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NATIONAL INTELLIGENCER.

Report of the Secretary of the Treasury on roads and canals.

(CONCLUDED.)

A statement next follows of the *works executed or contemplated on the great rivers previously enumerated.*

1. On the Santee a canal of 22 miles has been cut at an expence of 650,000 dollars. Nett income 6,000 dollars.

2. Canal contemplated round the Great Falls of Roanoke, distance 38 miles, at an expence of 350,000 dollars.

3. On James River, improvements of the navigation, partly by canals, and partly by clearing the bed of the river, have been made at an expence of 231,000 dollars; nett income some years 16.800 dollars, or about 7 per cent. on the capital expended with the interest accrued.

4. Two canals cut on the Potomac one round the Great and the other round the Little Falls. Three smaller canals have likewise been opened; one at the Shenandoah falls, one at the Seneca falls, and one at Houre's falls. In addition to these six different canals have been opened round the most difficult falls of the Shenandoah. On all these objects there have been expended 444,000 dollars. The annual tolls, before the opening of the Shenandoah, had not exceeded 15,000 dollars, of which 5,000 are stated as absorbed by annual expences and repairs.

5. On the Susquehannah several canals have been opened, & a considerable expenditure incurred in improving its bed. But no great benefit seems yet to have been reaped from these objects, from their having been executed on too partial a scale. A capital of 250,000 dollars has been expended. The annual expences as yet exceed the tolls.

6. On the Ohio, little, if any thing has yet been done except the incorporation of a company with a capital of 500,000 dollars for cutting a canal round the falls at Louisville.

We are next presented with a statement of *"The expence of the improvements suggested in the communications between the Atlantic and western waters; as follows:*

"1st. Four artificial roads from the four great western rivers, the Allegheny, Monongahela, Kanhawa, and Tennessee, to the nearest corresponding Atlantic rivers, the Susquehannah or Juniata, the Potomac, James river, and either the Santee or Savannah, leaving to the several states the continuation of those roads eastwardly to the nearest sea ports. Those roads should unite on each river, points from which a permanent and safe navigation downwards could except during the driest seasons, be relied on, and will therefore on each route be estimated at one hundred miles, making altogether 400 miles, which at 7000 dollars a mile, the materials being generally on the spot, would cost $ 2,800,000

"2ndly. The improvement of the navigation of the four Atlantic rivers from tide water to the highest practicable point, effected principally by canals around the falls wherever practicable, and by locks whenever necessary. The most expensive of these would be the proposed canal from Columbia on the Susquehannah, either to tide water, or to the Delaware and Chesapeake canal. And considering how much has been effected already, and may still be done on the other rivers by the several incorporated companies, it is believed that every useful improvement might be completed by a public expenditure not exceeding $ 1,500,000

"3dly. The canal at the falls of Ohio, estimated at $ 300,000

Making altogether, $ 4,600,000

"Although a canal navigation, uniting the Atlantic and western waters in a direct course across the mountains appears impracticable, yet those mountains may be turned either on the north by means of the Mowhawk valley and of lake Ontario, or on the south through Georgia, and the Mississippi territory. The first communication will be noticed under the head of "the river St. Laurence and great lakes." Of the second it will be sufficient to observe, that the country lying between the sources of the rivers Chatahouchee and Mobile, and the gulph of Mexico, is an inclined plane, regularly descending towards the sea, and that by following the proper levels, it presents no natural obstacle to the opening of a canal, fed by the waters of the two last mentioned rivers, and extending from the tide water on the coast of Georgia, to the Mississippi. The distance in a direct line is about 550 miles, and to be overcome, requires only time, perseverance and labor. When it is recollected that such an undertaking would discharge the Mississippi into the Atlantic, the remarks already made on the trade of that river, and other obvious considerations will, sufficiently point out its immense importance. Nor should the plan, on account of its magnitude, be thought chimerical; for the elevation and other natural obstacles of intervening ground, or want of a sufficient supply of water, and not distance, are the only insuperable impediments to an artificial navigation.

"This work, which is presented not as an immediate but as a distant object worthy of consideration, would probably require ten millions of dollars, and thirty years for its completion. The annual sales of the public lands in the Mississippi territory, which are estimated at fifty millions of acres, would after paying the debt due to the state of Georgia, afford sufficient funds; and the encreased value of the residue, would alone more than compensate the expence.

"It is proper to add, that an inland navigation, even for open boats, already exists from New Orleans by the canal Carondelet, to the lake Ponchartrain, thence between the coast and the adjacent islands to the bay of Mobile, and up its two principal rivers, the Alabama, and the Tombigbee to the head of the tide within the acknowledged boundaries of the United States. The current of these two rivers, being much less rapid than that of the Mississippi, they have long been contemplated, particularly the Tombigbee, as affording a better communication to the ascending or returning trade from New Orleans to the waters of the Tennessee, from which they are separated by short portages."

A view is next offered of the *"Communication between the Atlantic rivers and the river St. Laurence and Great Lakes.*

"Vessels ascend the river St. Laurence from the sea to Montreal. The river Sorel discharges at some distance below that town the waters of lake George and lake Champlain, which penetrate southwardly within the United States. From Montreal to lake Ontario, the ascent of the rivers St. Laurence is estimated at about 200 feet. From the eastern extremity of lake Ontario, an inland navigation for vessels of more than 100 tons burthen, is continued more than one thousand miles, through lakes Erie, St. Clair, and Huron, to the western and southern extremities of lake Michigan, without any other interruption than that of the falls and rapids of Niagara, between lake Erie & lake Ontario. The descent from fort Schlosser to Devil's hole, a distance of four miles, which includes the perpendicular falls of Niagara, has by correct measurement been ascertained at 375 feet. The whole fall from lake Erie to lake Ontario, is estimated at 450 feet, making the elevation of lake Erie above tide water, six hundred and fifty feet.

"Lake Superior, the largest of those inland seas, communicates with the northern extremity of lake Huron, by the river and rapids of St. Mary's. The fall of these is not ascertained: but it is said that a small canal has been opened around the most difficult part, by the North West Fur company.

"Five of the Atlantic rivers approach the waters of the St. Laurence, viz. the Penobscot, Kennebeck, Connecticut, the North, or Hudson river, and the Tioga branch of the Susquehannah. This last river will afford a useful communication with the rivers Seneca, and Genessee, which empty into Lake Ontario. The length of the portage has not been precisely stated; and the general navigation of the Susquehannah has already been noticed. It may however be observed, that it is the only Atlantic river whose sources approach both the western waters, and those of the St. Laurence.

"The three eastern rivers, afford convenient communications, with the province of Lower Canada, but not with that extensive inland navigation, which penetrates through the United States, within two hundred miles of the Mississippi. No statement has been received of any improvement having yet been made on the Penobscot, or Kennebeck; and a very imperfect account has been obtained of some short canals opened around the several falls of the river Connecticut. One at Bellows' falls, in the state of Vermont, has been particularly mentioned, and is the highest improvement on the river."

Several companies appear to have been incorporated by the state of N. York for the accomplishment of these objects, viz. for effecting the Hudson and Champlain or northern navigation; the Mohawk and Ontario or Western navigation; and for opening a canal round the falls of Niagara. The second object only has been partially accomplished, at an expence of 370,000 dollars. The annual tolls do not exceed 13,000 dollars.

"The works necessary to effect water communications between the tide water of the North river, the St. Lawrence, and all the lakes, (lake Superior only excepted) are estimated at four millions of dollars, viz.

	Dolls.
"Northern navigation to Lake Champlain,	800,000
"Western navigation to Lake Ontario,	2,200,000
"Falls of Niagara for a sloop navigation,	1,000,000
	4,000,000

"The papers relative to those communications will be found under the letter (B.); but the utility of these will not be confined to the extensive navigation of the lakes themselves. For the mountains being completely turned, when arrived into lake Erie, the ridge which separates the waters emptying into that and into lake Michigan, from the northern branches of the Ohio, and from the waters of the Mississippi, is of a moderate elevation, and is gradually depressed in its course westwardly. There is no doubt of the practicability of opening canals at a future period, between several of those waters, either by selecting proper levels, or by means of short tunnels across favorable parts of the ridge."

Interior Canals—Partially or fully executed.

1. *On the Merrimack.* A canal round Asmoskeag falls—the Essex Canal—the Middlesex, the greatest work of the kind executed in the U. S. The expense of the two former canals is not stated; that of the latter amounts to 550,000 dollars; amount of tolls 17,000 dollars a year.

2. *Union of the Schuylkill and Delaware.*—A canal from Norris town to Philadelphia, 16 miles long—Expense estimated at 533,000 dollars; but a small part executed, and the whole work long since suspended.

3. *Union of Schuylkill and Susquehannah.* Expense estimated at 1,500,000 dollars. But a small part completed and the whole suspended.

4. *Union of Appomattox and south branch of James river.*—Nearly completed at an expence of 60,000 dolls.

5. *Neuse and Beaufort* North Carolina—Incomplete and suspended.

6. *Cape Fear river.*—Two small canals opened.

7. *The Canal Carondelet,* at New Orleans, incompletely effected.

The subject of TURNPIKE or *artificial* ROADS is next treated. We are in the first place presented with a most interesting statement of what has been done, under this head, in the several states; a statement which will have the happiest effect in animating us to new efforts, and in impressing on the foreign world an idea of our resources and the rapidity with which they have progressed.

Interesting, however, as this statement is, we must, from its length, reserve it for a future paper.

The Report concludes as follows:

"The roads heretofore made may be divided into three general classes.

"1. Those where the only improvement consists in the reduction of hills, and in the convexity and ditches of the road, whereby the angle of ascent is rendered more easy, and standing water excluded; but where the natural soil is used without any artificial stratum. The expense of these roads may vary according to local circumstances, and the perfection of the work, from five hundred to one thousand dollars a mile. They are most generally in use in the eastern states, and may be introduced with advantage in all those districts of country, where wealth does not admit more expensive improvements, or where the materials of an artificial stratum are altogether wanting. It is only in the last case, that they may be considered as a national object; and no other improvement besides bridges and causeways, is perhaps practicable in the lower country of the southern states. Iron, and even timber rail roads, may however be sometimes substituted in those level parts of the country, where stones and gravel are not to be found.

"2. Roads prepared as above, of a reduced breadth, and covered with a thin coat of gravel not more than six or nine inches thick; such as the turnpike lately made between Trenton and Brunswick. These roads, the expence of which may be estimated at about 3000 dollars a mile, may be used wherever the frost does not materially affect them, and in every climate, when they are intended principally for the conveyance of persons, and not for the transportation of heavy loads.

"3. The artificial roads of the best construction, such as have been already described. These when not exceeding 22 feet in breadth, and except in the vicinity of large cities, will cost at the rate of 7000 dollars a mile, exclusively of bridges over large rivers. And they must be resorted to, whenever a *commercial* road for heavy transportation is intended, particularly in the middle states, or rather in the U. S. between 41 and 36 degrees of north latitude. North of the 41st degree, the snow lies generally during the whole winter; and the great bulk of heavy transportation is effected in sleighs during that season. There is therefore less necessity for using the roads in the spring; and they are also better protected against the effects of the frost by the snow. South of the 35th degree, which in the Atlantic states may be considered as the boundary of the great cotton cultivation, the frost does not materially injure the roads. It is between those two extremes that the most substantial are required; and it also happens that the great land communications with the western country, which considerably increase the amount of transportation, are principally within the same limits.

"The same principles, which have directed the arrangement adopted in this report in relation to canals, will also point out those roads which seem in the first instance to claim the patronage of the general government.

"Those which appear most necessary for the communications between the Atlantic and western rivers have already been mentioned under that head; and the improvement of the water communication between the North river and the great lakes ought to take the precedence of any other in that direction.

"That road which therefore seems exclusively to claim public attention, is a great turnpike extending from Maine to Georgia in the general direction of the sea coast and main post road, and passing through all the principal sea ports. The general convenience and importance of such a work are too obvious to require any comments: and the expence seems to be the primary object of consideration.

"The distance will be roughly estimated at 1,600 miles, and from what has been stated on the subject of roads generally, it may be inferred that the greater part of the road being intended almost exclusively for travelling and not for transportation of heavy articles, the expence cannot exceed the rate of 3.000 dollars a mile. For although some detached portions of the route, being commercial roads, must be improved as such, and at a greater expence; an equivalent reduction in other parts will result from those portions which are already improved by private companies, and from the impossibility, for want of materials for an artificial stratum, of going in some places beyond what has been described as the first or cheapest species of turnpikes. The whole expence may therefore be estimated at 4,800,000 dollars.

"A secondary object, but of more importance to government than to individuals, would be the improvement, on a much less expensive scale, of certain portions of roads leading to some points on the extremes of the union, intended principally for the purpose of accelerating the progress of the mail, and the prompt transmission of information of a public nature. The points contemplated, are Detroit, St. Louis in Upper Louisiana, and New-Orleans. The portions of road which traversing a wilderness cannot be improved without the aid of the U. S. are; from the Tuscarora branch of the Muskingum to Detroit; from Cincinnati, by Vincennes, to St. Louis; and from Nashville in Tennessee, or Athens in Georgia, to Natches. The expence necessary to enable the mail and even stages to proceed at the rate of 80 miles a day, may, at the rate of about 200 dollars a mile, including bridges over all the small streams, be estimated for those three roads, at 200,000 dollars.

"*Recapitulation and Resources.*

"The improvements which have been respectfully suggested as most important, in order to facilitate the communication between the great geographical divisions of the United States, will now be recapitulated; and their expense compared with the resources applicable to that object.

"I. From north to south, in a direction parallel to the sea coast:

	Dollars.	
"1. Canals opening an inland navigation for sea vessels from Massachusetts to N. Carolina, being more than two thirds of the Atlantic sea coast of the U. States, and across all the principal capes, cape Fear excepted,	3,000,000	
"2. A great turnpike from Maine to Georgia, along the whole extent of the Atlantic sea coast,	4,800,000	
		7,800,000

"II. From east to west, forming communications across the mountains between the Atlantic and Western rivers:

"1. Improvement of the navigation of four great Atlantic rivers, including canals parallel to them,	1,500,000	
"2. Four first rate turnpike roads from those rivers across the mountains, to the four corresponding western rivers,	2,800,000	
"3. Canal around the falls of the Ohio,	300,000	
"4. Improvements of roads to Detroit, St. Lewis, and New Orleans,	200,000	
		4,800,000

"III. In a northern and north westardly direction, forming inland navigation between the Atlantic sea coast, and the great lakes and the St. Laurence:

"1. Inland navigation between the North river and lake Champlain,	800,000