



Developer, G. I. Morrow, inspects his invention, a unique brushroller. This picture, taken by the Los Angeles Department of Water and Power, shows that the modified spiked road compactor can pulverize and compress more than 8,000 sq. ft. of hillside brush an hour.

Giant Brushroller Compresses Brush

A NEW IDEA for clearing dried brush saves time and money, is a boon for soil conservation, and aids in fire prevention. It was developed by G. I. Morrow, West Valley Operating District superintendent for the Los Angeles Department of Water and Power.

Morrow's weighty idea turned out to be a 3,860 pound modification of the large spiked road building rollers seen at highway construction projects.

The brushroller consists of two tandem steel plate rollers with six inch staggered spikes. Lowered by a D7 tractor down a brush-covered hillside, the roller knocks down vegetation, breaks it up and pushes it into the ground, clearing a seven foot path in one pass.

The winch then pulls the brushroller to the top of the slope and moves it for overlapping sweeps.

Rncico and Stone Canyon Reservoirs in the Los Angeles area were original testing ground for the invention. It proved effective enough to cover 8,400 square feet an hour, an impossible rate if performed by less efficient hand methods.

Another important feature of Morrow's invention is that it eliminates having to clean up mounds of brush since the brush is pulverized and compressed. The compression aids in fire prevention and soil conservation since combustion is difficult:

the packed vegetation blocks oxygen while holding soil in place. Hand cutting can only remove some of the loose fuel that could catch fire.

Brush within 100 feet of any structure must be maintained between three and 18 inches above the ground, according to Fire Department regulations in Mountain Fire Districts. The brushroller meets these requirements best during the dry fire season when brush is easy to crush.

If dried brush is too thick for the roller under normal conditions, the roller's tanks can hold 370 gallons of water to give a total crushing force of more than three tons.

Although this new method of brush clearing will become widespread within the Department of Water and Power, there is one limitation that makes it difficult to use in all locations. The accompanying tractor must be able to travel along a crest or use some level road for necessary balance. Most locations do, however, supply the proper conditions.

As with most inventions, the brushroller wasn't developed without some problems. A prototype constructed earlier proved too light to be effective. Jim Malch, blacksmith at the West Valley District Headquarters, reconstructed the drums with plating twice as heavy as the prototype.

Experimental Irrigation Utilizes "Doze" Concept

Brighton By-Products Company, Inc. has been appointed a distributor of Du Pont Experimental Irrigation Tubing. The tubing utilizes an unique "ooze" release system consisting of flexible porous plastic tubing that places moisture in the root zone with maximum efficiency.

Brush Chipper Firm Includes Disc Brakes As Option

As an option in the redesign of the brush chipper, Mitts & Merrill has included airplane-type disc brakes on the chipper cylinder. The system consists of a brake disc keyed to the shaft of the chipper cylinder, caliper mounted double brake pads, hydraulic master cylinder, connecting hydraulic lines, trip levers, spring loaded actuator, trigger mechanism and ignition system interlock switch.

Mitts & Merrill personnel explain that the actuator must be cocked before the brush chipper engine can be started. In case of an emergency the operator need only activate one of the three trip levers located at the sides and across the bottom of the throat of the feed chute. The brake pads clamp the rotating disc bringing it and the chipper cylinder almost instantly to a full stop.

The stopping force required is almost identical to that required by a car traveling at 60 mph, a Mitts & Merrill spokesman said.

Here is the disc brake with the protective housing removed to show the disc, calipers, hydraulic line and handle used to cock the master cylinder actuator. An interlock switch to the engine ignition is open unless the brake actuator is cocked.

