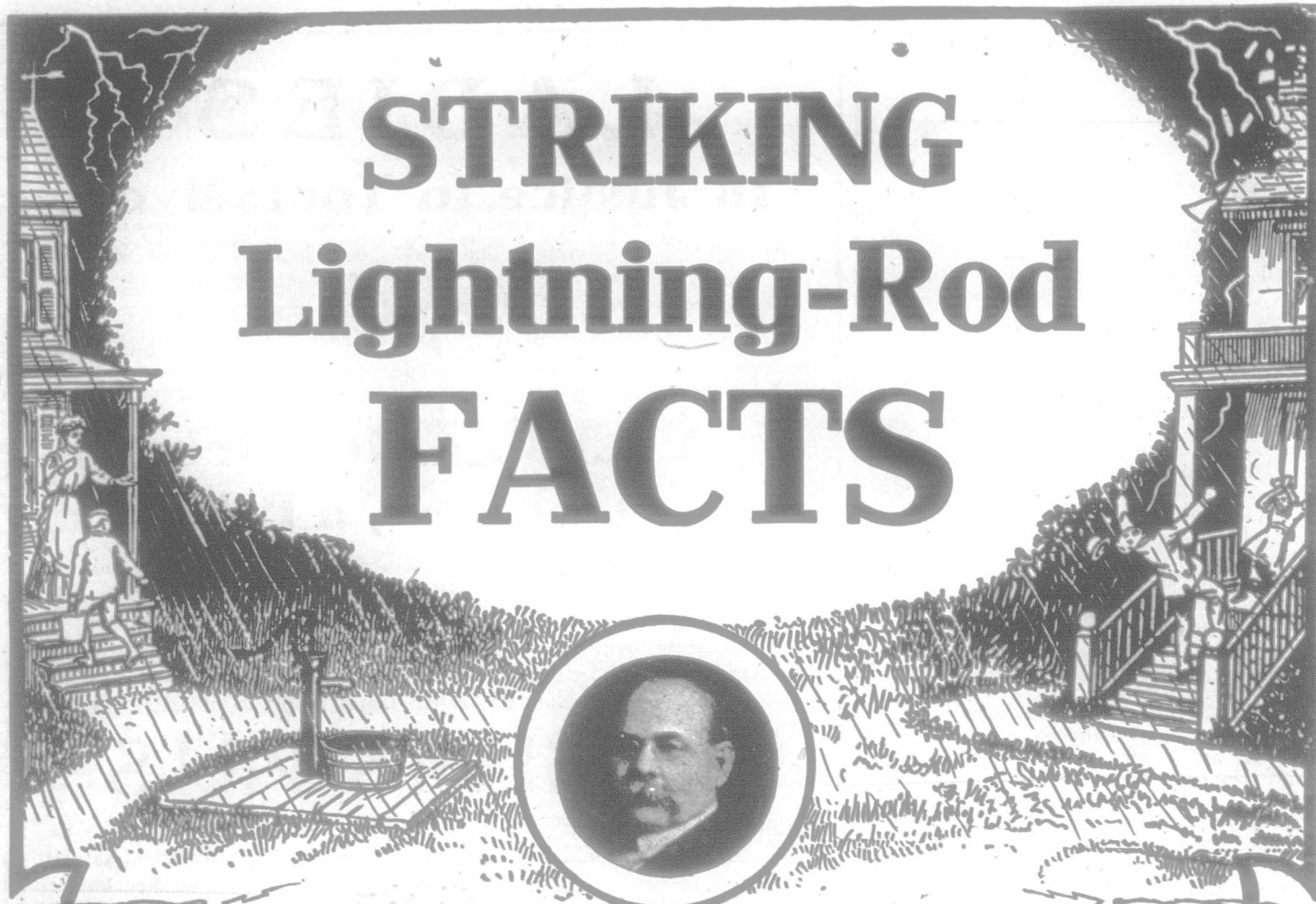




STRIKING Lightning-Rod FACTS



PROF. WEST DODD Stands Between Life and Death

In one year, in one state, 111 fire insurance companies report 2960 fire losses on farm buildings—2165 of which were caused by lightning. Think of it—lightning causes over 75% of all fire losses in the country and suburbs of cities. Lightning is responsible for the loss of thousands of lives and millions of dollars' worth of property and stock.

Prof. West Dodd's Wonderful Invention,

D. & S. Woven Copper Cable Lightning Rod and System of Installation, has given to humanity perfect safety and protection from this terrible destroyer. Safety for the home and family. Protection to animal life and property. The

D. & S. Rod and System of Installation is the only one endorsed by the Mutual Insurance Companies of the United States and Canada—this absolutely regardless of all like claims made by agents other than our own.

It Pays For Itself.

Leading fire insurance companies of the world (list of them sent free upon request) will allow 10 to 33% per cent off your insurance bills when your buildings are protected by D. & S. Rods. Thus it quickly pays for itself—

And Then Begins To Save You Money When Your Next Insurance Bills Come Due.

The D. & S. Rod—highest and finest grade materials and workmanship obtainable; 30 pure soft copper wires, so scientifically arranged that the entire surface of each wire has its full independent power for work. Numerous un-

scrupulous concerns advertise and endeavor to sell imitation lightning rods and systems of installation which they take pride in craftily claiming are like the D. & S. Woven Copper Cable Lightning Rod and System of Installation.

We Appreciate Compliments.

but—if you want reliable protection—turn imitations down—insist on and accept nothing but the only genuine lightning rod ever invented—the rod trademarked D. & S. Every one fully guaranteed forever. A guarantee that with us amounts to something. To you—it means absolute protection against loss (fully explained in catalogue—send for it). "Thousands of satisfied customers are our best advertisements—they know they are safely protected." More D. & S. Rods sold than any other 3 makes combined.

Make yourself, your family and your property safe.

To-day—without fail—fill out this coupon and mail to
Dodd & Struthers, 453 Sixth Avenue, Des Moines, Iowa

Please mail without cost to me Prof. West Dodd's Book, "The Laws and Nature of Lightning."
Also tell me how to save money on insurance.

Name _____

Town _____

State _____ R. F. D. _____

water quickly and thus prevent it from becoming dammed up to the injury of the road.

The above remarks apply in an equal manner to other types of roads. Wheel tracks very soon form on a newly gravelled surface, particularly if left to be consolidated by traffic. These tracks are formed to a certain extent by some of the gravel being forced downward, but to a greater extent by the material being forced outward. They should receive constant attention until they become well consolidated, by having them refilled, by raking the material back into them and adding fresh material where needed. If this is neglected, the wheel ways, which should be the strongest part of the road soon becomes the weakest.

LOOSE STONE DETRIMENTAL

Loose stone should never be allowed

to lie around on the surface of a road. They should be at once picked up and piled along the side of the road allowance or hauled away. Besides the discomfort occasioned by vehicles jolting over them, they are a menace to horses stumbling and injuring themselves. The vehicles and the road suffer alike from the effects of the heavy loads passing over them, or being thrown sideways over them; no small number of ruts have been started from this cause. When ruts and depressions in the road appear they should be at once attended to by being filled up with the same material, as the surface. If this is earth they should be filled with earth; if gravel, they should be filled with gravel; and if stone, they should be filled with broken stone. If a soft material is used on a hard road, the hole will quickly

reappear, and if a harder material is used than the road is made of, it will cause two holes to be made instead of one, by the wheels of wagons dropping on to the softer material.

The maintenance of a road is just as important as its construction, for without it they deteriorate. There are so many agencies, such as rain, snow, drought, wagon traffic, steel-shod hoofs, narrow tires, which combine powerful forces, that tends to flatten, cut up and destroy roads, that unless some systematic effort is made to counteract them, the results will be heavy expenditure for repairs, and improper and unserviceable conditions of the roads for the greater part of the time.

Here again is where the value and importance of a road superintendent shows itself. With constant inspection

he would be able to detect and have repaired at once at a minimum cost any break or irregularity that might appear on the surface of the road, which would result in the road being kept at a higher standard of efficiency at all times, and its condition improving rather than deteriorating.

INSPECTION AND REPAIRS

More especially in the early spring and fall times should attention be given to such inspection and repairs. In the early spring before the water begins to flow in the ditches, the ends of culverts should be cleared of any snow and ice that may have accumulated there during the winter, and in the early fall the road should be made as smooth as possible, so as to have them freeze in this condition, that when the snow begins to melt in the spring the water will not be permitted to lie in ruts and depressions in the surface, but be shed into the ditches as soon as it appears.

It is the neglecting to attend to the many small details in connection with the improvement and the maintenance of the road that necessitates the large expenditure of money for repairs. When this duty devolves from one councillor to another, it is almost sure to be neglected. It should not be expected that these men will place their own private business interests in a subordinate position to the carrying on and looking after a work that is entirely public in its character.

The responsibility for the execution of the work should rest upon the shoulders of some one person, paid as a public servant and directly responsible to the municipal council.

ROAD MACHINERY NEEDED

In order to secure the greatest results from the money expended and obtain the most durable work, it is necessary that modern machinery and tools be used in constructing of roads. Among the other more common tools should be found slush scrapers, wheel scrapers, a roller and water wagon in the road plant of every municipality. The use of a road roller is strongly recommended. It produces a great saving in the amount of material required, and when a road is completed it is at once in the best condition for traffic. It is not only the road covering that requires the rolling, but also the surface upon which this covering is placed. Especially is this true for macadam roads. Throwing the broken stones on an undrained and rolled earth surface, it is necessary to build them massive; but no matter how massive they may be made they will have no cohesive strength, they will never be impervious to the mud from below or the rain from above, and will always be unsatisfactory.

USE OF WHEEL SCRAPERS

Wheel scrapers are necessary in handling material when it has to be moved over 50 feet. Very often roads are graded over small rises in the ground for the want of wheel scrapers to move the material from such points to the low places. This is a sad mistake, as those ridges should be cut down and the hollows filled up. One great advantage to be gained from this, besides doing away with unsightly pitches in the road surface, is that the depth of open drainage ditches on the sides of the road are very much lessened without diminishing their drainage capacity, rendering the road more secure to the travelling public.

It is incredible, when we see the vast improvements and developments going on around us in other lines of work that so little has been done to handle this great work, the greatest that any municipal government has to deal with, with improved, modern and up-to-date methods.

BUILDING BRIDGES

Strong, substantial bridges on the public highways are an urgent necessity to ensure the safety of all who use them. They should be sufficiently strong for all traffic that may come upon them. Traction engines subject the highway bridges in the rural districts of this province to the greatest strain put upon them, and it appears that the tendency at the pres-