

NOTES ON MILITARY AND NAVAL AFFAIRS.

THE SITUATION.

After the reduction of Fort Henry, on the Tennessee river, some of our gunboats proceeded up the river as far as Florence in the northern part of Alabama. They were joyously received all along the route, and Tennessee papers give gloomy prospects for the future of the Southern Confederacy in that section. The Memphis *Avalanche*, a journal dyed in gall and bitterness, says the people apprehend an immediate advance of the Northmen, and evince their joy in every village and neighborhood. The Unionists are making demonstrations in many of the northern counties, and even at Memphis there were exhibitions of joy on the arrival of the news from Beech Grove. Armed bodies of Johnson's and Maynard's followers are prowling about in all directions through the mountains.

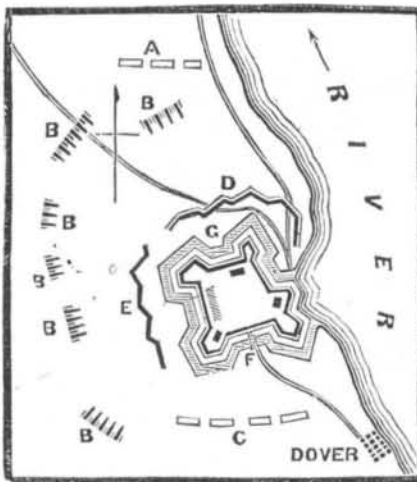
We announced in our last number with a great deal of satisfaction the triumphant success of General Burnside's Expedition upon the coast of North Carolina. The General's official report of the affair does not materially alter the facts as we have already presented them. Elizabeth City, Edenton, Plymouth and Hartford, all places of considerable importance, are held by the United States forces, and it is reported later that General Burnside has moved on to Suffolk, Va., which isolates Norfolk, cutting off all railroad connection with that place.

GREAT BATTLE AND SURRENDER OF FORT DONELSON.

The fall of Fort Henry was another heavy blow at the Confederates, but the most powerful one yet dealt at the monster was struck by our forces under command of General Grant, in the successful attack on Fort Donelson, on the Cumberland. It was indeed a stunner, and must have sent a terrible shock throughout all rebeldom. On Sunday night the sharp cry of the newsboy, announced the "extra" containing news of the fall of that stronghold. The facts were painfully meager, and all loyal hearts retired that night with a feeling of uncertainty about the result, and when Monday morning came, the anxiety was materially heightened by the information that the flag of the Union was floating over only a portion of the enemy's works. About twelve o'clock on Monday, the 17th, news came under flag of truce from Norfolk, that Fort Donelson had surrendered to General Grant, including Generals A. Sidney Johnston, Simon B. Buckner, Gideon J. Pillow, and John B. Floyd, besides 15,000 soldiers. This news quickened the loyal pulse, and men, women and children, were seized with a sort of delighted panic. Some wag rushed up to the Police office and urged the Superintendent to issue an order at once that all persons found in the streets sober after 2 o'clock P. M., should be arrested. Still the source from whence the news came was not quite satisfactory, but a little more patient waiting brought news from headquarters that the Fort had surrendered with nearly its whole army, including Generals Johnson and Buckner, but the news that Floyd had again stolen away as a thief in the night, taking some 5,000 troops with him, seemed to put a damper on the victory. All seemed to feel that the seizure of this villain was equal to one great victory. Alas! he escaped, but there is some comfort in the announcement that his beaten and discomfited confederates denounced him as a coward and a traitor. Floyd's prospects from now onward are by no means flattering. He basely betrayed his country while an officer in its service, and for him there is now left naught but remorse and shame. The grave cannot cover his treachery, any more than it has the memory of Benedict Arnold.

The fight began at Fort Donelson, on Thursday the 14th Feb. In the meantime, Bowling Green, that stronghold of the rebel army in Kentucky, was in process of evacuation, and a large portion of its forces were sent down by railroad to reinforce that position. It is estimated that the confederate force was 30,000 strongly entrenched. The works of the Fort—a diagram of which is herewith published—including the batteries and rifle pits, covered several acres, and extended some five miles on the outside, and had been constructed with great care, and furnished with a powerful armament. The battle raged with great fury on both sides until Saturday night, under the expectation that it was to be renewed on the following morning, but at daylight General Buck-

ner met our advancing troops with a white flag, and surrendered unconditionally. Never was there a surrender anything like this on our continent. Burgoyne gave up less than six thousand men, and Cornwallis but little over seven thousand. In fact, we should have to read long in European history before we should find a capitulation on a scale like this. The rebels lost forty-eight field pieces, seventeen cannon, twenty thousand stand of arms, beside an immense quantity of commissary stores, &c. There was great loss of life on both sides, the full particulars of which, it will require some time to ascertain. It is reported as the probable loss of the Union forces, 400 killed, and 800 wounded. The Union forces numbered 50,000 and were commanded in three divisions by Generals Grant, McClernand, and Smith.



REFERENCES TO THE PLAN.—A—General Smith. B—Union Field Batteries. C—General McClernand. D—Rebel Redoubts. E—Rebel Rifle Pits. F—Draw Bridge. G—Ditch around the Fort.

The troops engaged were principally from Illinois, though Indiana, Iowa, Ohio, and Missouri, furnished gallant soldiers who had an important hand in the battle. The iron-plated gunboats under command of the gallant Commodore Foote, stormed the fort vigorously. We allude in another place to their performance during the action.

General U. S. Grant, the senior officer in command is a graduate of West Point, and served with gallantry in the Mexican war. He left the army in days when it had nothing to do, and has recently resided in Galena, Illinois. Immediately on the outbreak of the rebellion, he offered his services to the Government, and was made a Brigadier General. The value of these services are well attested by the success which has attended our forces in the capture of Forts Henry and Donelson. His pungent reply to General Buckner, who had written a note to him proposing an armistice, shows the character of the man. It is as follows:—

SIR—Yours of this date, proposing an armistice and the appointment of commissioners to settle on the terms of capitulation, is just received.

No terms except unconditional and immediate surrender can be accepted.

I propose to move immediately on your works.

I am very respectfully, your obedient servant,

U. S. GRANT,
Brigadier General Commanding.

In view of the gallant conduct of General Grant, the President sent in his name to the Senate for promotion to the rank of Major General. Every man seems to have done his duty nobly. All honor to the brave officers and soldiers for their loyal defense of the flag.

General Simon B. Buckner is a native of Kentucky, and was educated at West Point at the public expense. He is only 38 years of age, but has seen service, having been engaged in the battles of Contreras, Churubusco, and Molino del Rey, in Mexico. He appeared in Washington last summer and pretended to be loyal. General Scott believed in him, but he was only spying out the camp for the benefit of Jeff. Davis, and on his return home very soon turned up a traitor. We regard him as a very bad fellow, and hope his days of treason are about done.

It appears that General A. Sidney Johnson was not in the fight, but another of similar name, General Bushrod Johnson of Kentucky. Who this General Bushrod Johnson is, we do not know. He bears an honored name in disgrace. We suppose he is a sort of mushroom General, who wears all the toggerly of the order, and has but little under it. Bushrod has

dropped before glory had a chance to overtake him.

Gen. C. F. Smith is a meritorious graduate of West Point, and has commanded at Paducah, Ky., since its occupation by the Federal forces.

Gen. John A. McClernand is a well-known democratic politician of Illinois and was many years in Congress where he was always respected for his ability and conservative patriotism. His course in the present crisis, fully sustains his former patriotic purposes as a legislator.

The army under General Buell is concentrating for an attack on Nashville, which is speedily expected, and General Halleck will give his attention to Columbus. Large reinforcements are going to Kentucky to both wings of the army. It is estimated that over 30,000 additional troops are now moving in that direction. Telegraphic communication is now established between General McClellan at his headquarters, and Generals Halleck and Buell. These distinguished officers are operating in the strictest harmony.

Some of our journals of the "On to Richmond!" order are doing their utmost to create disorganization in the command of the forces, but the good sense of the people will see through it.

The rumor of the fall of Savannah, into the hands of the Federal forces, we cannot credit, but that an attack was about to be made on that city, there is no doubt. Com. Dupont writes to the Department that he expected to achieve a victory soon.

FIGHT ON THE UPPER POTOMAC.

Brig. Gen. Lander, a brave and capable officer, is in command of the Federal forces at Cumberland on the Upper Potomac and was recently wounded at the battle of Balls Bluff. On Thursday night the 13th inst. he led his troops on a forced march surprising and breaking up a Secession camp at Blooming Gap on the Baltimore and Ohio Railroad. He captured 17 officers and 45 privates, also 225 beef cattle. Gen. Lander in his official report to Gen. McClellan, says that "Major Frothingham is entitled to great credit for building, under my direction, in four hours, in the dead of night, complete bridge across the Great Cacapon, at an unfrequented mountain road. Two columns, of 2,000 men each, marched 32 miles, and one column 43 miles, since four P. M. yesterday, beside bridging the river. The papers taken, and my own reconnoissance to the south, prove the country clear, and that Jackson and Loring are at Winchester. We made a move and occupied the Blooming Gap and Point Mill, on the belief, by information obtained from deserters, that Gen. Casson's brigade was there. Gen. Dumming has just arrived at New Creek from Moorfield, 40 miles south of Romney."

Since the battle of Mill Springs, Gen. Schoepf's division in Kentucky is reported to have actually built forty miles of corduroy road, in order to approach Monticello, where Crittenden is getting together the remains of his dispersed army. The depth of mud in the ordinary roads made it impossible to advance without making a road as our troops proceed. Such energy deserves and guarantees success.

A sheet iron breastplate was found among the personal effects of Gen. George B. Crittenden, in Zollicoffer's camp at Mill Springs. It was sent to Governor Morton, of Indiana, by Lieut. Colonel Kise, of the Tenth Indiana.

MATTERS IN MISSOURI.

General Price has been driven out of Springfield, Mo., by the Federal forces under Generals Curtis and Sigel. General Halleck telegraphed to General McClellan on the 18th, as follows:—"The flag of the Union is now floating in Arkansas. General Curtis has driven Price out of Missouri, and is several miles across the Arkansas line, cutting up Price's rear, and hourly capturing prisoners and stores. The army of the southwest is doing its duty nobly.

Mr. Holt, who is now in St. Louis investigating matters there in connection with the contracts made under Gen. Fremont, wept for joy when he heard the news of the Donelson victory. Gen. Halleck, in a brief address to the people of St. Louis alluding to the capture of Donelson, said:—"I promised, when I came here, with your aid, to drive the enemy of our flag from your State. This has been done, and they are now virtually out of Kentucky, and soon will be out of Tennessee."

The Niagara wire suspension bridge has a span of 820 feet, and weighs 1,000 tons.

Interesting Experiments with Heavy Mortars at Cairo

In respect to the efficiency of the mortar boats constructed at St. Louis there have been many doubts in the minds of well-meaning persons, including a number of army and navy officers. They have been thought clumsy, insufficient in their bulwarks, incapable of bearing the heavy mortars designed for them, and beyond all question incapable of resisting the terrible concussion which would attend the firing of a 13-inch shell.

A correspondent writing from Cairo to the St. Louis Democrat says that all these opinions and prognostications have been overthrown by experiments made under the superintendence of Capt. Constable, and before a committee of three, composed of himself, Capt. Kilty, of the gunboat *Mound City*, and Capt. Dove, of the gunboat *Louisville*.

One of the mortar boats, No. 35, was taken in tow this morning by three steamtugs and conveyed to a point a few hundred yards below Fort Holt on the Kentucky shore. The huge mortar had previously been placed on board, and fixed upon one of Rodman's mortar carriages or beds. Everything having been got in readiness, Capt. Constable fired a small charge of four pounds of powder for the purpose of "scaling" the mortar. The first experiment with a shell then followed, with a charge of eleven pounds of powder. The suspense was relieved by the sudden shooting up from the water's line of a white column of spray far down the Mississippi, and, as it was estimated, two miles and a half away from us. The mortar boat was scarcely moved by the explosion, and the mortar carriage recoiled but two or three inches. This was very encouraging.

Experiment number three was made with the full charge of twenty-three pounds of powder. The time of the flight of the ball was thirty-one seconds, and the distance three and a half miles. The recoil of the gun carriage was about two feet, and the effect of concussion upon the loose wooden work of the boat was the same as in the previous shot.

Experiment number four gave results similar to number three, Capt. Paulding, of the gunboat *St. Louis*, discharging the gun in the place of Capt. Constable. Capt. Paulding describes the concussion as very stunning and painful, and thinks it could not be endured within the bulwarks of the mortar boat by any man for more than eight or ten consecutive shots.

The mortar boats are about sixty feet long, and about twenty-five feet wide, surrounded on all sides by iron plate bulwarks, six or seven feet high. The mortar itself weighs 17,210 pounds; has a bore easily admitting a 13-inch shell, and from the edge of the bore to the outer rim is seventeen inches. The mortar bed weighs 4,500 pounds, and from the experiment made, is pronounced by Capt. Constable to be the most admirable mortar carriage yet invented.

Say twenty of these mortar boats drop down to within easy reach of Columbus, and at the same time be out of reach of the best rifled cannon the rebels may bring to bear—so small, indeed, at a distance of three and a half or four miles, as scarcely to be discernible on the surface of the water. Say, further, that each of these boats will fire, at a very low estimate, four shells an hour. Then twenty of them would discharge eighty shells an hour, with perfect impunity, and at this rate for one night of ten hours eight hundred of these terrific missiles may be thrown into the rebel camp and fortifications. Can they endure it?

Manufacturing News.

The Troy Cotton Mill, Fall River, Mass., which has been running half time for several months, lately commenced running three-quarters time, employing the operatives from 7 A. M. to 4.30 P. M. each day in the week.

The Dwight Company of Chicopee, Mass., are still running their mill half time, and have cotton enough on hand to run until the first of July next.

Haliday & Co., at South Coventry, Conn., are preparing to start up their works again for the manufacture of patent windmills for pumping water.

The Detroit (Mich.) *Tribune* gives an account of the extensive steam forge of Ford & Philbrick, showing that it is one of the most complete establishments of the kind on the Lakes. This forge contains two steam hammers and one stationary engine. The largest hammer weighs 2,500 pounds, and will forge a shaft

20 inches in diameter; the small hammer weighs 1,000 pounds, and is principally used for forging railroad car axles and small shipwork, locomotive frames, piston and connecting rods, &c. Lake Superior iron and a mixture of scrap iron are used in this forge.

The cotton mill of Messrs. Geo. C. Ballou & Son, in Woonsocket, R. I., which has been idle for several months for repairs and improvements, has recommenced operations.

Remington's firearms manufactory is situated at Ilion, Herkimer Co., N. Y. It has grown to its present magnitude as the result of forty years' labor of father and sons. It is now turning out about a hundred and fifty arms a day, and by a new addition, just receiving, its machinery will add a hundred a day to its capacity. The machinery is kept in constant operation, except on Sundays, by relays of hands. The *Utica Herald* says that a branch is to be established in that city which will also produce a hundred weapons a day. The entire production will thus be about three hundred and fifty pistols, rifles and carbines daily.

The Fort Pitt Works, Pittsburgh, Pa., have made arrangements for turning out twelve mortars per week, each weighing eight and a half tons. Large numbers of heavy Dahlgrens and Columbiads, and an immense quantity of shells, are also being manufactured at this establishment.

The Eagleville Arms Company, Mansfield, Conn., having recently received large contracts for guns, will soon start their works in that place.

The Collins Company, at Collinsville, are now turning out 100 swords daily.

The Cold Spring Foundry at West Point, N. Y. has furnished upward of 600 Parrott rifled guns to the government.

A Philadelphia paper says:—"The works of the Bethlehem Iron Company are approaching their completion. The engine and machinery of the furnace are put in, the stack is being lined, and everything is in such a stage of forwardness that we may look to see the furnace in blast early in spring."

The whole number of gas works on this continent and their capital are thus stated:

	Number.	Capital.
United States	420	\$51,620,940
British Colonies	23	2,112,040
Cuba and South America	22	6,350,000
Total	465	\$59,082,980

This is an increase in this country since July 16, 1850, of thirty-nine gas works, and of capital £3,649,725. The whole amount of capital employed in the rebel States is \$5,631,890, against \$45,989,050 in the loyal.

Flax Culture in Illinois.

A correspondent of the *Prairie Farmer* gives his experience with flax last year—the first experience which he had with raising it in Illinois—although he had grown it for several years previously in Ohio. He says:—"In April I plowed my ground and sowed my flax in May, half a bushel to the acre, as follows: one and one-half bushel to three acres, on second sod, and the balance one-half bushel on one acre of old ground, which was very mellow, having been planted in potatoes the previous year. From the one acre of old ground I harvested 16½ bushels of good seed, and from the three acres of sod 30 bushels, making 46½ bushels as my whole crop. One-half bushel of seed is sufficient for one acre of ground.

I think flax growing profitable for seed alone, and if we had machinery for working up the fiber there would be a great additional profit. The following is my account with the crop:—

EXPENSE OF CULTURE.	
Plowing four acres at 75 cents per acre	\$3 00
Harrowing and sowing	3 00
Cutting	2 00
Trashing and cleaning	5 00
Call seed \$1 per bushel	2 00
Total	\$15 00
Value of 46½ bushels at \$1	46 50

Profit on four acres of ground

The ground upon which this was sown was a black loam, plowed as before stated, and harrowed once before and once after sowing, with a fine-tooth harrow. The crop was cut with a common grain cradle, though a reaper will work well in it. Upon the whole I conclude that flax can be grown upon the prairies of Illinois with success.

I will state that the whole crop has been loaned in this neighborhood to be sown next spring.

New Iron Plated War Steamer.

In addition to the Ericsson's iron case battery which is now rapidly approaching completion we are able to announce that an iron mailed war steamer built by Maxson, Fish & Co., at Mystic, Conn., was launched on Friday the 14th inst. Its dimensions are: Length of keel, 180 feet; over all, 200 feet; breadth of beam, 36 feet on the gun deck, 27 on the upper deck; depth of hold, 12 feet. Her draught will be 12 feet. Her floors are fifteen inches thick, of solid oak; and the hull throughout is as strong as wood and iron will make it. Her engines are Ericsson's patent, from Delamater's New York, and of 800-horse power. The diameter of the screw propeller is 11½ feet.

The armor envelops the vessel completely, to two feet below the water line. It is composed of longitudinal iron bars, 3½ inches thick, showing 4 inches face and bolted every 8 inches with three-quarter inch bolts which pass completely through the vessel, and are secured on the inside with screw nuts 1½ inches square.

The iron bars are dove-tailed together in such an ingenious manner that not a bolt is visible upon the exterior surface, and, after painting, a close examination will be necessary, to detect the armor. Above the ports the thickness decreases to two inches, and upon the upper deck, and about the bow and stern, the plating consists of sheet iron one inch in thickness.

Such is the peculiar construction of the vessel, however, with her beautiful rounded stern, sharp bow and convex sides, that this thickness will be amply sufficient to sustain the shock of the heaviest projectiles without injury. The iron used—which is manufactured at Troy, New York—is of the very best description, perfectly malleable and of fine texture.

She will be rigged as a brigantine (the standing rigging of wire rope), and carry eighteen guns of heavy caliber, four of which will be pivoted. So says the *New London Chronicle*.

Since the above was in type we have received the following letter from the builders:—

Messrs. Editors:—Your letter was received too late for reply by last night's mail. The description you allude to in the *Chronicle* is in the main correct. The dimensions of the ship are as follows:—Length on load line, 180 feet; length on deck, 190 feet; extreme breadth, 37 feet; depth of hold, 12.6 feet, with a light spar deck over the batteries. Her frame is of white oak and white chesnut, keel, keelson, plank, &c., of white oak. All of the materials used are of the best quality, selected under naval superintendence. The fastenings below load line are of copper; above, of locust and iron. The armor, which extends to four feet below the water line, is 2½ inches in thickness, consisting of bars about 6 inches wide and 24 feet long; above the port sides the thickness is reduced to 2 inches, and the deck is covered with ½-inch iron plates; the bow and stern are also clad with iron plates. The model above water was shaped to lower the center of gravity and also to deflect the shot when fired at short ranges. The iron plating is the invention of Messrs. Corning, Winslow & Co., of Troy, and was all rolled at their establishment. The armor was described in your paper some weeks ago. The interior of the vessel is arranged as is usual for vessels of her class in the navy, only differing in slight details. Her armament is to consist of four 9-inch Dahlgren guns and two rifled 48-pounders. The cylinders are 48-inch by 3-feet stroke; boilers, 11 feet shell and 16 feet long; dimensions of spars as follows: mainmast, 67 feet; maintopmast, 44 feet; foremast, 60 feet; foretopmast, 29 feet; foretop-gallantmast, 29 feet; main boom, 55 feet; gaff, 36 feet; fore guard, 55 feet; foretopmast, 39 feet; bowsprit, 8½ feet inside, 17 feet outside.

This vessel was built under the contract of C. S. Bushnell & Co. with the Navy Department, and was designed by Samuel H. Pook, Esq., an experienced naval architect of Boston, who has also superintended the construction, on the part of the government, and to whose credit whatever success the ship may attain will be mainly due. The ship was launched on the 14th, and her draft, with nearly all her armor on, is 7 feet forward and 8 feet 11 inches aft. It is intended to have her ready for trial in three weeks.

MAXSON, FISH & Co.
Mystic, Conn., Feb. 18, 1862.