



80 Years

of Providing Homeowners a **Lift**

by David M. Clothier

Inclinator Co. of America is a residential-elevator company based in Harrisburg, Pennsylvania. Its founder, C.C. Crispen, first developed the home elevator in 1928. This followed his invention in 1923 of a seat that could climb stairs. He called it the "Inclin-ator," which worked well for straight staircases. He introduced his home elevator (named "Elevette") as an alternative for homes with winding stairs.

Inclinator is family owned and its products are manufactured and assembled in its south-central Pennsylvania plant. The company handcrafts each elevator individually, which allows builders and homeowners the ability to select car sizes up to 15 square feet, with up to three door openings in any configuration. Besides the two lines of home elevators, it manufactures two lines of wheelchair lifts (fiberglass SpectraLift® and steel Inclinator® VL), commercial dumbwaiters, residential dumbwaiters (Homewaiter®) and stair package lifts.

INCLINATOR
Custom Home Elevators  Since 1928



- Opposite page:
- Decorative design panels

- Above:
- Integrated design to match finish of home's custom cabinets.

- Inset:
- Car close-up

Inclinor introduced its most advanced home elevator at the International Builders Show on February 13-16 in Orlando. The company spent more than two years developing the Inclinor® LX, which combines commercial elevator technology with custom interior-design options. With no hydraulic or gear oil, the Inclinor LX is also friendly to the environment. The walls and ceiling of this new car style are designed from a solid-wood frame with hardwood veneer raised panels. By digitally printing a custom design and applying it to the wood, Inclinor can create a look that resembles an inlaid finish.

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For a look back at Inclinor's 80 years of operation, visit www.elevator-world.com



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Steve Nock (SN), the company's CEO, recently answered some questions provided by ELEVATOR WORLD (EW):

EW: What sets the Inclinator LX model apart from previous home elevators?

SN: Up to this point, home elevators were using geared motors with cable, chain or hydraulic drives. Our Inclinator LX uses a permanent-magnet motor [and] gearless-traction drive technology. The motor, coupled with an electronic drive unit, allows it to run at a very slow and variable speed. The result is a smooth ride without the noise inherent with high-speed, traditional induction motors and gear-reduction boxes. An additional benefit with using a slow-speed motor is less wear on the system and a reduction in component count – two items that add directly to the home elevator's reliability and durability.

EW: What commercial applications were used in developing the Inclinator LX?

SN: We coupled our permanent-magnet motor with a counterweighted traction drive system – a style of drive that is used in all high-rise commercial elevators. This results in a super-smooth ride and virtually noiseless operation. Low-rise commercial elevators (less than five floors that are typically used in hotels, etc.) could be utilizing some other drive and motor type, all of which we determined as unacceptable for high-value homes. An Inclinator LX home elevator attains ride and noise characteristics very close to [those of] high-rise commercial elevators.

EW: How were the noise levels reduced?

SN: Noise is often overlooked as an attribute (good or bad) in elevators. I often tell the story about the second dishwasher I purchased. Only after the second one was operating did I realize how loud the first one had been. Homeowners must recognize that operating-noise levels for elevators are important – just as they are with dishwashers and automobiles. Most people have ridden on commercial elevators, so they assume the noise levels on all home elevators are the same. That's simply not true. We used low noise as one of our prime design goals in developing the Inclinator LX. This goal drove us toward utilizing the permanent-magnet motor and gearless-traction drive system. A permanent-magnet motor running at a slower motor speed with no gears driving the system will inherently make little to no noise when operating. Elevators with geared drive systems simply can't attain the same noise levels.

EW: What process is involved in creating an inlaid look on elevator car walls?

SN: Inlay is a decorative technique of inserting pieces of colored materials (most commonly wood veneers) into depressions in a base object to form patterns or pictures. We've all seen those magnificent pieces of furniture. Because of the time-intensive and meticulous handcrafted process, true inlay is very expensive. We're able to more cost effectively replicate the inlay look by using computer-generated design, digital printing and a machine-applied technique that places the design directly onto wood. While developing this new elevator car style (the Inclinator® LX900), we realized that our



Above (l-r):

- Gearless Traction Machine (950-pound capacity automatic overrun switch) and Double-Rail Chassis (Supports machine and eliminates need for machine room)
- Car-operating panel
- Controller with self-diagnostics

artists have even greater flexibility and can create very unique designs for homeowners. We've created a few standard decorative designs to give customers a sense of what can be done, but these decorative panels can include a personal monogram, family crest, loved pet, prized horse, favorite floral arrangement, beautiful landscape, and on and on. We can replicate any wood species and include any number of woods on the wall panels.

EW: How can this process be applied in matching a home's interior design?

SN: A home's interior is most often a reflection of the owner's design taste and personality. We've built – and maintained – the reputation as having the industry's most customizable home elevator. We're obsessed with offering designers and builders unique opportunities to make an Inclinator elevator reflect the home's design or owner's personality. We love a creative challenge. From perfectly matching the elevator's walls and ceiling to the home's custom cabinetry to building an elevator with a panel for viewing and accessing the home's secret wine cellar, by introducing the Inclinator LX900, we've proven once again our ability to provide one-off custom home elevators.

EW: Any additional comments?

SN: Inclinator LX is going "green." There is less energy consumption with [its] modern variable speed motor (with no energy lost in a gearbox) and modern microprocessor-based controller than "conventional" geared motors with chain, cable and hydraulic drive systems. The gearless motor has a longer life cycle than geared motors. Inclinator LX contains no hydraulic or gear oils, eliminating the risk of soil contamination due to spills. There are also no oil smells in the elevator car or rooms in the home. [The] Inclinator LX is a machine-room-less elevator. Most home elevators include a machine room (a closet-sized room that is usually located at the lowest point of the elevator) that houses the drive system. Inclinator LX's drive system is housed entirely in the hoistway. This eliminates the need for a machine room, thereby taking up less square feet and reducing the amount of construction materials. *Continued*

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Through the Years

Continued

Businessman and inventor C.C. Crispin (1875-1979) founded the Inclinator Co., which was incorporated in 1924. He sold 2,500 shares in the company to finance its start. Crispin had been in the automobile business before seeing a need to help people with walking difficulties move up and down stairs in their homes and developed his first stair lift, which he dubbed the "Inclin-ator."

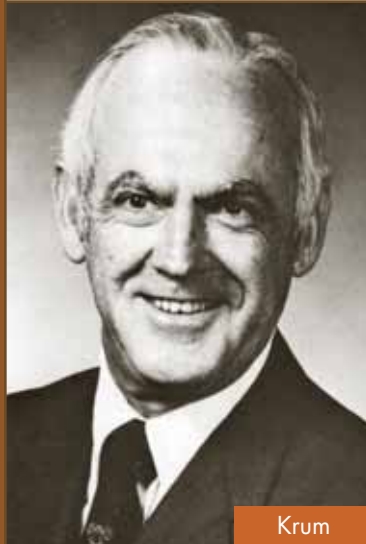
Paul R. Krum succeeded Crispin as president, treasurer and co-owner of the company. He joined Inclinator in 1929 as a part-time employee while working his way through business college.

The Inclinator stair lift appeared in several movies and television shows over the years, including this scene (bottom photo) from the movie *Witness for the Prosecution*, with (l-r) Marlene Dietrich and Charles Laughton.

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The Inclinator facilities in 1960



Krum



Crispin



Inclinator's production crew in 1938



Witness for the Prosecution