

provement of roads. They are also based upon horse-drawn haulage, consequently, the saving possible from motor vehicle haulage greatly increases the penalty.

One of the main arguments for the recent \$200,000,000 increase in the United States federal aid, was that it would encourage the states to go ahead immediately with their road building programs by assisting them in meeting the higher cost of construction, and to accomplish that, the original federal aid law was amended by increasing from \$10,000 to \$20,000 the cost per mile for federal aid participation.

It has been said that some manufacturers have stated that the price of materials could be reduced, but that reduction was being prevented by certain leaders of the industries. If such is the case, and there are sound reasons whereby reductions in price of road building materials may be made, they should be, and without delay, but I would remind you of a statement made during the war by Edward N. Hurley, based upon government investigation, that many of the manufacturers did not know their cost of production and that 90 per cent. had not been making any money and 5 per cent. less than \$5,000 per year.

We are sometimes too willing to cry graft and extortion. More than any other nation on earth we stand in need of good roads and thousands of miles of them.

The adjustment of prices to what may be the new normal level can be accompanied by prosperity just as great as we have had during the raising of prices, providing we keep right on doing business.

With capital and labor which has been devoted to the war turned into avenues of production for the things which are so essential to our industrial progress and economic life, the earnings of that capital and labor will develop an enormous market for shoes, clothing, food and all the other commodities made for the comfort or to meet the desires of mankind.

With consuming and purchasing power thus sustained, our farms and factories will continue to team with activity, and prosperity will abound throughout the entire land.

With capital and labor fully and profitably employed, the only price effect will be the adjustment and probable decline of speculative prices—a result that can but little affect the normal level of legitimate values.

#### Conclusion .

Now, I have endeavored to give you definite, tangible facts which show clearly the fundamentals of the situation. The understanding of this situation, if confined solely to this audience, can do little to aid in the solution of the immediate and pressing problem.

If the public, as a whole, can be brought to a quick realization of the facts, we can all go ahead confidently and enter the era of great prosperity which is certainly ultimately ahead of this continent.

I believe that you should be preaching these facts to your communities and should not wait for the logic of events to force the public to the correct understanding.

The House of Commons' railway committee has approved of an extension of time for the construction of the Central Canada Railway, an enterprise which is now in the hands of the exchequer court. The expiring charter authorized the construction of a line from Montreal to Georgian Bay, via. Ottawa.

A number of representative organizations in Calgary have joined forces in the formation of a Good Roads Association. Mayor R. C. Marshall is the honoray president; Jas. W. Davidson, president; P. A. Wintemute vice-president; W. S. Davidson, secretary; W. F. W. Lent, treasurer. The Dominion and provincial governments will be asked to see to it that the road connecting Calgary with the National Park is put into good condition for motor traffic.

## USE OF TIE-TAMPING MACHINE INCREASING

By A. W. SWAN

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IT has been stated by a prominent railway official in the United States that "no tool in recent years furnished to the track forces has filled a greater void than the power-operated tie-tamper." In the few years that the pneumatic tamper has been in use, it has been adopted by over fifty railroads in the United States, and its use is increasing very rapidly, not only in the east where stone ballast is more or less standard, but in the west and middle west where gravel ballast of the kind more commonly seen in Canada is employed.

The pneumatic tie-tamper "is a mechanical pick." With its rapidity of action the tamping is bound to be more uniform than with hand labor, and results on a number of railways have proved that as a matter of fact the work is better. In crowded yards the tamping machine is of particular advantage around frogs and switches, as it is possible to reach with it places not possible to get at with the ordinary pick or bar.

The tie-tamping outfit consists of a two-tool or four-tool outfit with portable compressor, gasoline-driven. For the tool outfit, one foreman and four men are required.



TWO-TOOL TIE-TAMPING OUTFIT SHOWS 38% SAVING IN COST OF WORK

Comparing the expense with that for hand labor with the same size of gang, the saving shows in the greatly increased speed, approximately twice the work being done in the same time, which gives a considerable saving, including all expenses of gasoline used, wear and tear, etc. According to the size of gang used, and whether a two or four-tool outfit is used, the current United States figures per mile are: For hand labor with one foreman and four men, \$390; for the same gang with two-tool outfit, \$240 (actual figures). With a larger gang and increased speed, the cost per mile with the four-tool outfit is \$250 as against \$450 per mile for hand tamping at the same speed with hand labor. Experience shows that each machine will tamp about 50,000 ties per season.

The bits supplied for tamping are 18 ins. long, and are supplied in three widths according to the type of ballast, the broader bit for the looser ballast. It has been found that it is worth while to train a man specially to look after the gasoline engine and portable compressor, keeping him on that work only.

As shown above, the cost per mile is not materially different with the four-tool outfit as compared to the two-tool outfit, but the speed is practically double, with a corresponding advantage. The compressor car is self-propelling and takes the men to work under its own power. The compressor car is easily removed from the rails on cross-skids. The amount of work varies from 400 to 700 ft. per day. The speed of the car running to and from work, bearing the section gang, is fifteen miles per hour, and the car can be removed from the rails in one minute.