

serious injury which the ship has undergone does not appear to have risen in any degree from the strain thrown upon her during the actual launch as far as it proceeded, nor even from the strains occasioned by the overhang of the hull, notwithstanding the necessary weakness of its bottom as compared with its armoured sides and deck, seems to have withstood with marvellous resistance. It was only as the tide gradually fell away from her, and left the enormous overhanging hull to sink and brings its whole contracted weight upon one place, that, after hours of resistance the bottom yielded and crushed upwards, driving with its pillars, bulkheads, beams, and indeed, all but the massive vertical sides, the gird action of which is now so well understood.

"A determined attempt to afloat the ship from her present position is to be made, as soon as the necessary preparation can be completed. As far down under her as workmen can get at low water new sliding ways will be laid, and new cradles placed upon them. But, as the ship herself lies at so great a declivity, with her heel stuck down into the bed of the river, and as the further launching must of necessity be downwards, one of two things must be done; either the bed of the river must be dredged out deeply enough and far enough out from the shore to let her descend as much further as the launch may require, or else the stern must be raised before the launch. There are great difficulties in the way of dredging the river bed as suggested, and there are other objections to the former plan; while, as regards the latter, although it is obviously easy enough to raise the stern by the lifting power of the rising tide, it is equally obvious that this must be done only on the very tide into which she is to be launched, and, therefore, the ship has to be both lifted into her cradles and launched within a very short space of time indeed. It will be seen from this that the future launch of the *Independencia* will be a critical proceeding, and one which will deservedly awaken much public interest. We have said this notwithstanding its difficulty, this further attempt to launch the ship ought to be made. We say this because, even if she were already condemned to be dismantled and taken to pieces, it would be very undesirable to seek to effect these operations where she now lies, protruding far into the river, catching the full strength of the tide, and obstructing in some degree the navigation and traffic, while if she is ever to be repaired her previous launch is, of course, absolutely indispensable. Of course there is one contingency to consider—that of her being launched but proving so leaky when launched as to overpower her pumps and sink into the river. In that case, she would probably have to be blasted to pieces and raised piecemeal.

"The cost of the *Independencia*, when completed, engined, armed, and equipped for sea, would probably not fall short of half-a-million sterling. It is said that her hull only, as it stood ready for launching, was insured for half that amount, at charges varying from 2s. 5d. to 5s. per £100 as an ordinary launching risk. For a fee of about £500, therefore, the insurers' office have incurred a claim of a quarter of a million, or, at least, of an amount equal to all the loss occasioned by the failure to launch the ship, and of the expense of restoring her to her former state."

The new Brazilian ironclad *Independencia* has at last been successively launched. It will be remembered that repeated attempts

were made to launch the big ship after her completion, but all without success until last Thursday. The launch was first attempted on the 16th July last at the spring tide, but the ship would not move. On the 29th of July, the next spring tide, another attempt was made, but it was equally unsuccessful. On that day all sorts of appliances were brought to bear to effect the launch, the result was that the ship went safely down the slips about her own length and then stopped, and when the tide fell she settled down with her stern in the head of the river, about a third of her length having only left the ways. In this position she remained until Thursday. The Admiralty offered all the appliances at their command. Several powerful hydraulic rams, cranes and other appliances were forwarded from Chatham to Cubitt Town. The weight of the ship was decreased by the removal of some of her armour-plates, and other measures were taken with a view to effect the launch. This was fortunately accomplished in the presence of many officials, ship-builders, and others; and the vessel is believed to have sustained no injury that cannot in a short time be repaired. The *Independencia* is 320 feet long, with a beam of 63 feet, and has been constructed for the Brazilian Government. She is 5000 tons burden, builder's measurement, which is equal when armed and afloat to a displacement of 10,000 tons. Her sides are covered with a belt of 12-inch iron armour plates to a depth of about fifteen feet, with an inside lining of teak. As nearly all her armour-plates were fixed while the ship was on the stocks, her weight is about 6000 tons, and the operation of launching is felt to be one of unusual difficulty.—*Broad Arrow*.

THE BOUNDARY COMMISSION.

After two seasons labour, involving a considerable outlay upon the part of the American and British Governments, the work of locating the northern boundary line from Lake of the Woods west to the Rocky Mountains, a distance of 703 miles, has been completed so far as the field work is concerned. The party of engineers under Major Twinning arrived in this city last night. All the officers of the survey save American Commissioner Campbell are now in the city. It is needless in this connection to restate in detail what the commission have performed more than to say that they have located the boundary line which has long been in dispute, westward to the summit of the Rocky Mountains. Of the work performed, 300 miles has been completed since the commission left here on the 10th of June. From Major Twinning, the chief astronomer, it is learned that there are no points of contention between the British and American government, but a year will be required for the engineers to work up their notes before making their report.

The party, consisting of sixty-five persons, that arrived here last evening, were accompanied to Fort Buford by two companies of infantry that have acted as escort. Those that are in the city besides the engineers are their assistant chain men, axemen, teamsters, etc. All look brown and harty after the season of roughing it. They report the British Commission as having started for Embina overland, and that they will probably arrive there about the 10th of this month, and probably pass through this city to Canada. Mr. J. E. Bings, the Secretary of the Commission; Major W. T. Twinning, Chief Astronomer; Captain J. F. Gre-

gory, and Lieut. F. V. Green, Assistant Astronomers; L. Boss, First Civil Assistant, and V. T. Gillcuddy, M. D., D. Crowther, Second Assistants; and Captain O. D. Lattley, Quartermaster; and Dr. Elliot Coues, the Surgeon and Naturalist, are among the learned gentlemen of the expedition at the different hotels. All express themselves as right glad the work is completed, and to return to civilization again. The gentlemen will remain in the city for a time, and proceed on to their homes in the East and to Washington, to write up their notes.—*St. Paul Press*, Oct. 1.

CONTINUOUS NAVIGATION FROM ST. PAUL TO THE ROCKY MOUNTAINS.

BUFFALO, N. Y., Sept. 26, 1874.

"A project mooted some years ago of connecting the navigation of the upper Mississippi with the Red River, and the lakes of British America and its rivers, was revived on reading an article in your valuable journal, speaking of improving the navigation above St. Paul.

"There are interlocking streams, the Crow Wing, Sauk, and perhaps others, which could be joined by short canals to waters leading to the Red River, for small expense, and thus establish a long river leading to the Rocky Mountains and the Hudson Bay.

"What a vast internal system of inland navigation could thus be formed?

"The locks to connect the waters ought to be long enough and wide enough to accommodate steamers, say 200 feet long, 25 feet wide and 5 feet deep or draft. Such steamers could afford the cheapest means of transport. The project is entirely feasible, and some day, not far distant, will be accomplished.

"A survey by the government engineers ought to be had, and it is for the interest of your rising city to have it made."

As the writer of the above says this is a revival in a somewhat new form of an old project. But the old project was not to connect the affluents of the Upper Mississippi with those of the Red River, though some of them are so closely interlocked that it would no doubt be feasible, but on account of the ridges of hilly country dividing the Mississippi from the Red River basin it is much less feasible, because much more expensive than to connect the Red and Minnesota rivers. Lake Traverse, in which the Red River proper takes its rise, lies within a mile or two of the Big Stone Lake, which is the chief supply reservoir of the Minnesota river. They are both situated in a nearly level plain on the western border of our State, and in very high water it is possible to pass from one to the other in canoes and batteaux. The project, a favorite one of the late Hon. J. R. Brown, who used to have a trading post on Big Stone Lake, was to connect these two lakes by canal, to deepen the channel of the Upper Red river, to overcome the occasional rapids and shallows of the Upper Minnesota by means of locks and dams, and thus, with similar improvements on the Saskatchewan, to form a continuous chain of navigation for steamboats from New Orleans to the Rocky Mountains.

Of course the project is perfectly feasible, given the necessary expenditures, and it would be well worth the while. We agree with our correspondent, that if such a system were established we would forever hold the trade of the great central region of British America. Slackwater improve-