

Title Sketch of a Ship-Carriage, constructed and used in Siberia
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SKETCH OF A SHIP-CARRIAGE, CONSTRUCTED AND USED IN SIBERIA.

BY GENERAL SIR SAMUEL BENTHAM.

(ORIGINALLY PRINTED IN THE UNITED SERVICE JOURNAL.)

To the Editor of the United Service Journal.

October 8, 1829.

SIR,—In looking over the copies of my letters to my friends in England, written during my stay in Russia, between forty and fifty years ago, I met with some accounts and drawings of an amphibious carriage I constructed in Siberia, which afforded me much convenience and pleasure, during journeys of several thousand miles in that country. Conceiving that carriages, constructed on a similar principle, might become useful to travellers of the present day, and as no account of them has, I believe, ever been published, I herewith enclose extracts from such parts of my letters as relate to this subject, together with a drawing of the first amphibious carriage which I made use of.

This carriage was built during my first visit to Siberia, in 1781. Some years afterwards, whilst in the Russian service, having requested and obtained leave to exchange my regiment at Cherson, for a command in Siberia, consisting principally of two battalions, stationed one of them at Kiachta, on the frontiers of China, the other along the banks of the Irtysh, above 1200 miles from each other: the amphibious carriage presented itself to me as peculiarly suited to the enabling me to vary my route, in passing from one to the other. I accordingly constructed two carriages of a more simple form than the first: in which, while travelling post, I crossed several rivers without any stoppage at the banks, the horses continuing their course across the river, swimming whenever they got out of their depth.

On my return, in these carriages, from Siberia to Prince Potemkin's head-quarters at Jassy, previously to the taking of Ismailoff, the Prince, impressed with the importance of amphibious carriages in a military point of view, ordered a corps of Chasseurs to be furnished with some of them, according to the general idea I gave of the requisite modifications: but as I then obtained leave of absence to visit my friends in England, I did not stay to direct the correction of some imperfections I observed in the only one which I saw. I never returned to the service of Russia; and Prince Potemkin dying soon afterwards, it does not appear that any farther steps were taken towards the adapting these vehicles to military purposes.

On my return to England, I constructed a model of a military baggage-waggon on the same principle, which the late Duke of York saw at my house, together with some other of my mechanical contrivances. On this occasion His Royal Highness suggested some improvements of his own, according to which a carriage was executed, and exhibited on the Thames above bridge; when His Royal Highness seemed determined to make use of the invention; but as I was at that time completely engaged in the duties of my office, of Inspector-General of Naval Works, I neglected to draw any farther attention to this invention. At a later period, during my mission to Russia, the Emperor Alexander caused a carriage of this kind to be constructed; a model of which

I suppose to be the one mentioned by Dr. Granville, in his account of St. Petersburg, as being deposited at the Admiralty. This carriage was several times tried on the Neva; but the Emperor wishing to see it farther improved, so as to be adapted to the use of the sick and wounded, and as I was at that time called home, I do not believe that the idea has been any farther pursued.

The materials of which these several carriages were constructed, were such as the different places afforded. The ribs were formed of ash, or other tough and flexible wood: the planking of the first was composed of two strakes of three-tenths of an inch thick, placed diagonally, crossing each other at right angles, with a stratum of thin linen impregnated with tar between them. In other carriages, instead of the planking, the ribs were covered with raw hides, which after being affixed, were smoked by burning saw-dust under them for a week,—a mode of preparing leather for boots, practised in some parts of Russia, instead of tanning. The amphibious baggage-waggon, made according to the instructions of the Duke of York, was of tinned copper.

If these amphibious carriages were adopted for military purposes, supposing that all the carriages attendant on a regiment were constructed on the same principle, and that the number be the same as was in the Russian Service, there would be, in constant readiness, a sufficiency of water conveyance to enable the whole of the *personnel* as well as the *materiel* to cross any river without farther stoppage than the time necessary to take off the covers from the carriages, turn them upside down, and embark on board them. And so far from any addition being required to the usual number of horses, these carriages, from the superior lightness of their construction, would actually need a less number than are usually employed. But even if the number of amphibious vehicles furnished means for no more than one-half of the *personnel* to pass a river at a time, they would be found exceedingly useful; and if similar means were adopted for passing the artillery in a state ready for immediate action, such an advantage might, on many occasions, be made productive of most important results.

I am, Sir,

Your very obedient servant,

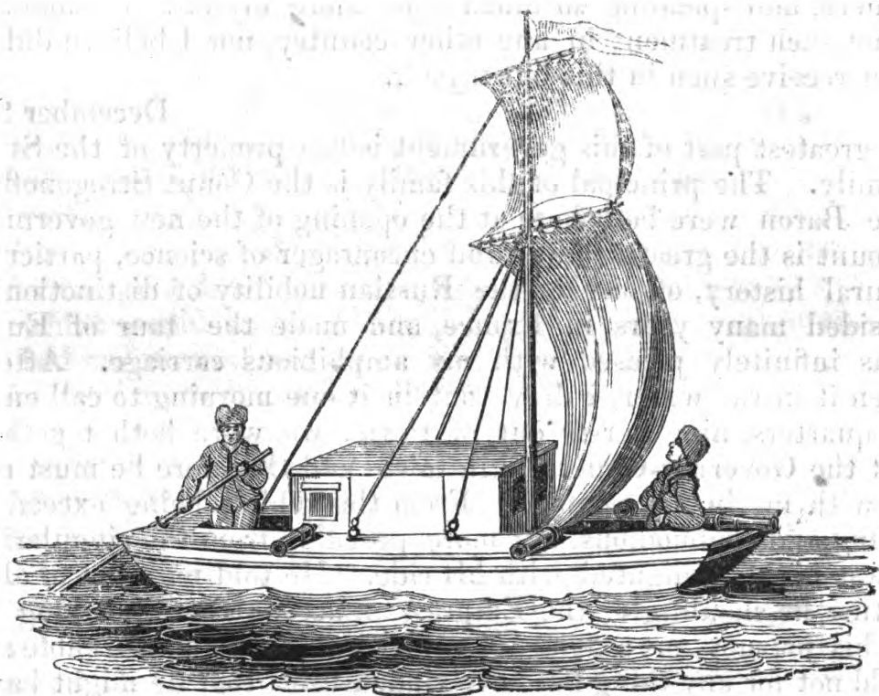
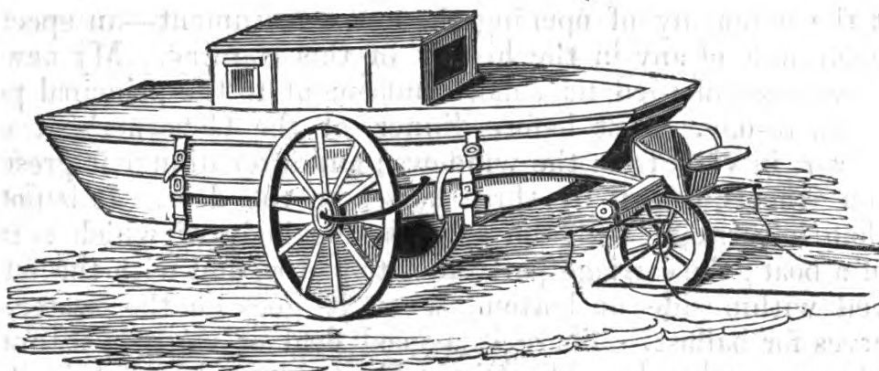
SAMUEL BENTHAM.

To His Excellency Sir James Harris, &c. at St. Petersburg.

Nighni Taghil; May 18, 1781.

Dear Sir,—As at my return to this place I was in want of a carriage for the summer roads, and under some difficulty about the procuring one, I was very glad to accept of the offer which Mr. Dimidoff's intendants made me of building one, in consequence of a letter I brought them from him. Finding some good workmen, I determined to put in execution an idea I had of an amphibious carriage, which might serve me as a boat to go down the rivers in, and as an easy wheel-carriage by land. The construction of such a machine being entirely different from any work the men had been accustomed to, it was necessary I should work myself at such parts as I could not make them understand.

THE SHIP-CARRIAGE REPRESENTED IN ITS SEVERAL FORMS.



To J. B.

Perme, October 20, 1781.

I arrived here the 9th of this month, for the purpose of being present at the ceremony of opening the new government—an epoch the most remarkable of any in the history of this country. My new amphibious vehicle afforded no small amusement to the principal people in the town to-day. Just before dinner, at the Governor's, it sailed up the river, in view from the windows; and after dinner it presented itself, on wheels, drawn by three horses to the door. It is nothing more than a carriage hung on springs, the body of which is in the shape of a boat; the carriage part takes to pieces, and with the wheels, is stowed within side at bottom, when it goes on the water, and then serves for ballast. There is a good deal of work in it, and the materials are costly; but Mr. Dimidoff, at whose iron fabric it was made, so far from permitting me to pay for it, expressed himself much obliged to me for the preference I showed to his fabric, in having it built there, and spending so much time there myself. Strangers receive not such treatment in any other country, nor I believe did ever stranger receive such in this but myself.

December 21.

The greatest part of this government is the property of the Strogonoff family. The principal of this family is the Count Strogonoff; he and the Baron were both here at the opening of the new government. The Count is the greatest lover and encourager of science, particularly of natural history, of any of the Russian nobility of distinction; he has resided many years in France, and made the tour of Europe. He was infinitely pleased with my amphibious carriage. After he had seen it in the water, I drove out in it one morning to call on him at his quarters, nine versts out of town: we were both together to dine at the Governor-General's, in town, and therefore he must needs return with me in my carriage. From the vehicle being exceedingly easy hung and commodious, but more probably from the singularity of it, he was highly delighted with his ride. He told me, that of all the curiosities he should give the Empress an account of his having seen during his journey, my carriage would be the most remarkable; and he would not for any thing but have ridden in it, that he might have to tell her so. When we came to the Governor's, seeing my carriage from the windows, he and all the company came to the door, and were not a little surprised to see a little blue ribbon first disembark. The Count ordered a French painter he has with him, to make a sketch of this vehicle, that he might the better be enabled to give the Empress an idea of it. I have got a drawing of it done here, and have given it to the Governor-General, that he may show it likewise to her Majesty; a third copy I have sent to Mr. Dimidoff, a fourth I shall send to you.

The Count was so very desirous that I should go to see the salt-works belonging to him and his family, that I could not but make him a promise to go thither: they are situated on the borders of the river Kama, about thirty versts below Solikamscaja. I had heard much of a subterraneous cavern, situated about a hundred versts farther, from whence very curious stalactites and calcareous crystals are obtained: the adding to my collection of minerals, and the exploring a subterraneous

chasm, which fear and impatience of fatigue had deterred every body from penetrating to the end of, were motives sufficient to carry me thither. I set out upon this expedition in my vehicle, mounting the Kama against the current, but with a fair wind, as far as the salt-works. I learnt on my way, that Baron Strogonoff, who had left Perme about a week, was still at those salt-works: upon my arrival thither, therefore, I gave him a good salute with my guns in due form, the English colours flying, I may safely say, for the first time, in that part of the world. As soon as the Baron's people could collect their guns for the purpose, my salute was returned doubly and trebly. I went directly on shore to the Baron's; and after the first compliments, tea was presented according to the custom of the country. In the mean time he ordered quarters to be got ready for me next his own, and supper to be prepared for me there, as the state of his health obliged him to observe a regimen. It was already dusk, so that after sitting two or three hours with him, talking over my passage by water, my desire of informing myself thoroughly of the whole of the salt-works, and the process of making it, and my intended expedition to the cavern, I took my leave of him for the night.

As the windings of the river had exposed us to the opposite actions of the wind as well as to the current, we were not a little tired; and as we had pretty well consumed our provisions, the appearance of the preparations for supper was far from disagreeable. My interpreter and I were soon seated to a succession of twenty dishes, served in silver, by ten or a dozen servants, with all that neatness as well as delicacy which would scarcely have failed to procure us an artificial appetite, had our natural one not been so keen.

The next morning, as I wished to visit the salt-works belonging to the Crown, about four versts off on the other side of the water, and had fixed about eight o'clock for setting out, came an officer from the Baron, about half an hour past seven, with apologies for not accompanying me himself on account of my early time of setting out, and to tell me that a carriage was prepared for me on the other side of the water, and that he, the officer, was to conduct me himself. Accordingly, we crossed the water in a small boat, and there was the Baron's English chariot, with six fine horses, which had been transported over the river, broader than the Thames at London, on floats.

We drove to the commander of the salt-works, who went round with me to show me the whole of the works, and particularly a new boiling pan, an invention of a common peasant; he was to have the execution of it at his own expense, in hopes of a reward in case of its succeeding. The commander of the works gave me models of the set of instruments used in boring the salt-holes; and after my promising to spend a day with him at my return from the remaining part of my expedition, we hastened to get to the Baron's to dinner.

When we came to cross the water again, instead of the small boat that we came over in, was a very large *house-barge*, something in the manner of those of the London Companies, rowed with fourteen oars, and decked with colours. When we came near landing, a number of guns were fired in salute from the shore; but you will have all this in my journal one day or other.

S. B.





