

Western Carolinian.

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TERMS.
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INTERNAL IMPROVEMENT.

FROM THE SALISBURY REGISTER.
CARLTON—No. II.

We have been accustomed to consider Canals as the cheapest means of communication and conveyance through the interior of a country. At present an opinion is pretty well established by experience in Great Britain and our own country, where trial has been made in the greatest extent and perfection, that the Rail-road is on many accounts superior, and ought to be preferred. The evidence now within our power is fortunately so full and conclusive, that to have our doubts removed, we need only to examine it for ourselves. After the failures and disappointments which North Carolina has suffered in her past efforts, we shall at least have learned the valuable lesson, to inquire faithfully and arrive at a full knowledge, before an application of the public funds. By a small expenditure properly directed in the employment of an Engineer, such as may be easily had in the United States before commencing a public work, every thing relating to it may be estimated and fully ascertained to the satisfaction of all. This is the mode of doing such business, now practised in other states and other parts of the world, where works of this kind are carried on. Such men as Judge Wright, James Geddes, and many others who have been long proved to possess practical skill and integrity in their profession as Civil Engineers, are at any time attainable upon proper inquiry, and a reasonable compensation for their services. Nor should a single step be taken in commencing any work, until it is completely determined what are the terms, what are the means, and what are the advantages. We have had enough of precipitation, of unqualified undertakers, of schemes heedlessly commenced and then deserted in a half finished state, and altogether enough of wasted supplies. This unfortunate mode of prosecuting plans of public improvement is rarely if ever witnessed in other countries, and there is not the least necessity for it here.

In the remarks now to be made, the object is to show in what respects Railroads are preferable to Canals.

1. It is obvious that in determining the course of a canal we must be continually hampered by the necessity of carrying it where there will be at all times a sure and sufficient supply of water. This occasions the meandering of canals along the banks of rivers, and leading them to intersect streams at proper places, so that their length is extended far more than would be necessary, could this circumstance so essential to them, be wholly set aside. It is not possible to give any general rule for determining the proportion of the whole line of a canal necessarily lost with a view to securing the proper quantity of water. It must differ according to the circumstances of every case. Perhaps, however, it would not be extravagant to say, with regard to canals of such extent, that at least one fourth, if not one third, is likely to be added by this single object. It was estimated by the United States Engineers, that a Canal from Pittsburgh in Pennsylvania, to pass by Washington to Baltimore, must be three hundred and ninety miles in length. By the same report, a Railroad from Baltimore to the Ohio, need not be more than two hundred and fifty miles. In this instance the Railway is only five-eighths of the Canal in length. In this distance of 390 miles by a Canal, one hundred and forty miles are saved by resorting to the Railroad. An exactly similar difference will evidently not apply in other examples, but this is one to show what an excess in length, and consequently of expense, is sometimes incurred by a Canal on account of water, beyond what is necessary to a Railroad. Let us remember too that such a difference has its effects, not only in the first construction and expense of a Canal, but in all travelling and transportation upon it, and in the maintenance of it in repair through all future time. It ought not to be omitted also, that when the repairing of a Canal becomes necessary, it is far more difficult, expensive, and interrupting to business, than that of a Railroad.

* See "Proceedings of sundry Citizens of Baltimore, convened," &c.

2. It is proved by experience that upon an average of one mile with another, a Railroad is less costly in its construction than a Canal. It is found in England, and there is reason to believe, that it will apply no less in this country, that the expense of making a Canal is two or three times that of a Railroad. The excavation, or removal of earth or rocks for the former is much greater than for the latter. The iron necessary is far less costly than we are apt to suppose, as will appear when something further shall be said upon the materials of public works, and the expense attending them. And let it be considered that a lock cannot be properly completed of substantial and durable materials for less than eight or ten thousand dollars, while the means of passing from one level to another by inclined planes or otherwise on a Railroad are easily provided, in comparison with locks.

3. At least as large a burden, or as many tons can be transported in the same time, and by the same force, upon a Railroad as upon a Canal. On this as well as every other article of this enumeration of advantages in favor of the Railroad, evidence will hereafter be given to the satisfaction of every man who would inquisitively and diligently inquire into this most important and interesting subject. It has been common to remark, and it has been until lately received as a maxim, that conveyance by water must always be less expensive than conveyance by land. This did continue true till the perfection now attained in the construction of roads and carriages. It is no longer correct in comparison of Railroads and Canals. Let it be considered that by firmness and solidity of construction in Railroads, burden to any amount may be carried upon them without damage to the road, and by the evenness and level of the iron rails, and the smoothness and perfection of make in the iron wheels that run upon them, there comes to be less resistance from friction to the carriage, than from the water of the Canal to the boat that passes through it. From these two circumstances together, it must result, that the same horse power will be able to carry even more upon a Railroad, than upon a Canal. It is entreated of the reader not to imagine that this is romancing, or that it is said to answer a purpose. The correct comparison of advantages between these methods of transportation for produce and merchandise, and the evidence to satisfy our minds, if they be not already satisfied, will be more fully presented hereafter.

The expense consequent upon Canals, and forever attending them, in repairing and keeping them in good condition, and in the erection and maintenance of bridges over them, is greater than any such expense necessary to Railroads. When a Canal is made through a country, means must be provided at convenient distances for crossing them, to prevent the communication between one part of a farm or neighbourhood from being cut off from another. This brings on a multitude of contracts between the public and the owners of lands along the line of a Canal, for making and keeping up bridges through all future time. And if there be any road crossing the site of the Canal, a bridge must be maintained at the public expense forever, that the highways may not be interrupted. This expense of bridges must continue to be levied in perpetuity by tolls upon the Canal, and through all time act as a burden upon the transportation of goods. In regard to Railroads these difficulties almost entirely vanish. Men and horses can cross them any where without injury, and all that is necessary for the crossing of wheels is a piece of timber let into the ground along the side of the iron rail, and high enough to prevent the wheels in passing over it from touching the rail before it descends upon some little stone pavement laid down upon the other side. In this manner provision is made for any road on which waggons or carriages cross a railway. I am not aware that the bridges over the great western canal of New York have ever been numbered, but after having passed with personal observation from one end of that Canal to the other, it is conjectured that in the whole distance of three hundred and sixty three miles, the number of bridges is not less than four hundred. In stating this, it is thought likely to fall short of the reality, rather than to exceed it. In these circumstances convincing evidence must appear, that the maintenance, and repairs, and attendant expenses of Canals, must always be greater than are requisite for a Railway.

5. It is much to be apprehended that Canals may render unhealthy the parts of the country along their route. The motion of water in a Canal, if there be any, is exceedingly slow, so as to approach stagnation. This is especially

the case in long levels, unless the Canal be made with such ascent as to occasion a current, which for convenience of navigation is admitted as little as possible. Even the original rapidity of rivers, where the water is sometimes dashed by falls and agitated by rapids, does not prevent them from producing disease at certain seasons, along their banks and in their vicinity. This effect may be experienced even in northern latitudes, but it is especially to be dreaded and deprecated in a southern climate like ours. No such consequence threatens the inhabitant or the traveller upon a Railroad. It is a primary object in pursuing the line of such a structure to shun as much as possible the intersection of marshes and streams of water.

6. Another circumstance suggested by the peculiar nature of our southern country, gives an advantage to Railroads in comparison with Canals. All our principal rivers originate in the mountains near the western extremity of the state, and have their channels considered generally, nearly parallel one to another. Hence the land between these rivers, lies in ridges, from the western extremities of the state towards the ocean. These ridges often form long levels, without much interruption by streams or valleys. It is upon such ridges, that it is well known some of our best roads are found. A Railroad laid off by a skilful and practical Engineer with reference to this form of our country, would, in all probability, have greater advantages for so long a line as 250 or 300 miles, than nature has bestowed on most other parts of the world. Were a Canal attempted from the same distance in the interior, the long summers of our southern latitude, drying up all our smaller streams, and rendering very precarious supplies of water even from the larger tributaries, would make it necessary for such a Canal, that it might be fed with certainty, to confine its course to the margin of some main river. Thus it would be perpetually intersecting the deep ravines which occur at small distances along the banks of a principal river. The consequences must be, numerous and large embankments, deep cuttings, bridges or aqueducts, rocky excavations, locks and culverts, all of which are occasions of the heaviest expense in the completion of Canals. A Railroad along extensive ridges, generally tending towards the point of destination, must be attended with signal advantages in escaping most of these embarrassing obstructions.

7. It is now ascertained that Railways may be constructed with all the necessary strength and firmness, out of wood, at a cost little more than half of that which must be incurred in making them of iron. If this be true in the northern part of our country, it must be eminently so in our own state. The lasting and substantial pine abounding in our low country, and the no less solid oak of the western part, would leave us nothing to desire in compactness, durability, and cheapness of materials. The work too, would be of a sort that could be executed by our own people, under the direction of an Engineer, as well as by any that could be found in other countries. It is computed that the interest of the money which must be paid for the iron more than for the wooden Railway, is more than sufficient to defray the expense of renewing it, at the time when it shall become necessary. The consequence must be that the latter is the cheaper of the two in the end, and it requires far less funds for its first accomplishment.

It has appeared then, from the whole comparison here made, that for many reasons Railways are preferable to Canals.

1. Canals must generally be much longer than Railways, between the same extreme points. 2. A mile of Railway, even if it be of iron is less costly than a mile of Canal. 3. As large burdens can be transported with a given power in a given time, upon the one as upon the other. 4. The perennial, that is, the continual expense of maintaining a Canal with bridges and repairs is greater than that which is incident to a Railroad. 5. Canals, especially in a southern climate, may be well dreaded as sources of disease. 6. The face of our state, the parallel courses of our rivers, and the continuous ridges between them, are peculiarly favorable to the Railroad. 7. Railways of wood are scarcely more than half as expensive as those of iron. Their inferior cost, then, compared with that of Canals, must give them greatly the preference to an economical people contemplating some method of removing their difficulties of commercial intercourse among themselves and with other parts of the world.

Sept. 8, 1827.

GEOLOGY OF NORTH-CAROLINA.
Professor Mitchell closes his present remarks on the Geology of the State as follows:

The western part of Montgomery is Transition Argillite, the soil indurated, and in some parts extremely sterile. The Eastern part of the county is siliceous, composed of beds of Hornstone Quartz and a little Chlorite Slate, and is inferior to the sandhills themselves. The best land lies along the Uwharrie, and in the Southern part of the county on Clarke's Creek.

The Northern, Western and Southern part of Anson County, like the Western part of Montgomery, has Argillite for its subjacent rock, and with the exception of the banks of the streams, a thin soil, though superior to that of the same formation in Montgomery. Brown Creek runs its whole course in a formation of old Red Sandstone, which underlies the Pedee from about a mile and a half below the mouth of Rocky River to the mouth of Little River, and furnishes a large body of good land. The upland of the Sandstone is better in this county than in any other part of the State. The low grounds, as is always the case where this rock exists, are extensive, but subject to be injured by excess of moisture when the season is wet. East of the Sandstone, there is a small wedge of Argillite on the North, opposite to the Grassy Islands, and a more extensive tract on the South. Beyond these we meet where the sand has not drifted in, and where it has been removed, with the most beautiful granite in the State of North Carolina. It contains a large proportion of Felspar, and on this account is not a good building stone, decaying too rapidly when exposed to the weather; but for the same reason that it is unsuitable for building, it decomposes into a fertile soil, furnishing good water, and easy and pleasant to cultivate. Besides its fertile soil, Anson appears to possess few mineral treasures. Gold has been found in considerable quantities in the Argillite. The old Red Sandstone furnishes Free-stone for building and grindstones—the Granite, millstones. A few pieces of Iron ore were picked up three or four miles from Wadesboro', on the Camden road.

The greater part of Richmond County belongs to the Low Country, being covered by beds of clay and sand. The good land is on the Pedee, and near the mouths of the Creeks that fall into it. The same Granite is found here that is described as occurring in Anson. On the old Red Sandstone of its northern border, there are also some good plantations, and others doubtless amongst the low grounds of the South eastern part of the county, which the Professor did not visit. Grindstones are cut from the Sandstone in Buffalo Creek; and Millstones from the Granite both at Mr. Daniel's quarry on the Rocky Fork of Hitchcock and near the Pedee. Good red and yellow Ochres are found in abundance at what is called the Paint Bank on the lands of Montgomery Ingram, Esq. Iron Pyrites in several places, very large, and in quantities on Gen. Covington's plantation, and Alum ore is to be found in the bank of Hitchcock Creek.

A number of observations have been made upon the Geology of the Counties of Chatham, Moore, and Orange, and materials collected for laying down the Geological divisions with some degree of accuracy; but as these surveys are not yet finished, an account of them will be deferred.

Raleigh Register.

Silk.—The County Court of Johnston (in this state) recently appointed commissioners to purchase land and to have erected thereon suitable buildings for the reception of the paupers of that county—Mr. John MacLeod, one of the commissioners, presented to the court at August term a memorial, in which he states that the paupers "can be profitably employed in the production of silk." The article is published at length in the Raleigh Register, accompanied by the following remarks:

"We heartily approve of that part of Mr. MacLeod's communication, which proposes to employ our paupers in the cultivation of silk, and we trust that the example set by Johnston county will be imitated, as it deserves to be, by other counties. It is well known, that all the necessary labor attending the culture of silk, may be performed by children or superannuated persons. A crop of silk is the work but of forty days, the first twenty of which occasion but little trouble. The mulberry tree is easily propagated and possesses the property of enriching the soil where it is planted. We are pleased to see that Mr. MacLeod is not a mere theorist on the subject, but has resorted to practice that which he recommends."

There is nothing further or nearer, more hidden or more revealed, than God.

Rowan county, August Sessions, 1827.
COWAN & McNEELY vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the county of Rowan, at the court-house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
THOMAS ALLISON vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the county of Rowan, at the court-house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
WILLIAM BROCK vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the county of Rowan, at the court-house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
HENRY ELLIS vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the county of Rowan, at the court-house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
JOSIAH COWLES vs. Alexander Rhea. Original attachment, levied in the hands of Thomas Oakes, and summoned him as garnishee. It appearing to the satisfaction of the court, that the defendant, Alexander Rhea is not an inhabitant of this state: On motion of the Plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the County of Rowan, at the court house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the Plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan County, August Sessions, 1827.
WILLIAM C. BIRD and Mosby vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the Plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the County of Rowan, at the court house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the Plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
SAMUEL FROST vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the Plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for said County of Rowan, at the court house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the Plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

Rowan county, August Sessions, 1827.
RUBEN C. YOUNG vs. John A. Chaffin. Original attachment, levied, &c. It appearing to the satisfaction of the court, that the defendant is not an inhabitant of this state: On motion of the plaintiff by counsel, ordered that publication be made in the Western Carolinian for six weeks, that unless the defendant appear at the next County Court, to be held for the county of Rowan, at the court-house in Salisbury, on the third Monday of November next, and replevy or plead to said suit, judgment will be entered for the plaintiff's demand, and a decree of condemnation of the attached effects.

667 JOHN GILES, c. c.

State of North-Carolina, Chancery Court.
JULY sessions, 1827. William Smith vs. Lawrence H. Alexander, Adm. of Will. Parks, dec. Justice's judgment levied on land. It appearing to the satisfaction of the court, that Ezra Parks, one of the heirs at law of the said Will. Parks, dec. is not an inhabitant of this State, ordered, therefore, that publication be made six weeks in the Western Carolinian, notifying said Ezra Parks, that unless he appears at our next court of pleas and quarter sessions to be held for said county, at the court-house in Concord, on the 3d Monday of October next, then and there plead as to him, and execution awarded accordingly.

665 DANIEL COLEMAN, C. C.