

PATROL MAINTENANCE ON HARD SURFACE ROADS

BY J. S. CRANDELL

Consulting Engineer, General Tarvia Dept., The Barrett Co.

SOONER or later all main line highways will be patrolled by repair gangs whose business it will be to maintain the roads under their care in satisfactory condition. Probably this would have been done long ago except for the fact that it seemed like a needless expense to pay wages to men to keep up roads that were thought not to need upkeep. But from the beginning the railways knew the value of section gangs, and the secret of low operating cost is largely perfect maintenance of track. Highway engineers have to learn the lesson; some of them have already learned it, and have profited thereby.

There is not much use trying to repair and keep in good shape a road built of poor materials on undrained soil. But given a good road, it is a simple matter to keep it in perfect condition all the year round if a system of intelligent maintenance is installed. Under these conditions, a well-built road will last indefinitely. A splendid example of what can be accomplished is found in Lucas County, Ohio. The county surveyor, Cecil L. Rood, has reduced the cost of maintenance from year to year, in spite of higher prices for labor and materials.



FIG. 1—PATROL HOUSE FOR STORING ROAD MATERIALS

There are several points to be borne in mind in maintenance work:—

1. Train the men for the work to be done.
2. Keep on hand an adequate supply of materials for maintenance.
3. Use labor-saving devices.
4. Provide shelter where men can work in bad weather.
5. Keep materials, tools and other equipment locked up when not in use.
6. Keep accurate records of all work done, with cost, time, materials, etc., included.
7. Get out on the job often and "stick around."

One of the best investments in starting a patrol maintenance system is the acquisition of a building in which material and equipment may be stored, and where men can work. Such a building is illustrated in Fig. 1. Here a mixing board has been placed on which Tarvia KP and stone are being mixed as a patching material. (The mix should be stored away for a few days before using.) In this patrol house are kept shovels, screens, brooms, pick axes, wheelbarrows, sledge hammers, lockers for the men, etc. The house is well ventilated, and on a rainy day two gangs of mixers may be kept busy mixing and storing away the patching material for future use.

Often an old house or shed may be acquired for a patrol house. A little repairing or painting will make it suitable and attractive. Nor is it necessary to provide new and expensive equipment throughout. Fig. 2 shows how a bar-



FIG. 2—THIS RIG COST JUST TWO DOLLARS

rel of Tarvia KP has been mounted on an old fire hose truck that had been discarded years ago. For \$2 it was made into an excellent vehicle for moving barrels from the yard to the job. Similar economies will occur to the observant foreman or engineer.

If the mileage to be covered by a patrol gang is extensive, it will be cheaper to buy a one or two-ton motor truck than to haul with horses. The wages saved by reducing time lost getting to and from the job will soon pay for the truck.

Many cities and counties are keeping their supply of bituminous patching materials in storage tanks. A convenient form for town or city plants is shown in Fig. 3. If the tank is to be used along country roads, it is better to place it with the long axis horizontal instead of vertical, and to elevate the tank sufficiently so that the cold patching material may flow by gravity into the wagons or trucks that the maintenance gang uses. Such a tank is inexpensive; about \$150 for a tank holding 1,200 gallons is a fair price. The advantage far outweighs the initial cost.

Fig. 4 shows a convenient form of wagon for bringing the mix from the patrol house to the job. The one illustrated is a cart used formerly for collecting ashes and garbage. A bottom dump wagon is not so handy a type for this kind of work.

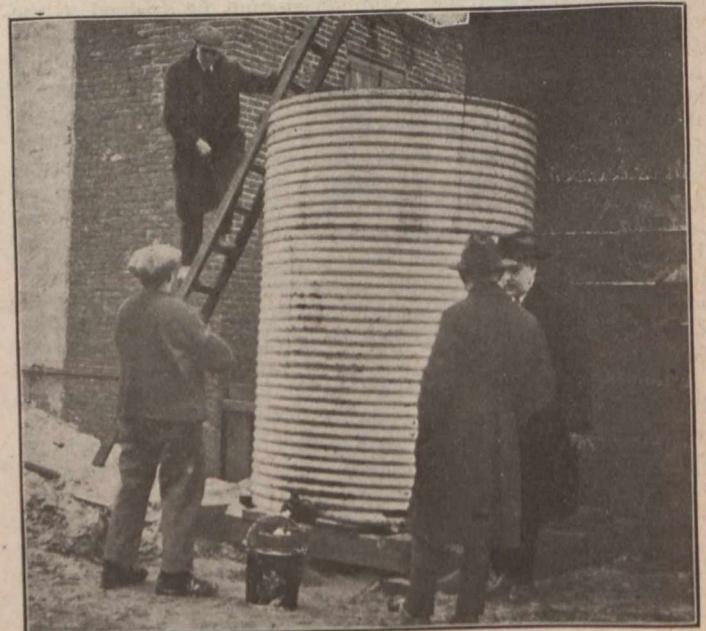


FIG. 3—INEXPENSIVE MUNICIPAL STORAGE TANK