

TIMBER FOR SALE

We, the undersigned, heirs-at-law of the late J. C. Skeen, offer for sale to the highest bidder at public auction, on the 4th day of October, 1911, at 1 o'clock p. m., on the premises in Davidson County, N. C., the following property, to-wit:

All the oak and pine timber trees 10 inches across the stump, 10 inches above the ground, on the J. C. Skeen lands consisting of 425 acres more or less, except about three or four acres of grove near the house. Also all the merchantable dogwood, cedar, persimmon and hickory, not including firewood.

This timber is located 4 1/2 miles south of Denton and about the same distance from Newsom's, on the Southbound, in Davidson County, N. C., is easily accessible, has suitable saw mill sites, and is estimated to cut two million to two and a half million feet of original growth pine, besides a lot of second growth pine, large quantities of oak and other hard woods.

This is the Finest Lot of Original Growth Pine in this Section

Terms of Sale: One-half cash and one-half in 12 months, title to be retained till the purchase money is paid or satisfactory security given therefor, and six per cent interest on deferred payments. The purchaser will be given five years within which to cut and remove timber.

Some one on premises to show timber. For further information address W. S. Skeen, J. H. Burkhead or W. J. Miller, Asheboro, N. C. This August 15, 1911.

W. S. SKEEN
M. M. SKEEN
H. W. SKEEN
T. J. BIRKHEAD
J. ALICE MILLER
NEWTON O. SKEEN
G. C. SKEEN
T. H. SKEEN
J. H. BIRKHEAD
W. J. MILLER

ARE YOU GOING NORTH

Travel By the Chesapeake Line
DAILY SERVICE, INCLUDING SUNDAY

The new steamers just placed in service, "City of Norfolk" and "City of Baltimore" are the most elegant and up-to-date steamers between Norfolk and Baltimore.

Equipped with wireless. Telephone in each room. Delicious meals on board. Everything for comfort and convenience.

Leave Norfolk 6:15 p. m.
Leave Old Point Comfort 7:15 p. m.
Arrive Baltimore 7:00 a. m.

Connecting with rail lines for all points North and West. Cheap excursion tickets on sale to Maryland resorts, Atlantic City and other New Jersey resorts and Niagra Falls.

Reservations made and information cheerfully furnished by

W. H. PARNELL, T. P. A.,
Norfolk, Va.

Greensboro Commercial School

GREENSBORO, N. C.

Graduates from this Business College are in demand. They step out of school into good paying positions. Here are only a few of the advantages we offer: Making your present position pay more money. Securing a new position quickly at a higher salary. Finding where the best positions are; ways of getting ahead of other applicants. Earning a double salary by special arrangements easy to make.

Our Fall Term Opens September 5, 1911.

Take our Shorthand and Bookkeeping courses and increase your yearly salary from \$200 to \$1000 a year. Literature sent upon request. Make your arrangements to enter during the month of September.

ELMORE McOLUNG, Mgr. ELLIOT McOLUNG, Prin.

RAIN Has come to most sections, and no doubt you are looking out for the saving of what hay you have. We sell

McCormick and Deering Mowers and Rakes

And believe they are the best. See us before you buy; and, if interested in any other class of hardware, come to see us.

McCRRARY-REDDING HARDWARE CO.

TRINITY COLLEGE

1859 1892 1910-1911

Three memorable dates: The granting of the charter for Trinity College; the removal of the College to the growing and prosperous city of Durham; the building of the new and greater Trinity.

Magnificent new buildings with new equipment and enlarged facilities. Comfortable hygienic dormitories and beautiful pleasant surroundings.

Five departments: Academic, Mechanical, Civil, and Electrical Engineering, Law Education, Graduate.

For catalogue and other information, address,

R. L. Flowers, Secretary,
Durham, N. C.

CASCARETS FOR A SICK, SOUR STOMACH

Gently but Thoroughly Cleanse and Regulate your Stomach, Liver and Bowels While you Sleep

That awful sourness, belching of acid and foul gases; that pain in the pit of the stomach, the heartburn, nervousness, nausea, bloating after eating, feeling of fullness, dizziness and sick headache, means indigestion; a disordered stomach, which cannot be regulated until you remove the cause. It isn't your stomach's fault. Your stomach is as good as any.

Try Cascarets; they cure indigestion, because they immediately cleanse and regulate the stomach, remove the sour, undigested and fermenting food and foul gases; take the excess bile from the liver and carry off the decomposed waste matter and poison from the intestines and bowels. Then your stomach trouble is ended forever. A Cascaret tonight will straighten you out by morning—a 10-cent box from any drug store will keep your entire family feeling good for months. Don't forget the children—their little insides need a good, gentle cleansing too.

Especially Commended to Our Youths of Today

Young man, I have just overheard you make a remark that "the old man was all right, but there were a lot of things the old gent doesn't know." He can't roll a cigarette like you do, nor can he twist his neck into as many different shapes as you do and neither is the old man able to use the latest slang of the day, nor is he posted on the proper shape of pipe to put in his mouth when on a parade. But the old man knows how to make enough money to keep the wolf away from the door and pay your bills. When your age he didn't smoke a pipe or wear a rainbow necktie every day. He was very busy working hard on a small salary and denying himself a lot of pleasure to get a start. You will find out after all that the old man knows how to cut ice. While the things that he does know will make a volume to learn. When you have learned as much as the old man has forgotten, perhaps you will be able to hold down a job that commands a salary of eight or nine dollars a week.—Advertiser.

NATURE TELLS YOU.

As Many an Asheboro Reader Knows Too Well.

When the kidneys are sick, Nature tells you all about it. The urine is nature's calendar. Infrequent or too frequent action; Any urinary trouble tells of kidney ills. Doan's Kidney Pills are for kidney ills. People in this vicinity testify to their worth. W. P. Holland, High Point St., Randleman, N. C., says: "The statement I gave for publication three years ago, recommending Doan's Kidney Pills was correct in every detail. This remedy never fails to help me when I use it. For weeks I suffered from a dull ache through the small of my back and I felt dull and languid. The kidney secretions were unnatural and showed that I needed a kidney medicine. Doan's Kidney Pills, gave me relief in a short time and after taking them, I enjoyed much better health. I am justified in recommending this remedy to other kidney sufferers, for I know it to be effective."

For sale by all dealers. Price 50 cents. Foster-Milburn Co., Buffalo, New York, sole agents for the United States.

Remember the name—Doan's—and take no other.

Tobacco, cranberries and other New England crops were damaged half a million dollars by frost last Thursday morning.

ASTHMA-CATARRH CURED

Expert Medical Scientists Announce Startling Results Obtained by Sempine

New York:—Thousands are taking advantage of the generous offer made by The Woodworth Co., Dept. O 1161 Broadway, New York City, requesting an experimental package of Sempine, the great discovery for Asthma, Hay Fever, Bronchitis, and Catarrh, which is mailed free of charge to all who write for it. It is curing thousands of the most stubborn cases. It makes no difference how long you have been suffering or how severe the climatic conditions are where you live, Sempine will cure you.

If you have experimented with other treatments and have failed to find a cure do not be discouraged but send for a trial of this wonderful truly meritorious remedy which is a scientific compound discovered by a Professor of Vienna University, and is being recommended by thousands.

The Construction and Maintenance of Earth Roads.

Prof. Robert G. Thomas, Professor of Mathematics and Engineering Military College of South Carolina at Charleston, recently delivered at the South Carolina Good Roads Association, the following most helpful and practical address on Earth Roads:

In regard to good roads, as to most good things, there are obviously degrees of excellence. While the best may be beyond our means of attainment, surely it is the part of wisdom to improve conditions where practicable, to get better roads, where the cost of the best is prohibitive.

While it is to be hoped that the roads over which there is heavy traffic, in the vicinity of the cities and towns of the state, will be macadamized, graveled, or otherwise improved in the not distant future, it is evident that in the main the public roads of the state must, of necessity, be composed of earth for many years to come. Such being the case, it is fortunate that under favorable conditions, when well drained and free from ruts, the earth road is the most satisfactory for pleasure and for light traffic. The statement that the earth road is as good as any other kind of road, if kept well drained and free from ruts, reminds one of a writer of an old saying that a certain bronze eagle in Salt Lake City "flies down to get a drink every time it hears the town clock strike." The writer holds that the statements are true in both cases, but the conditions are equally impossible of fulfillment.

No, the claim is not made that under all conditions the earth road is as good as any other type of road. It is held that with proper construction and maintenance the earth road is a good road, and it may serve a community well until the increase of traffic makes a more yielding surface imperatively necessary.

It is to be remembered that when the time comes to build a macadam or other pavement, it will have to be built upon an earth bed, so much of the work of making an earth road may be utilized in the future, when it becomes necessary and practicable to have a paved surface on the road.

The condition of the common roads is so bad at times that it is desirable that every interested citizen should know something about the location, construction, drainage and maintenance of earth roads; and under the term earth roads, are included those with an admixture of sand and clay.

Every thing connected with the construction, use and maintenance of roads was, in times past, before the introduction of railways, the subject of exact observations, and experiments, many and varied in character. On this account old engineering works that treat of road making are excellent reading today. This is true not only of the construction but of the need of better legislation. It is held that many of the evils due to bad common roads that we suffer from at the present time are inherited from the antiquated legislation of the past.

Now that we have the results of a great number of years of experience in older countries, it seems that there is little to invent but much to learn in this branch of construction. Yet there have been improvements in road making, and especially in road making machinery and tools, notably the stone crusher and the steam roller.

It must be acknowledged that conditions in this country are in many respects different from those that obtain in the older and more thickly settled countries of the old world. Nevertheless the fundamental principles of good road construction are the same everywhere, and once they are understood can hardly be forgotten.

The most economical location of a road is that for which the sum of the cost of transportation, the cost of maintenance, and the interest on the cost of construction, is a minimum.

The cost of transportation is affected by the rate of grade, the rise and fall, and the length. The rate of grade is important, because it limits the load that can be hauled or determines the number of loads and fixes a limit to the speed of travel. The rise and fall affects the expenditure of power required to haul a load over the road. The length of the road has an effect upon the amount of work of hauling, the time required for a trip, and the cost of maintenance.

The cost of construction depends upon the accuracy with which the line of the road is listed to the surface of the ground, as determining the amount of earthwork and cost of bridges and culverts; and upon the character of the ground over which the road is to be built, as that affects the cost of the work and the expense of drainage.

In location, the grade of the road is the most important factor. In the effort to make the road along the most direct line between two

places, the grade is often made much steeper than is necessary. The fact is overlooked that the distance half-way around a hill or valley may be little, if any, longer than the distance over the hill or through the valley.

The aim in location should be to make the road the easiest and most economical, and the shortening of the route should be subordinated to these considerations. The difference in length between a straight road and one that is slightly curved is less than many suppose. It has been shown that if a road between two points 10 miles apart were made to curve so that the eye could see no more than a quarter of a mile of it at once, its length would exceed that of a perfectly straight road between the same points by only 150 yards. The value of straightness for a country road is frequently very much overrated. Considerable deviations from the straight line may often be made with but slight increase in length. While straight roads are the best for traffic, other things being equal, in hilly country straightness should be sacrificed to lower the grade, and for pleasure the curved road gives a greater variety of scenery. Many roads have been made on such steep grades that the cost of cutting and filling to bring them to a proper grade would be greater than to relocate the roads and make them anew.

Distinct from and independent of the rate of grade is the amount of rise and fall, or the vertical height through which a load must be lifted in passing in each direction over the road. The minimum amount of rise and fall is found where the rise is all in one direction and the fall in the other, each being equal to the difference of elevation of the terminal points. Any increase in the rise and fall beyond this amount is represented by the rise encountered in passing from the higher to the lower terminus. It affects the traffic equally in each direction and requires a certain expenditure of power to lift the load through the given rise in each direction.

The rise and fall may be evaluated in terms of distance. Thus on an ordinary earth road on which the resistance to traction where level is 100 lbs. per ton, the distance a ton may be moved on the level surface in developing 2,000 foot-pounds of work is 2,000 ÷ 100 equal 20 feet. As the work of lifting one ton through a rise of 1 foot is 2,000 foot pounds, 1 foot of rise or fall may be considered as equivalent to 20 feet of level distance. So far as the expenditure of power is concerned, the elimination of unnecessary rise and fall is thus equivalent to shortening distance. Of course when the termini of the road are at different elevations there is a certain amount of rise and fall that must necessarily be encountered.

The proper grade for any particular road must be determined by the conditions and requirements existing on that road. The ideal is the level road with no rise or fall, but as the level road can seldom be obtained in rolling country, it is well to consider the greatest allowable grades for country roads.

It has been found that for a short time a horse can double his usual exertion, and that he can draw only about one half as much on a 4 per cent grade as he can on the level. If full loads were to be hauled, this would make a 4 per cent grade the maximum. One authority states, from his own observation and from tests made by the United States department of agriculture, that a team can exert four times as much tractive energy going up a short hill as its average pull upon the level. As the load that can be hauled continuously up a 10 per cent grade has been found to be one fourth of that drawn upon the level, this shows that the full load might be carried over a 10 per cent grade for a short distance—say 200 feet. Most road builders prefer 3 per cent grade to those of 4 per cent, where they can be secured without additional expense. A 3 per cent grade is one down which a horse with vehicle can comfortably trot.

On all public highways which are traveled by heavily loaded vehicles, the aim should be to keep the grade down to 3 or 4 per cent, and not to exceed 5 per cent. In mountainous regions steeper grades are often unavoidable, and even in ordinary hilly country it is good engineering not to reduce grades where much earthwork is necessary, as it is generally a few short deep cuts that add so greatly to the cost of the road.

In most parts of the state the roads are in the main already located and the problem of location consists, for the most part, of the relocation of position of old roads, so as to reduce the grades and render the roads more convenient and pleasant for travel. When the road must be constructed of the material over which it passes, it is often possible to select a route where the soil is better adapted to the purpose than that found where first located.

Upon one side of a valley the surface may be clay, upon the opposite side gravel, and in the bottom of the valley the soil is usually alluvial. Higher up the ground is generally far more fit for road purposes.

In starting the construction of any road the width and shape of the cross section have necessarily to be determined. The practice is too common of designing a uniform cross section for a road, regardless of the character of the soil and the drainage area that the ditches must serve. A uniform cross section for all parts of the road should not be adopted. The depth of the ditches should be made to vary with the character of the soil—very shallow in sand and on steep grades, and deep in flat soggy land, but ordinarily not much more than a foot below the general ground level. The width depends upon the requirements of the case. Sometimes 12 feet is sufficient, but 18, 24 and 40 feet are the usual width for country roads.

The surface should be formed with a crown at the middle sufficient to shed the water that falls upon it and prevent it from standing upon the road. The slope necessary to shed the water readily is about 1 in 20, a fall of 5 per cent. It is usually that composed of two planes of equal inclination rounded off in the middle.

Such a surface can be constructed and repaired with a road machine, and a roller can be used upon it to advantage. Deep, narrow bottomed ditches at the sides are to be avoided. Wide, shallow ditches are best, generally, and they are favorable to the use of the drag and wheel scrapers, the wheel scraper being regarded by one authority as the greatest labor saving device for moving earth ever invented. Sometimes the only ditches necessary to carry off the surface water are those made with the road machine. The side ditches should have a fall of at least half a foot in every 100 feet; in fact the road itself would be better to have that slope longitudinally than to be level, so as to secure drainage of any incipient ruts that may form in the surface.

As noted before, the problem immediately before the people of this state is generally the improvement of existing roads, and enough progress in this direction has been made in recent years to show how much improvement can be effected. The improvement in the surface of the earth road has been most marked. The method of improvement of the surface depends upon the nature of the material of which it may be composed. When the material is loose sand, the surface will be more firm if the sand be damp and more unstable in dry weather. In such cases a cohesion to the surface when dry, or a layer of clay six or eight inches deep may form a hard and comparatively durable surface, as it is easily drained when upon a sand road bed. Clay used alone is the least desirable of all road sand or small gravel, from which quite a hard and compact mass is formed, which is nearly impervious to water and but little acted on by it. Material of this character found in the natural state, known as "hard pan" or "cement gravel," makes a very solid and durable road when properly applied.

In soil composed of a mixture of sand, gravel and clay, all that is necessary to make a good road is to crown the surface, keep the ruts and holes filled and the ditches open and free.

Drainage is especially important on earth roads, as the material of the surface is more susceptible to the action of water and more easily destroyed by it than are the materials in the better class of roads. It has been said that the whole problem of the improvement and maintenance of ordinary country roads is one of drainage. Drainage, more drainage, better drainage, should be the cry.

Surface drainage is mainly effected by making the surface of the road slope from the middle to the side ditches. When the road is on a steep grade the inclination of the slope to the side should be greater than when on a level, so as to prevent the water from following the wheel tracks.

The side ditches can be prevented from being washed into deep gullies by paving the bottom and sides with brick or field stones. When water has to be carried under the road, sewer pipe or culverts of concrete, stone, or brick will be in the long run more economical than those of wood. In very wet ground sometimes underdrainage must be resorted to in order to get a dry roadbed.

The maintenance in good condition of a country road requires constant care and watchfulness. Any small breaks in the surface should be immediately repaired and ruts filled and smoothed before they become serious. Earth roads are especially difficult and expensive to maintain under the common system

(Continued on page eight)