



(BY AUTHORITY.)

LAWS OF THE UNITED STATES PASSED AT
THE FIRST SESSION OF THE TWENTY-
SECOND CONGRESS.

[PUBLIC No. 6.]

AN ACT to provide for the payment of arrearages in the naval service, chargeable to the enumerated contingent prior to the first day of January, one thousand eight hundred and thirty-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the sum of eighty thousand dollars be, and the same is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be applied, under the direction of the Secretary of the Navy, in the payment of arrearages connected with the naval service, and chargeable to the contingent enumerated prior to January the first, one thousand eight hundred and thirty-two, and which have been or may be approved and past by the proper accounting officers.

APPROVED, February 24, 1832.

[PUBLIC No. 7.]

AN ACT making appropriations for the revolutionary and other pensioners of the United States, for the year 1832.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be appropriated for the pensioners of the United States, for the year one thousand eight hundred and thirty-two:

For the revolutionary pensioners, nine hundred and eighty-seven thousand five hundred and four dollars.

For the invalid pensioners, in addition to the sum of one hundred and forty thousand five hundred and thirty-two dollars in the Treasury, one hundred and sixty-five thousand and thirty-nine dollars.

For pensions to widows and orphans, three thousand dollars.

APPROVED, February 24, 1832.

[PUBLIC No. 8.]

AN ACT making appropriations for fortifications for the year one thousand eight hundred and thirty-two.

Be it enacted by the Senate and House of Representatives of the United States of America and Congress assembled, That the following sums be and they are hereby appropriated for fortifications for the year one thousand eight hundred and thirty-two, viz:

For the preservation of Castle Island, and repair of Fort Independence, twenty thousand dollars.

For the preservation of George's Island, nine thousand dollars.

For Fort Adams, Newport Harbor, one hundred thousand dollars.

For the completion of Fort Hamilton, New York, ten thousand dollars.

For repairing for Columbus and Castle Williams, New York, fifty thousand dollars.

For arrears incurred in the preservation of the Pea Patch Island, two thousand dollars.

For Fort Monroe, Virginia, seventy two thousand dollars.

For Fort Calhoun, Virginia, eighty thousand dollars.

For the completion of Fort Macon, North Carolina, thirty thousand dollars.

For the completion of the Fort on Oak Island, North Carolina, seven thousand dollars.

For the Fort on Cockspur Island, Georgia, forty-six thousand dollars.

For fortifications at Charleston, thirty thousand dollars.

For fortifications at Pensacola, one hundred thousand dollars.

For Fort at Mobile Point, eighty-seven thousand two hundred dollars.

For contingencies of fortifications, ten thousand dollars.

APPROVED, February 24, 1832.

[PUBLIC No. 9.]

AN ACT making appropriations for the naval service for the year one thousand eight hundred and thirty-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be appropriated for the naval service for the year one thousand eight hundred and thirty-two, viz:

For pay and subsistence of the officers of the navy, and the pay of seamen, one million four hundred and nine thousand nine hundred and twenty-seven dollars.

For pay of superintendents, naval constructors, and all the civil establishments at the several yards, fifty-eight thousand five hundred and thirty dollars.

For provisions, four hundred and twenty-nine thousand one hundred and seventy-five dollars.

For repairs of vessels in ordinary, and the repairs and wear and tear of vessels in commission five hundred and thirty thousand nine hundred and eighty-two dollars.

For medicines and surgical instruments, hospital stores, and other expenses on account of the sick, twenty-five thousand dollars.

For improvements and necessary repairs of navy yards, viz:

For the navy yard at Portsmouth, forty-one thousand one hundred and thirty-four dollars.

For the navy yard at Boston, eighty-five thousand dollars.

For the navy yard at New York, seventy-two thousand dollars.

For the navy yard at Philadelphia, ten thousand six hundred and eighty-eight dollars.

For the navy yard at Washington, forty-two thousand dollars.

For the navy yard at Norfolk, one hundred and twenty thousand nine hundred and twenty-three dollars.

For the navy yard at Pensacola, twenty-five thousand eight hundred and fifty dollars.

For ordnance and ordnance stores, ten thousand dollars.

For defraying expenses that may accrue for the following purposes, viz: For freight and transportation of materials and stores of every description: for wharfage and dockage, storage and rent, travelling expenses of officers, and transportation of seamen, house rent, chambermoney, and fuel and candles to officers other than those attached to navy yards and stations, and for officers in sick quarters, where there is no hospital, and for funeral expenses; for commissions, clerk hire and office rent, stationery, and fuel to naval agents; for premiums and incidental expenses of recruiting; for apprehending deserters; for compensation to judge advocates; for per diem allowances for persons attending court-martial & of inquiry, and for officers engaged in extra service beyond the limits of their stations; for printing & stationery of every description, and for books, maps, charts, and mathematical and nautical instruments, chronometers, models, and drawings; for purchase and repair of steam and fire engines; and for machinery: for purchase and maintenance of oxen and horses and for carts, timber wheels, and workmen's tools of every description; for postage of letters on public service; for pilotage; for cabin furniture of vessels in commission, and for furniture of officers' houses at navy yards; for taxes on navy yards and public property; for assistance rendered to vessels in distress; for incidental labor at navy yards, not applicable to any other appropriation; for coal and other fuel for forges, foundries, and steam engines; for candles, oil, and fuel, for vessels in commission and in ordinary; for repairs and building of magazines and powder houses; for preparing moulds for ships to be built, and for no other object or purpose whatsoever, two hundred and fifty thousand dollars.

For contingent expenses for objects not hereinbefore enumerated, five thousand dollars.

For the pay of the officers and non-commissioned officers and privates, and for subsistence of the officers of the marine corps, one hundred and eleven thousand five hundred and sixty-three dollars.

For subsistence for non-commissioned officers, musicians, and privates, and washermen, serving on shore, eighteen thousand four hundred thirty-nine dollars.

For clothing, twenty-eight thousand seven hundred and sixty-five dollars.

For fuel, nine thousand and ninety-eight dollars.

For contingent expenses, fourteen thousand dollars.

For military stores, two thousand dollars.

For medicines, hospital stores, and surgical instruments, two thousand three hundred and sixty-nine dollars.

APPROVED, February 24, 1832.

From the Western Statesman.

RAIL ROAD—No. 2.

In my last number I merely threw out some broken hints in relation to the importance of the road as it affected the general interest of the country, without attempting to examine the general principles of the system. It cannot be expected that these numbers will be otherwise than desultory, for to enter into a minute investigation of the whole subject, would be too laborious for the writer, and tedious to the reader. I shall content myself generally with stating facts, leaving the public to draw the conclusions. In regard to the importance of this measure, I beg leave to make one or two remarks in addition to what has heretofore been said. There are several obstacles that present themselves to this mode of internal improvement—one is its novelty. Canals have long been in vogue—rail roads are almost a new invention. Mankind are naturally disposed to pursue the beaten track, and it is with great difficulty he can be persuaded to adopt new theories, until practical demonstration has tested their superior utility. When I have seen men too obstinately resisting, apparently the clear convictions of their own judgment, rather than abandon antiquated and repudiated doctrines and modes of acting, I have been reminded of the old man and his boys, sending their grain to mill in sacks on a horse; the old man insisted upon pursuing the old fashioned way of balancing the grain on his horse's back, by filling one end of the sack with stones. The boys, however, at length overpersuaded him, and he consented to try their mode for once, and filled his sack with grain and balanced it across the back of his horse, by dividing it in the sack; he had not gone far, before the sack came untied, and down went one half the grain in the dirt. "There," exclaimed the old man, "so much for listening to these foolish boys; if I had taken the old method for going to mill, I should have saved my grain, for that end of the sack would not have contained grain, to be thrown on the ground and lost." This accident no doubt, as is too often the case with others, disengaged the old man and forever after deterred him from indulging in the novelty of carrying grain in both ends of his sack.

We ought not to reject an improvement simply because of its novelty, for that would be at once, to stifle the progressive genius, with which heaven has endowed the human mind. I remarked in my last, that I had travelled the route on which this intended rail road from Lawrenceburg to Indianapolis is to go, and gave it as my opinion

that the travel now was greater than that on the Cumberland road from Wheeling to Cumberland. During the last fall I travelled, in company with another gentleman, a resident of this state, from this place (Lawrenceburg) to Indianapolis, while the roads were good, and took the pains to count the wagons and teams that we passed, and found them to average between twenty and thirty each day. Suppose then those teams to average in number twenty, and to carry each one ton, this amounts to twenty tons per day, or for three hundred days in a year, to six thousand tons annually at this present time. Suppose then the additional facilities produced by the rail road should increase the carriage to double that amount, which is a very moderate calculation, without taking into view any circumstances connected with our external relations, that would make it twelve thousand tons annually. We are further to calculate that the amount of carriage and travel will increase by virtue of our own internal resources alone in proportion to the population of the country, which, according to the ratio upon which it has proceeded for the last ten years, it will double itself in every seven years; so that in seven years from this time, it will amount to twenty-four thousand tons annually. To transport 24,000 tons from Indianapolis to Cincinnati on a rail road at four dollars per ton, will cost ninety-six thousand dollars. The travel along the same route will average at this time, as near as my observation can approach to certainty, to about 3,000 persons annually backward and forward, and which would increase, (Indianapolis being the seat of government,) beyond all doubt, to ten thousand—which at two dollars fare for each person, would amount to twenty thousand dollars more—making in the whole one hundred and sixteen thousand dollars annually.

Let us now examine a little into the present cost of such amount of carriage and travel. In the above calculation, we have allowed each team to carry a ton. It will require five days for a team to go from Indianapolis to Cincinnati, it being about 110 miles. This team will consist of four horses, a wagon, and driver. The expense will stand thus: A team of four horses, five days, at \$2.50 per day, is \$12.50, and returning say, at half price, \$6.25 more, making each ton cost \$18.75. For 24,000 tons, the annual expense will be \$450,000. Passengers now pay from Cincinnati to Indianapolis \$5 fare, and are generally four days in performing the trip, making the expense of fare and tavern bills, about nine dollars each; hence, the expense of carrying 10,000 will be \$90,000 which added to the amount of transportation as above stated, will make the whole expense of travel and transportation between the two places amount annually to \$540,000, in place of \$116,000. Thus it appears, that the public, in seven years from this time, if the road shall be completed by then, and I have no hesitation in saying it may be finished in half the time, will be a gainer for their own internal travel and carriage alone, \$44,000 annually. So much for the importance of this measure to the citizens of our own state, and the public generally.

Let us now see how it will stand in regard to the Company who make the road, the investigation of which may carry us beyond the present number. One of the greatest obstacles to the progress of internal improvements ever has been, the great and unnecessary expense frequently incurred in making them—so much time is consumed in completing the work—so much capital vested, and remaining so long idle and unproductive, that the owners or projectors, not only become dispirited, but it really turns out a bad investment of money, because of the enormous expense thus incurred in erecting them. The Baltimore and Ohio rail road for example; the first thirteen miles between Baltimore and Ellicott's Mills, cost upwards of fifty thousand dollars per mile. This was owing to the great expense of grading the road to make it level, or nearly so, and of making bridges, &c. Its greatest elevations and depressions are not more, perhaps than fifteen feet to the mile, which is scarcely perceptible. It has been ascertained, I believe, that if they had extended the maximum capacity to fifty feet, they would have saved thirty thousand dollars or more to the mile. They likewise went to the expense of about \$60,000 for a single bridge, which I presume, could have been made substantial for less than \$10,000. The miles between Baltimore and Ellicott's Mills is very undulating, and difficult to graduate; but I presume, if the road had been made at the least expense to be substantial and productive to the Company as well as convenient to the public, it would not have cost more than \$315 dollars per mile, and they were solid, substantial stone bridges. Mr. Earl says that the minimum expense of bridges and culverts at less than fifty-seven dollars per mile for a double track. The bridges and culverts for the Boston and Providence rail road, for a single track, cost but \$315 dollars per mile, and they were solid, substantial stone bridges. Mr. Earl says that the minimum expense of bridges and culverts of a road with a single track which avoids streams as much as possible, may be estimated at \$250 per mile. This road will cost us little for bridges and culverts perhaps, as any in the United States. Then if we add the bridging and making of culverts at \$250 per mile, to the amount of \$1297.19 already stated above, it will make the whole cost of the road (exclusive of the salaries of the officers, superintendents &c.) fifteen hundred and forty-seven dollars and nineteen cents per mile.

John L. Sullivan, Esq. proposes as a cheap mode to build the road on wooden posts, set in the ground below the frost, and their bottoms in and near the ground to be surrounded with rotten cement to keep them from shifting. This mode however in general, I presume, will be found as expensive, if not more so, than the usual one, except in crossing deep, short ravines, or where there requires a long high embankment coupled with a difficulty of obtaining earth to make it, such as will occur on this road from the mouth of the Miami river to Tanners creek, where the hill commences. The expense of such a road however can be much more readily and certainly calculated than one in the usual form, and I am inclined to think it cannot exceed from fifteen to eighteen hundred dollars per mile in the whole, contingencies excepted. These calculations may appear extraordinary to those who have only read or heard of the cost of the Baltimore and Ohio rail road, at \$60,000 a mile, or the Liverpool and Manchester, in England, at \$90,000 dollars, but it is to be recollect that these were some of the first efforts of mankind at this kind of improvements; began and conducted under every moral and physical disadvantage. The Baltimoreans, however, and Johnny Bull too, have now both learned better than to fool away their money thus. I quote the words of Mr. Earl himself, who is a resident of the eastern district of the state of Pennsylvania, in the neighborhood of the place where the improvements he mentions are made, he says, "the cheaper single rail always of wood, in Schuylkill county, Penn. have been made by contract,

their pockets again, and will have established a perpetual fund, from which they will draw annually an interest of between thirty-three, and fifty per cent. to them and their successors forever. The extravagant and useless expenditures on rail roads in England and on the Baltimore and Ohio rail road, have induced a general opinion, that they are a very expensive improvement, than which, nothing is more erroneous. I have seen and examined the Baltimore and Ohio rail road. It is of very simple construction, and were it not for the extra excavations and embankments, in order to render the road level, and the extravagant bridges, it would not have cost as much as a McAdam turnpike. On the road where the ground is level it is ditched and raised about a foot and a half above the common surface; for a single track, it is made about eight or ten feet wide, when this is done, sleepers are laid down of good timber, about six inches square, across the road, these sleepers ought to be laid on a bed of powdered stone, about three feet asunder and in them, notches are cut so wide apart as the wagon will track. In these notches the rails, which are made of pine, oak, walnut, or indeed any kind of wood, are laid so that the wheels of the car will run on them, and they are keyed in the sleepers, to keep them steady and equidistant, so that the wheels may never run off them. These rails ought to be about four by five inches square and shod with iron. Half an inch thick and 21 inches wide, but this is not absolutely necessary, unless there is a great deal of travelling on the road, or it is intended to propel the wagons with steam, and even then a plate of iron on the rail, a quarter of an inch thick, will last twenty years, and the old iron, will then sell for nearly the price of new. The above is the manner in which a rail road is constructed, and where there is no extraordinary excavating, or embanking, that is, where the site of the road is level the whole expenses, shoeing the rails with half inch iron and all, will not be more than about fifteen hundred or two thousand dollars per mile. Merely ditching and throwing the earth up so as to raise it fit for receiving the sleepers, may be done, and a part of the Philadelphia and Columbia rail road has been done, for \$250 per mile, and even less than that. Mr. Earl who in 1830, published a treatise upon the subject of rail roads, compiled from the latest and most authentic and correct authors, gives a bill of the cost of a mile of a cheap and substantial rail road, as follows:

Excavation and embankment for a foundation, 8 feet wide 3400 cubic yards, at 8 cents per yard. 272 000
1520 sleepers at 8 cents a piece—(they will be less here) 105 60
Rails, 3 by 5 inches, of oak, 12,880 feet timber at \$12 per 1000—(here it will cost but 7 or 8 dollars) 154 59
Wedges to fasten the rails \$25 00 and preparing staples and laying rails \$100 00
Occasional walling and broken stones for foundation &c. 125 00
Crubbing, exclusive of value of timber, 75 00
Graveling horse path, 50 000 100 00
5 tons of iron at 75 dollars 174 wide by 74 inches thick 375 00
Nails and putting on iron 46 00

\$1297 19

The expense of bridges and culverts is very uncertain. Mr. Hopkins, who surveyed the route from Harrisburg to Chambersburg in Pennsylvania, estimated the cost of bridges and culverts at less than fifty-seven dollars per mile for a double track. The bridges and culverts for the Boston and Providence rail road, for a single track, cost but \$315 dollars per mile, and they were solid, substantial stone bridges. Mr. Earl says that the minimum expense of bridges and culverts of a road with a single track which avoids streams as much as possible, may be estimated at \$250 per mile. This road will cost us little for bridges and culverts perhaps, as any in the United States. Then if we add the bridging and making of culverts at \$250 per mile, to the amount of \$1297.19 already stated above, it will make the whole cost of the road (exclusive of the salaries of the officers, superintendents &c.) fifteen hundred and forty-seven dollars and nineteen cents per mile.

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at a cost of two dollars a perch, or six hundred and forty dollars a mile, including every expense of excavation, rails, and horse paths, and they have been plated with iron at an expense of about five hundred dollars a mile," making the whole cost but eleven hundred dollars. There can be no mistake about these things, they are undeniable facts, and solid realities. As I have before hinted, the enormous expense of their improvements originated in a mistaken notion of the importance of making the road almost a quite level, and in the extravagance of the bridges, &c. &c. I have said it was a mistaken notion to go to a great expense in levelling the road, for it is demonstrable, that if a road is to be worked by animal power it is better to be undulating, and an animal will travel farther in a day, and carry as heavy a burthen, as on a level one, but it is true, that where it is to be worked by steam power altogether, it is perhaps better to have it as near level as practicable, without incurring too great an expense. This may perhaps be a point of the subject of a future number. In the next, I shall endeavor to show, the amount of work which may be done on such road as I have described, the manner of working it, and the expense; the prospects of increased carriage upon it, as being connected with the Ohio canal, and the northern domestic trade, in conjunction with our British colonial regulations, particularly those with Canada. I must ask the indulgence of the public for the extremely desultory manner in