

AUGUST, 1974

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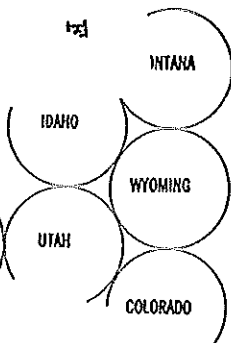


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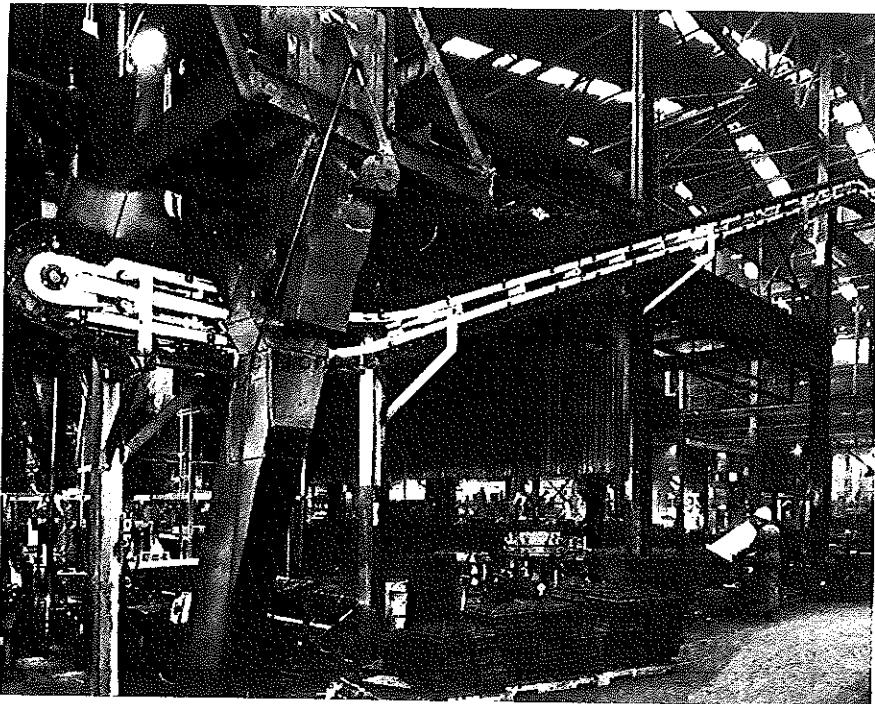
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The Cover  
**DAVE ELLIOTT,**  
 President,  
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 see page 8



Molding sand is end-loaded by conventional conveyor (top left) onto Serpentix. It is then carried up a 27-degree incline, makes two 90-degree turns, climbs another eight degrees and side discharges into 85-ton sand hopper.

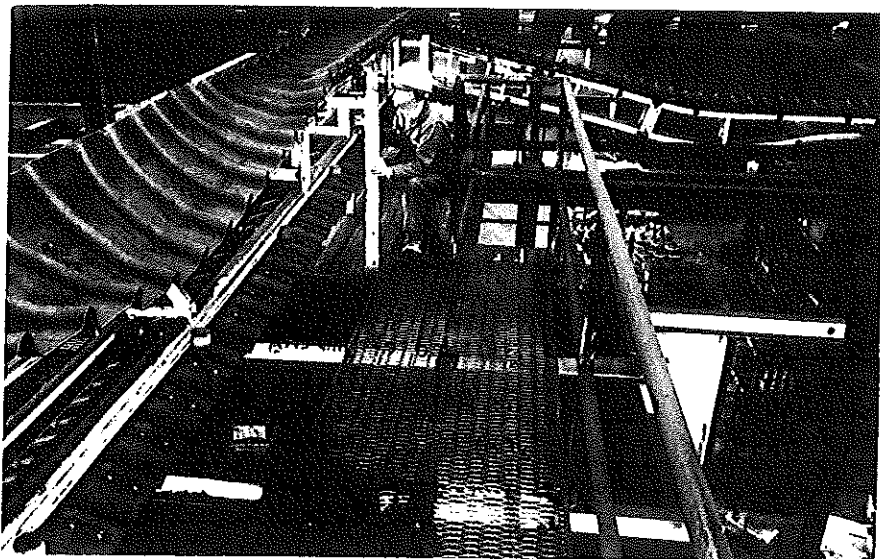
## Unique conveyor system installed at Electron Corporation, Littleton

Two separate Serpentix conveyor systems are part of an automatic high pressure molding system which recently entered production at one of the nation's largest grey and ductile iron foundries, Electron Corporation of Littleton, Colorado.

Electron became the first American foundry to use the unique Serpentix

when it decided to team two of the conveyors with a Herman Moldmaster. Installation of the automatic molding system was recently completed at a cost of more than \$1 million.

The new machine could increase Electron's present production capability by more than 50%, according to Electron President Frank L. Tetterer.



After climbing a 27-degree incline, the Serpentix goes high over the foundry floor before making a second 90-degree turn to side discharge its load into the molding sand hopper.

And, it now makes the company one of the few foundries in the nation capable of producing both large and small ductile iron castings utilizing high pressure molding techniques.

The Herman Moldmaster will produce a mold a minute, operating within the limits of Electron's present production capability. However, with major improvements now planned in the company's melting, shake-out, and prepared sand systems, the Mold-

*(Continued on page 22)*

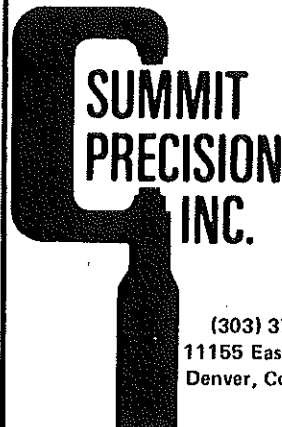
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## UNIQUE CONVEYOR

(Continued from page 21)

master will double that by producing 120 molds per hour.

Production rate on the unit initially

cradle (trough) the molding sand to prevent spillage, and side-tilt discharge for smooth sand distribution.

Installation of the Moldmaster system presented Electron officials with a complex supply and servicing problem. Robert Rowland, the company's director of engineering and maintenance, pointed out that a limited plant area was available for location of the Moldmaster.

"In addition to this, we had to have conveyor systems which could tie us directly and economically into our existing systems for supplying molding sand and hauling away spill sand or, be prepared to install a separate sand supply and sand mulling operation just for the Moldmaster," he explained.

"Serpentix engineers worked with our staff," Rowland said, "to develop two separate systems. One was designed to tie in with the existing sand supply system servicing our 21-station machine mold line."

"The other Serpentix system was designed to operate underground beneath the Moldmaster," he added.

Beneath the floor, spill sand from the Moldmaster operation feeds onto the 20-inch belt of the 113-foot long Serpentix. The spill sand is then transported down three straightaways and around two continuous 90-degree turns to a point where it is end-loaded onto the existing sand shake-out system servicing the machine mold line.

There the spill sand is fed into the existing sand supply system for mulling and reuse.

"Without the Serpentix' ability to make continuous 90-degree turns, recovering spill sand from the Moldmaster would have required at least three separate conventional conveyors and all of the associated equipment and expense," Rowland said.

The problem of supplying sand to the Moldmaster was much more complex. To utilize the existing sand system for the machine mold line, engineers had to: 1. get sand from the 12-foot high machine mold line conveyor; 2. transport it 130 feet and elevate it a total of 35 degrees, without rollback or spillage; 3. without stopping or slowing the conveyors, dump the sand into the Moldmaster's 85-ton sand supply hopper towering 40 feet above floor level.

will be held to about 50 molds per hour, officials said. This rate will be increased gradually to 120 per hour as production on the machine smooths out.

At 120 molds per hour, the Moldmaster could theoretically produce almost one million pounds of castings per week. This production rate will force the two Serpentix conveyors—one hauling spill sand and the other molding sand—to carry almost three million pounds of sand daily.

The decision to order the Serpentix units at Electron was based primarily on four important features of the system. Its ability to make 90-degree turns without transfer, transport sand up steep inclines without rollback,