

The Knowledge Bank at The Ohio State University

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ROAD CONSTRUCTION

By Raymond G. Schmitt

WE'RE out to get a job with the county surveyor, but there's nothing for us. So we grab ourselves what we can get and we finally land a job on the road. It's not with the "lean on the shovel" gang, W.P.A. to you, but with the Highway Department. In this gang we just reverse the methods used by the W.P.A. Instead of leaning on the shovel, we let the shovel lean on us. That's giving the shovel a break, now, isn't it? But coming down to earth, we have lots of work to do, and I mean work.

One of the first jobs is building in a new curve on a secondary road. The original curve is too sharp and branches off in the middle of another. The proposed curve, therefore, is laid out to begin on the straightaway and end on the straightaway, thereby eliminating a double curve. Technically, this is not a curve but an external spiral superelevated on the outside.

Work is begun with a grader that pushes all the excess dirt in towards the bank and brings the ground to the desired elevation. When the grader has finished, a heavy roller moves back and forth, packing the ground in firmly to give a solid base. Meanwhile the men are at work making an eight foot "berm" of the right height, approximately ten inches from the base of the bed. The "berm" may be described as being the distance between the edge of the road and the point where the bank slopes down in a one and one half to one slope. Next comes the first course of stone which is spread, to a great extent, by a spreader box, to a depth of six inches per course. The rest is spread by hand with a ten-prong stone fork. Everything is smoothed over evenly with hooks. Spreading with the "box" is accomplished by having a hoist truck back up to it, hitch up, dump enough into the box at intervals, and move forward slowly. The best type of stone is one which many faces like a diamond. This gives many cleavage surfaces and promises good packing for the "bed". The roller now moves over the stone and packs it. Stone dust is spread on evenly while the stone is being rolled. This prevents "choking" or filling up too quickly. Finally the stone is covered and again rolled until tight. As a final guarantee of packing, a truck moves

back and forth sprinkling water on the surface. This causes the dust to get soggy and settle.

Bring on the second course, and I didn't say "Caviar". Repeating the original process, we bring the new surface level with the old except where the old road needs building up. After filling the course well with dust, we sweep off the excess until the stone just barely protrudes. This affords a better grip for the tar. Here comes the tar wagon operated by a couple of fellows who are supposed to know their business. Our curve is much wider in the middle than on the ends due to convenience. Now what do these dumb bunnies do but tar the outside on the way up and the inside on the way down. Soon they find themselves running over freshly tarred surface and they have to quit because they are tearing up the tar. They should have begun on the inside and worked out. Well, experience is the best teacher, as our heroes find out when they are forced to spray the rest on by hand. Tch! Tch! such people. While the boys are warding off the criticisms of the rest of the gang, let's get the low-down on the tar-wagon. The tank has a capacity of 750 gallons and is capable of covering a stretch 1000 x 16 or a total of 16,000 sq. ft. per load. This means that every gallon in the tank covers an area of 21 1/3 sq. ft. Quite a large order, but it is filled due to the even spread. The new type of tar used is also quick-drying, a distinct advantage in road construction.

Cut-back is used to level off the places where the old road needs building up. It consists of: brown tar, chips, and water mixed together in an ordinary cement mixer. A small roller packs it after it has been shovelled on and then spread with a rake.

Weather permitting, our road will be finished tomorrow when two courses of chips, little stones, are put on to complete the surfacing. Between the first and second courses, a light coating of tar is put on to hold the chips in place. No rolling is necessary as the traffic does the trick. "Chipping" is done with trucks and a rotating spreader attachment whose width of spread is determined by the speed of the truck.

Interesting? Very. You really know what it's all about in a while. And let me tell you, it's worth while just to join up with a gang for a few weeks and see how it's done.