

**STEEL TRACK
HIGHWAYS;
PP. 1-46**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649279593

Steel Track Highways; pp. 1-46 by Various

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

VARIOUS

**STEEL TRACK
HIGHWAYS;
PP. 1-46**

STEEL TRACK
HIGHWAYS.

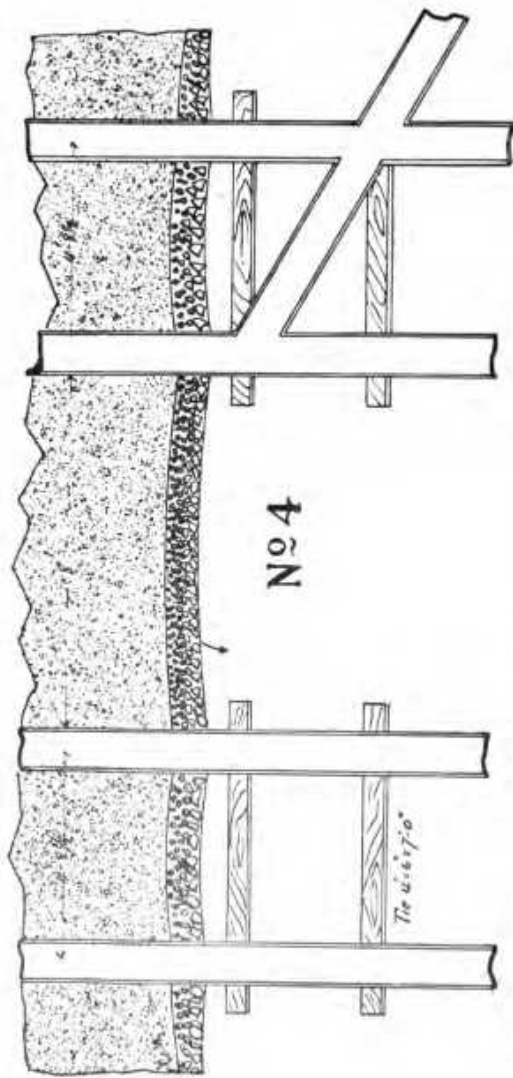
TRANSPORTATION LIBRARY

Q'DONNELL STEEL TRACK CO.

NEW YORK CITY.

NEW YORK:
ELECTRIC PRESS
149 CHAMBERS ST.

1886



No. 4 SHOWS A DOUBLE STEEL-TRACK ROAD 24 FEET WIDE. THE OUTSIDES ARE MACADAM, AND THE SPACES BETWEEN THE 5-INCH GUTTER STEEL BALLS. THE DIAGONAL CONDUIT TAKES THE WATER FROM THE TRACK. THE CUT SHOWS THE ROAD TIES AND THE FINISHED ROAD.

J. report
10-17-32

Transportation
Library
TE
245
026

6-20-32-14

THE COMING ROAD OF AMERICA.

THE COMING ROAD OF AMERICA—A STEEL TRACK HIGHWAY.

On the 26th of October, 1895, at the Road Parliament of the Atlanta Exposition, for the first time was presented to the public a model of a gutter steel track road. This Parliament, composed of road experts appointed by the Governors of the different States, in all more than one hundred and fifty, after a critical examination and extended discussion of the proposed steel track highway, passed unanimately the following resolution:

Resolved, That we recommend the construction of experimental lines of steel track highway at various points throughout the States for public travel in order that the practical value of such system may be determined.

Although not a page of literature has been published by its projector—Hon. John O'Donnell, Lowville, N. Y.—until now describing this proposed highway, he has been overwhelmed with letters of inquiry from all over the United States as to cost and where the steel track could be procured. It was impossible to answer the inquiries definitely, as negotiations were pending with steel companies on the subject. These companies very naturally hesitated to assume the large expense of making rolls to roll the proposed steel track without an exhaustive investigation of the patent (granted just about the time of the Atlanta Exposition) and the utility and public demand for steel track highways. This caused a delay of some weeks, resulting in a contract with the Pennsylvania Steel Company of Philadelphia to fill all orders for rails based on the market price of steel billets. This company have secured the exclusive right to manufacture and sell these rails in all the States east of the Alleghany Mountains, including Eastern Pennsylvania; also the right to sell in any territory outside until further notice. With this introduction we answer the question, What is a STEEL TRACK HIGHWAY?

In its general appearance at a short distance it looks like a horse railroad. Upon a closer inspection the steel tracks are gutter shape, 5 inches wide, flat on the bottom, with sides about $\frac{1}{8}$ an inch high, then extending outwards at a right angle about $\frac{1}{4}$ an inch to $1\frac{1}{4}$ inches, more or less; then downward, where it is spiked to a longitudinal timber, which makes the track perfectly smooth, with

no spike heads or bolts. The track on the inside edges is slightly rounded to facilitate turning off or on the track.

HOW THE ROAD IS BUILT.

First the road bed is graded the desired width. Twelve feet is a good width for an ordinary one-track road, the steel track being placed on one side, but on a thoroughfare the road should be wider, and still wider for a double-track road, which is the model road where there is large travel. When the track is placed on one side of a road the other side is made of the same material as the filling between the track, so as to make a solid roadbed to turn out on with loaded vehicles. First the road is graded or levelled with a ditch about 8 inches deep. When finished this ditch will be about 16 inches deep. The ties are about 4 by 6 inches and 7 feet long, projecting a little beyond the track timbers, which are laid 4 feet $8\frac{1}{2}$ inches from centre to centre—the standard gauge for railroad cars and all other vehicles. The ties are spaced about 3 feet apart more or less, depending upon the hardness of the roadbed. Upon these ties are laid longitudinal stringers or timbers about 6 inches wide to fill the space between the bottom flanges of the steel track, and 4 inches thick, more or less. The timbers being securely spiked to the ties, the rail is spiked to the timber 4 feet $8\frac{1}{2}$ inches from centre to centre—the standard gauge for all railroads and wagons. The road is now ready to fill between the rails and at the sides with stone, macadam finish, or any other suitable material.

HOW THE SURFACE IS BUILT.

All standard authorities on road-building insist on one fundamental principle, that the rainfall must be conducted off from the surface of the road to the side drains. Macadam and Telford roads are crowning in the centre, so that the water may run off rapidly to the sides. By reason of heavy travel on these roads wagon grooves or ruts are formed where the water rests, and if not speedily filled up and repaired the road is inevitably spoiled. This constant repair of such roads by reason of wheel ruts makes their proper care very expensive, and the cost of these repairs alone will pay for steel tracks. Between the steel tracks, and at the sides, the proposed width is filled in with stone or gravel, sand or even good earth up to about three or four inches of the top, and on the top a macadam stone surface is made and properly rolled smooth and hard, about two inches crowning at the centre to the edge of the steel track, where it projects up when first made one-fourth of an inch, but in course of wear this edge will wear down level with the track. It will be readily seen that all the rainfall will run off the road into the gutter track, which in turn is conducted to the sides of the road at suitable intervals by surface side conduits about the size and shape of the rail, or by small paved stone gutters. The side of the road from the track outwards is a little depressed on the outside to conduct the water to this side of the road. The gutter track makes

a perfect drainage, but without the side conduits would be worthless. The roadbed underneath will be as dry as though housed by a shed, only the natural moisture from the bottom penetrating the roadbed. This description is of a first-class steel track with macadam surface, but a

MUCH CHEAPER ROAD

can be built with steel tracks. The wood ties laid crosswise of the roads, with the longitudinal timbers on both sides, make a strong crib to hold in place any material used, which is a very important factor, for with such a crib a 4-inch surface is stronger than an 8-inch roadbed built in the ordinary way. This crib is also very important in building a road over swampy or wet places. To build an ordinary country road where there is gravel and sand, or either alone, the roadbed may be filled up to 4 inches of the top, and after being properly rolled, stone may be used to finish the surface, as in the first case, or if there is sand and blue clay the road may be filled with sand and the top surfaced with clay with a liberal sprinkling of sand, and when rolled and dry the surface will become hard, like tile, and shed rain as well as a stone road. For an ordinary cross-road the track may be only 8 feet wide, and the sides filled in with any material that will hold an ordinary wagon load. A still cheaper farm road may be built by using a flat steel track 6 inches wide. This track is spiked with a hook-head spike to the timbers with beveled wood sides about 3 inches wide spiked on to the longitudinal timbers lapping over the iron $\frac{1}{4}$ an inch on each side. Such a road can be built very cheaply if built by owners of lands or contractors along the route. The wood sides, when worn out, can be easily replaced. This cheap form of road is also used to connect a highway with a farm residence or barn by the owner, thereby practically making a steel track highway to his own door. Another important fact in building steel track roads is that as soon as the steel track is laid carts or wagons can be put on to haul material to fill. This material can be hauled by one horse twenty miles on the steel track cheaper than a team can haul the same load on a dirt road one mile. The saving in hauling material alone on the steel tracks in some localities will pay a large part of the construction.

ARE SUCH ROADS DURABLE?

The question is asked about the durability of the steel track and the track timbers. A good railroad tie on a dry surface will last from ten to fifteen years, although constantly exposed to the rain and sun, which continually disintegrates and destroys the road. The ties in a steel track road are entirely covered from the rain and sun. It is believed that the life of such ties and timbers will be more than doubled by being thus protected, and if painted with coal tar or other wood preservative their durability will be from twenty to thirty to thirty years. It is not unusual to take up a fence post or timber so protected that has been in the ground fifty or more years. Much

depends upon the kind of timber, the time of year cut and whether seasoned or not when used.

The roadbed on a macadam or ordinary road is not materially injured by the tread of horses. It is the wagon wheels that do the damage. These form ruts, and although small at the beginning, hold a quantity of water, and by continual use rapidly increase in depth, and the expense of constant repairs is very large. The steel track, on the contrary, is always smooth and firm, and the roadbed being only subject to the tread of the horses, the repairs are very slight, and the entire roadbed is practically indestructible.

HOW MUCH WILL A TEAM DRAW?

Upon a level steel track a horse will draw twenty times as much as on a dirt road. This is a marvellous economic fact which hitherto has not been utilized by the public. The annual loss in hauling produce and merchandise to and from markets off the lines of railroads is simply enormous. On such tracks one horse will draw far more than two on an ordinary road. The farmer saves one horse and fixtures and his keep, fairly worth \$125 per year. Then the time on the road will be reduced 50 per cent., and the "rainy spell" will not hinder going to and from market, which is virtually a saving of six weeks in the year. The advantage of being able to go to market in the "rick of time" is of immense importance, for after a "bad spell," when the roads are "settled," the market is glutted and prices go down—all of which loss falls upon the farmer.

The December Bulletin from the Road Department at Washington says:

"The national importance of this subject is fully set forth in the bulletin from the Road Department at Washington as follows: '313,349,227 tons of farm products were hauled over country roads at a cost of \$663,869,000, and on this basis the cost was over 24 per cent. of its value to haul to home markets.' Commenting on these important figures, the department says: 'This increase in cost of haulage is by no means the only loss by bad roads. The loss of perishable products for want of access to markets when the market is good adds many millions to the actual tax of bad roads. The enforced idleness of millions of men and draught animals during large portions of the year can hardly be estimated. Information in the department of road inquiry indicates that nearly two-thirds of this vast loss can be saved by road improvement, and this at a total cost not exceeding the losses of four years.' These cold facts ought to bring a blush of shame to the statesmen of the nation and to the several States for their almost criminal neglect of good roads.

This annual loss for a series of years, if saved, would build steel track roads over every principal highway in the United States, and add untold millions of dollars to the wealth of the people.

STEEL TRACKS COMPETITORS WITH RAILROADS.

Nor is this all. A steel track highway will be an active competitor with lateral railroads connecting with main lines, for slow

freight can be hauled on a steel track road for short distances at less cost per ton per mile than on a steam road, and at less than half the average charge on lateral roads for a distance less than fifty miles. If these statements are true steel track roads mean an economic revolution. The uniform practice of all trunk or through lines, in the language of one of the highest railroad officials in the nation, is to charge "all that the traffic will bear," which literally means, to meet the fierce competition of rival routes to the seaboard the freight along lateral roads shall be charged enough more to make on the whole a satisfactory profit. This uniform practice of the trunk lines, who control all lateral feeders, has been carried to such lengths that freight to and from a distance of a thousand miles is carried to and from market at less per ton than is charged on lateral roads for a hundred miles. The following instances out of a great number will illustrate the great wrong done to the producers and consumers of the United States: Gen. Curtis, now Member of Congress from St. Lawrence, N. Y., declared on the floor of the Assembly, of which he was then a member, that he could ship a barrel of onions from his farm to Chicago and from there to New York cheaper than he could ship direct by rail to that city, although the distance via Chicago was more than fifteen hundred miles more. In an examination held in New York City in September, 1935, to reduce the rates on milk, on certain railroads leading into the city the railroad officials testified that they charged as much per can for milk shipped into the city three miles as for three hundred. There is not a State in the Union where similar instances of oppression do not continually occur.

SLAVERY OF SHIPPERS TO RAILROADS.

The result of such a policy is to enslave the farmers and manufacturers of the country. The most absolute tyranny in the fixing of rates has been the rule of railroads, particularly on lateral roads. On main lines pools and trusts usually fix prices. These are broken by quarrels or otherwise when it is to the interest of the conspirators. Under this oppressive policy of the railroads the natural law of geographical "nearness to market and increased value of farm lands" has been reversed, and as a consequence farm lands in the State of New York have declined in value at least 50 per cent. in price since the constructing of trunk lines through the State. This decline began upon their completion, but was arrested in part during the war; but since then the decline has gone on with accelerated pace, until the farmers of this State are practically bankrupt. And the same applies to all other States where trunk railroad lines control, particularly in the South and West.

THE MASTER AND THE SLAVE.

Before the War the slave toiled for his master, and his imperious will was law. To-day the farmers and business classes are in abject slavery to the railroads. In all other business the buyer and seller