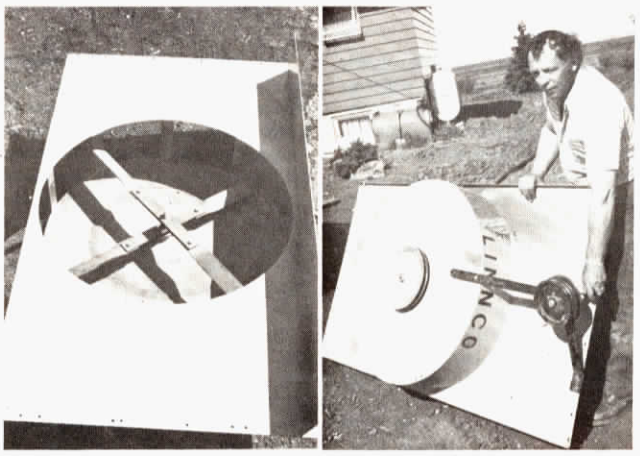
FARM SHOW

"Made it Myself"

Some of the best new products we hear about are "made it myself" innovations born in farmers' workshops. If you've got a new invention or favorite gadget you're proud of, we'd like to hear about it. Send along a photo or two, and a description of what it is and how it works. Is it being manufactured commercially? If so, where can interested farmers buy it? Are you looking for manufacturers, dealers or distributors?

Harold M. Johnson, Editor



Combine Rotary Cutter Flings Straw 40 Feet

If you're into minimum tillage, it's almost a must that straw and chaff be evenly distributed over the field. Even with conventional tillage, it's desirable to spread crop residue back over the cut swath as evenly as possible.

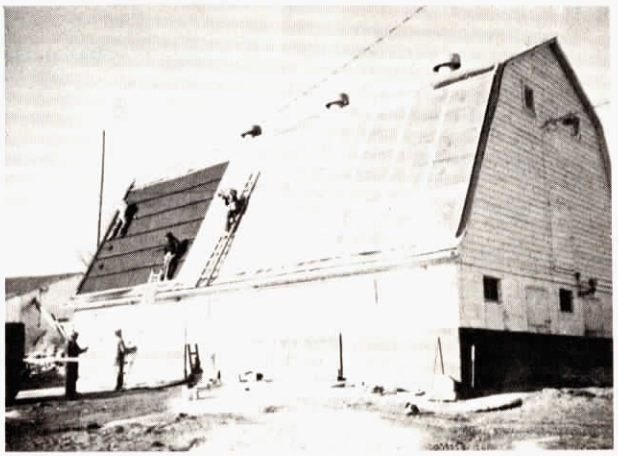
Canadian farmer Orville Linn, who farms near Lang, Sask., wasn't thinking about zero tillage when he designed his new combine chopper. He just wanted to evenly spread straw and chaff back over the field.

"The present combines, even the big ones, can't spread the straw much over 15 ft. This makes it difficult for a cultivator or discer to cut through when seeding the following crop," he points out.

Even though that was the main reason for his desire to build a better straw spreader, he admitted that when you build a swather with a 36 ft. table, you have some responsibility to provide a way of getting the material spread back over 36 ft. after it's been harvested.

His straw chopper can be made to fit any combine. It's made with four swinging blades which operate at about 3,000 rpm. A 5 ft. opening along the side of the housing directs straw to the side of the combine with the unloading auger.

"The chopper is not so cumbersome and heavy that a crane is needed to mount it on the combine. One man can mount it in short order, Linn points out.



Solar Heated Farrowing Barn

Upwards of 250,000 btu's of "free" heat per day are generated by the solar collector Rick Pinkelman, Hartington, Neb., built onto the south-facing hip roof of his large farrowing barn.

The 17 x 50 ft. roof is equipped with a flat plate solar collector which William Peterson, agricultural engineer at South Dakota State University, Brookings, helped design. Here, according to a report in the Small Farm Energy Project Newsletter, are other details of the installation: The metal roof was painted black to serve as the heat collecting surface. Translucent corrugated fiberglass was attached to the roof/collector surface with 2 x 2 in. boards extending the length of the roof at 2 ft. intervals. The 2 x 2 in. strips also serve as separations for 6 air ducts which air follows as it is drawn through the collector. Redwood strips that match the corrugations of the sheet metal and fiberglass were sealed with silicone caulk to minimize air leaks in the collector.

Air from the barn is pulled through the collector by a 2,000 cfm fan. The warm air is blown through a wide duct filled with 850 one-gallon milk jugs containing a mixture of water and methanol. This type of heat storage was inexpensive and has proved to be practical, says Pinkelman. The jugs were donated by individuals in the community, and the 1:8 ratio of methanol to water keeps the mixture from freezing. A second fan pulls ventilation through the heat storage duct where air is heated before going through another duct into the farrowing unit.

A differential thermostat controls the solar fan. A heat/cooling type thermostat regulates the second fan. A third fan also aids ventilation and a backup propane furnace provides supplemental heat when needed.

Pinkelman estimates cost of materials for insulating the barn and building the solar system at $1,900.

He points out that on a typical day in January, the collector may transfer 240,000 btu's of heat energy to air flowing through the system. This would be enough to raise temperature of 850 gals. of water/methanol from 70° to 100°F. When temperature of the farrowing unit drops below 73°F, the thermostat control turns on the fan which pulls warm air from the storage duct into the farrowing unit. If temperature of the storage duct is less than 71°F, the propane furnace kicks in to generate supplemental heat.

For more details, contact: FARM SHOW Followup, Rick Pinkelman, Hartington, Neb. 68739.