

### 3 TO 4-HR. WOOD FIRE CREATES ENOUGH ENERGY TO HEAT HOUSE FOR 2 TO 3 DAYS

## Huge Outside Furnace Stores Heat In Water

You'll like this new outside heating system that uses a 1,500-gal. reservoir of water to store heat.

The new GARN outside furnace is state-of-the-art wood burning, with an airtight firebox that burns so efficiently it doesn't have a chimney. Air exhausted from the firebox contains little smoke or ash when properly dried firewood is used.

The furnace is designed to be placed outside in a shed, garage or barn and can be used to heat buildings up to 500 ft. away through insulated underground pipes. A tightly insulated box is constructed on site around the firebox and its water jacket, which contains 1,500 gal. of water. Just 2 to 3 hrs. of burning in the stove brings the water up to about 200°, which is enough stored warmth to heat the average-sized home for 2 to 3 days in the dead of winter.

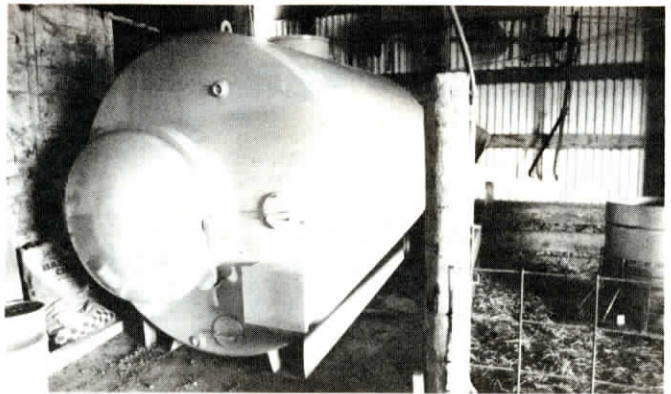
"It can be centrally located on a farm and piped to the house, barn or other locations," says Jeffrey Anderson, GARN representative, noting that one hog farmer — Tom Lawton, Ellsworth, Wis. — recently installed a GARN system to replace two 60,000 btu propane heaters in his farrowing house (they consumed \$2,000 of propane last year) and a wood heater that used about 7 cords of wood in an average winter to heat his house. Lawton now uses only the GARN system and says that he expects to use just 10 to 12 cords of wood for the entire winter.

The GARN system easily connects

with existing heating systems. In forced air systems, a radiator-like heat unit is simply mounted in the forced air ductwork. For hot water heat, the non-pressurized system is simply plumbed into the heating lines or connected via a heat exchange unit. An optional electric element on the GARN furnace lets you take advantage of off-peak electric rates as a back-up system.

The entire burning unit is electronically controlled. Combustion air is fed into the chamber by a powerful fan which causes extremely high temperatures of 1,800° to 2,000° inside the chamber. That compares to about 600° in a conventional wood burners. The first moves from the primary, 24 by 36-in. chamber to a secondary chamber that is also fed outside fresh air to increase burn. From the secondary chamber, exhaust air is channeled through a long series of ducts that run through the stored water, extracting heat from the exhaust air before it is expelled from the unit. Except for initial startup, there is no smoke from the burner and little creosote is formed, according to the company. Exhaust air comes out the end of the unit. If required there's an access hole on top.

The new furnace is so well insulated that even with a full load of heated-up water, the outside jacket doesn't get hot to the touch. The underground heating pipes are encased in a PVC pipe filled with foam



Super efficient wood burner can be placed virtually anywhere.

insulation so virtually no heat is lost in transit.

At this time the system is available through Lennox and other selected heating contractors in Minnesota and Wisconsin. GARN plans to make the system available throughout the U.S.

and Canada by the fall of 1986. The heat-storage unit alone sells for about \$5,300.

For more information contact: FARM SHOW Followup, GARN, 384 West County Road D., St. Paul, Minn. 55112 (ph 612 633-1357).

### Fast Tractor Warmer-Upper

"Before I put this warm-up attachment on my 400 Case loader tractor it took about 20 min. to warm up in the winter with the choke halfway out. Now it takes just 5 to 10 min.," says Marvin Plenis, McLaughlin, S.Dak.

Plenis put a piece of 5-in. dia. stovepipe around his 4-in. dia. muffler. He put a cap over the end of the exhaust pipe, with a 2-in. dia. hole cut in the center for the exhaust pipe. He then ran a 4-in. duct from the top of the stove pipe over to the engine air intake pipe, plugging the end of the duct in winter so the engine is forced to draw in warmed-up air from around the muffler.



Air intake draws warmed-up air in off muffler.

During summer months, he simply unplugs the end of the duct so the engine draws in cooler outside air.

"I've used this idea for about 12 years and I don't think there's anything like it on the market," says Plenis.

### IT'S NOT JUST ANOTHER HARROW

## Chain Link Flex Harrow Is First Of Its Kind

"It's totally unique and far outlasts any other harrow on the market," says Lenny Hill, Hillco Mfg., Nezperce, Idaho, manufacturer of a new chain link harrow that's designed to harrow and level like a stiff harrow but has the trash clearing capabilities of a flex harrow.

Hill says there's a tremendous demand for a rugged new harrow that'll handle tough conditions with lots of surface trash. "This is especially true in heavier soil and in rocky areas where conventional harrows may last less than a year. This harrow will not only last — it's got a 5-year guarantee — but it's designed to stay on the ground at higher speeds, unlike some older harrows limited to slower speeds," says Hill.

The Hillco harrow was developed in the rocky and cloddy fields of northern Idaho and eastern Washington for chemical incorporation, seedbed preparation, crust bust-

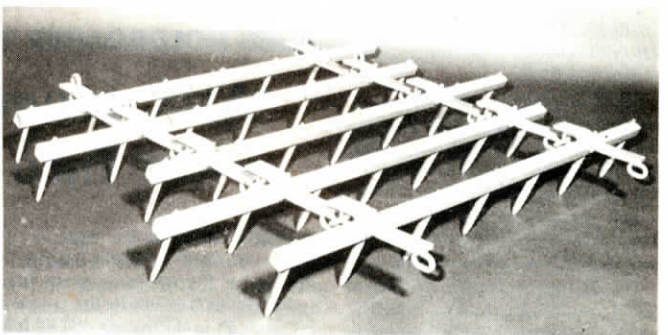
ing, and light cultivating for weed control.

The secret to the new harrow's success is its chain link design. "Unlike harrows assembled with a series of bolts, clamps, and spacers, Hillco's harrow features unitized side-chain construction that uses 1/2-in. high test chain as an ultra-high durability flex point between bars.

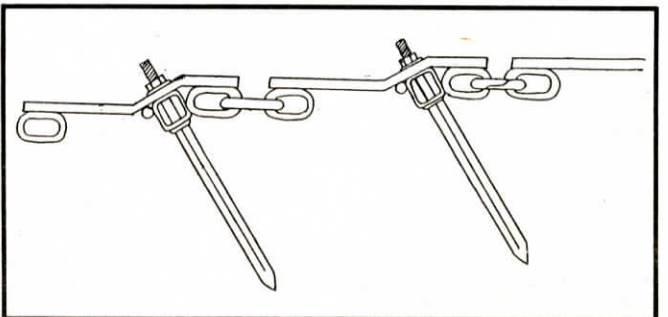
"It's extremely durable and requires far less maintenance than any other harrow ever developed. A 5-ft. wide 5-bar section weighs 132 lbs., and can easily replace 7 to 10 bars of any other flex harrow," says Hill.

A 5-bar section of harrow sells for \$174 and is sold factory direct, fob Nezperce.

For more information, contact: FARM SHOW Followup, Hillco, 107 1st. Ave., P.O. Box 277, Nezperce, Idaho 83543 (ph 208 937-2461).



Harrow can be used to break down and evenly distribute heavy stubble because of its excellent trash-clearing ability.



Teeth are wedged in between a chain link and a 1/2-in. rod to absorb the impact of rocks.