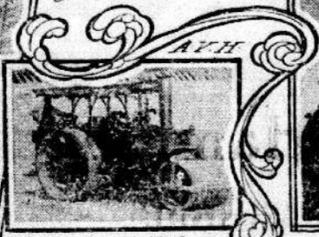


The NATIONAL Good Roads MOVEMENT

By Waldon Parrett



A Good Road Maker



Road Engineer Testing Quality of Cement

Testing Rock



A Fine Example of American Road Making near Savannah

ANOTHER important milestone in progress toward the goal of universal good roads in America will be reached at Cleveland, September 21 to 23, when the national good roads convention will be held. This grand gathering in behalf of highway improvement throughout the republic will be under the auspices of the most influential bodies in the country that are especially interested in this commendable cause—organizations and institutions such as the American Automobile association, the National Grange, the United States government office of public roads and the American Roadmakers' association. The conventions which have been held in recent years in furtherance of the crusade for good roads have shown a steady and rapid increase in scope, attendance and enthusiasm aroused, and there is every reason to anticipate that the big gathering at Cleveland will prove the most notable of all such assemblies and the most influential in results attained.

Up to this time America has been far behind Europe in the maintenance of good roads, as might be expected in the case of a younger nation, but with the tremendous awakening of the past few years to the necessity of highway improvement there is reason to hope that the United States will ere long be within hailing distance of the nations of the old world in the matter of its arteries of travel and commerce. Unquestionably the greatest new factor that has appeared in aid of road improvement has been the automobile. With the tremendous volume of motor touring as a popular pastime has come an emphatic chorus for better roads—a clamor so loud and widespread that there has been an arousal of many interests that formerly paid scant heed to the needs of our suburban and rural highways. Other comparatively recent influences have proven nearly as potent, conspicuously the development of rural free delivery, which means so much to all farming communities. The United States postoffice department has taken a firm stand to the effect that Uncle Sam cannot establish or maintain rural mail routes where the roads to be traversed are not kept in good condition, and, in consequence of this obligation, the farmers generally are exerting themselves to an extent heretofore unknown in furtherance of the country-wide movement.

While the present movement for the creation of good roads that are really good is of comparatively recent origin, the evolution of America's road system has been going on since the days of the earliest inhabitants of the continent. The pioneer American road constructors were the mound builders, a few of whose trails are still in existence. Then came the Indians, who showed a disposition to utilize as trails whenever possible the paths made by buffalo, and which usually extended along ridges. The first road built by white men in America was at Jamestown, Va., and traces of it are still in existence. The first road law was passed by the general assembly in the year 1822. Public roads were first constructed from plantation to plantation; then from plantation to church, and, finally, a grade system of county highways was developed somewhat on the plans of roads in England.

George Washington was one of the earliest conspicuous advocates of good roads. As early as 1753, when he returned from his mission to the French forts, the future Father of His Country inaugurated the project for uniting the east and west by means of public highways. He continued his interest and activity in this field when he later attained to positions of power and influence in the new republic, and it was largely as the result of his recommendations that the early congresses passed road legislation, notably the act of 1792, providing for a road from Cumberland, Md., to the state of Ohio. The desire for improved means of communication, which made itself manifest early in the nineteenth cen-

tury, brought about the era of turnpike roads, operated for profit by individuals or corporations. The reign of such road companies was widespread when, about the year 1835, the plank road made its appearance, and soon found much favor. For these roads three stringers, each six inches in width, were used. One was laid in the center, the two others being on the sides. All joints were broken. Not only were these roads very satisfactory for the time being, but they paid a very high rate of interest on the investment.

Latterly, it has come to be realized that road improvement and maintenance is very properly a subject for the jurisdiction and administration of the national, state, county and municipal governments, and various schemes have been devised for making the highways a public charge and for contributing the financial aid essential for their care. The national government has already appropriated more than \$15,000,000 for the construction of national highways, and there are now dozens of bills before congress looking to the extension of such activities, some of the projects being very pretentious and contemplating the construction of one or more national pikes extending entirely across the continent. Congress is also being urged to give some of its memorials to the nation's heroes the form of commemorative highways, the foremost suggestion along this new line being the proposal for the construction of the great Lincoln memorial highway from the national

capital to the battlefield of Gettysburg—the two localities most prominently identified with the career of the martyred president.

About half of the states of the Union that have set out to improve the public roads are now proceeding under county and township systems, a few states have provided merely for investigation on the part of the state, and have not yet done anything very tangible in the way of actual road work; yet others have provided for a state highway commission, while a large number have appropriated money to be allotted to the various counties, provided they spend it under state supervision. New Hampshire has been active in road building since 1900, and Kentucky made appropriations to aid in the building of hard roads early in the nineteenth century. State aid, in the modern sense, however, does not recognize toll roads, nor does it assume the entire burden of the improvement, as was at first done in a part of New England. Rather is the present approved plan the one of apportioning the cost between the state and its local subdivisions. This scheme was first introduced by the state of New Jersey less than a score of years ago, and her example was quickly followed by Massachusetts and Vermont.

There are three different and distinct methods of carrying out good roads operations under state direction, each practice having its adherents among the sisterhood of states. Most popular of the various forms of procedure is that known as the "centralized," which is in use by such states



Leffan W. Poße, Director of U.S. Gov't Office of Public Roads



Impact Testing Machine for Brick



A Model American Good Road

as California, Colorado, Massachusetts, New York, Ohio, Pennsylvania, Rhode Island and Washington—states within the borders of which are to be found many of the finest roads in America. Under the centralized system all the plans, specifications, and estimates for road work are made by state authorities. These latter also award all the contracts, no matter in what part of the state the work is to be done, and they likewise superintend and inspect the work of construction as it progresses.

The second system has some of the features of the plan just described, but the duties and responsibilities of road improvement rest to a greater extent with the local authorities than with the state officials. This plan, known as the "co-operative" system, is in vogue in such states as Connecticut, Maryland, New York and Virginia. "Local" systems, the general scope of which is indicated by the name, are in use in the states of Delaware, Missouri and Vermont. In some of these states road material is furnished by the state, and in some of the states it is the policy of the state to give a small appropriation to each county for road building, provided the county will, in each instance, do its work in accordance with state specifications.

That the movement for good roads is yet in its infancy insofar as practical results achieved are concerned, is attested by the fact that there are

upwards of 2,225,000 miles of public roads in the United States. Up to date only about 125,000 miles of these roads, or little more than eight per cent of the total, have been improved. Such roads as have been improved have, for the most part, been surfaced with gravel, but there is an increasing disposition to use stone and special materials for surfacing. It is claimed that with the people of the United States spending as much as \$80,000,000 a year for road construction the country has not been getting its money's worth in the way of highway improvement. This is one of the objects of the present good roads crusade—to not only secure liberal appropriations for road betterment, but to insist on systematic direction and supervision by experts that will insure full value for every dollar expended upon the public roads.

Uncle Sam has been lending a helping hand on behalf of good roads through the agency of the United States office of public roads, a branch of the department of agriculture, that has been forging to the front during the past few years as a factor of supreme importance in this agitation. The institution was started under the title of the office of road inquiry in the year 1893, in which year congress appropriated the sum of \$10,000 to inaugurate the work. From the outset the purpose was to make inquiry into the systems of road management throughout the United States, and to make investigations as to the best methods of road making. As years went on congress was more liberal in setting aside funds for this new branch of the government, and half a dozen years ago provided for an extension of activities to cover the investigation of the chemical and physical character of all road-making materials. This has proven one of the most important functions of the public road office, an institution which has gradually expanded until it costs Uncle Sam upwards of \$100,000 a year and enlists the services of 67 officials and employees. Among those enrolled in its service are road experts, testing engineers, chemists, superintendents of road construction, road managers and

other authorities competent to aid state or county officials or private individuals in the solution of any problem connected with road construction or highway improvement.

Of the greatest value to the whole people is the work of the division of tests, wherein experts are constantly applying all manner of tests to the various standard and special road-making materials. By means of these exhaustive tests they derive the fullest information as to the relative value of the various materials—as to their cementing value, hardness, toughness, resistance to wear, etc. These tests, it will be understood, embrace not only materials for country roads, but all sorts of paving brick, so that the advice of the experts is as valuable with reference to the paving of city thoroughfares as it is in the improvement of rural highways. The division of highways not only conducts investigations, but does practical work, with a view to demonstrating to the public just how model roads should be built. Up to the present time Uncle Sam's experts have built more than 200 object-lesson and experimental roads in 24 different states, illustrating the best methods of building macadam, brick, gravel, sand-clay, burnt-clay, shell, oiled and earth roads. The division of road management, the third of the three sections into which this unique governmental institution is apportioned, gives advice on road laws, system of road management, the proper expenditures for road purposes, etc.

One of the most recent activities of the road experts has been an extensive investigation of the effects of motor-traffic on road surface of all kinds. Practical experiments have been conducted with high-power automobiles operated at all speeds up to 60 miles an hour. The automobile has, by its widespread use, confronted the road-builder and engineer with new problems, and this marks the first effort to solve them. Though the motor-driven vehicle is, to a certain extent, a road-destroyer, it is, at the same time, doing more than any other influence to bring about a correction of the evils which have followed in its wake.

Trimmin'gs and Dress ACCESSORIES

It has been a foregone conclusion that the new fall coats, with their low openings and long lapels, would bring in all sorts of dainty jabots and ties. The neckwear-makers are fairly abloom with pretty things for freshening up the between-seasons' toilette and for making one spot and spot for crisp, fall weather. Given a really smart new hat, faultless gloves and a fresh, modish bit of neckwear, even last year's suit may pass muster very creditably through the fall days—or at least until one has had time to turn around and select the new costumes at leisure.

The Dutch and cton collars are promised a renewed popularity through the winter season, but it is not likely that these low-neck dressings will survive the first touch of real cold weather, for there is something bare and undressy about the neck in a Dutch collar, worn with a heavy coat on a cold day. "Womans' best" also dearly loves a change—any change, and for that reason alone the pendulum of favor is likely to swing across to the tidy, trim-high stock for autumn wear. This will mean the providing of new neckwear to take the place of the low collars worn with summer shirtwaists, and several helpful hints are given to the woman who likes to contrive these dainty bits of prettiness with her own hands.

Business opening toward one side

have started the fad for one-sided jabots, and two of these new jabot effects are shown, the frills in each instance being wider on the left side. A strap of Irish or ctony insertion forms the center of such a jabot, a perky bow of lace or pleated muslin being set at the top. Down the left side goes a pleated frill—or two frills—of very fine batiste edged with lace, and down the opposite side a tiny frill, just as a finish. These jabots will be worn with the new coats, opening low over the breast, the snowy frills peeping out between the coat lapels. Lace jabots will also be used for dressy wear in the afternoons, and a lace jabot is attached to a high lace stock, with perhaps a smart bow of the new fashionable moire ribbon added in front.

Another pretty stock of finely pleated white lawn shows a jaunty necktie, knotted crisply in front and extending around the base of the stock. Much of the smartness of this necktie lies in the way it is tied, the short loops being pulled up together first and the ends twisted around them and knotted instead of a bowknot being made in the usual fashion. Jet buttons, sewed to the ends of the tie, keep them flat and also form a novel finish.

There can scarcely be too many fresh, attractive stocks in the dresser drawer—or the perfumed neckwear box in which these dainty trifles are kept;

for an immaculate and tasteful neck dressing distinguishes the lady as no other feature of raiment—except, possibly, footwear—can do. There should be stocks for shopping and general morning wear, dressy stocks for afternoon use, and pretty extra-neck arrangements for these inevitable occasions when a dinner or luncheon invitation calls for something specially attractive on short notice. Several fancy stocks are illustrated; two trimmed with velvet ribbon in new ways, and one showing an entirely novel arrangement of little butterfly bows arranged on a jabot strip of Irish insertion. The most satisfactory neckwear, however, is the sort that may be easily laundered, for dainty neckwear costs a pretty bit of pin money, and the perishable sorts, which must either be ripped apart to be cleaned or discarded after a few wearings, are a most extravagant investment.

The most satisfactory stocks just now are made of embroidered linen and the strong, beautiful Irish lace which is so very fashionable. Irish lace may be washed out in one's room, blinged the slightest trifle and pinned out flat on a pillow, and in a few hours the stock or collar will be ready to put on. Care should be taken to keep Irish lace pure white. It has a tendency to turn yellow, which often spoils its effect on spotlessly white blouses. Every now and then the small belongings of Irish lace should be dipped in warm, soapy water and spread out on a towel in a sunny window for several hours. This bleaching process will do much to keep the lace as beautifully white as though bleached on Irish grass.

This year, again, there is a fancy for the fluffy neck bows of blouses, or maline, and these airy bows, tucked beneath the chin, are bewitchingly becoming. The maline bow, of course, matches the hat in color, or, better still, it may be all white—the most becoming style.

WORLD OF SCIENCE

Seven 325-ton locomotives, each 15 tons heavier than the largest ever before built, are nearing completion at Philadelphia for the Harriman lines. Nearly 100 electric fans are employed to keep the air cool in St. Thomas' cathedral, Bombay, probably

the only place of worship in the world so equipped.

According to government experts the great Salton sea, although in places 15 miles wide and 40 miles long, will disappear by evaporation by 1925.

An excellent carpet beater may be made by slipping one end of a piece of old garden hose over a broom handle and cutting the other end into narrow strips.

The site of Verulamium, the first Roman city built in Britain and which flourished four centuries, is to be systematically excavated by an antiquarian society.

A New York street railway company is to thoroughly test two self-contained motor cars, one operated by storage batteries and the other by a combined gasoline-electric engine.

Illinois, ranking second among the coal-producing states, mined 7,652,690 short tons last year, a decrease from the previous year's output of a little more than 7 per cent.

The gold content of a cubic mile of sea water is estimated to be worth \$178,421,700, while the salt, at \$5 a ton, would realize \$385,446,400 if it could be extracted.

From an industrial point of view the most important result of the Shackleton Antarctic expedition was the discovery of immense deposits of coal in a cleft in south latitude 85.

A noted French physicist has invented a new air filter, the feature of which is an electrically-driven ventilator which draws air through a glycerine spray to absorb the germs.

An easy way to find which cylinder of an automobile is missing fire is to touch each with a match. Those acting will be hot enough to ignite the match, while the idle one will be colder.

To demonstrate to the farmers of Delaware that they can raise more varied crops than at present, a railroad operating in that state will establish an experimental farm and deliver free lectures.

To enable it to forecast river floods the weather bureau has 40 trained observers, each in charge of a district, in which rivers are measured daily in ordinary times and hourly in times of danger.

There is nearing completion for the navy the latest high-powered gun ever built. Of 14-inches caliber, it will fire a 1,000-pound shell. Larger guns have been built, but none to equal the new one's power.

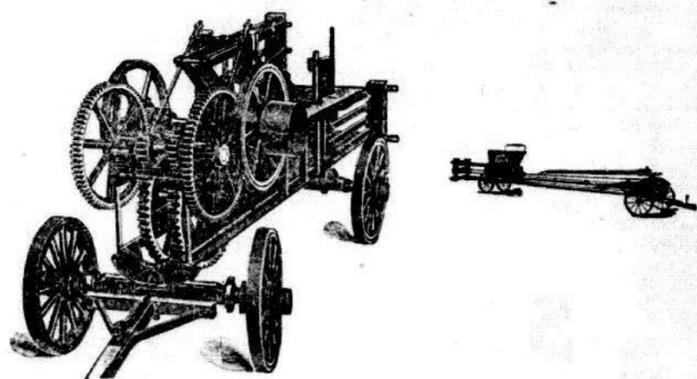
A Norwegian inventor has devised a process for utilizing the large amount of stone wasted in quarrying. Crushed to dust, mixed with a granite compound, moulded and dried, it can be saved and polished.

S.S.S. CURES ECZEMA, ACNE, TETTER ETC.

While Eczema, Acne, Tetter, Salt Rheum, etc., are troubles which affect the skin, their source is far deeper than the outside cuticle. These afflictions are caused by irritating humors, or uratic acid in the blood. Such impurities irritate and inflame the delicate network of fibrous tissue which lies just beneath the surface of the outer skin, and the inflammatory discharge thus produced is forced out through the pores and glands, and is continually kept up while the blood remains infected. This exudation causes the formation of scales and crusts so often seen in Eczema, and when they are scratched off the flesh is left raw and more susceptible to other infection. It can very readily be seen then that to produce a cure the circulation must be purified and cleansed. This S. S. S. will do. It goes down to the very bottom, removes all humors and impurities, neutralizes the excessive acids of the system and in this way removes the cause of disease. Local applications can only soothe the irritation and assist in keeping the skin clean; they never produce a cure because such treatment does not reach the blood. S. S. S. restores to the thin, acid blood all its best properties, makes it pure and rich and enables it to nourish the skin and keep it soft, smooth and healthy. Look on Skin Diseases and any medical advice free to all who write.

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