



Frank Cawrse Jr. says he can lay up to 250 ft. of tile per hour with his truck-powered tiler.

NO NEED FOR HIGH-HORSEPOWER TRACTOR

Farm-Built Tiler Uses Truck For Power

You've never seen a tiler like the truck-mounted digger-chain machine built by Frank Cawrse Jr., Lebanon, Ore., that'll dig an 11-in. wide trench as deep as 6 ft. powered only by a "junk" 8-cyl. car engine mounted on the rear of the truck.

With help from his father, Frank Sr., Cawrse stripped the old 4-WD army truck down to the bare frame and cab, and then lengthened the frame to mount the tiler and engine, and to accommodate the two "add-on" 4-speed transmissions installed in the drive line to gear the truck down to a super-slow running speed of about 80 ft. per hour.

"You have to be able to go slow enough. That's the problem with many tractor tilers," says Cawrse, who simply spliced the extra transmissions into the driveshaft and extended the shift levers up into the cab. "Because all the digging is done by the chain, the 6-cyl. engine in this truck has more than enough power and traction to do the job."

The Chrysler 318 8-cyl. engine powering the tiler mounts just behind the cab. It powers a driveshaft that runs to a car rear-end mounted at the back of the truck frame. Cawrse left the brake drum on one end of the rear end and operates it with a hand lever. At the other end he mounted a sprocket which drives a large drive sprocket that powers the digging chain. Since only one wheel will turn if the other is stopped, it acts as a clutch. He simply applies the brake when he wants to engage the digger chain drive sprocket. When he lets up on the brake, the drive chain stops turning and the brake drum spins freely. A pulley mounted on the engine driveshaft runs a side unloading chain — via a drive belt — that dumps the dirt from the tiler about 4 ft. off to the side of the tiler.

The digger chain and its drive sprockets were salvaged from a D-4 Caterpillar. Ditch Witch digger teeth attach to the chain, along with flat,

tooth-equipped digger paddles Cawrse designed to scoop dirt out evenly and pull up rocks — up to 1 ft. in dia. — that get in the way. The chain is supported by two pair of wheels mounted on an ingenious "walking tandem" frame that moves smoothly over obstacles in the field. Two large cylinders lower the chain into the ground.

"It works better in rock than most tilers because of the special digger teeth we designed and because of the use of the car rear end to power it, which acts as a slip clutch if you hit a large rock," says Cawrse. "It'll go as slow as 80 ft. per hour but we have worked as fast as 250 ft. per hour. We laid 1,500 ft. the first day we ever used it and did a total of 5,000 ft. last year, in our first season of use."

Cawrse tiles ground that's got a good grade to it so he doesn't worry about moderating the depth of the digger chain. However, he says you could easily rig the tiler to lay tile on a gradual grade over level ground. In operation, the side-unloading conveyor belt dumps dirt 4 ft. off to the side which leaves room for them to drive over the open trench to install the tile and a layer of 1½-in. dia. rock over the top to aid drainage. The trench is back-filled with a road grader.

"It adapts to varying conditions because you can easily adjust digging speed by varying the speed of the engine on the tiler. The biggest advantage is that we don't need a big tractor to power it so our installation cost is fairly low," says Cawrse, who says that in total he spent about \$1,000 to build the rig.

For more information, contact: FARM SHOW Followup, Frank Cawrse Jr., 35930 Providence School Road, Lebanon, Ore. 97355 (ph 503 451-2508).



Floating end-sections of 30-ft. head work their way evenly over hilly terrain, boosting combine capacity.

FLEXIBLE "CANVAS STRAP" DESIGN ALLOWS IT TO FOLD TO 12-FT. ROAD WIDTH

Fold-Up 30-Ft. Header "Narrows Up" To 12 Ft.

By Mark Jacobs, Associate Editor

"It lets you move easily down any road and floats easily over rough terrain boosting combine capacity 50% or more under some conditions," says Don Loveland, sales representative for the manufacturer of the first fold-up combine head built in North American.

Key feature of the fold-up header, built by Rock-O-Matic, Minot, N. Dak., is the design of the 8-ft. wide center platform which allows the two 11-ft. wings to fold up for transport. Spring-loaded rubberized canvas straps replace solid reel bats. One strap runs between each of the 5 bats on the two reels at either end of the header. In operation the straps remain taut, pulling the crop in like a conventional bat, but when the ends are raised, they sag to make room for the raised wings.

Each wing of the headers floats independently on castor wheels but all three sections raise to the same height. Loveland says the problem with most rigid wide headers is that you have to run low to be certain no part of the header rises above the level of the crop which results in too much straw running through the machine.

"By raising the header to cut the crop at 14 in. high instead of 8 in., we can increase combine capacity by 50%," says Loveland, noting that by raising the header there's also less

grain loss and less chance of rocks and dirt getting inside. He adds that because the straps at the center of the header are spring-loaded, the header wings can flex both above and below the horizontal on hilly ground to follow almost any terrain.

Two 2½ by 16-in. single action hydraulic cylinders raise and lower the wings. The header is completely hydrostatic and is equipped with its own self-contained 20-gal. reservoir power pack, and six hydraulic motors. There are no chains or belts. The header's pto drive simply attaches to the combine drive shaft. The double drive cutter bar is powered by a pair of heavy-duty wobble boxes.

"This header lets you get full capacity out of your combine yet still have the versatility of a smaller machine," says Loveland, who says the header fits most combines. Because of the folded wings it's recommended for use on machines with a center cab. The 30-ft. fold-up header sells for \$15,400. The company also has a 24-ft. fold-up version for pull-type combines and is working on a 40-ft. header that will fold twice. Only a limited number of machines will be available in 1986.

For more information, contact: FARM SHOW Followup, Rock-O-Matic, Box 1607, Minot, N. Dak. 58702 (ph 701 852-5833).



Spring-loaded canvas straps, which act as bats on center 8-ft. section of header, sag loosely out of the way to make room for folding end sections.