

Right Now is the Time to Make the HOUSE LOOK NEW.

We have just received a new line of Paints and Oils, we want you to inspect before buying.
Now is the time of the year to do the Painting.

If you want the best double deck coil bed spring you ever saw come down and let us sell you one for 3.50 and you will never need to buy another in its place.

We have just received a big lot of cook stoves, ranges, oil stoves and heaters from 3.90 to 39.
Mattresses from 1.05 to 10.00. For 3.90 we will sell you a good heavy combination mattress
Iron beds either half or full for 2.90.

A new lot of kitchen safes from 2.90 to 6.50 for a nice one with glass front, a nice peice of furniture for any kitchen.

We want to sell you a wheat drill or anything else you may need in farm machinery,
then sell you Fertilizer for your wheat

We still sell Extra flour for 59cts per bag, salt 58cts, good coffee 16cts, etc.

HOLMES BRYSON, Dillsboro, N. C.

Ready - to - Wear FALL HATS

of beautiful and stylish designs

A new line of embroiedary material of attractive patterns.

McCall Patterns.

Mrs. Annie Tompkins Miss Saddle Luck

"The home of Stylish Millinery."

Wood's High-Grade Seeds.

Crimson Clover

The King of Soil Improvers, also makes splendid fall, winter and spring grazing, the earliest green feed, or a good hay crop.

CRIMSON CLOVER will increase the productiveness of the land more than twenty times as much as the same amount spent in commercial fertilizers. Can be sown by itself or at the last working of corn, cotton or other cultivated crops.

We are headquarters for

Crimson Clover, Alfalfa, Winter Vetch, and all Farm Seeds,

Write for prices and Descriptive Fall Catalog, giving information about all seeds for fall sowing.

T. W. WOOD & SONS,
Seedsman, - Richmond, Va.

One of the most common ailments that hard working people are afflicted with is lame back. Apply Chamberlain's Liniment twice a day and massage the parts thoroughly at each application, and you will get quick relief. For sale by ALL DEALERS.

CORRECTION.

In premium list 1913.
Department B—continued—
Mules and Jacks—
Under Entry Numbers 116-117
118-119 and 120 Premium should read. First \$3.00 second \$2.00, Third \$1.00.

"Were all medicines as meritorious as Chamberlain's Colic, Cholera and Diarrhoea Remedy the world would be much better off and the percentage of suffering greatly decreased," writes Lindsay Scott, of Temple Inl. For sale by ALL DEALERS.

STATUS AND DUTIES OF THE ROAD ENGINEER.

BY JOSEPH HYDE PRATT.

As the State of North Carolina has not established a Highway Commission, with appropriation adequate to employ engineers sufficient to meet the demand that has now been created in the various counties and townships in the State which have issued bonds or levied

special tax for road building it has become necessary for the counties and townships themselves to employ their own engineers. The successful expenditure of a road fund may be said to be directly dependent upon the ability and skill of the road engineer thus employed. The county commissions, road commission, or whatever body of men has in charge the expenditure of the road fund, should therefore first of all secure the services of a competent road engineer of experience, and put in his hands the organization and carrying out of the details of the road work of the county. In order for the road engineer to do his best work he must have the power to discharge or employ his foreman, his manager of convict camp (if convicts are used on the public roads), and the power to survey and select the details of any road which the governing board decides it is best for the county to build at that time. It would be within the province of the county commissioners or road commission to select the points to be connected, as A and B, and perhaps via a third point, C, but it is within the province of the road engineer to select the details of the road between A and B; that is, it should rest with him as to whether the road goes behind a man's house or in front of it, or whether it crosses one piece of property or another piece of property. The county is building the road, and, as the location is the only permanent part of the road and the part for which the engineer will receive the full responsibility, not only at the present time but in time to come, it should be chosen with the transit and level rod and not be deflected by the wishes or petty politics of any individual or community.

The prime factor, therefore, in locating a road is getting the straightest road between the points desired compatible with the least amount of grade. No road should have a maximum grade of over 4 1-2 per cent, and preferably 2 per cent. When this point is decided, then the question of surfacing materials comes in, as, if the road can be as well located near a sand bank

or gravel bed, and the grade as good as if it were located a mile or so away from such road surfacing material, it should be placed as near this as is compatible with other facts entering into the road location.

No first-class, self-respecting engineer will go into a county or township, and stay there, who is not given full powers in regard to the selection of the details of location, and the sooner all ideas of selfishness and politics, as connected with the location of the public roads, are left out of the matter, the sooner North Carolina will have a system of public roads which will be a public benefit and not a public burden.

As to the equipment of a road engineer for his work: He should be thoroughly familiar with the location of roads. The word location includes a careful consideration of alignment, grades, and drainage, as well as economy of construction. It is desirable that the curves, and tangents should be laid out with the same degree of accuracy as those of a railroad. The survey of a road may mean anything from a reconnaissance or walking trip to an accurate instrumental survey, but a location can not be considered as entirely satisfactory until data are obtained for the plan, profile, and cross-sections, to be shown on paper, with estimates of yardage passed upon and an attempted equalization of cuts and fills. He should know the most economical methods of removing dirt, stumps and rocks under various conditions; he should know the best width for his road, proper slope of the banks, right crown of the road surface, shrinkage of his material, grade stakes, retaining walls, curbs, gutters, expansion joints, etc. He should know the characteristics and relative proportions of road materials and every detail connected with the construction of sand-clay, gravel, macadam, concrete, and bituminous roads. The engineer should be competent to design bridges of both concrete and steel and should ascertain definitely whether existing structures are safe under the strain of severe traffic. He should have a certain

knowledge of hydraulics so as to determine what size waterway will safely carry the flood waters from a given watershed; the qualities and prices of the various kinds of culverts.

The engineer should be familiar with the relative merits and defects of the various kinds of road machinery whether it be the split-log-drag or the most elaborate road machine. He should be able to write contracts and specifications clearly and easily, and understand the relations which should exist between himself and the contractor. He should also know whether it would be more economical for the county to do certain forms of road work with its own force or to contract the same.

Aside from the above technical requisites, the road engineer should be a man of strong personality and of great tact, with ability to convince people of less intelligence of the necessity of leaving these matters which pertain to the scientific side of road building in his hands with the assurance that he will do the wisest and best thing for the community.

Having secured the services of such an engineer—and no county can spend a portion of its bond money to better advantage than in employing such a one, even at a high price—the commission should leave the technical side of road location, construction, and a providing of a system of maintenance entirely in the hands of the road engineer, and should back him up with all possible force against the criticisms of those unfitted to form judgment about matters of which they have no technical knowledge. The wisdom of his course may not be seen at once, but it must be remembered that his work is a building for the future as well as the present, and that time will be his justification.

It will be very hard for many of the counties and townships of North Carolina to secure ideal road engineers, because they are not always in a position to give the salary required by such skilled men, and there is no department in the State which can train up the young

(Continued on page 8)