage. Not satisfied with its performance, Patz set out to design a new way, (without a pitchfork)!

Having a mechanical mind and using his first-hand experience of cleaning barn gutters, he started inventing a shuttle stroke barn cleaner which dropped manure into a pit at the end of the barn.

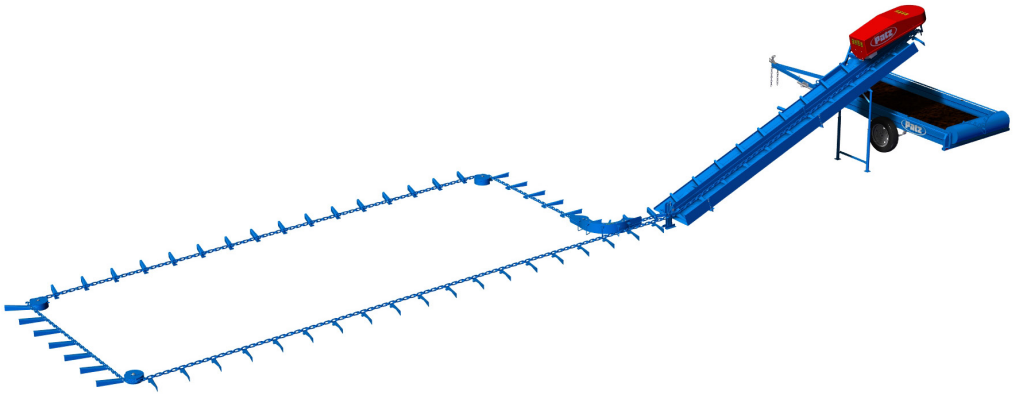


Typical Two Gutter Barn Layout with Shuttle Stroke Barn Cleaners and Manure Pit

From 1940 - 1946, he engineered, tested, and refined different one gutter barn cleaner designs. After several adaptations of the one gutter barn cleaner, Patz set his sights higher. From 1946-1948, he worked on inventing a two gutter, one motor barn cleaner that used a cross gutter with corner wheels to connect the two gutters. His goal was to eliminate the manure pits at the end of the barn. He envisioned a machine using both chain and flites. **With the flip of a switch, his ingenious continuous-loop design would convey manure in the gutters, through a hold down shoe, up an elevated slide, and then drop the manure right into a manure spreader.**

After the manure dropped into the spreader, the empty chain and flites would travel down the empty side of the 20' slide and back into the barn. The empty chain would then run through a return corner inside the barn to complete the continuous loop (chain). A flexible drag chain with links and flites would be essential to push manure through these turns and corners.

The chain also needed to pull in a straight line, go around 90° corners, travel through a hold down shoe and up an elevated slide, go around a chain drive sprocket, turn 180° and then return back down the empty 20' slide. Patz could not find a multi-directional chain that met all these needs. Not one to give-up, Patz started inventing his own multi-directional chain link. His innovative design ultimately accomplished his machine performance goals.



Continuous Loop, Multi-Gutter Barn Cleaner that Conveys Manure Up an Elevated Slide and Drops the Manure into a Manure Spreader with the Flip of a Switch

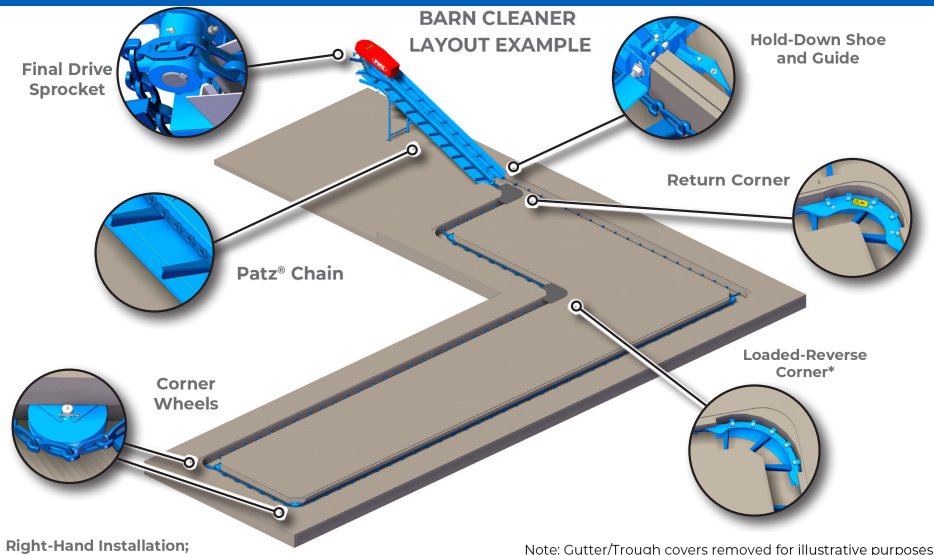
In an interview in 1978, Paul Patz recalled, “I got an idea and began to cut some car wire and shaped it a way where it would make a link. And another link of the same design would hook into it, so that any number of links could be made to hook together. And it would be flexible to be able to round the corner, and also travel under what we call the hold down shoe…”.

Patz’s flexible link design made it possible to have a two gutter barn cleaner with one drive unit and one motor. The gutter chain could go around corner wheels and clean a second gutter with one endless loop around the barn. Patz development of his hook-and-eye chain revolutionized and set the industry standard. The Patz barn cleaner was the **first in the world with a continuous loop, multi-gutter, fully automated machine.**

Patz sold his first barn cleaner in 1948. Soon after, the demand for the barn cleaner grew and it became evident that the Patz Barn Cleaner would be a success. This piece of machinery forever impacted the agricultural industry. Patz’s goal was always to save the farmer time, money, and make their lives easier. The Patz Barn Cleaner accomplished this goal, receiving a U.S. and Canadian patent on the link design. Patz went on to invent and manufacture a variety of additional machines for the farmer.

WHAT IS A BARN CLEANER?

The barn cleaner, or gutter cleaner, is an automated, continuous loop machine that moves waste material from inside the barn, to the outside, via a chain made up of links and flites which move the material. The base of the barn cleaner is called a slide, and it is angled upward. Waste material from inside the barn travels up the slide effortlessly with the help of the hooked links and flites. At the top of the slide, the material is dropped off the end and into a manure spreader. A flite cleaner cleans the flites as the chain goes around the 180-degree drive end. The empty chain continues down the empty side of the slide and returns into the barn. A typical 40 cow dairy barn could be cleaned within 20 minutes. The machine is then ready to start the whole process over again the next day.



Note: Gutter/Trough covers removed for illustrative purposes.
*Loaded-Reverse corner only available for 400 Gutter Cleaner units.

LINKS – THE KEY TO THE BARN CLEANER SUCCESS

The key to the success of the barn cleaner is the design of the hook & eye chain that Patz invented. The links of the chain are solid metal with a hook and an oval opening for the next connecting link. The heavy-duty link weighs nearly 2.5 pounds. The links hook and rest within each other forming a chain. This chain is PULLED and glides effortlessly through the gutters. Why pulled? It’s easier – less stress. Think of it this way: if you were to try to move a wagon onto a curb, is it easier to push the wagon or pull it up? Pulling the wagon requires less effort. This is the same concept for the links.

FLITES – ANOTHER KEY COMPONENT OF THE BARN CLEANER

What’s a flite? Patz flites consist of three components: the link, paddle, and wear shoe. The steel paddle is strategically welded to the link along with a heavy-duty wear shoe. The large, one-of-a-kind wear shoe reduces concrete grooving. Flites are spaced apart at 12-, 18-, or 24-inch intervals. Think of the steel paddle as a solid broom that sweeps the manure and pulls it along the gutter. The flites drag the waste material through the gutters and up the gutter cleaner slide.

WHAT ARE THE BENEFITS OF A PATZ BARN CLEANER?

As you can imagine, the barn cleaner saved the farmer from backbreaking work of manually cleaning the gutters. By automating this chore, it eased the physical toll on the body.

The modernization of cleaning the gutters also freed up time for the farmer to move onto other chores while the barn gutters are being cleaned. Saving time also means saving money.

The Patz Barn Cleaner was designed to be flexible. It could be installed on either the left or right side, and in different shaped, continuous-looped gutters. Farmers could easily add the barn cleaner to their operation without having to rebuild.

Maintaining proper tension on a barn cleaner chain is important. This requires the occasional removal of a chain link, which is simplified with the Patz chain. The chain link removal is accomplished without any tools because of the hook & eye design. This makes for simple maintenance on the Patz system.

THE BARN CLEANER TODAY

True to their mission of continuous improvements, the Patz barn cleaner has evolved and expanded into other markets. The industrial version is known as the 400 Material Mover. The Material Mover offers numerous planetary gearbox and speed reduction options, for just the right speed. An optional integrated brake-motor and clutch are available.

A VISIONARY

Paul Patz was truly an entrepreneur. His invention of the barn cleaner helped make farmers' lives easier. Throughout his lifetime, Patz continued to develop top-quality machines for handling feed and manure. The goal of these innovations was to increase efficiency and lessen the physical toll that farm chores have on a person. Patz's many achievements have left a big imprint on the farming community.

Paul Patz passed away in November 2000, but his character and philosophy remains at the core of Patz Corporation today. He is the founder of the company and the reason for its success. His legacy will remain in the agricultural industry and be passed on for generations to come.

On January 1, 2021, Jon Patz, grandson of founder Paul Patz, succeeded Darrell Patz to become the company's fourth president. This continues a tradition of Patz family members as president, beginning with the founder Paul Patz in 1948, followed by his sons Clifford Patz in 1984 and Darrell Patz in 2004.

Information in this story was provided by first-hand accounts of Clifford and Howard Patz, sons of Paul Patz.

Photo taken in 1961
From left to right: Clifford, Howard, and Paul Patz

Patz Corporation • Pound, Wisconsin USA
Ph: (920) 897-2251 • info@patzcorp.com • www.patzcorp.com

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