



### "Push-From-Behind" Draft Horse Snowplow

"It works much better than I ever thought it would," says Joe Blake, Ottawa, Kan., pleased with the "push-from-behind" snowplow he designed and built for his draft horses.

Blake built his first horse-drawn snowplow several years ago. It had a V-shaped blade and trailed behind the horses. The problem was that it was only good for opening a trail the width of the blade and the horses had to be able to easily walk through the snow they were clearing. After watching his neighbors push snow with blades on the front of pickups and tractors, he wondered why horses couldn't do the same.

To build a push blade, he first drew up plans on paper and then made a scale model. It looked like it would work so he constructed a working-size prototype out of plywood and 2 by 4's. He planned to make a final version out of metal but the prototype worked so well - on drifts up to 4 ft. high - he saw no reason to make it out of metal, which would add weight to the plow. The only metal component on the plow is a metal cutting edge to prevent splitting. The curved shape of the 80 by 34-in. blade was modeled after the shape of a pickup blade.

Teams hitch to the blade like they would hitch to a wagon. Double trees fasten to the rear of the 12-ft. long tongue that runs backward from the blade. Chains go from the breast strap to the back of the blade and are used so the length can be changed for different size horses. There is a solid bar between the breast straps of the horses that lets both horses turn. The tongue is sloped from 36 in. off the ground at the rear to just 8 in. off the ground at the front, creating down pressure on the blade. The blade can be set in five positions, two angling each way and one straight ahead. The angle is changed by removing a single bolt.

Blake says horses need no special training to pull the plow but they must be able to back well since they end up going backwards almost as much as forwards. "If you own draft horses, snowplowing is a good chore for them because it teaches them to work together and it gives them something to do in winter," says Blake, who is considering selling the plows for a price of about \$250.

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### Self-Propelled Post Hole Digger

"It'll dig holes up to 36 in. in dia. and 6 ft. deep in a matter of seconds - even in rocky or frozen ground," says Gilson Screen Inc. of the company's self-propelled post hole digger called the Hydra-Max.

For the past year, Gilson Screen has used the machine to provide a custom post hole digging service to farmers within a 60 to 100 mile radius of the company's headquarters in Malinta, Ohio. The company advertises the service in local newspapers but its best leads come from word of mouth, reports C.F. Cody, president.

"We've dug holes for fences, pole sheds, pads for mobile homes, barns, anchor posts for grain legs, and even a 24 in. by 9 ft. deep hole for a hydraulic hoist inside a barn," says Cody. "Farmers and barn contractors say they can hire us a lot cheaper than they could buy their own high capacity post hole diggers."

The Hydra-Max operator hauls the rig,



which can be towed behind a pickup, to the job site and does the digging for the customer. Cost is \$55 per hour, including travel time and cleanup. "By marking hole locations and clearing the area in advance, farmers can reduce digging time and cost," notes Cody.

The Hydra-Max can dig holes in 6, 9, 12, 18, 24, 30 and 36-in. dia. at depths up to 6 ft. Its hydraulic system provides 22,500 lbs. of torque to the auger and 2,000 lbs. of down pressure to dig right through rocky or frozen ground. Power



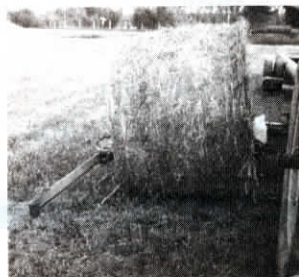
### Self-Loading Round Bale Trailer Rotates Bale 90°

A home-built hydraulically operated trailer lets Edward Peters, West Bend, Wis., load, haul and unload 10 round bales in about 10 minutes.

The bale hauler is equipped with a U-shaped bale loading mechanism that rotates the bale 90° before lifting it onto the trailer. Peters approaches each bale so that its narrow end fits into the open end of the loader arms. When the bale hits the rear side of the mechanism, a hinged arm swings across the front of the bale. As Peters continues to drive forward, the bale's weight pushes the loading mechanism backwards, rotating the bale 90° to the right. The loading mechanism then swings upward to place the bale on the trailer.

To make room for the next bale, a hydraulically-operated pusher plate pushes the bale toward the rear of the trailer. A hydraulic dump cylinder which tips the entire trailer to one side, unloads all the bales at once.

"Most other self-loading trailers can only pick up bales from the side, forcing you to drive crosswise across the field," says Peters, a dairyman who makes about 300 round bales each year. "My trailer allows me to drive in the same direction as the baler. Also, I can unload bales without getting off the tractor instead of unhooking the trailer to unload as you



must do with other trailers.

"Before I built this trailer, I used trucks and wagons to haul round bales. It took two days to load and unload 100 round bales. With my new trailer it takes just two hours."

The bed of the trailer consists of a pair of 46-ft. long, 12-in. dia. steel gas pipe beams spaced 21-in. apart and held together by cross braces. They rest on an axle removed from a 1945 Chevrolet 1 1/2-ton truck.

Edwards says he spent about \$3,000 to build the trailer, which is patent pending. He's looking for a manufacturer.

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is provided by a 23 hp gas engine.

Using a "spinner," the operator steers with one hand and runs the variable speed control with the other. Top speed is 6 mph, forward and reverse. Rear-wheel steering gives the rig a short turning radius.

To remove old fencing, the Hydra-Max can be equipped with a post puller.

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