

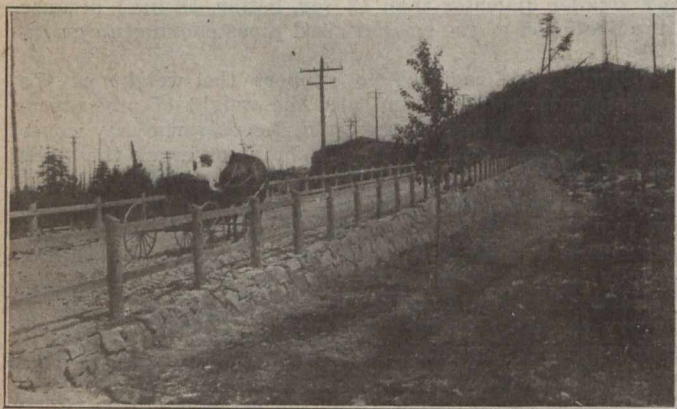
ROADS IN COLEMAN TOWNSHIP

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velopment of a new mine or prospect; second, a small money grant by council to open a trail passable for teams with 800 or 1,000 lbs. wagon load. Then, if continued development justified the expense, a thorough grade reduction and realignment where necessary, widening and macadamizing were successively undertaken.

The materials of construction were principally rock; in outlying districts, generally boulders; in the central mining sections, waste rock from the mines.

In most of the township there is very little overburden of soil available of suitable quality. The waste mine rock was given willingly in most cases. Rock running as high as 40 ounces of silver to the ton was at one time considered waste. The limit was rapidly lowered to 20 ounces on the introduc-



DRY-ROCK RETAINING WALL FOR GRADE REDUCTION FROM 18% TO 5%

tion of concentrating mills, then to 10 ounces when cyaniding was found to work successfully, and now—owing to the increased value of silver and the introduction of oil flotation methods of recovery—mine managers would probably hesitate to give away rock running over 5 ounces of silver per ton. I have no doubt that some of the original rock fills will eventually be removed and milled. The question of ownership of this rock may then become quite a live issue. Many fine pieces of high-grade silver were found in the rock piles by the workmen.

On the question of alignment you will have gathered that it was usually a case of getting around or through, using the best location available, knowing little and caring less what the degree of curvature might be. There were no automobiles there then. The first roads were built for one-track team traffic to get supplies into the mines and ore out. Consequently, these roads, which are now used very largely by autos, provide many thrills, and are in some places quite dangerous.

Excavation Provides Thrills

Rock excavation and dry rock retaining walls were two very interesting portions of the work. Owing to high cost, extensive rock excavation was avoided where possible. It was cheaper to make fills from mine dumps than by excavation. When we did have rock excavation, it was generally in some very restricted quarter where great care had to be exercised to avoid damage. One of the accompanying illustrations gives some indication of the cramped quarters in which we sometimes worked. The fact that no serious damage ever occurred, and slight damages very infrequently, can be attributed to the skilled miners obtainable and to constant watchfulness and insistence on "safety first." Carelessness in these conditions meant instant dismissal. And it is truly remarkable how little damage is really necessary, even in such close quarters.

Considerable rock work was done in the town of Cobalt on Cobalt St. and Prospect Ave., and along the Haileybury

road at mileage 105. Dynamite was also in constant daily use by several gangs throughout the township for removing boulders, stumps and small rock outcrops.

The first dry rock retaining walls were built loosely, perpendicularly, and with little care, and after the purchase of a road roller many of these had to be rebuilt. They were not laid by regular masons, but by ordinary workmen who showed capabilities along this line, and who were trained and assisted for a short time and then paid a little extra over regular workmen's pay. They were not only lower-priced men, but would lay nearly double as much as regular masons.

Profitable Retaining Walls

These well-built dry walls paid for their construction several times over in the saving of material necessary for the fills, beside presenting a very much better appearance. For simple fill protection, facing stones are generally laid on edge so as to cover as large a surface as possible, but in all of these walls the stones were laid on the longest dimensions, and often a stone presenting only a small face, extends 3 or 4 ft. back into the fill as a tie. Strength was our prime requirement, and the road roller could work right to the edge of these walls if necessary.

Having purchased a road-building plant, an experienced road superintendent was engaged and work started in the spring of 1910. Then the real difficulties started. There seemed to be something wrong with the works. Old Ontario methods with which the superintendent was familiar failed to give results.

Standard specifications were reread and studied and every effort made to force them upon an unwilling material;



BLASTING ROCK ON A COBALT STREET WITHIN 20 FT. OF A HOUSE—NO DAMAGE DONE

but without avail. Specifications say that when the macadam stone is laid and spread it shall be rolled until "it ceases weaving or creeping ahead of the roller wheels." This condition could never be obtained. Stones refused to bind, but rolled around loose, no matter how much rolling was given.

Again, the specifications say that when the screenings are added, brushed in and sprinkled, there shall be formed a wave of mud or slurry ahead of the roller wheels. Failure number two; no such condition was ever obtainable.

Such refusals on the part of our refractory material were very disconcerting to the engineer in charge, and for a time caused a vast deal of worry.

Then again, one section of road would "make up" quite readily and satisfactorily, while adjoining sections would