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*Miss Olive Root.*

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BATTLES AND LEADERS OF THE CIVIL WAR

# THE CENTURY WAR BOOK

PEOPLE'S PICTORIAL EDITION

## PART V

THE FIGHT BETWEEN THE "MONITOR" AND "MERRIMAC"

BUILDING THE "MERRIMAC," AND THE CONFEDERATE SIDE IN THE BATTLE  
BY JOHN TAYLOR WOOD, LIEUTENANT ON THE "MERRIMAC"  
(CONTINUED FROM PART IV)

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THE BUILDING OF THE "MONITOR"  
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THE PENINSULAR CAMPAIGN

BY GEORGE B. McCLELLAN, MAJOR-GENERAL, U. S. A.  
GENERAL-IN-CHIEF OF THE UNITED STATES ARMY DURING THE FIRST PART OF THE PENINSULAR CAMPAIGN  
(TO BE CONTINUED IN PART VI)

NEW YORK: THE CENTURY CO.



Battles and Leaders of the Civil War.

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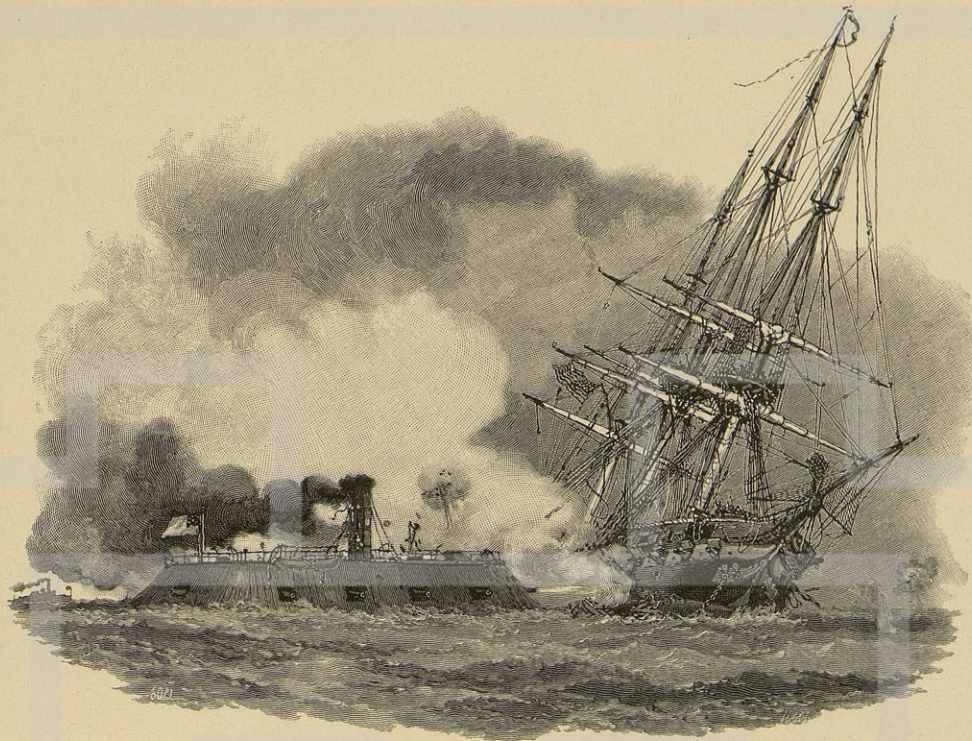




COLONEL JOHN TAYLOR WOOD, C. S. A.  
Lieutenant on the "Merrimac." (From an oil portrait.)

which, from different sources, we had a good idea. She could not possibly have made her appearance at a more inopportune time for us, changing our plans, which were to destroy the *Minnesota*, and then the remainder of the fleet below Fort Monroe. She appeared but a pygmy compared with the lofty frigate which she guarded. But in her size was one great element of her success. I will not attempt a description of the *Monitor*; her build and peculiarities are well known.

After an early breakfast, we got under way and steamed out toward the enemy, opening fire from our bow pivot, and closing in to deliver our starboard broadside at short range, which was returned promptly from her 11-inch guns. Both vessels then turned and passed again still closer. The *Monitor* was firing every seven or eight minutes, and nearly every shot struck. Our ship was working worse and worse, and after the loss of the smoke-stack, Mr. Ramsey, chief engineer, reported that the draught was so poor that it was with great difficulty he could keep up steam. Once or twice the ship was on the bottom. Drawing 22 feet of water, we were confined to a narrow channel, while the *Monitor*, with only 12 feet immersion, could take any position, and always have us in range of her guns. Orders were given to concentrate our fire on the pilot-house, and with good result, as we afterward learned. More than two hours had passed, and we had made no impression on the enemy so far as we could discover, while our wounds were slight. Several times the *Monitor* ceased firing, and we were in hopes she was disabled, but the revolution again of her turret and the heavy blows of her 11-inch shot on our sides soon undeceived us.



THE "MERRIMAC" RAMMING THE "CUMBERLAND."

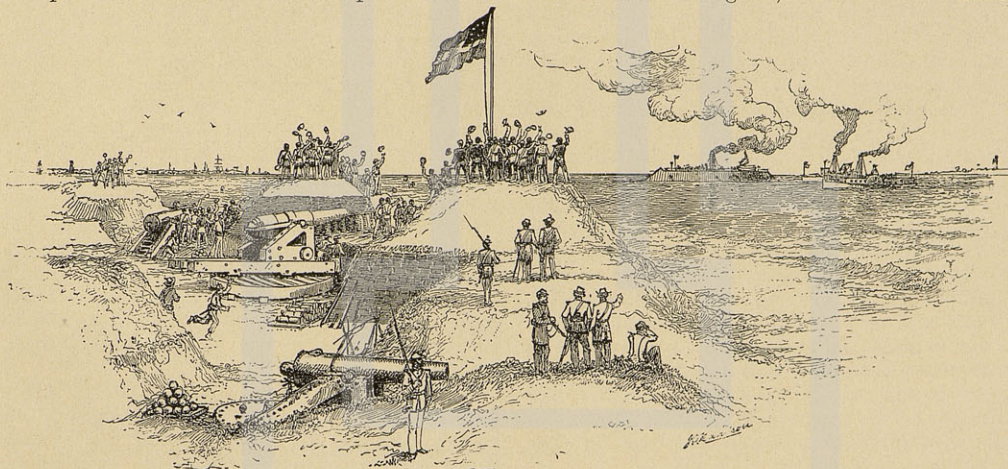
Coming down from the spar-deck, and observing a division standing "at ease," Lieutenant Jones inquired:

"Why are you not firing, Mr. Eggleston?"

"Why, our powder is very precious," replied the lieutenant; "and after two hours' incessant firing I find that I can do her about as much damage by snapping my thumb at her every two minutes and a half."

Lieutenant Jones now determined to run her down or board her. For nearly an hour we maneuvered for a position. Now "Go ahead!" now "Stop!" now "Astern!" The ship was as un-

wieldy as Noah's ark. At last an opportunity offered. "Go ahead, full speed!" But before the ship gathered headway, the *Monitor* turned, and our disabled ram only gave a glancing blow, effecting nothing. Again she came up on our quarter, her bow against our side, and at this distance fired twice. Both shots struck about half-way up the shield, abreast of the after pivot, and the impact forced the side in bodily two or three inches. All the crews of the after guns were knocked over by the concussion, and bled from the nose or ears. Another shot at the same place would have penetrated. While alongside, boarders were called



THE "MERRIMAC" PASSING THE CONFEDERATE BATTERY ON CRANEY ISLAND, ON HER WAY TO ATTACK THE FEDERAL FLEET.



LIEUTENANT GEORGE U. MORRIS, U. S. N.\*  
Acting-Commander of the "Cumberland."

away; but she dropped astern before they could get on board. And so, for six or more hours, the struggle was kept up. At length, the *Monitor* withdrew over the middle ground where we could not follow, but always maintaining a position to protect the *Minnesota*. To have run our ship ashore on a falling tide would have been ruin. We awaited her return for an hour; and at 2 o'clock P. M. steamed to Sewell's Point, and thence to the dockyard at Norfolk, our crew thoroughly worn out from the two days' fight.

Although there is no doubt that the *Monitor* first retired—for Captain Van Brunt, commanding the *Minnesota*, so states in his official report—the battle was a drawn one so far as the two vessels engaged were concerned. But in its general results the advantage was with the *Monitor*. Our casualties in the second day's fight were only a few wounded.

This action demonstrated for the first time the

\*In the absence of Captain Radford, the command of the *Cumberland* devolved upon the executive officer, Lieutenant Morris, from whose official report we quote the following: "At thirty minutes past three the water had gained upon us, notwithstanding the pumps were kept actively employed to a degree that, the forward-magazine being drowned, we had to take powder from the after-magazine for the ten-inch gun. At thirty-five minutes past three the water had risen to the main hatchway, and the ship canted to port, and we delivered a parting fire—each man trying to save himself by jumping overboard. Timely notice was given, and all the wounded who could walk were ordered out of the cockpit; but those of the wounded who had been carried into the sick-bay and on the berth-deck were so mangled that it was impossible to save them. . . . I should judge we have lost upward of one hundred men. I can only say, in conclusion, that all did their duty, and we sank with the American flag flying at the peak." When summoned to surrender, Morris replied, "Never! I'll sink alongside!"





LIEUTENANT JOSEPH B. SMITH, U. S. N.\*  
Acting Commander of the "Congress."  
From a photograph.

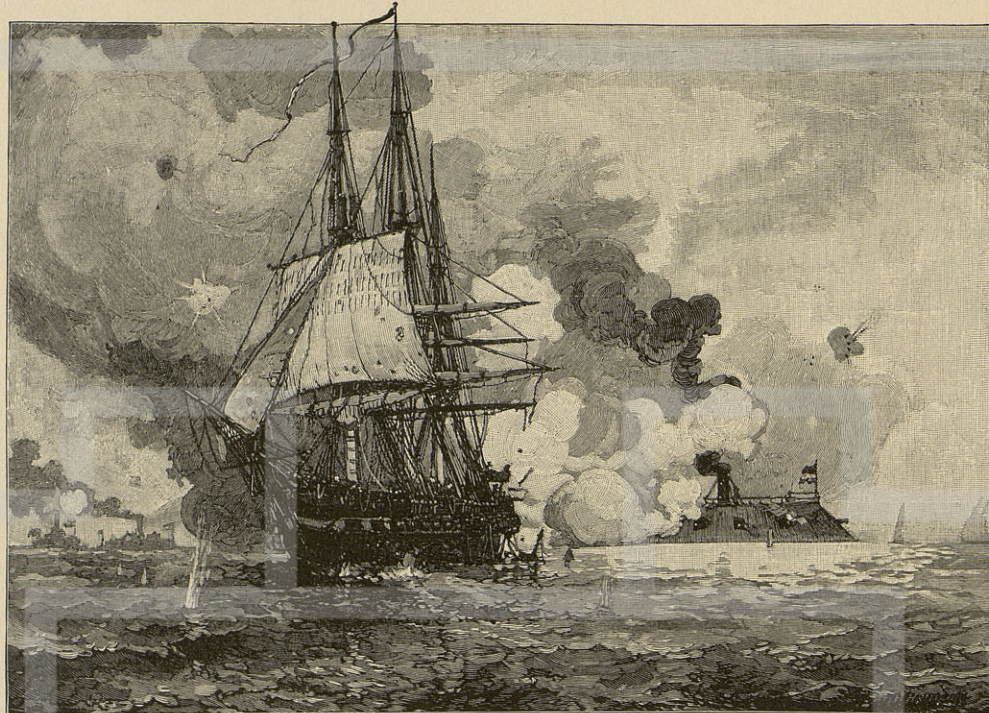
power and efficiency of the ram as a means of offense. The side of the *Cumberland* was crushed like an egg-shell. The *Congress* and *Minnesota*, even with our disabled bow, would have shared the same fate but that we could not reach them on account of our great draught.

It also showed the power of resistance of two ironclads, widely differing in construction, model, and armament, under a fire which in a short time would have sunk any other vessel then afloat.

The *Monitor* was well handled, and saved the *Minnesota* and the remainder of the fleet at Fort Monroe. But her gunnery was poor. Not a single shot struck us at the water-line, where the ship was utterly unprotected and where one would have been fatal. Or had the fire been concentrated on any one spot, the shield would have been pierced; or had larger charges been used, the result would have been the same. Most of her shot struck us obliquely, breaking the iron of both courses, but not injuring the wood backing. When struck at right angles, the backing would be broken but not penetrated. We had no solid projectiles, except a few of large windage, to be used as hot shot, and, of course, made no impression on the turret. But in all this it should be borne in mind that both vessels were on their trial trip, both were experimental, and both were receiving their baptism of fire.

On our arrival at Norfolk, Commodore Buchanan

\*According to the pilot of the *Cumberland*, Lieutenant Smith was killed by a shot. His death was fixed at 4:20 P. M. by Lieutenant Pendergrast, next in command, who did not hear of it until ten minutes later. When his father, Commodore Joseph Smith, who was on duty at Washington, saw by the first despatch from Fort Monroe that the *Congress* had shown the white flag, he said, quietly, "Joe's dead!" After speaking of the death of Lieutenant Smith, Lieutenant Pendergrast says, in his official report: "Seeing that our men were being killed without the prospect of any relief from the *Minnesota*, . . . not being able to get a single gun to bear upon the enemy, and the ship being on fire in several places, upon consultation with Commander William Smith we deemed it proper to haul down our colors." Lieutenant Smith's sword was sent to his father by the enemy under a flag of truce.



THE "MERRIMAC" DRIVING THE "CONGRESS" FROM HER ANCHORAGE.

sent for me. I found him at the Naval Hospital, badly wounded and suffering greatly. He dictated a short despatch to Mr. Mallory, Secretary of the Navy, stating the return of the ship and the result of the two days' fight, and directed me to proceed to Richmond with it and the flag of the *Congress*, and make a verbal report of the action, condition of the *Virginia*, etc.

I took the first train for Petersburg and the capital. The news had preceded me, and at every station I was warmly received, and to listening crowds was forced to repeat the story of the fight. Arriving at Richmond, I drove to Mr. Mallory's office and with him went to President Davis's, where we met Mr. Benjamin, who, a few days afterward, became Secretary of State, Mr. Seddon, afterward Secretary of War, General Cooper, Adjutant-General, and a number of others. I told at length what had occurred on the previous two days, and what changes and repairs were necessary to the *Virginia*. As to the future, I said that in the *Monitor* we had met our equal, and that the result of another engagement would be very doubtful. Mr. Davis made many inquiries as regarded the ship's draught, speed, and capabilities, and urged the completion of the repairs at as early a day as possible. The conversation lasted until near midnight. During the evening the flag of the *Congress*, which was a very large one, was brought in, and to our surprise, in unfolding it, we found it in some places saturated with blood. On this discovery it was quickly rolled up and sent to the Navy Department, where it remained during the war; it doubtless burned with that building when Richmond was evacuated.

The news of our victory was received everywhere in the South with the most enthusiastic rejoicing.

Coming, as it did, after a number of disasters in the South and West, it was particularly grateful. Then again, under the circumstances, so little was expected from the navy that this success was entirely unlooked for. So, from one extreme to the other, the most extravagant anticipations were formed of what the ship could do. For instance: the blockade could be raised, Washington leveled to the ground, New York laid under contribution, and so on. At the North, equally groundless alarm was felt. As an example of this, Secretary Welles relates what took place at a Cabinet meeting called by Mr. Lincoln on the receipt of the news. "'The *Merrimac*,' said Stanton, 'will change the whole character of the war; she will destroy, *seriatim*, every naval vessel; she will lay all the cities on the seaboard under contribution. I shall immediately recall Burnside; Port Royal must be abandoned. I will notify the governors and municipal authorities in the North to take instant measures to protect their harbors.' He had no doubt, he said, that the monster was at this moment on her way to Washington; and, looking out of the window, which commanded a view of the Potomac for many miles, 'Not unlikely, we shall have a shell or cannon-ball from one of her guns in the White House before we leave this room.' Mr. Seward, usually buoyant and self-reliant, overwhelmed with the intelligence, listened in responsive sympathy to Stanton, and was greatly depressed, as, indeed, were all the members." . . .

A few days later we went down again to within gun-shot of the Rip-Raps, and exchanged a few rounds with the fort, hoping that the *Monitor* would come out from her lair into open water. Had she done so, a determined effort would have been made to carry her by boarding. . . .



CAPTAIN G. J. VAN BRUNT, U. S. N.  
Commander of the "Minnesota." (From a photograph.)

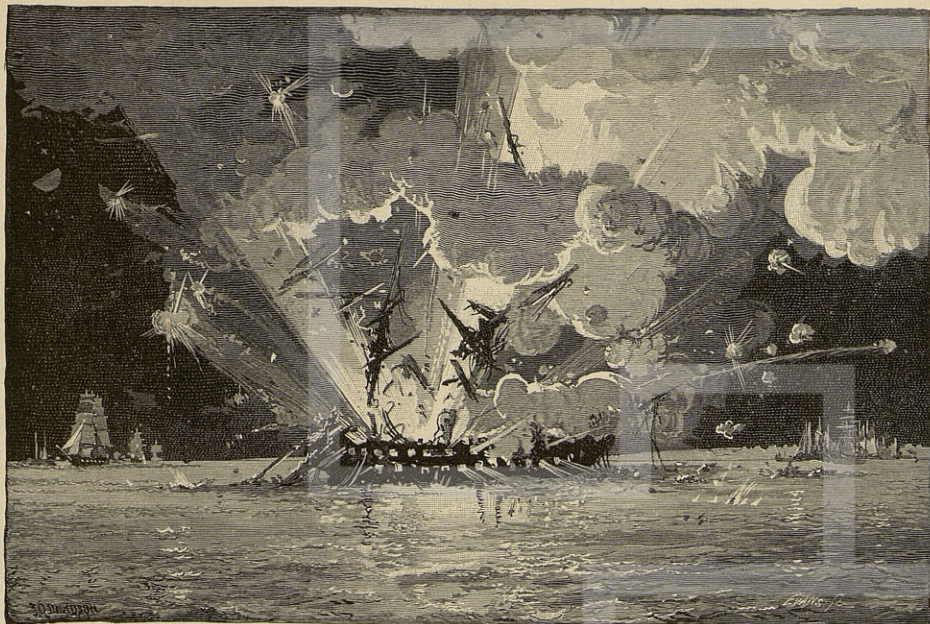
## THE UNION SIDE.

### IN THE "MONITOR" TURRET.

BY S. DANA GREENE, COMMANDER, U. S. N.  
Executive Officer of the "Monitor."

THE keel of the most famous vessel of modern times, Captain Ericsson's first ironclad, was laid in the ship-yard of Thomas F. Rowland, at Greenpoint, Brooklyn, in October, 1861, and on the 30th of January, 1862, the novel craft was launched. On the 25th of February she was commissioned and turned over to the Government, and nine days later left New York for Hampton Roads, where, on the 9th of March, occurred the memorable contest with the *Merrimac*. On her next venture on the open sea she foundered off Cape Hatteras in a gale of wind (December 29th). During her career of less than a year she had no fewer than five different commanders; but it was the fortune of the writer to serve as her only executive officer, standing upon her deck when she was launched, and leaving it but a few minutes before she sank. So hurried was the preparation of the *Monitor* that the mechanics worked upon her day and night up to the hour of her departure, and little opportunity was offered to drill the crew at the guns, to work the turret, and to become familiar with the other unusual features of the vessel. The crew was, in fact, composed of volunteers. Lieutenant Worden, having been authorized by the Navy Department to select his men from any ship-of-war in New York harbor, addressed the crews of the *North Carolina* and *Sabine*, stating fully to them the probable dangers of the passage to Hampton Roads, and the certainty of having important service to perform after arriving. The sailors responded enthusiastically, many more volunteering than were required. Of the crew Captain Worden said, in his official report of the battle, "A better one no naval commander ever had the honor to command."



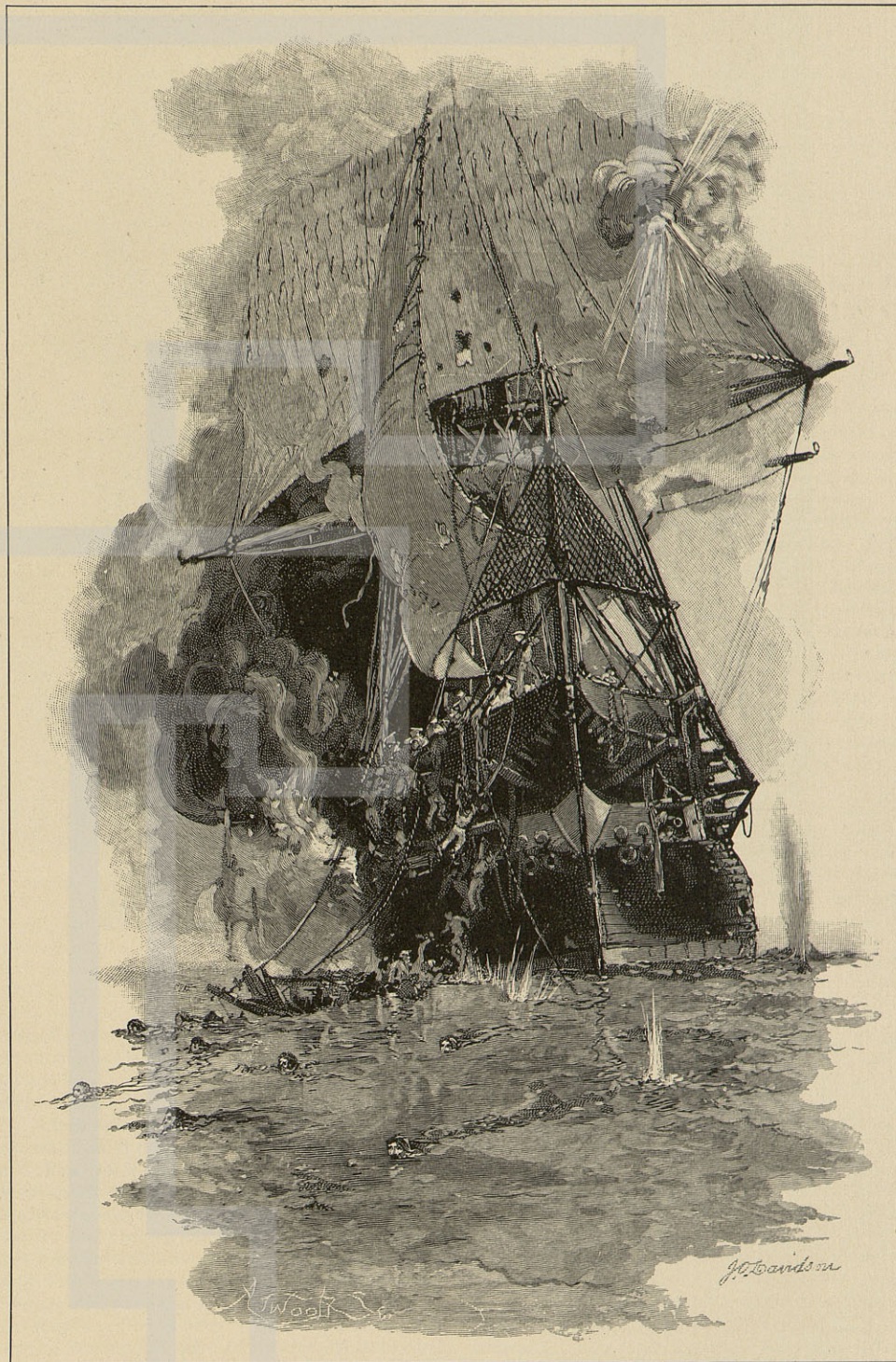


THE EXPLOSION ON THE BURNING "CONGRESS."

We left New York in tow of the tug-boat *Seth Low* at 11 A. M. of Thursday, the 6th of March. On the following day a moderate breeze was encountered, and it was at once evident that the *Monitor* was unfit as a sea-going craft. Nothing but the subsidence of the wind prevented her from being shipwrecked before she reached Hampton Roads. The berth-deck hatch leaked in spite of all we could do, and the water came down under the turret like a waterfall. It would strike the pilot-house and go over the turret in beautiful curves, and it came through the narrow eye-holes in the pilot-house with such force as to knock the helmsman completely round from the wheel. The waves also broke over the blower-pipes, and the water came down through them in such quantities that the belts of the blower-engines slipped, and the engines consequently stopped for lack of artificial draught, without which, in such a confined place, the fires could not get air for combustion. Newton and Stimers, followed by the engineer's force, gallantly rushed into the engine-room and fire-room to remedy the evil, but they were unable to check the inflowing water, and were nearly suffocated with escaping gas. They were dragged out more dead than alive, and carried to the top of the turret, where the fresh air gradually revived them. The water continued to pour through the hawse-hole, and over and down the smoke-stacks and blower-pipes, in such quantities that there was imminent danger that the ship would founder. The steam-pumps could not be operated because the fires had been nearly extinguished, and the engine-room was uninhabitable on account of the suffocating gas with which it was filled. The hand-pumps were then rigged and worked, but they had not enough force to throw the water out through the top of the turret,—the only opening,—and it was useless to bail, as we had to pass the buckets up through the turret, which made it a very long operation. Fortunately, toward evening the wind

and the sea subsided, and, being again in smooth water, the engine was put in operation. But at midnight, in passing over a shoal, rough water was again encountered, and our troubles were renewed, complicated this time with the jamming of wheel-ropes, so that the safety of the ship depended entirely on the strength of the hawser which connected her with the tug-boat. The hawser, being new, held fast; but during the greater part of the night we were constantly engaged in fighting the leaks, until we reached smooth water again, just before daylight.

It was at the close of this dispiriting trial trip, in which all hands had been exhausted in their efforts to keep the novel craft afloat, that the *Monitor* passed Cape Henry at 4 P. M. on Saturday, March 8th. At this point was heard the distant booming of heavy guns, which our captain rightly judged to be an engagement with the *Merrimac*, twenty miles away. He at once ordered the vessel stripped of her sea-rig, the turret keyed up, and every preparation made for battle. As we approached Hampton Roads we could see the fine old *Congress* burning brightly, and soon a pilot came on board and told of the arrival of the *Merrimac*, the disaster to the *Cumberland* and the *Congress*, and the dismay of the Union forces. The *Monitor* was pushed with all haste, and reached the *Roanoke* (Captain Marston), anchored in the Roads, at 9 P. M. Worden immediately reported his arrival to Captain Marston, who suggested that he should go to the assistance of the *Minnesota*, then aground off Newport News. As no pilot was available, Captain Worden accepted the volunteer services of Acting Master Samuel Howard, who earnestly sought the duty. An atmosphere of gloom pervaded the fleet, and the pygmy aspect of the new-comer did not inspire confidence among those who had witnessed the destruction of the day before. Skilfully piloted by Howard, we proceeded on our way, our path illumined by the blaze



ESCAPE OF PART OF THE CREW OF THE "CONGRESS."

of the *Congress*. Reaching the *Minnesota*, hard and fast aground, near midnight, we anchored, and Worden reported to Captain Van Brunt. Between 1 and 2 A. M. the *Congress* blew up—not instantaneously, but successively. Her powder-tanks seemed to explode, each shower of sparks rivaling

the other in its height, until they appeared to reach the zenith,—a grand but mournful sight. Near us, too, at the bottom of the river, lay the *Cumberland*, with her silent crew of brave men, who died while fighting their guns to the water's edge, and whose colors were still flying at the peak.





JOHN L. WORDEN, REAR-ADMIRAL, U. S. N.  
Commander of the "Monitor" in the engagement with the "Merrimac."  
From a photograph taken in 1875.

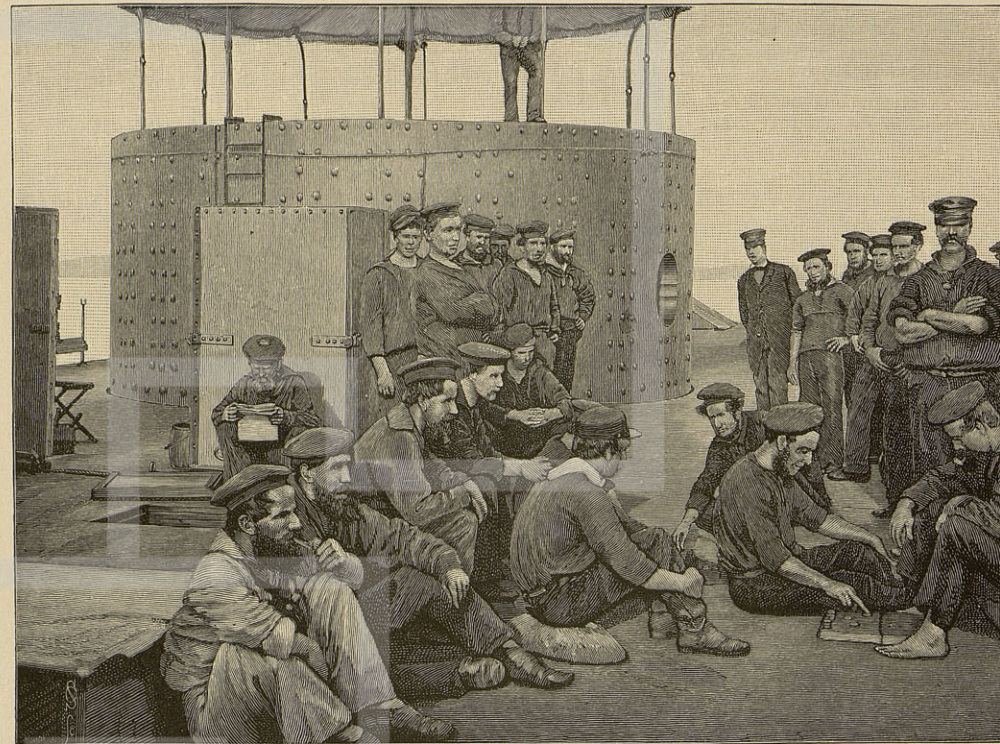
The dreary night dragged slowly on; the officers and crew were up and alert, to be ready for any emergency. At daylight on Sunday the *Merrimac* and her consorts were discovered at anchor near Sewell's Point. At about half-past 7 o'clock the enemy's vessels got under way and steered in the direction of the *Minnesota*. At the same time the *Monitor* got under way, and her officers and crew took their stations for battle. Captain Van Brunt, of the *Minnesota*, officially reports, "I made signal to the *Monitor* to attack the enemy," but the signal was not seen by us; other work was in hand, and Commander Worden required no signal.

The pilot-house of the *Monitor* was situated well forward, near the bow; it was a wrought-iron structure, built of logs of iron nine inches thick, bolted through the corners, and covered with an iron plate two inches thick, which was not fastened down, but was kept in place merely by its weight. The sight-holes or slits were made by inserting quarter-inch plates at the corners between the upper set of logs and the next below. The structure projected four feet above the deck, and was barely

large enough inside to hold three men standing. It presented a flat surface on all sides and on top. The steering-wheel was secured to one of the logs on the front side. The position and shape of this structure should be carefully born in mind.

Worden took his station in the pilot-house, and by his side were Howard, the pilot, and Peter Williams, quartermaster, who steered the vessel throughout the engagement. My place was in the turret, to work and fight the guns; with me were Stodder and Stimers and sixteen brawny men, eight to each gun. John Stocking, boatswain's mate, and Thomas Lochrane, seaman, were gun-captains. Newton and his assistants were in the engine- and fire-rooms, to manipulate the boilers and engines, and most admirably did they perform this important service from the beginning to the close of the action. Webber had charge of the powder division on the berth-deck, and Joseph Crown, gunner's mate, rendered valuable service in connection with this duty.

The physical condition of the officers and men of the two ships at this time was in striking contrast.



PART OF THE CREW OF THE "MONITOR."  
From a photograph taken soon after the fight.

NOTE.—The pride of Worden in his crew was warmly reciprocated by his men, and found expression in the following letter, written to him while he was lying in Washington disabled by his wound. We take it from Professor Soley's volume, "The Blockade and the Cruisers" (Charles Scribner's Sons).

HAMPTON ROADS, April 24th, 1862. U. S. MONITOR. TO OUR DEAR AND HONORED CAPTAIN. DEAR SIR: These few lines is from your own crew of the *Monitor*, with their kindest Love to you their Honored Captain, hoping to God that they will have the pleasure of welcoming you back to us again soon, for we are all ready able and willing to meet Death or anything else, only give us back our Captain again. Dear Captain, we have got your Pilot-house fixed and all ready for you when you get well again; and we all sincerely hope that soon we will have the pleasure of welcoming you back to it. ... We are waiting very patiently to engage our Antagonist if we could only get a chance to do so. The last time she came out

we all thought we would have the Pleasure of sinking her. But we all got disappointed, for we did not fire one shot, and the Norfolk papers says we are cowards in the *Monitor*—and all we want is a chance to show them where it lies with you for our Captain We can teach them who is cowards. But there is a great deal that we would like to write to you but we think you will soon be with us again yourself. But we all join in with our kindest love to you, hoping that God will restore you to us again and hoping that your sufferings is at an end now, and we are all so glad to hear that your eyesight will be spaired to you again. We would wish to write more to you if we have your kind Permission to do so but at present we all conclude by tendering to you our kindest Love and affection, to our Dear and Honored Captain. We remain untill Death your Affectionate Crew.

THE MONITOR BOYS.

To Captain Worden.

The *Merrimac* had passed the night quietly near Sewell's Point, her people enjoying rest and sleep, elated by thoughts of the victory they had achieved that day, and cheered by the prospects of another easy victory on the morrow. The *Monitor* had barely escaped shipwreck twice within the last thirty-six hours, and since Friday morning, forty-eight hours before, few if any of those on board had closed their eyes in sleep or had anything to eat but hard bread, as cooking was impossible. She was surrounded by wrecks and disaster, and her efficiency in action had yet to be proved.

Worden lost no time in bringing it to a test. Getting his ship under way, he steered direct for the enemy's vessels, in order to meet and engage them as far as possible from the *Minnesota*. As he approached, the wooden vessels quickly turned and left. Our captain, to the "astonishment" of Captain Van Brunt (as he states in his official report), made straight for the *Merrimac*, which had already commenced firing; and when he came within short

range, he changed his course so as to come alongside of her, stopped the engine, and gave the order, "Commence firing!" I triced up the port, ran out the gun, and, taking deliberate aim, pulled the lockstring. The *Merrimac* was quick to reply, returning a rattling broadside (for she had ten guns to our two), and the battle fairly began. The turrets and other parts of the ship were heavily struck, but the shots did not penetrate; the tower was intact, and it continued to revolve. A look of confidence passed over the men's faces, and we believed the *Merrimac* would not repeat the work she had accomplished the day before.

The fight continued with the exchange of broadsides as fast as the guns could be served and at very short range, the distance between the vessels frequently being not more than a few yards. Worden skilfully manœvered his quick-turning vessel, trying to find some vulnerable point in his adversary. Once he made a dash at her stern, hoping to disable her screw, which he thinks he



missed by not more than two feet. Our shots ripped the iron of the *Merrimac*, while the reverberation of her shots against the tower caused anything but a pleasant sensation. While Stodder, who was stationed at the machine which controlled the revolving motion of the turret, was incautiously leaning against the side of the tower, a large shot struck in the vicinity and disabled him. He left the turret and went below, and Stimers, who had assisted him, continued to do the work.

The drawbacks to the position of the pilot-house were soon realized. We could not fire ahead nor within several points of the bow, since the blast from our own guns would have injured the people in the pilot-house, only a few yards off. Keeler and Toffey passed the captain's orders and messages to me, and my inquiries and answers to him, the speaking-tube from the pilot-house to the turret having been broken early in the action. They performed their work with zeal and alacrity, but, both being landmen, our technical communications sometimes miscarried. The situation was novel: a vessel of war was engaged in desperate combat with a powerful foe; the captain, commanding and guiding, was inclosed in one place, and the executive officer, working and fighting the guns, was shut up in another, and communication between them was difficult and uncertain. It was this experience which caused Isaac Newton, immediately after the engagement, to suggest the clever plan of putting the pilot-house on top of the turret, and making it cylindrical instead of square; and his suggestions were subsequently adopted in this type of vessel.

As the engagement continued, the working of the turret was not altogether satisfactory. It was difficult to start it revolving, or, when once started, to stop it, on account of the imperfections of the novel machinery, which was now undergoing its first trial. Stimers was an active, muscular man, and did his utmost to control the motion of the turret; but, in spite of his efforts, it was difficult, if not impossible, to secure accurate firing. The conditions were very different from those of an ordinary broadside gun, under which we had been trained on wooden ships. My only view of the world outside of the tower was over the muzzles of the guns, which cleared the ports by only a few inches. When the guns were run in, the port-holes were covered by heavy iron pendulums,

pierced with small holes to allow the iron rammer and sponge handles to protrude while they were in use. To hoist these pendulums required the entire gun's crew and vastly increased the work inside the turret.

The effect upon one shut up in a revolving drum is perplexing, and it is not a simple matter to keep the bearings. White marks had been placed upon the stationary deck immediately below the turret to indicate the direction of the starboard and port sides, and the bow and stern; but these marks were obliterated early in the action. I would continually ask the captain, "How does the *Merrimac* bear?" He replied, "On the starboard-beam," or "On the port-quarter," as the case might be. Then the difficulty was to determine the direction of the starboard-beam, or port-quarter, or any other bearing. It finally resulted, that when a gun was ready for firing, the turret would be started on its revolving journey in search of the target, and when found it was taken "on the fly," because the turret could not be accurately controlled. Once the *Merrimac* tried to ram us; but Worden avoided the direct impact by the skilful use of the helm, and she struck a glancing blow, which did no damage. At the instant of collision I planted a solid 180-pound shot fair and square upon the forward part of her casemate. Had the gun been loaded with

thirty pounds of powder, which was the charge subsequently used with similar guns, it is probable that this shot would have penetrated her armor; but the charge being limited to fifteen pounds, in accordance with peremptory orders to that effect from the Navy Department, the shot rebounded without doing any more damage than possibly to start some of the beams of her armor-backing.

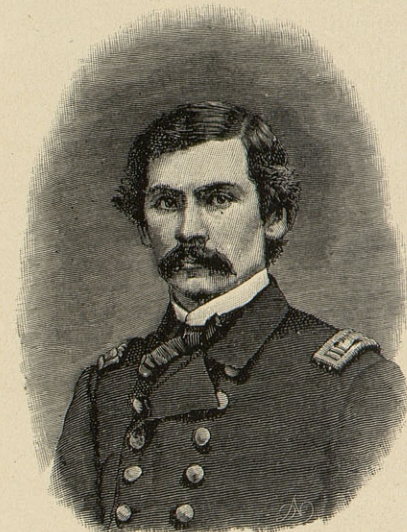
It is stated by Colonel Wood, of the *Merrimac*, that when that vessel rammed the *Cumberland* her ram, or beak, was broken off and left in that vessel. In a letter to me, about two years since, he described this ram as "of cast-iron, wedge-shaped, about 1500 pounds in weight, 2 feet under water, and projecting 2½ feet from the stem." A ram of this description, had it been intact, would have struck the *Monitor* at that part of the upper hull where the armor and backing were thickest. It is very doubtful if, under any headway that the *Merrimac* could have acquired at such short range, this ram could have done any injury to this part of the vessel. That it could by no possibility have reached the thin lower hull is evident from a glance at the drawing of the *Monitor*, the overhang or upper hull being constructed for the express purpose of protecting the vital part of the vessel.

The battle continued at close quarters without apparent damage to either side. After a time, the

supply of shot in the turret being exhausted, Worden hauled off for about fifteen minutes to replenish. The serving of the cartridges, weighing but fifteen pounds, was a matter of no difficulty; but the hoisting of the heavy shot was a slow and tedious operation, it being necessary that the turret should remain stationary, in order that the two scuttles, one in the deck and the other in the floor of the turret, should be in line. Worden took advantage of the lull, and passed through the port-hole upon the deck outside to get a better view of the situation. He soon renewed the attack, and the contest continued as before.

Two important points were constantly kept in mind: first, to prevent the enemy's projectiles from entering the turret through the port-holes,—for the explosion of a shell inside, by disabling the men at the guns, would have ended the fight, as there was no relief gun's crew on board; second, not to fire into our own pilot-house. A careless or impatient hand, during the confusion arising from the whirligig motion of the tower, might let slip one of our big shot against the

pilot-house. For this and other reasons I fired every gun while I remained in the turret.



COMMANDER SAMUEL DANA GREENE, U. S. N.  
Executive officer of the "Monitor." (From a war-time photograph.)

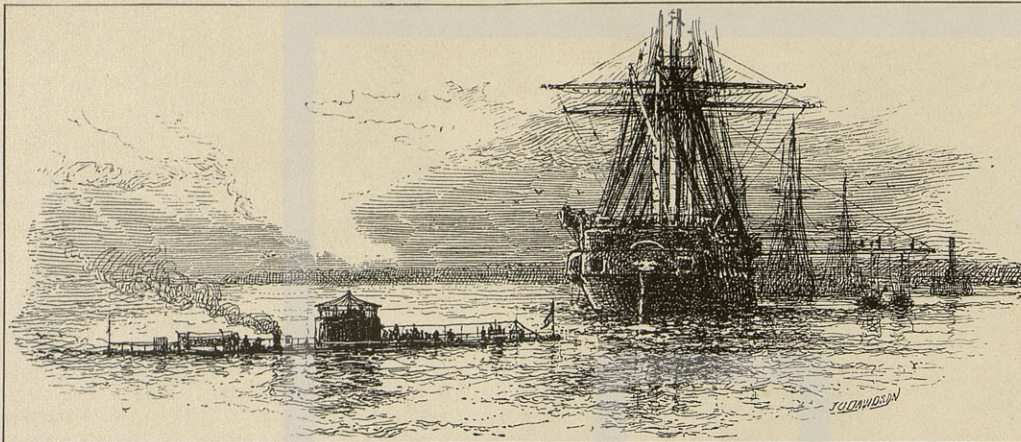


THE "MONITOR."

THE ENCOUNTER AT SHORT RANGE.

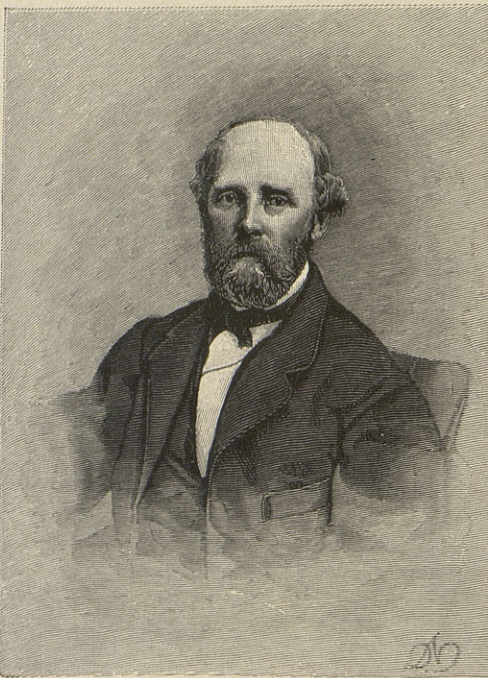
THE "MERRIMAC."





ARRIVAL OF THE "MONITOR" AT HAMPTON ROADS.

Soon after noon a shell from the enemy's gun, the muzzle not ten yards distant, struck the forward side of the pilot-house directly in the sight-hole, or slit, and exploded, cracking the second iron log and partly lifting the top, leaving an opening. Worden was standing immediately behind this spot, and received in his face the force of the blow, which partly stunned him, and, filling his eyes with powder, utterly blinded him. The injury was known only to those in the pilot-house and its immediate vicinity. The flood of light rushing through the top of the pilot-house, now partly open, caused Worden, blind as he was, to believe that the pilot-house was seriously injured, if not destroyed; he therefore gave orders to put the helm to starboard and "sheer off." Thus the *Monitor* retired temporarily from the ac-



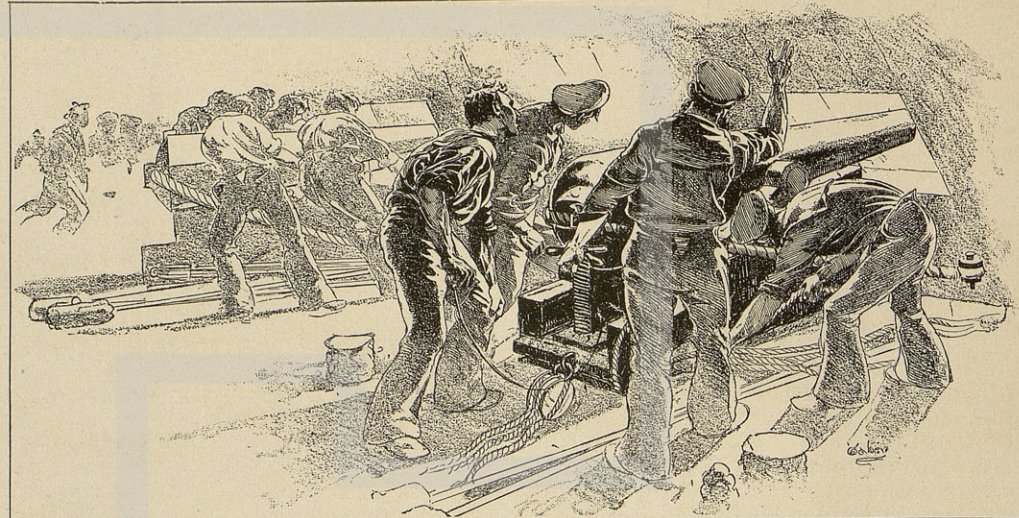
LIEUTENANT CATESBY A. P. R. JONES OF THE "MERRIMAC."

tion, in order to ascertain the extent of the injuries she had received. At the same time Worden sent for me, and leaving Stimers the only officer in the turret, I went forward at once, and found him standing at the foot of the ladder leading to the pilot-house.

He was a ghastly sight, with his eyes closed and the blood apparently rushing from every pore in the upper part of his face. He told me that he was seriously wounded, and directed me to take command. I assisted in leading him to a sofa in his cabin, where he was tenderly cared for by Doctor Logue, and then I assumed command. Blind and suffering as he was, Worden's fortitude never forsook him; he frequently asked from his bed of pain of the progress of affairs, and when told that the *Minnesota* was saved, he said, "Then I can die happy."

When I reached my station in the pilot-house, I found that the iron log was fractured and the top partly open; but the steering gear was still intact, and the pilot-house was not totally destroyed, as had been feared. In the confusion of the moment resulting from so serious an injury to the commanding officer, the *Monitor* had been moving without direction. Exactly how much time elapsed from the moment that Worden was wounded until I had reached the pilot-house and completed the examination of the injury at that point, and determined what course to pursue in the damaged condition of the vessel, it is impossible to state; but it could hardly have exceeded twenty minutes at the utmost. During this time the *Merrimac*, which was leaking badly, had started in the direction of the Elizabeth River; and, on taking my station in the pilot-house and turning the vessel's head in the direction of the *Merrimac*, I saw that she was already in retreat. A few shots were fired at the retiring vessel, and she continued on to Norfolk. I returned with the *Monitor* to the side of the *Minnesota*, where preparations were being made to abandon the ship, which was still aground. Shortly afterward Worden was transferred to a tug, and that night he was carried to Washington.

The fight was over. We of the *Monitor* thought, and still think, that we had gained a great victory. This the Confederates have denied. But it has never been denied that the object of the *Merrimac* on the 9th of March was to complete the destruction



ON THE GUN-DECK OF THE "MERRIMAC."

of the Union fleet in Hampton Roads, and that she was completely foiled and driven off by the *Monitor*; nor has it been denied that at the close of the engagement the *Merrimac* retreated to Norfolk, leaving the *Monitor* in possession of the field.

In this engagement Captain Worden displayed the highest qualities as an officer and man. He was in his prime (forty-four years old), and carried with him the ripe experience of twenty-eight years in the naval service. He joined the ship a sick man, having but recently left a prison in the South. He was nominated for the command by the late Admiral Joseph Smith, and the result proved the wisdom of the choice. Having accepted his orders against the protests of his physicians and the entreaties of his family, nothing would deter him from the enterprise. He arrived on the battle-ground amidst the disaster and gloom, almost despair, of the Union people, who had little faith that he could beat back the powerful *Merrimac*, after her experience with the *Cumberland* and *Congress*. Without encouragement, single-handed, and without specific orders from any source, he rose above the atmosphere of doubt and depression which surrounded him, and with unflinching nerve and undaunted courage he hurled his little, untried vessel against his huge, well-proved antagonist, and won the battle. He was victor in the first iron-clad battle of the world's history.

The subsequent career of the *Monitor* needs but a few words.

On the day after the fight I received the following letter from Mr. Fox, Assistant Secretary of the Navy:

"U. S. STEAMER *Roanoke*, OLD POINT, March 10th, 1862.

MY DEAR MR. GREENE: Under the extraordinary circumstances of the contest of yesterday, and the responsibilities devolving upon me, and your extreme youth, I have suggested to Captain Marston to send on board the *Monitor*, as temporary commanding, Lieutenant Selfridge, until the arrival of Commodore Goldsborough, which will be in a few days. I appreciate your position, and you must appreciate mine, and serve with the same zeal and fidelity. With the kindest wishes for you all, most truly,

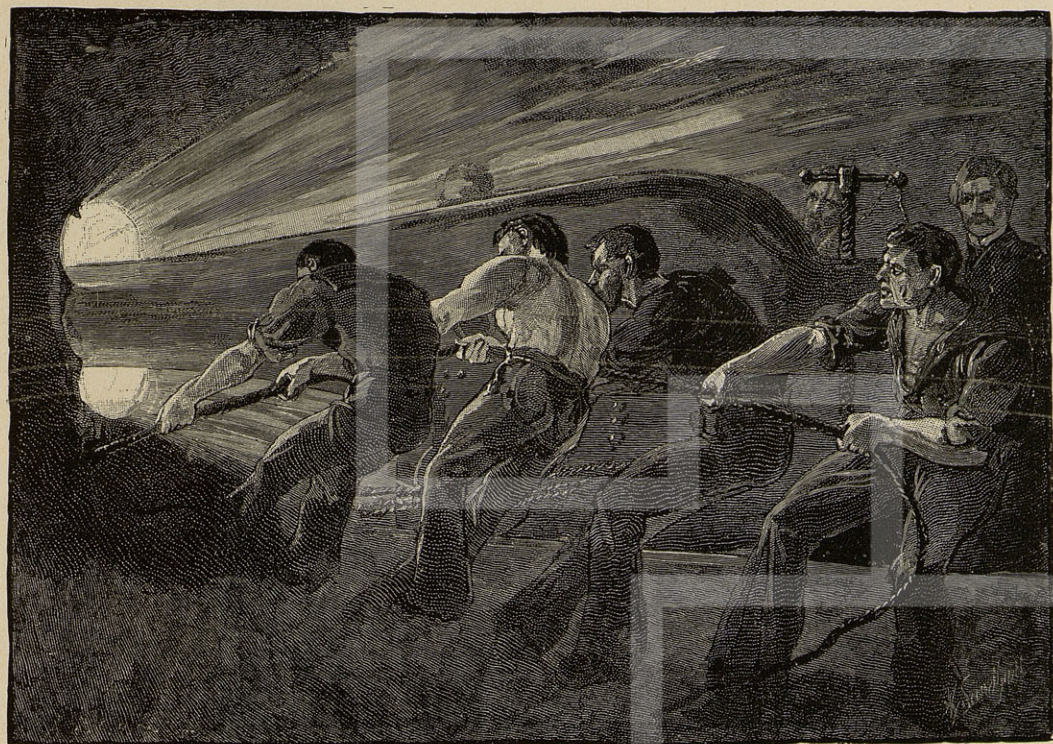
G. V. FOX."

For the next two months we lay at Hampton Roads. Twice the *Merrimac* came out of the Elizabeth River, but did not attack. We, on our side, had received positive orders not to attack in the comparatively shoal waters above Hampton Roads, where the Union fleet could not manœuvre. The *Merrimac* protected the James River, and the *Monitor* protected the Chesapeake. Neither side had an ironclad in reserve, and neither wished to bring on an engagement which might disable its only armored vessel in those waters.

With the evacuation of Norfolk and the destruction of the *Merrimac*, the *Monitor* moved up the James River with the squadron under the command of Commander John Rodgers, in connection with McClellan's advance upon Richmond by the Peninsula. We were engaged for four hours at Fort Darling, but were unable to silence the guns or destroy the earthworks. Probably no ship was ever devised which was so uncomfortable for her crew, and certainly no sailor ever led a more disagreeable life than we did on the James River, suffocated with heat and bad air if we remained below, and a target for sharpshooters if we came on deck.

With the withdrawal of McClellan's army, we returned to Hampton Roads, and in the autumn were ordered to Washington, where the vessel was repaired. We returned to Hampton Roads in November, and sailed thence (December 29th) in tow of the steamer *Rhode Island*, bound for Beaufort, N. C. Between 11 p. m. and midnight on the following night the *Monitor* went down in a gale, a few miles south of Cape Hatteras. Four officers and twelve men were drowned, forty-nine people being saved by the boats of the steamer. It was impossible to keep the vessel free of water, and we presumed that the upper and lower hulls thumped themselves apart. No ship in the world's history has a more imperishable place in naval annals than the *Monitor*. Not only by her providential arrival at the right moment did she secure the safety of Hampton Roads and all that depended on it, but the idea which she embodied revolutionized the system of naval warfare which had existed from the earliest recorded history.





IN THE TURRET OF THE "MONITOR."

### THE BUILDING OF THE "MONITOR."

BY CAPTAIN JOHN ERICSSON, INVENTOR OF THE "MONITOR."

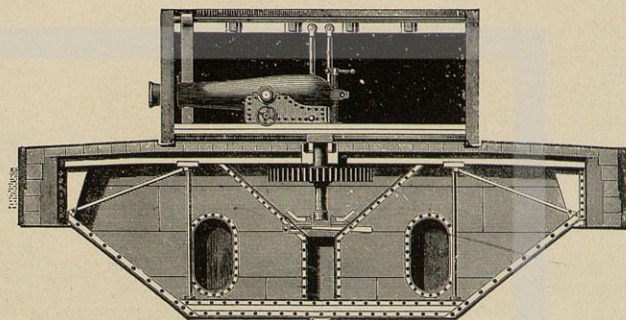
THE introduction of General Paixhans's brilliant invention, the shell-gun, in 1824, followed, in 1858, by the successful application of armor-plating to the steam-frigate *La Gloire*, under Napoleon III., compelled an immediate change in naval construction which startled the maritime countries of Europe, especially England, whose boasted security behind her "wooden walls" was shown to be a complete delusion. The English naval architects, however, did not overlook the fact that their French rivals, while producing a gun which rendered wooden navies almost useless, had also by their armor-plating provided an efficient protection against the destructive Paixhans shells.

Accordingly, the Admiralty without loss of time laid the keel of the *Warrior*, an armored iron steam-frigate 380 feet long, 58 feet beam, 26 feet draught, and 9200 tons displacement. The work being pushed with extraordinary vigor, this iron-clad ship was speedily launched and equipped, the admiration of the naval world.

Shortly after the adoption of armor-plating as an essential feature in the construction of vessels of war, the Southern States seceded from the Union, some of the most efficient of the United States naval officers resigning their commissions. Their loss was severely felt by the Navy Department at Washington; nor was it long before the presence of great professional skill among the officers of the naval administration of the Confederate States became manifest. Indeed, the utility of the armor-plating adopted by France and England proved to be bet-

ter understood at Richmond than at Washington. While the Secretary of the Navy, Mr. Welles, and his advisers were discussing the question of armor, news reached Washington that the partly burnt and scuttled steam-frigate *Merrimac*, at the Norfolk Navy Yard, had been raised and cut down to her berth-deck, and that a very substantial structure of timber, resembling a citadel with inclined sides, was being erected on that deck.

The Navy Department at Washington early in August advertised for plans and offers for iron-clad steam-batteries to be built within a stipulated time. My attention having been thus called to a subject which I had thoroughly considered during a series of years, I was fully prepared to present plans of an impregnable steam-battery of light draught, suitable to navigate the shallow rivers and harbors of the Confederate States. Availing myself of the services of a friend who chanced to be in Washington at the time, proposals were at once submitted to a board of naval officers appointed by the President; and the plans presented by my friend being rejected by the board, I immediately set out for Washington and laid the matter personally before its members, all of whom proved to be well-informed and experienced naval experts. Contrary to anticipation, the board permitted me to present a theoretical demonstration concerning the stability of the new structure, doubt of which was the principal consideration which had caused the rejection of the plan presented. In less than an hour I succeeded in demonstrating to the entire satisfaction of the board appointed by President Lincoln that the design was thoroughly practical, and based on sound theory. The Secretary of the Navy accordingly accepted my proposal to build an iron-



TRANSVERSE SECTION OF THE "MONITOR" THROUGH THE CENTER OF THE TURRET.

clad steam-battery, and instructed me verbally to commence the construction forthwith. Returning immediately to New York, I divided the work among three leading mechanical establishments, furnishing each with detailed drawings of every part of the structure; the understanding being that the most skilful men and the best tools should be employed; also that work should be continued during night-time when practicable. The construction of nearly every part of the battery accordingly commenced simultaneously, all hands working with the utmost diligence, apparently confident that their exertions would result in something of great benefit to the national cause. Fortunately no trouble or delay was met at any point; all progressed satisfactorily; every part sent on board from the workshops fitted exactly the place for which it was intended. As a consequence of these favorable circumstances, the battery, with steam-machinery complete, was launched in one hundred days from the laying of the keel-plate. It should be mentioned that at the moment of starting on the inclined ways toward its destined element, the novel fighting-machine was named *Monitor*.

Before entering on a description of this fighting-machine I propose to answer the question frequently asked: What circumstances dictated its size and peculiar construction?

1. The work on the *Merrimac* had progressed so far that no structure of large dimensions could possibly be completed in time to meet her.

2. The well-matured plan of erecting a citadel of considerable dimensions on the ample deck of the razed *Merrimac* admitted of a battery of heavy ordnance so formidable that no vessel of the ordinary type, of small dimensions, could withstand its fire.

3. The battery designed by the naval authorities of the Confederate States, in addition to the advantage of ample room and numerous guns, presented a formidable front to an opponent's fire by being inclined to such a degree that shot would be readily deflected. Again, the inclined sides, composed of heavy timbers well braced, were covered with two thicknesses of bar iron, ingeniously combined, well calculated to resist the spherical shot peculiar to the Dahlgren and Rodman system of naval ordnance adopted by the United States navy.

4. The shallow waters on the coast of the Southern States called for very light draught; hence the

upper circumference of the propeller of the battery would be exposed to the enemy's fire unless thoroughly protected against shot of heavy caliber. A difficulty was thus presented which apparently could not be met by any device which would not seriously impair the efficiency of the propeller.

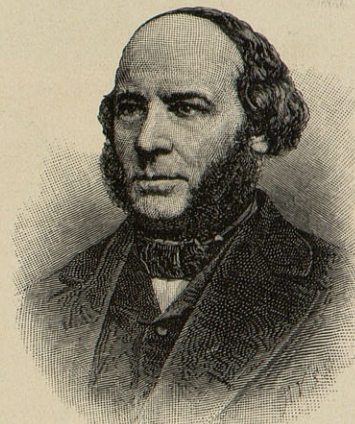
5. The limited width of the navigable parts of the Southern rivers and inlets presented an obstacle rendering manœuvring impossible; hence it would not be practicable at all times to turn the battery so as to present a broadside to the points to be attacked.

6. The accurate knowledge possessed by the adversary of the distance between the forts on the river-banks within range of his guns, would enable him to point the latter with such accuracy that unless every part of the sides of the battery could be made absolutely shot-proof, destruction would be certain. It may be observed that the accurate knowledge of range was an advantage in favor of the Southern forts which placed the attacking steam-batteries at great disadvantage.

7. The difficulty of manipulating the anchor within range of powerful fixed batteries presented difficulties which called for better protection to the crew of the batteries than any previously known.

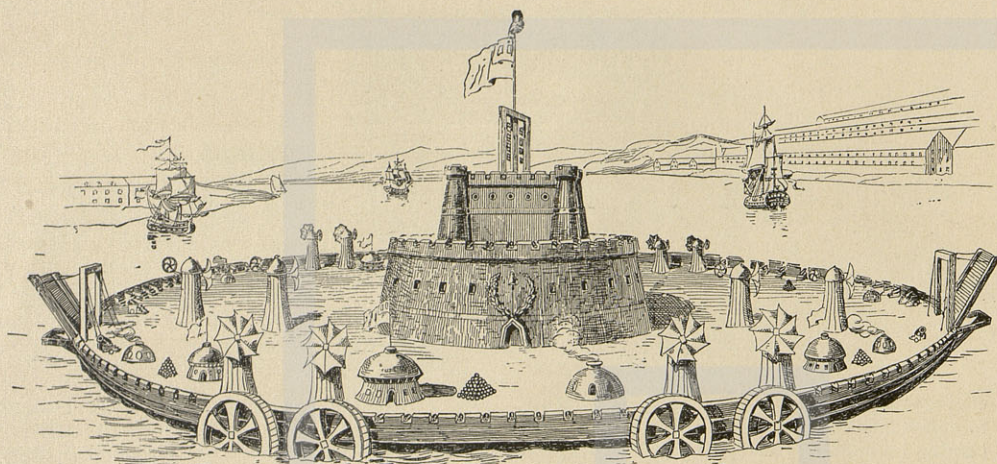
Several minor points familiar to the naval artillery and naval architect presented considerations which could not be neglected by the constructor of the new battery; but these must be omitted in our brief statement, while the foregoing, being of vital importance, have demanded special notice.

The plans on pages 76 and 77 represent a longitu-



CAPTAIN JOHN ERICSSON.





FLOATING CIRCULAR CITADEL.  
Submitted to the French Directory in 1798.

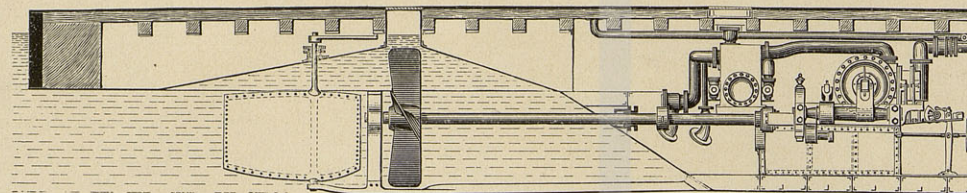
dinal section through the center line of the battery, which, for want of space on the page, has been divided into three sections, viz., the aft, central, and forward sections, which for ready reference will be called *aft*, *central*, and *forward*.

Referring particularly to the upper and lower sections, it will be seen that the hull consists of an upper and lower body joined together in the horizontal plane not far below the water-line. The length of the upper part of the hull is 172 feet, beam 41 feet; the length of the lower hull being 122 feet, beam 34 feet. The depth from the under side of deck to the keel-plate is 11 feet 2 inches, draught of water at load-line 10 feet.

Let us now examine separately the three sectional representations.

*Forward Section.* The anchor-well, a cylindrical

perforation of the overhanging deck, near the bow, first claims our attention. The object of this well being to protect the anchor when raised, it is lined with plate iron backed by heavy timbers, besides being protected by the armor-plating bolted to the outside of the overhang. It should be noticed that this method proved so efficient that in no instance did the anchor-gear receive any injury during the several engagements with the Confederate batteries, although nearly all of the monitors of the *Passaic* class were subjected to rapid fire at short range in upward of twenty actions. It will be remembered that the unprotected anchor of the *Merrimac* was shot away during the short battle with the *Congress* and the *Cumberland*. Having described the method of protecting the anchors, the mechanism adopted for manipulating the same

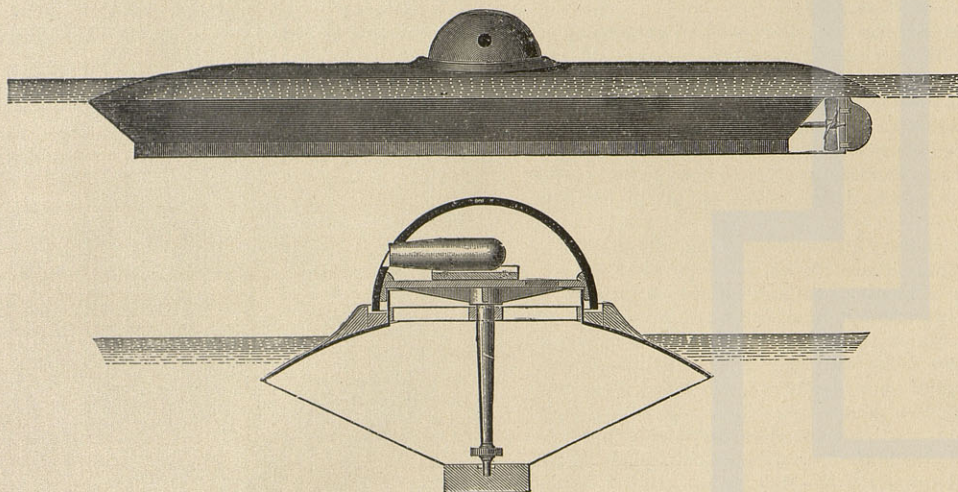


1. AFT SECTION. LONGITUDINAL PLAN THROUGH THE CENTER LINE OF THE ORIGINAL "MONITOR."

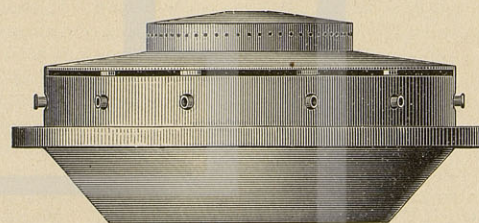
remains to be explained. Referring to the illustration, it will be seen that a windlass is secured under the deck-beams near the anchor-well. The men working the handles of this mechanism were stationed in the hold of the vessel, and hence were most effectually protected against the enemy's shot, besides being completely out of sight. The Confederate artillerists were at first much surprised at witnessing the novel spectacle of vessels approaching their batteries, then stopping and remaining stationary for an indefinite time while firing, and then again departing, apparently without any intervention of anchor-gear. Our examination of this gear and the anchor-well affords a favorable opportunity of explaining the cause of Lieutenant Greene's alarm, mentioned in a statement recently published by a military journal, concerning a mysterious sound emanating from the said well during the passage of the *Monitor* from New York to Fort Monroe. Lieutenant Greene says that the sound from the anchor-well "resembled the death-groans of twenty men, and was the most dismal, awful sound [he] ever heard." Let us endeavor to trace to some physical cause this portentous sound. The reader will find, on close examination, that the chain-cable which suspends the anchor passes through an aperture ("hawse-pipe") on the after side of the well, and that this pipe is very near the water-line; hence the slightest vertical depression of the bow will occasion a flow of water into the vessel. Obviously, any downward motion of the overhang will cause the air confined in the upper part of the well, when covered, to be blown through the hawse-pipe along with the admitted water, thereby producing a very discordant sound, repeated at every rise and fall of the bow during pitching. Lieutenant Greene also states that, apart from the reported sound, the vessel was flooded by the water which entered

through the hawse-pipe; a statement suggesting that this flooding was the result of faulty construction, whereas it resulted from gross oversight on the part of the executive officer,—namely, in going to sea without stopping the opening round the chain-cable at the point where it passes through the side of the anchor-well.

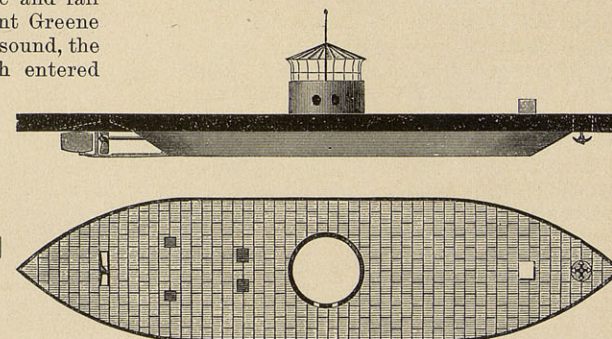
The pilot-house is the next important object represented in the forward section of the illustration now under consideration. This structure is situated 10 feet from the anchor-well, its internal dimensions being 3 feet 6 inches long, 2 feet 8 inches wide, 3 feet 10 inches high above the plating of the deck; the sides consisting of solid blocks of wrought iron, 12 inches deep and 9 inches thick, firmly held down at the corner by 3-inch bolts passing through the iron-plated deck and deck-beams. The wheel, which by means of ordinary tiller-ropes operates the rudder, is placed within the pilot-house, its axle being supported by a bracket secured to the iron blocks as shown by the illustration. An ordinary ladder resting on the bottom of the vessel leads to the grated floor of the pilot-house. In order to afford the commanding officer and the pilot a clear view of objects before and on the sides of the vessel, the first and second iron blocks from the top are kept apart by packing pieces at the corners; long and narrow sight-holes being thereby formed extending round the pilot-house, and giving a clear view which sweeps round the entire horizon, all but that part which is hidden by the turret, hardly twelve degrees on each side of the line of keel. Regarding the adequacy of the elongated sight-hole formed between the iron blocks in the manner described, it should be



SIDE ELEVATION AND TRANSVERSE SECTION (THROUGH THE CENTER LINE OF ITS REVOLVING SEMI-SPHERICAL TURRET) OF AN IRON-CLAD STEAM-BATTERY.  
Plans of which were submitted by Captain Eriesson to Napoleon III. in September, 1854.

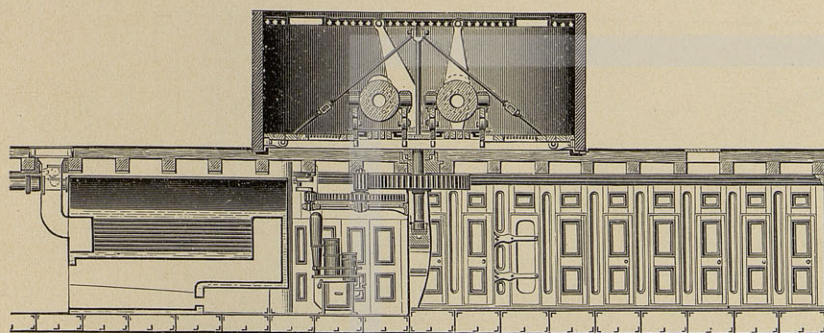


SIDE ELEVATION OF A FLOATING REVOLVING CIRCULAR TOWER.  
Published by Abraham Bloodgood in 1807.



PROPELLER- WELLS. BLOWER- PIPES. SMOKE- STACKS. TURRET. PILOT- HOUSE. ANCHOR- WELL.  
SIDE ELEVATION AND DECK-PLAN OF THE "MONITOR."





2. CENTRAL SECTION.

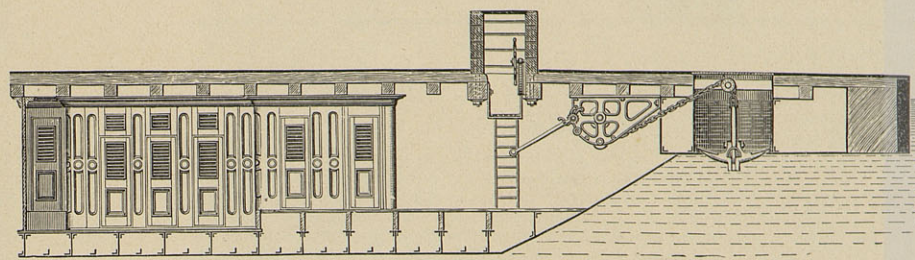
borne in mind that an opening of five-eighths of an inch affords a vertical view 80 feet high at a distance of only 200 yards. More is not needed, a fact established during trials instituted by experts before the constructor delivered the vessel to the Government. Unfortunately the sight-holes were subsequently altered, the iron blocks being raised and the opening between them increased to such an extent that at sea, to quote Lieutenant Greene's report, the water entered "with such force as to knock the helmsman completely round from the wheel." It may be shown that but for the injudicious increase of the sight-holes, the commander of the *Monitor* would not have been temporarily blinded during the conflict at Hampton Roads, although he placed his vessel in such an extraordinary position that, according to Lieutenant Greene's report, "a shell from the enemy's gun, the muzzle not ten yards distant [from the side of the *Monitor*], struck the forward side of the pilot-house." The size of the sight-hole after the injudicious increase, may be inferred from the reported fact that the blast caused by the explosion of the Confederate shell on striking the outside of the pilot-house had the power of "partly lifting the top." This "top," it should be observed, consisted of an iron plate two inches thick, let down into an appropriate groove, but not bolted down—a circumstance which called forth Lieutenant Greene's disapprobation. The object of the constructor in leaving the top plate of the pilot-house loose, so as to be readily pushed up from below, was that of affording egress to the crew in case of accident. Had the monitor *Tecumseh*, commanded by Captain T. A. M. Craven, when struck by a torpedo during the conflict in Mobile Bay, August 5th, 1864, been provided with a similar loose plate over the main hatch, the fearful calamity of drowning officers and crew would have been prevented. In referring to this untoward event, it should be observed that means had been provided in all the sea-going monitors to afford egress in case of injury to the hull: an opening in the turret-floor, when placed above a corresponding opening in the deck, formed a free passage to the turret, the top of which was provided with sliding hatches. Apparently the officer in charge of the turret-gear of Captain Craven's vessel was not at his post, as he ought to have been during action, or else he had not been taught the imperative duty of placing the turret in such a position that these openings would admit of a free passage from below.

Lieutenant Greene's report with reference to the position of the pilot-house calls for particular no-

tice, his assertion being that he "could not fire ahead within several points of the bow." The distance between the center of the turret and the pilot-house being fifty-five feet, while the extreme breadth of the latter is only five feet, it will be found that by turning the turret through an angle of only *six degrees* from the center line of the vessel, the shot will clear the pilot-house, a structure too substantial to suffer from the mere aerial current produced by the flight of the shot. Considering that the *Monitor*, as reported by Lieutenant Greene, was a "quick-turning vessel," the disadvantage of not being able to fire over the bow within *six degrees* of the line of keel is insignificant. Captain Coles claimed for his famous iron-clad turret-ship the advantage of an all-round fire, although the axis of his turret-guns had many times greater deviation from the line of keel than that of the *Monitor*.

The statement published by Lieutenant Greene, that the chief engineer of the vessel immediately after the engagement in Hampton Roads "suggested the clever plan of putting the pilot-house on top of the turret," is incorrect and calls for notice. The obvious device of placing the pilot-house in the center and above the turret was carefully considered before the *Monitor* turret was constructed, but could not be carried out for these reasons:

1. The turret of the battery was too light to support a structure large enough to accommodate the commanding officer, the pilot, and the steering-gear, under the severe condition of absolute impregnability against solid shot from guns of 10-inch caliber employed by the Confederates.



3. FORWARD SECTION.

2. A central stationary pilot-house connected with the turret involved so much complication and additional work (see description of turret and pilot-houses further on), that had its adoption not been abandoned the *Monitor* would not have been ready to proceed to Hampton Roads until the beginning of April, 1862. The damage to the national cause which might have resulted from that delay is beyond computation.

The next important part of the battery delineated on the forward section of the illustration, namely, the quarters of the officers and crew, will now be considered; but before entering on a description it should be mentioned that in a small turret-vessel built for fighting, only one-half of the crew need be accommodated at a time, as the other half should be in and on the turret, the latter being always covered with a water-proof awning. Referring again to the forward and to part of the central section, it will be seen that the quarters extend from the transverse bulkhead under the turret to within five feet of the pilot-house, a distance of fifty feet; the forward portion, twenty-four feet in length, being occupied by the officers' quarters and extending across the battery from side to side. The height of the aft part of these quarters is 8 feet 6 inches under the deck-beams; while the height of the whole of the quarters of the crew is 8 feet 6 inches. . . .

Apart from the ample size of the quarters on board the vessel, shown by the illustration, it should be mentioned that the system adopted for ventilating those quarters furnishes an abundant supply of

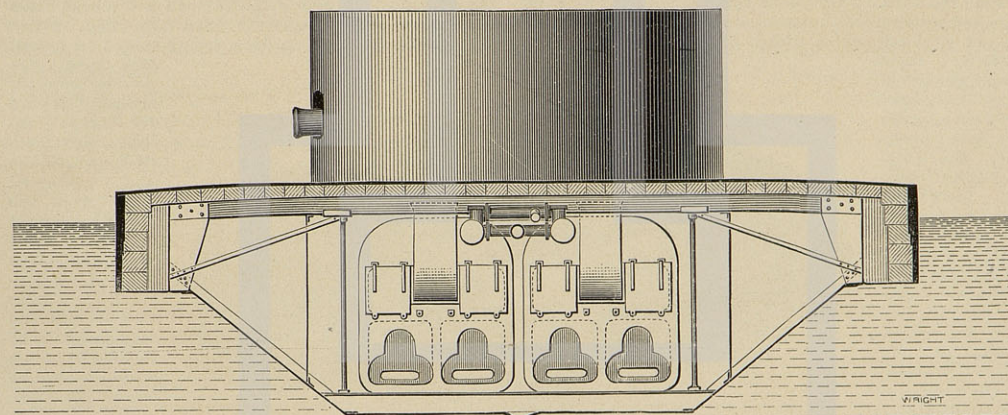
fresh air by the following means. Two centrifugal blowers, driven by separate steam-engines, furnished seven thousand cubic feet of atmospheric air per minute by the process of suction through standing pipes on deck. . . .

*Turret Department.* The most important object delineated on the central section of the illustration, namely, the rotating turret, will now

be considered; but before describing this essential part of the monitor system, it will be well to observe that the general belief is quite erroneous that a revolving platform, open or covered, is a novel design. So far from that being the case, this obvious device dates back to the first introduction of artillery. . . .

The origin of rotating circular gun-platforms being disposed of, the consideration of the central section of the illustration will now be resumed. It will be seen that the turret which protects the guns and gunners of the *Monitor* consists simply of a short cylinder resting on the deck, covered with a grated iron roof provided with sliding hatches. This cylinder is composed of eight thicknesses of wrought-iron plates, each one inch thick, firmly riveted together, the inside course, which extends below the rest, being accurately faced underneath. A flat, broad ring of bronze is let into the deck, its upper face being very smooth in order to form a water-tight joint with the base of the turret without the employment of any elastic packing, a peculiar feature of the turrets of the monitors, as will be seen further on. Unfortunately, before the *Monitor* left New York for Hampton Roads, it was suggested at the Navy Yard to insert a plaited hemp rope between the base of the turret and the bronze ring, for the purpose of making the joint perfectly water-tight. As might have been supposed, the rough and uneven hemp rope did not form a perfect joint; hence during the passage a great leak was observed at intervals as the sea washed over the decks. "The water came down under the turret like a waterfall," says Lieutenant Greene in his report. It will be proper to observe in this place that the "foundering" of the *Monitor* on its way to Charleston was not caused by the "separation of the upper and lower part of the hull," as was imagined by persons who possessed no knowledge of the method adopted by the builders in joining the upper and lower hulls. Again, those who asserted that the plates had been torn asunder at the junction of the hulls did not consider that severe strain cannot take place in a structure nearly submerged. The easy motion at sea, peculiar to the monitors, was pointed out by several of their commanders. Lieutenant Greene in his report to the Secretary of the Navy, dated on board the *Monitor*, March 27th, 1862, says with reference to sea-going qualities:

"During her passage from New York her roll was very easy and slow and not at all deep. She pitched very little and with no strain whatever." . . .



TRANSVERSE SECTION OF THE HULL OF THE ORIGINAL MONITOR.





## THE "MONITOR" IN BATTLE TRIM.

The true cause of the foundering of the *Monitor* was minutely explained to the writer some time after the occurrence by the engineer, a very intelligent person, who operated the centrifugal pumping-machine of the vessel at the time. According to his statement, oakum was packed under the base of the turret before going to sea, in order to make sure of a water-tight joint; but this expedient failed altogether, the sea gradually washing out the oakum in those places where it had been loosely packed, thereby permitting so large a quantity of water to enter under the turret, fully sixty-three feet in circumference, that the centrifugal pumping-machine had not sufficient power to expel it. The hull consequently filled gradually and settled, until at the expiration of about four hours the *Monitor* went to the bottom. It will be asked, in view of the preceding explanation of the construction of the monitor turrets, namely, that the smooth base of the turret forms a water-tight joint with the ring on the deck, why was oakum packed under the turret before going to Charleston? The commander of the vessel, Captain Bankhead, in his report of the foundering, adverts to the admission of water under the turret, but does not duly consider the serious character of the leak, sixty-three feet in length. Captain Bankhead evidently had not carefully investigated the matter when he attributed the accident to an imaginary separation of the upper and lower hull. It should be observed, in justice to this officer, that having commanded the *Monitor* only during a brief period he possessed but an imperfect knowledge of his vessel, and probably knew nothing regarding the consequence of employing packing,—namely, that it might cause "water to come down under the turret like a waterfall," as previously reported by the second officer in command. It is proper to mention as a mitigating circumstance in favor of the second officer, Lieutenant Greene, that previous to the battle in Hampton Roads he had "never performed any but midshipman duty." The important question, therefore, must remain unanswered, whether in the hands of an older and more experienced executive officer the *Monitor*, like the other vessels of her type, might not have reached Charleston in safety. . . .

NOTE.—During the summer of 1862 the *Monitor* served in the James River squadron, and took part in the attack on Fort Darling. On December 29th, at daybreak, she left Fort Monroe for Charleston to fight the powerful Confederate rams which had virtually raised the blockade of that port by destroying several Union ships of the blockading squadron. Her convoy on the trip was the sidewheel steamer *Rhode Island*, and to hasten the speed of the *Monitor* the *Rhode Island* took her in tow with two long 12-inch hawsers. At dark on the 29th the vessels were off Hatteras, where they encountered a heavily rolling sea. Water in volumes swept the *Monitor's* decks and at 8 o'clock signals of distress were burned for the *Rhode Island* to render assistance. The tow-lines were ordered to be cut, and the lives of two of the crew were lost in carrying out the order. At 10 o'clock the *Monitor's* anchor was lowered and all her steam-power was directed to the pumps. The subsequent fate of the ship and crew is described in the article following.

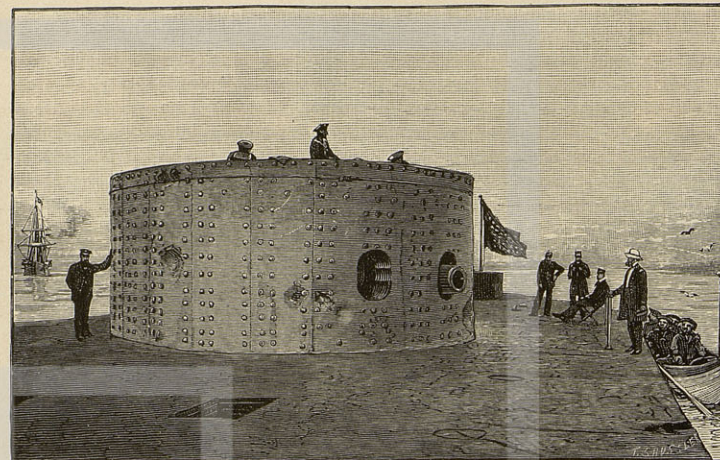
## THE LOSS OF THE "MONITOR."

BY FRANCIS B. BUTTS, A SURVIVOR OF THE CREW.

. . . The clouds now began to separate, a moon of about half-size beamed out upon the sea, and the *Rhode Island*, now a mile away, became visible. Signals were being exchanged, and I felt that the *Monitor* would be saved, or at least that the captain would not leave his ship until there was no hope of saving her. I was sent below to see how the water stood in the ward-room. I went forward to the cabin and found the water just above the soles of my shoes, which indicated that there must be more than a foot in the vessel. I reported this to the captain, and all hands were set to bailing,—bailing out the ocean as it seemed,—but the object was to employ the men, as there now seemed to be danger of excitement among them. I kept employed most of the time, taking the buckets from them through the hatchway on top of the turret. They seldom would have more than a pint of water in them, however, the remainder having been spilled in passing from one man to another.

The weather was clear, but the sea did not cease rolling in the least, and the *Rhode Island*, with the two lines wound up in her wheel, was tossing at the mercy of the sea, and came drifting against our sides. A boat that had been lowered was caught between the vessels and crushed and lost. Some of our seamen bravely leaped down on deck to guard our sides, and lines were thrown to them from the deck of the *Rhode Island*, which now lay her whole length against us, floating off astern, but not a man would be the first to leave his ship, although the captain gave orders to do so. I was again sent to examine the water in the ward-room, which I found to be more than two feet above the deck; and I think I was the last person who saw Engineer G. H. Lewis as he lay seasick in his bunk, apparently watching the water as it grew deeper and deeper, and aware what his fate must be. He called me as I passed his door, and asked if the pumps were working. I replied that they were. "Is there any hope?" he asked; and feeling a little moved at the scene, and knowing certainly what must be his end, and the darkness that stared at us all, I replied, "As long as there is life there is hope." "Hope and hang on when you are wrecked" is an old saying among sailors. I left the ward-room, and learned that the water had gained so as to choke up the main pump. As I was crossing the berth-deck I saw our ensign, Mr. Frederickson, hand a watch to Master's Mate Williams, saying, "Here, this is yours; I may be lost"—which, in fact, was his fate. The watch and chain were both of unusual value. Williams received them into his hand, then with a hesitating glance at the time-piece said, "This thing may be the means of sinking me," and threw it upon the deck. There were three or four cabin-boys pale and prostrate with seasickness, and the cabin-cook, an old African negro, under great excitement, was scolding them most profanely.

As I ascended the turret-ladder the sea broke over the ship, and came pouring down the hatchway with so much force that it took me off my feet; and at the same time the steam broke from the boiler-room, as the water had reached the fires, and for an instant I seemed to realize that we had gone



VIEW SHOWING THE EFFECT OF SHOT ON THE "MONITOR" TURRET.  
From a photograph taken soon after the engagement.

down. Our fires were out, and I heard the water blowing out of the boilers. I reported my observations to the captain, and at the same time saw a boat alongside. The captain again gave orders for the men to leave the ship, and fifteen, all of whom were seamen and men whom I had placed my confidence upon, were the ones who crowded the first boat to leave the ship. I was disgusted at witnessing the scramble, and, not feeling in the least alarmed about myself, resolved that I, an "old haymaker," as landsmen are called, would stick to the ship as long as my officers. I saw three of these men swept from the deck and carried leeward on the swift current.

Bailing was now resumed. I occupied the turret all alone, and passed buckets from the lower hatchway to the man on the top of the turret. I took off my coat—one that I had received from home only a few days before (I could not feel that our noble little ship was yet lost)—and, rolling it up with my boots, drew the tompon from one of the guns, placed them inside, and replaced the tompon. A black cat was sitting on the breech of one of the guns, howling one of those hoarse and solemn tunes which no one can appreciate who is not filled with the superstitions which I had been taught by the sailors, who are always afraid to kill a cat. I would almost as soon have touched a ghost, but I caught her, and, placing her in another gun, replaced the wad and tompon; but I could still hear that distressing howl. As I raised my last bucket to the upper hatchway no one was there to take it. I scrambled up the ladder and found that we below had been deserted. I shouted to those on the berth-deck, "Come up; the officers have left the ship, and a boat is alongside."

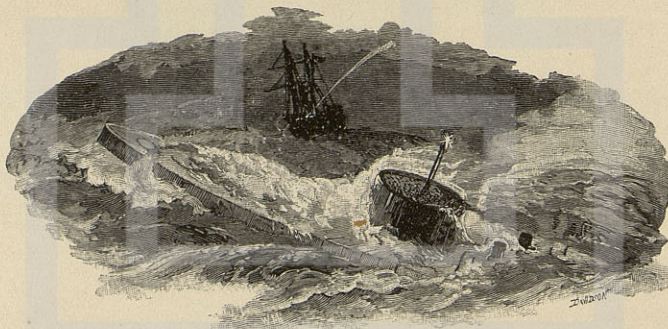
As I reached the top of the turret I saw a boat made fast on the weather quarter filled with men. Three others were standing on deck trying to get on board.

One man was floating leeward, shouting in vain for help; another, who hurriedly passed me and jumped down from the turret, was swept off by a breaking wave and never rose. I was excited, feeling that it was the only chance to be saved. I made a loose line fast to one of the stanchions, and let myself down from the turret,

the ladder having been washed away. The moment I struck the deck the sea broke over it and swept me as I had seen it sweep my shipmates. I grasped one of the smoke-stack braces and, hand-over-hand, ascended, to keep my head above water. It required all my strength to keep the sea from tearing me away. As it swept from the vessel I found myself dangling in the air nearly at the top of the smoke-stack. I let myself fall, and succeeded in reaching a life-line that encircled the deck by means of short stanchions, and to which the boat was attached. The sea again broke over us, lifting me feet upward as I still clung to the life-line. I thought I had nearly measured the depth of the ocean, when I felt the turn, and as my head rose above the water I was somewhat dazed from being so nearly drowned, and spouted up, it seemed, more than a gallon of water that had found its way into my lungs. I was then about twenty feet from the other men, whom I found to be the captain and one seaman; the other had been washed overboard and was now struggling in the water. The men in the boat were pushing back on their oars to keep the boat from being washed on to the *Monitor's* deck, so that the boat had to be hauled in by the painter about ten or twelve feet. The first lieutenant, S. D. Greene, and other officers in the boat were shouting, "Is the captain on board?" and, with severe struggles to have our voices heard above the roar of the wind and sea, we were shouting, "No," and trying to haul in the boat, which we at last succeeded in doing. The captain, ever caring for his men, requested us to get in, but we both, in the same voice, told him to get in first. The moment he was over the bows of the boat Lieutenant Greene cried, "Cut the painter! cut the painter!" I thought, "Now or lost," and in less time than I can explain it, exerting my strength beyond imagination, I hauled in the boat, sprang, caught on the gunwale, was pulled into the boat with a boat-hook in the hands of one of the men, and took my seat with one of the oarsmen. The other man, named Thomas Joice, managed to get into the boat in some way, and he was the last man saved. . . .

After a fearful and dangerous passage over the frantic seas, we reached the *Rhode Island*, which still had the tow-line caught in her wheel and had drifted perhaps two miles to leeward. We came alongside under the lee bows, where the first boat, that had left the *Monitor* nearly an hour before, had just discharged its men; but we found that getting on board the *Rhode Island* was a harder task than getting from the *Monitor*. . . .

It was half-past 12, the night of the 31st of December, 1862, when I stood on the fore-castle of the *Rhode Island*, watching the red and white lights that hung from the pennant-staff above the turret, and which now and then were seen as we would perhaps both rise on the sea together, until at last, just as the moon had passed below the horizon, they were lost, and the *Monitor*, whose history is familiar to us all, was seen no more. . . .



SINKING OF THE "MONITOR."





"AN AFFAIR OF OUTPOSTS."

## MCCLELLAN ORGANIZING THE GRAND ARMY.

BY PHILIPPE, COMTE DE PARIS.  
Aide-de-Camp to General McClellan.

NO one has denied that McClellan was a marvelous organizer. Every veteran of the Army of the Potomac will be able to recall that extraordinary time when the people of the North devoted all their native energy and spirit of initiative to the raising of enormous levies of future combatants and their military equipment, and when infantry battalions, squadrons of cavalry, and batteries of artillery sprung, as it were, from the earth in a night, and poured in from all sides upon the barren wastes of vacant building-lots that then went to the making up of fully three-quarters of the Federal capital.

It was in the midst of this herculean task of organization that two French aides-de-camp were assigned to duty as military attachés on McClellan's staff. His brilliant operations in Western Virginia against Lee,—who had not yet revealed the full extent of his military genius, and whom McClellan was destined to find again in his front but a year later,—the successes of Laurel Hill and Rich Mountain, gave evidence of what might be expected of the inexperienced troops placed in McClellan's hands. He had already shown rare strategic ability, and the President had confided to him the task of creating the Army of the Potomac from the disorganized bands who had fallen back on Washington under the brave and unfortunate McDowell. Surrounded for the most part by young officers, he was himself the most youthful of us all, not only by reason of his physical vigor, the vivacity of his impressions, the noble candor of his character, and his glowing patriotism, but also, I may add, by his inexperience of men. His military bearing breathed a spirit of frankness, benevolence, and firmness. His look was piercing, his voice gentle, his temper equable, his word of command clear and definite. His encouragement was most affectionate, his reprimand couched in terms of perfect politeness. Discreet, as a military or political chief should be, he was slow in bestowing his confidence; but, once given, it was never withdrawn. Himself perfectly loyal to his friends, he knew how to inspire others with an absolute devotion.

Unfortunately for himself, McClellan succeeded too quickly and too soon to the command of the principal army of the republic. His lieutenants were as new to the work as he—they had not been tested. Public opinion in the army itself—a judge all the more relentless for the very reason that discipline gives it no opportunity to express itself—had as yet been able neither to pronounce on them, nor to ratify the preferences of the general-in-chief. Paradoxical as it may seem, would it not really have been better could McClellan have received a check at first, as Grant did at Belmont, rather than to have begun with the brilliant campaign in West Virginia which won for him the sobriquet of "The Young Napoleon"? Just at the time when I joined his staff the exacting confidence of the people and the Government was laying on him an almost superhuman task. In forging the puissant weapon which, later, snatched from his grasp, was destined, in the hands of the Great Hammerer, to bray the army of Lee, he acquired an imperishable title to the gratitude of his compatriots. He wrought, will it be said, for the glory of his successors? No! He labored for his country, even as a private soldier who dies for her, with no thought of fame. In order to give to his weapon every perfection, he soon learned to resist the impatient solicitations of both the people and the Government.

At the end of September, 1861, while yet under the orders of General Scott, McClellan represented the ardent and impatient spirit of men chafing at the slowness of a chief whose faculties had been chilled by the infirmities of age.

Nevertheless, McClellan's first care was to place the capital beyond all peradventure of being carried by sudden attack: on the one hand, for the sake of reassuring the inhabitants and the political organism within its limits; and, on the other, that the army might be at liberty to act independently when it should be called to the field, leaving a sufficient garrison only to secure the defense of the city. He knew that an army tied up about a place it has to protect is virtually paralyzed. The events of 1870 have only too fully confirmed this view.



CAPTAIN LE CLERC. DUC DE CHARTRES. COMTE DE PARIS. PRINCE DE JOINVILLE. CAPTAIN MOHAIN.

### THE ORLÉANS PRINCES AND SUITE AT DINNER.

From a photograph.

An engineer of distinction, McClellan himself devised in all its details the system of defensive works from Alexandria to Georgetown. He gave his daily personal supervision to the execution of this work, alternating outdoor activity with office business. Tireless in the saddle, he was equally indefatigable with the pen. Possessed of a methodical and exact mind, he comprehended the organization of his army in every minute detail. The creation of all the material of war necessary to its existence and action was extraordinary proof of the wonderful readiness of the Americans in an emergency. . . .

But the season advanced. The army was being formed. At the end of September the enemy had fallen back on Fairfax Court House, leaving to us at Munson's Hill a few Quaker guns of logs and pasteboard. The time for action seemed to have come. The rigors of winter in Virginia hardly make themselves felt before the beginning of December. By the 17th of October the enemy had again retreated. The Army of the Potomac replied

with a commensurate advance. But this was a *faux pas*. The blunder was consummated at Ball's Bluff. . . .

McClellan, once invested with supreme command, proved himself more of a temporizer than his predecessor [General Scott], and, as will soon be seen, his premature promotion to this post was the cause of all his subsequent mortification and misfortune. . . .

Without giving him the full rank enjoyed by Scott, the President had given him full command of the armies of the republic. It should be said that he had the right to this position as the oldest major-general of the regular army. In assuming his new function he did not give up his own personal and particular direction of the Army of the Potomac. Here he was right; for he could neither have found any one to whom he might safely confide his own proper work of organization, nor could he have left the command of the first army of the republic without condemning himself to perpetual prison in the bureau at Washington. . . .



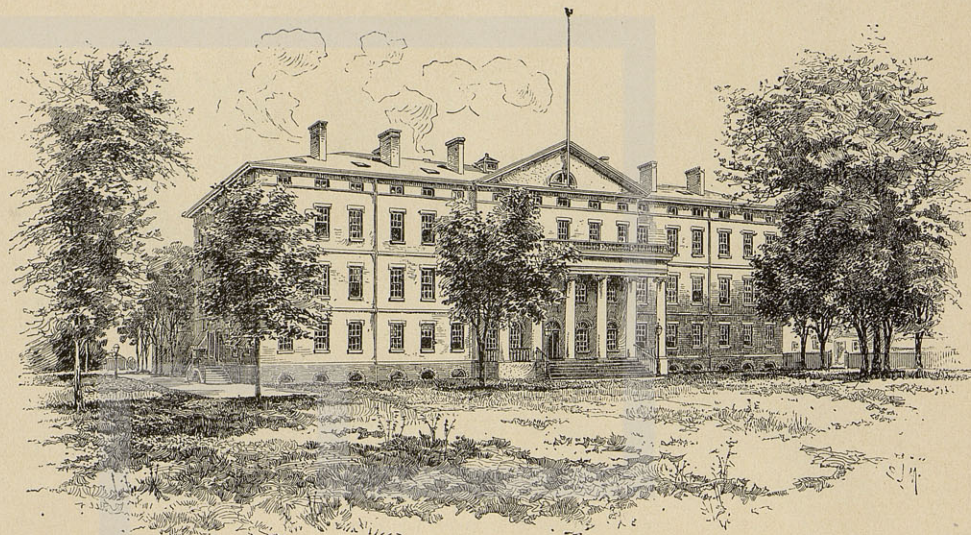


PROVOST GUARD, WASHINGTON.  
From a sketch made in 1862.

McClellan's care . . . was to perfect and strengthen his army; but, above all, not to compromise the safety of his forces by any attempt at operations on the other side of the Potomac. Grand reviews established, to the satisfaction of the inexperienced, the fact of progress in the equipment, instruction, and drill of the troops. At Bailey's Cross-roads might have been seen a rendezvous of 50,000 men, with all the paraphernalia of a campaign, a large number of cavalry, and a formidable array of artillery. No such spectacle had ever been seen in the United States; the novelty of the display caused the liveliest interest among the inhabitants of Washington. But to a European, not the least curious part of the pageant was the President, with his entire Cabinet, in citizens' dress, boldly caracoling at the head of a brilliant military *cortège*, and riding down the long lines of troops to the rattle of drums, the flourish of trumpets, and the loud huzzas of the whole army. While his aides-de-camp were engaged in the field, McClellan worked ceaselessly with the Secretaries of War and of the Navy, Simon Cameron and Gideon Welles, preparing great expeditions, half military and half naval, that should plant the national flag on the principal points of the enemy's coast, and secure convenient bases for future operations. The success won at Port Royal encouraged the Federal Government in these projects. McClellan himself had brought back from the Crimea a personal experience which enabled him, better than any one else, to preside over the details of preparation.

One day, I think it was the 20th of December, General McClellan, ordinarily so assiduous, did not appear at headquarters. The next day it was learned that he was ill. Three days later his life was in danger. Exhausted with work, his robust physique was seized with a typhoid of the most serious type. . . . His absence paralyzed work at headquarters. He had not regularly delegated his powers. His father-in-law and chief of staff, General Marcy, did not dare to act definitely in his

name. McClellan had made the mistake of not creating a general field-staff service, with a duly appointed chief of staff. This might have aided him in securing a consistent *ensemble* of military operations. . . . On his return to the duties of his office [January 13], he realized that during his absence important changes had been arranged. On the 15th of January, Mr. Cameron was superseded by Mr. Stanton, a celebrated lawyer, who was spoken of as one of the coming men of the Democratic party. McClellan, who knew and appreciated him, had, before his illness, contributed materially to Stanton's nomination by recommending him earnestly to the President. But he was not slow to regret this. Mr. Stanton, endowed with a remarkable faculty for work, rendered incontestable service in the organization of the armies; but, fearing the growing importance of those who commanded them, and wishing to impose his authority, he was instrumental, more than any one else, in developing in Mr. Lincoln's mind the idea of directing military operations in person, from the depths of the White House itself. The personal intervention of the President, provoked by the inconsiderate impatience of the public and the precipitate solicitations of McClellan's political adversaries, first declared itself in a singular order, kept a secret as regards the public at the time, but given to the press on March 11th. This order ["President's General War Order No. 1"], dated the 27th of January, directed all the armies of the republic to take the field on the same day, that is, on the 22d of February, in honor of Washington's birthday! In the West, where the rivers were open, everything was in readiness. Moreover, the order of the President was not necessary to warrant Grant, already under orders from McClellan, in beginning the campaign, and Grant anticipated that order. His *début* was as a lightning-stroke. His victory at Fort Donelson, followed by the capitulation of 15,000 Confederates, was the return for Bull Run. The impression created throughout the whole army was profound. The Federal volunteers took heart again. The



THE NORTH FRONT OF THE WAR DEPARTMENT, WASHINGTON.  
From a war-time photograph.

confidence of the Army of the Potomac was redoubled. The general was now restored to health. The weather had moderated. The time had at last come for this army to act. . . .

At the very moment when all seemed ready for the realization of his grand design, two unforeseen circumstances arose to thwart the calculations of McClellan. The first was the sudden evacuation of Manassas by the Confederates. I do not believe that this could be attributed to indiscretions following the councils of war at Washington. I prefer, rather, to ascribe it to the military sagacity of the great soldier who then commanded the Army of Northern Virginia. His positions at Manassas were protected only by the snow and ice which paralyzed the Federals. With the opening of the season he would be obliged to withdraw behind the Rappahannock. This movement brought the Southern army nearer to Richmond, at the same time placing it on the Urbana route, thus making a landing there impossible for us, and permitting Lee to anticipate McClellan on the Virginia peninsula. McClellan would not give up his plan of approaching Richmond from the southeast. Fort Monroe, occupied by the Federals, was chosen as the new point of debarkation, and the pursuit of the enemy on the road from Manassas to Fredericksburg had no other object than to deceive him as to the intentions of the Federals. The army, after having feigned pursuit, was ordered to concentrate near Alexandria, the rendezvous of the grand flotilla which McClellan awaited with so much impatience.

But on the 12th of March another unexpected event again caused consternation among the officers of the staff. The indefatigable newsdealers, who followed the army almost to the very line of battle, had brought papers from Washington, in which we read a decree ["President's War Order No. 3"], dated March 11th, in effect relieving McClellan from the direction in chief of the armies of the United States, the pretext being that McClellan had not taken the field on the 22d of February. It was recalled to mind that on that very day,

McClellan, on going upon the floor of the House of Representatives, had been greeted by a triple salvo of applause, a demonstration flattering enough, but damaging to a general, whose functions forbid even the suspicion of political partisanship. The measure in question was inept, since it virtually restricted McClellan within the Department of the Potomac, excluding West Virginia, then assigned to Frémont. The measure was especially disastrous in suppressing all general direction of military operations, and disintegrating the *ensemble*. It had been decided that Scott was too superannuated to attend to this general direction; it was not for the purpose of abolishing it entirely that command had been confided to younger and more energetic hands. Unfortunately, at this moment Mr. Lincoln had the weakness to think that he himself could effectively exercise the supreme control, assigned him in form, it is true, by a figment of the national Constitution. As for McClellan, the President's decision was mortifying in its method, Lincoln having delayed its promulgation till after the departure of his general, and having left it to be communicated to the latter by the daily papers. Yet McClellan would have consoled himself, had not this measure been followed by others still more harassing, and of a nature to completely cripple intelligent action. But he was relieved of an immense responsibility; he was left at the head of an army eager to follow his lead, eager for battle, and confident of victory under his orders. He alone seemed to preserve his *sang-froid* in the midst of officers of all grades who flocked to his headquarters at Fairfax Court House as the news spread rapidly from camp-fire to camp-fire. Among these officers were stanch supporters, secret foes, those jealous of his fame, would-be worshipers of the rising sun, and, last but not least, indiscreet and compromising friends. In this evil hour McClellan felt how sternly patriotic duty demanded of him that he should hide the mortification he felt at this wound to his feelings as an officer and a man. He sought for consolation only in the sympathy and confidence of his soldiers.



## CAMPAIGNING TO NO PURPOSE.

RECOLLECTIONS OF A PRIVATE.—II. BY  
WARREN LEE GOSS.

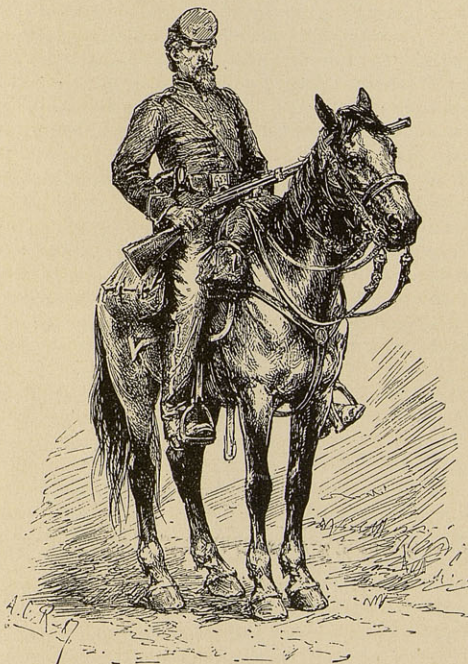
WHILE we were in camp at Washington in February, 1862, we were drilled to an extent which to the raw "thinking soldier" seemed unnecessary. Our colonel was a strict disciplinarian. His efforts to drill out of us the methods of action and thought common to citizens, and to substitute in place thereof blind, unquestioning obedience to military rules, were not always appreciated at their true value. In my company there was an old drill-sergeant (let us call him Sergeant Hackett) who was in sympathetic accord with the colonel. He had occasion to reprove me often, and, finally, to inflict a blast of profanity at which my self-respect rebelled. Knowing that swearing was a breach of discipline, I waited confidently upon the colonel, with the manner of one gentleman calling upon another. After the usual salute, I opened complaint by saying: "Colonel, Mr. Hackett has—" The colonel interrupted me angrily, and, with fire in his eye, exclaimed: "Mister? There are no misters in the army." "I thought, sir—" I began apologetically. "Think? think?" he cried. "What right have you to think? I do the thinking for this regiment! Go to your quarters!"

I did not tarry. There seemed to be no common ground on which he and I could argue questions of personal etiquette. But I should do injustice to his character as a commander if I failed to illustrate another manner of reproof which he sometimes applied.

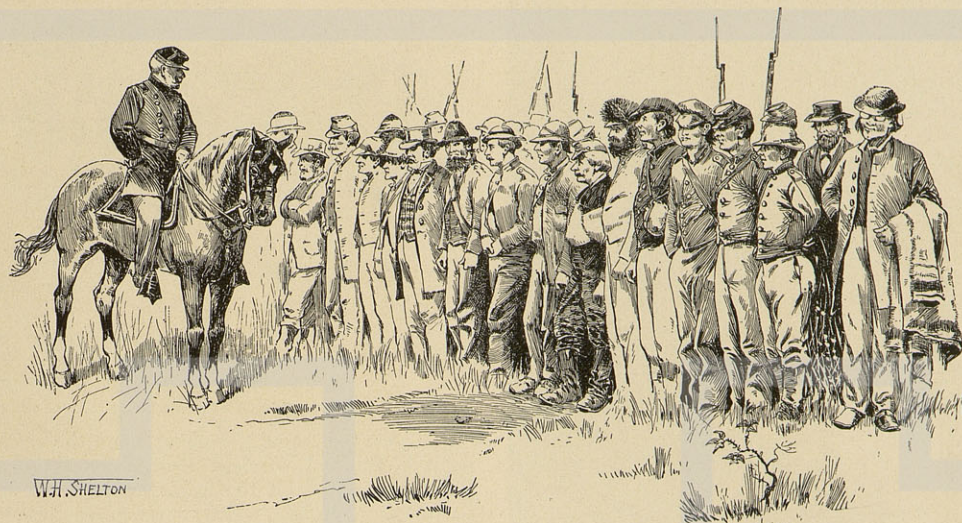
One day, noticing a corporal in soiled gloves, he said: "Corporal, you set a bad example to the men with your soiled gloves. Why do you?"

"I've had no pay, sir, since entering the service, and can't afford to hire washing."

The colonel drew from his pocket a pair of gloves



TROOPER OF THE VIRGINIA CAVALRY, 1861.



CONFEDERATE PRISONERS.

spotlessly white, and, handing them to the corporal, said: "Put on those; I washed them myself!"

This was an unforgettable lesson to the whole regiment that it was a soldier's duty to attend himself to his personal neatness.

In a camp of soldiers, rumor, with her thousand tongues, is always speaking. The rank and file and under-officers of the line are not taken into the confidence of their superiors. Hence the private soldier is usually in ignorance as to his destination. What he lacks in information is usually made up in surmise and conjecture; every hint is caught at and worked out in possible and impossible combinations. He plans and fights imaginary battles. He maneuvers for position, with pencil and chalk, on fanciful fields, at the same time knowing no more of the part he is actually performing in some great or little plan than the knapsack he bears. He makes some shrewd guesses (the Yankee's birthright), but he knows absolutely nothing. It is this which makes the good-will and confidence of the rank and file in the commander so important a factor in the morale of an army.

How we received the report, or whence it came, I know not, but it was rumored one morning that we were about to move. The order in reality came at last, to the distress and dismay of the sutlers, and the little German woman who kept the grocery round the corner. We left her disconsolate over the cakes, pies, and goodies which had been liberally purchased, but which were yet unpaid for, when we fell into two ranks, were counted off, and marched to conquer the prejudices of other sutlers.

We took the cars on February 25th, and were hurried through a number of little sleepy-looking villages of Maryland. The next morning found us at Sandy Hook, about half a mile from Harper's Ferry; thence, after about three hours' delay, we marched to a place opposite the promontory on and around which is situated the picturesque village of Harper's Ferry, at the confluence of the Potomac and Shenandoah rivers.

It was cold at our camping-place, between the

canal and the river. There were no rations awaiting our arrival, and we were suffering from the hunger so common to soldiers. Who ever saw one off duty who was not in pursuit of something to eat? We could not get anything for love or money. We had at last reached a place where the people showed some of the distress incident to war, and a strong disinclination to feed or believe in us. We were grieved, but it could not be helped.

The bridge from the Maryland to the Virginia or Harper's Ferry shore had been destroyed by fire, leaving only the granite abutments (which were afterward built upon again), and we were soon set at work conveying some flat-bottomed scows from Sandy Hook to Harper's Ferry. As early as 9 o'clock about one hundred men came down opposite the ferry, just above the old bridge, and broke into little groups, in military precision. Four or five with spades and other implements improvised a wooden abutment on the shore; another party rowed against the stream, moored a scow, and let it drift down until it was opposite the wooden abutment; then a party of ten advanced, each two men carrying a claw-balk, or timbers fitted with a claw, one of which held the gunwale of the boat, the other the shore abutment. Twenty men now came down on the left with planks, one inch thick, six inches wide, and fifteen feet long, narrowed at each end; these they laid across the five joists or barks, and returned on the right. Another party meanwhile moored another boat, which dropped down-stream opposite the one already bridged; five joists, each twenty feet long, were laid upon the gunwale by five men; these were fastened by those in the boat, by means of ropes, to cleats or hooks provided for the purpose on the side of the scows, which were shoved off from the shore until the shore end of the balk rested upon the shore boat. These were covered with planks in the same manner as before; side-rails of joists were lashed down with ropes to secure the whole. So one after another of the boats was dropped into position until a bridge several hundred feet long reached from the Maryland to the Virginia shore, for the passage of artillery and every description of muni-

tions for an army. Owing to the force of the current, a large rope-cable was stretched from shore to shore fifty feet above the bridge, and the upper end of each boat was stayed to the cable by a smaller rope. The rushing bent the bridge into a half-moon curve. The clock-like precision with which these men worked showed them to be the drilled engineers and pontoniers of the regular army. After the bridge was built, a slight, short man, with sandy hair, in military dress, came out upon it and congratulated the engineers on their success. This unassuming man was George B. McClellan, commander of the Army of the Potomac.

It was on this boat-bridge that the army of General Banks crossed to the Virginia shore in 1862. Officers were not allowed to trot their horses; troops in crossing were given the order, "Route step," as the oscillation of the cadence step or trotting horse is dangerous to the stability of a bridge of any kind.

I crossed the bridge soon after it was laid, visited Jefferson Rock, the ruins of the burned armory, and the town in general. The occasional crack of a musket among the hills on the other side of the Shenandoah told that the enemy's scouts were still there. Colonel Geary's men were engaged in driving them from the hills, preparatory to the advance of General Banks. During the day fifteen or twenty were captured and marched through the town, presenting a generally shabby and unmilitary appearance. They did not impress me as they did afterward, when charging on our lines with their unmusical yell and dauntless front.

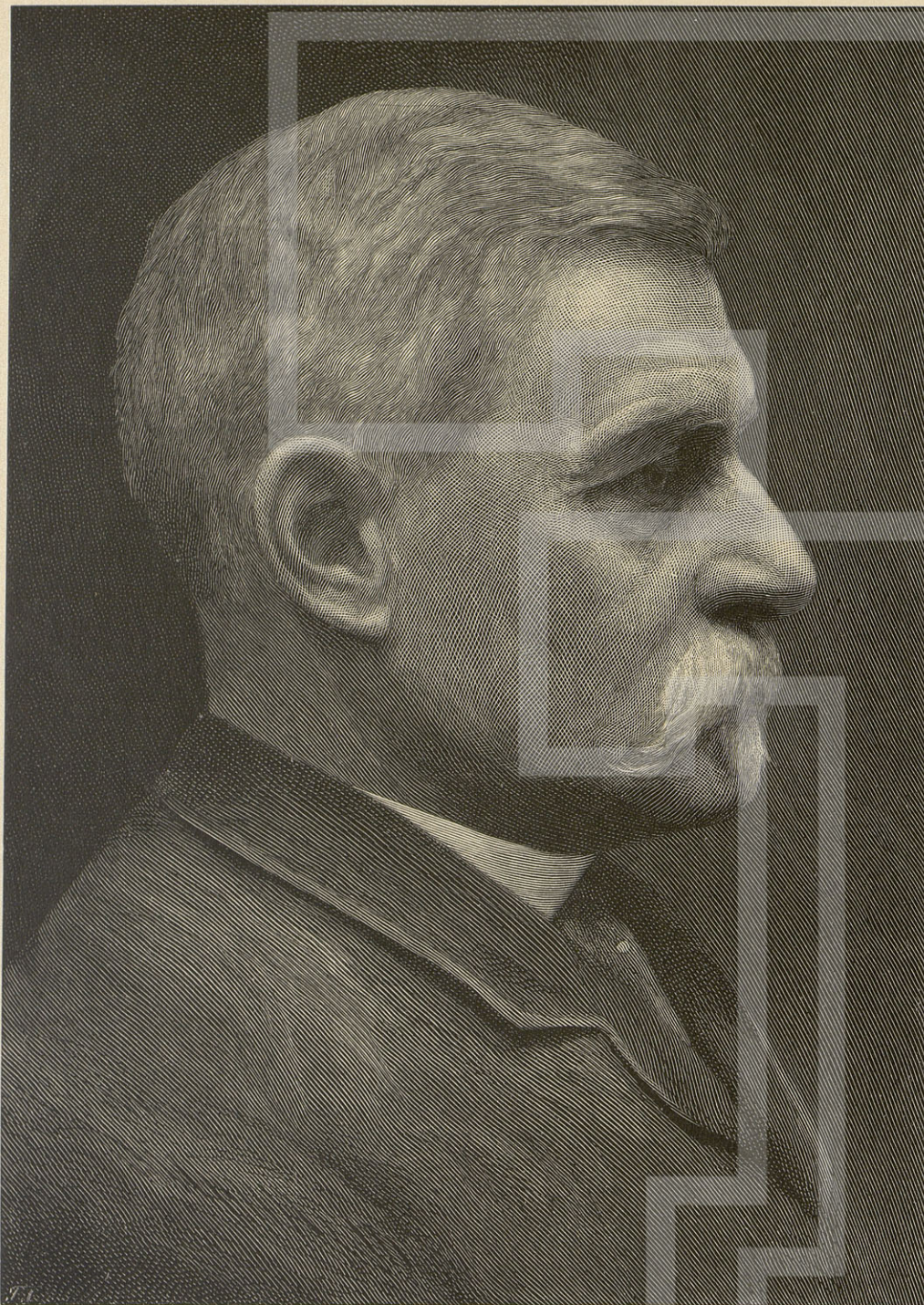
The ruins of the burned armory of the United States were noticeable from the Maryland shore; also the masses of men moving in ceaseless tramp over the long and almost crescent-like bridge. The murmur of many voices, the mellow, abrupt call of the negro drivers to their mules, the glistening arms of the infantry reflected in the sunlight, the dull rumble of artillery wheels and baggage-wagons, live in memory to-day as one of the pictures of "war's wrinkled front," framed in the routine of more ordinary scenes.

The next day we were sent by rail back to Washington, and into camp upon our old grounds. A few mornings afterward an inspection was ordered. It came with the usual hurry and parade. Knapsacks and equipments were in shining order; every musket, bayonet, and button, boot, and belt, as bright as rubbing and fear of censure or police duty could make them. Inspection over, the last jingle of ramrod in resounding musket was heard, and we were dismissed, with an intimation that on the morrow we were to go on a march. . . .



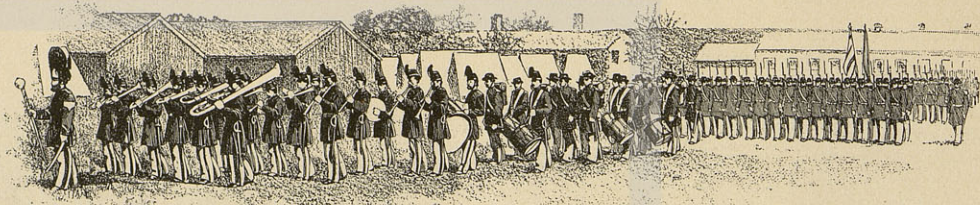
A CONFEDERATE  
OF 1862.





FROM A PHOTOGRAPH TAKEN EARLY IN 1865.

*Geo B McClellan*



FORT MONROE—PARADE OF THE 3D PENNSYLVANIA ARTILLERY.  
From a photograph.

## THE PENINSULAR CAMPAIGN.

BY GEORGE B. McCLELLAN, MAJOR-GENERAL, U. S. A.  
General-in-Chief of the United States army during the first part of the Peninsular Campaign.

. . . On the 1st of November, upon the retirement of General Winfield Scott, I succeeded to the command of all the armies, except the Department of Virginia, which comprised the country within sixty miles of Fort Monroe. Upon assuming the general command, I found that the West was far behind the East in its state of preparation, and much of my time and large quantities of material were consumed in pushing the organization of the Western armies. Meanwhile the various coast expeditions were employed in seizing important points of the enemy's sea-board, to facilitate the prevention of blockade-running, and to cut or threaten the lines of communication near the coast, with reference to subsequent operations.

The plan of campaign which I adopted for the spring of 1862 was to push forward the armies of Generals Halleck and Buell to occupy Memphis, Nashville, and Knoxville, and the line of the Memphis and Danville Railroad, so as to deprive the enemy of that important line, and force him to adopt the circuitous routes by Augusta, Branchville, and Charleston. It was also intended to seize Washington, North Carolina, at the earliest practicable moment, and to open the Mississippi by effecting a junction between Generals Halleck and Butler. This movement of the Western armies was to be followed by that of the Army of the Potomac from Urbana, on the lower Rappahannock to West Point and Richmond, intending, if we failed to gain Richmond by a rapid march, to cross the James and attack the city in rear, with the James as a line of supply. . . .

The Government soon manifested great impatience in regard to the opening of the Baltimore and Ohio Railroad and the destruction of the Confederate batteries on the Potomac. The first object could be permanently attained only by occupying the Shenandoah Valley with a force strong enough to resist any attack by the Confederate army then at Manassas; the second only by a general advance of the Army of the Potomac, driving the enemy back of the Rapidan. My own view was that the movement of the Army of the Potomac from Urbana would accomplish both of these objects, by forcing the enemy to abandon all his positions and fall back on Richmond. I was therefore unwilling to interfere with this plan by a premature advance, the effect of which must be either to commit us to the overland route, or to minimize the advantages of the Urbana movement. I wished

to hold the enemy at Manassas to the last moment—if possible until the advance from Urbana had actually commenced, for neither the reopening of the railroad nor the destruction of the batteries was worth the danger involved. . . .

When Manassas had been abandoned by the enemy and he had withdrawn behind the Rapidan, the Urbana movement lost much of its promise, as the enemy was now in position to reach Richmond before we could do so. The alternative remained of making Fort Monroe and its vicinity the base of operations.

The plan first adopted was to commence the movement with the First Corps as a unit, to land north of Gloucester and move thence on West Point; or, should circumstances render it advisable, to land a little below Yorktown to turn the defenses between that place and Fort Monroe. The Navy Department were confident that we could rely upon their vessels to neutralize the *Merrimac* and aid materially in reducing the batteries on the York River, either by joining in the attack or by running by them and gaining their rear. As transports arrived very slowly, especially those for horses, and the great impatience of the Government grew apace, it became necessary to embark divisions as fast as vessels arrived, and I decided to land them at Fort Monroe, holding the First Corps to the last, still intending to move it in mass to turn Gloucester. On the 17th of March the leading division embarked at Alexandria. The campaign was undertaken with the intention of taking some 145,000 troops, to be increased by a division of 10,000 drawn from the troops in the vicinity of Fort Monroe, giving a total of 155,000. Strenuous efforts were made to induce the President to take away Blenker's German division of 10,000 men. Of his own volition he at first declined, but the day before I left Washington he yielded to the non-military pressure and reluctantly gave the order, thus reducing the expected force to 145,000.

. . . On the 12th of March, I learned that there had appeared in the daily papers the order relieving me from the general command of all the armies and confining my authority to the Department of the Potomac. I had received no previous intimation of the intention of the Government in this respect. Thus, when I embarked for Fort Monroe on the 1st of April, my command extended from Philadelphia to Richmond, from the Alleghanies,



including the Shenandoah, to the Atlantic; for an order had been issued a few days previous placing Fort Monroe and the Department of Virginia under my command, and authorizing me to withdraw from the troops therein ten thousand, to form a division to be added to the First Corps.

The fortifications of Washington were at this time completed and armed. I had already given instructions for the reformation of Manassas, the reopening of the Manassas Gap Railroad, the protection of its bridges by block-houses, the intrenchment of a position for a brigade at or near the railroad crossing of the Shenandoah, and an intrenched post at Chester Gap. I left about 42,000 troops for the immediate defense of Washington, and more than 35,000 for the Shenandoah Valley—an abundance to insure the safety of Washington and to check any attempt to recover the lower Shenandoah and threaten Maryland. Beyond this force, the reserves of the Northern States were all available.

On my arrival at Fort Monroe on the 2d of April, I found five divisions of infantry, Sykes's brigade

of regulars, two regiments of cavalry, and a portion of the reserve artillery dis-

embarked. Another cavalry regiment and the part of a fourth had arrived, but were still on shipboard; comparatively few wagons had come. On the same day came a telegram stating that the Department of Virginia was withdrawn from my control, and forbidding me to form the division of ten thousand men without General Wool's sanction. I was thus deprived of the command of the base of operations, and the ultimate strength of the army was reduced to 135,000—another serious departure from the plan of campaign. Of the troops disembarked, only four divisions, the regulars, the majority of the reserve artillery, and a part of the cavalry, could be moved, in consequence of the lack of transportation. Casey's division was unable to leave Newport News until the 16th, from the impossibility of supplying it with wagons.

The best information obtainable represented the Confederate troops around Yorktown as numbering at least fifteen thousand, with about an equal force at Norfolk; and it was clear that the army lately at Manassas, now mostly near Gordonsville, was in position to be thrown promptly to the Peninsula. It was represented that Yorktown was surrounded by strong earthworks, and that the Warwick River, instead of stretching across the Peninsula to Yorktown,—as proved to be the case,—came down to Lee's Mills from the North, running parallel with and not crossing the road from Newport News to Williamsburg. It was also known that there were intrenched positions of more or less strength at Young's Mills, on the Newport News road, and at Big Bethel, Howard's Bridge, and Ship's Point, on or near the Hampton and Yorktown road, and at Williamsburg.

On my arrival at Fort Monroe, I learned, in an interview with Flag-Officer Goldsborough, that he could not protect the James as a line of supply, and that he could furnish no vessels to take an active part in the reduction of the batteries at York and Gloucester or to run by and gain their rear. He could only aid in the final attack after our land batteries had essentially silenced their fire.

I thus found myself with 53,000 men in condition to move, faced by the conditions of the problem just stated. Information was received that Yorktown was already being reinforced from Norfolk, and it was apprehended that the main Confederate army would promptly follow the same course. I therefore determined to move at once with the force in hand, and endeavor to seize a point—near the Halfway House—between Yorktown and Williamsburg, where the Peninsula is reduced to a narrow neck, and thus cut off the retreat of the Yorktown garrison and prevent the arrival of reinforcements.

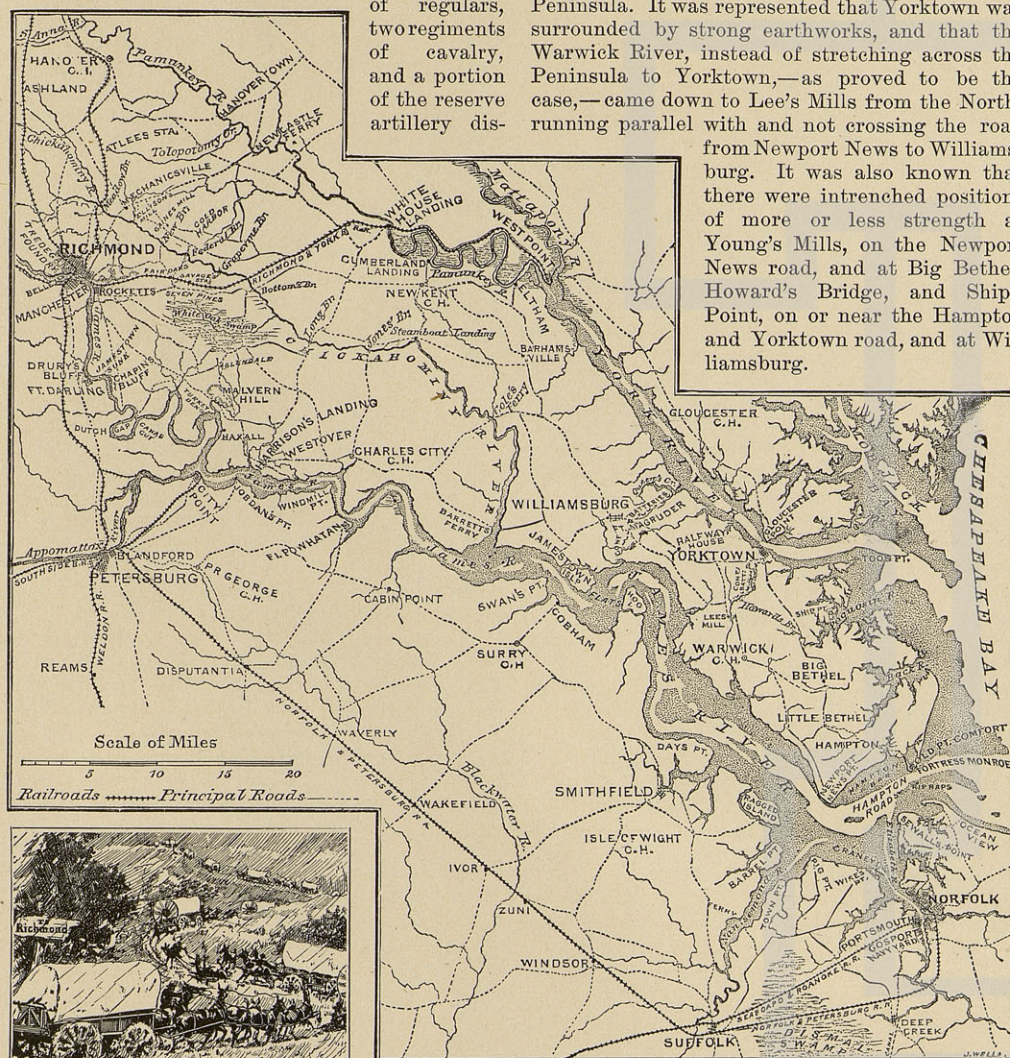
The advance commenced on the morning of the 4th of April, and was arranged to turn successively the intrenchments on the two roads; the result being that, on the afternoon of the 5th, the Third Corps was engaged with the enemy's outposts in front of Yorktown and under the artillery fire of the place. The Fourth Corps came upon Lee's Mills and found it covered by the unfordable line of the Warwick, and reported the position so strong as to render it impossible to execute its orders to assault. Thus, all things were brought to a stand-still, and the intended movement on the Halfway House could not be carried out. Just at this moment came a telegram, dated the 4th, informing me that the First Corps was withdrawn from my command. Thus, when too deeply committed to recede, I found that another reduction of about 43,000, including several cavalry regiments withheld from me, diminished my paper force to 92,000, instead of the 155,000 on which the plans of the campaign had been founded, and with which it was intended to operate. The number of



MAJOR-GENERAL GEORGE B. MCCLELLAN, U. S. A.  
From a war-time photograph.

men left behind, sick and from other causes incident to such a movement, reduced the total for duty to some 85,000, from which must be deducted all camp, depot, and train guards, escorts, and non-combatants, such as cooks, servants, orderlies, and extra-duty men in the various staff-departments, which reduced the numbers actually available for battle to some 67,000 or 68,000.

The order withdrawing the First Corps also broke up the Department of the Potomac, forming out of it the Department of the Shenandoah, under General Banks, and the Department of the Rappahannock, under General McDowell, the latter including Washington. I thus lost all control of the depots at Washington, as I had already been deprived of the control of the base at Fort Monroe and of the ground subsequently occupied by the depot at White House. The only territory remaining under my command was the paltry triangle between the departments of the Rappahannock and Virginia; even that was yet to be won from the enemy. I was thus relieved from the duty of providing for



MAP OF THE PENINSULAR CAMPAIGN.



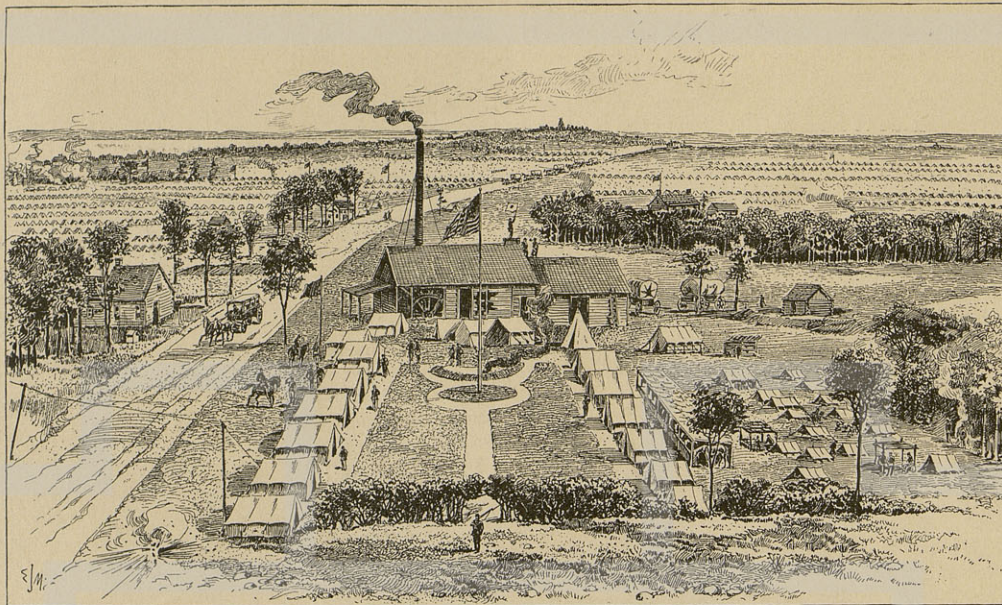


MAJOR-GEN. SAMUEL P. HEINTZELMAN, U. S. V.

the safety of Washington, and deprived of all control over the troops in that vicinity. Instead of one directing head controlling operations which should have been inseparable, the region from the Alleghanies to the sea was parceled out among four independent commanders.

On the 3d of April, at the very moment of all others when it was most necessary to push recruiting most vigorously, to make good the inevitable losses in battle and by disease, an order was issued from the War Department discontinuing all recruiting for the volunteers and breaking up all their recruiting stations. Instead of a regular and permanent system of recruiting, whether by voluntary enlistment or by draft, a spasmodic system of large drafts was thereafter resorted to, and, to a great extent, the system of forming new regiments. The results were wasteful and pernicious. There were enough, or nearly enough, organizations in the field, and these should have been constantly maintained at the full strength by a regular and constant influx of recruits, who, by association with their veteran comrades, would soon have become efficient. The new regiments required much time to become useful, and endured very heavy and unnecessary losses from disease and in battle owing to the inexperience of the officers and men. A course more in accordance with the best-established military principles and the uniform experience of war would have saved the country millions of treasure and thousands of valuable lives.

Then, on the 5th of April, I found myself with 53,000 men in hand, giving less than 42,000 for battle, after deducting extra-duty men and other non-combatants. In our front was an intrenched line, apparently too strong for assault, and which I had now no means of turning, either by land or water. I now learned that 85,000 would be the maximum force at my disposal, giving only some 67,000 for battle. Of the three divisions yet to join, Casey's reached the front only on the 17th, Richardson's on the 16th, and Hooker's commenced arriving at Ship Point on the 10th. Whatever may have been said afterward, no one at the time — so far as my knowledge extended — thought an assault practicable without certain preliminary siege opera-



HEADQUARTERS OF GENERAL HEINTZELMAN, COMMANDING THE THIRD ARMY CORPS AT HOWE'S SAW-MILL, BEFORE YORKTOWN.

From a sketch made at the time.

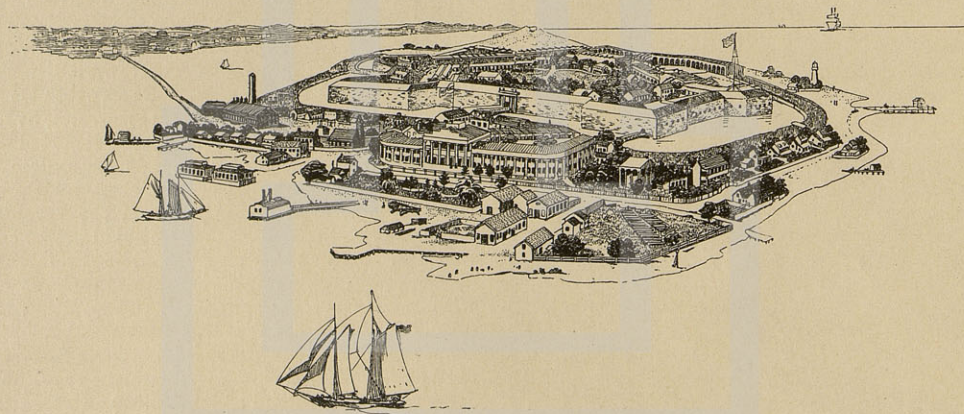
tions. At all events, my personal experience in this kind of work was greater than that of any officer under my command; and after personal reconnaissances more appropriate to a lieutenant of engineers than to the commanding general, I could neither discover nor hear of any point where an assault promised any chance of success. We were thus obliged to resort to siege operations in order to silence the enemy's artillery fire, and open the way to an assault. All the batteries would have been ready to open fire on the 5th, or, at latest, on the morning of the 6th of May, and it was determined to assault at various points the moment the heavy batteries had performed their allotted task; the navy was prepared to participate in the attack as soon as the main batteries were silenced; the *Galena*, under that most gallant and able officer, John Rodgers, was to take part in the attack, and would undoubtedly have run the batteries at the earliest possible moment; but during the night

of the 3d and 4th of May the enemy evacuated his positions, regarding them as untenable under the impending storm of heavy projectiles.

Meanwhile, on the 22d of April, Franklin's division of McDowell's corps had joined me by water, in consequence of my urgent calls for reinforcements.

The moment the evacuation of Yorktown was known, the order was given for the advance of all the disposable cavalry and horse batteries, supported by infantry divisions, and every possible effort was made to expedite the movement of a column by water upon West Point, to force the evacuation of the lines at Williamsburg, and, if possible, cut off a portion of the enemy's force and trains.

The heavy storms which had prevailed recommenced on the afternoon of the 4th, and not only impeded the advance of troops by land, but delayed the movement by water so much that it was



FORT MONROE AND THE OLD HYGEIA HOTEL.



MAJOR-GENERAL JOHN E. WOOL, U. S. A.

not until the morning of the 7th that the leading division — Franklin's — disembarked near West Point and took up a suitable position to hold its own and cover the landing of reinforcements. This division was attacked not long after it landed, but easily repulsed the enemy.

Meanwhile the enemy's rear-guard held the Williamsburg lines against our advance, except where Hancock broke through, until the night of the 5th, when they retired.

The army was now divided; a part at the mouth of the Pamunkey, a part at Williamsburg, and a part at Yorktown prepared to ascend the York River. The problem was to reunite them without giving the enemy the opportunity of striking either fraction with his whole force. This was accomplished on the 10th, when all the divisions were in communication, and the movement of concentration continued as rapidly as circumstances permitted, so that on the 15th the headquarters and the divisions of Franklin, Porter, Sykes, and Smith reached Cumberland Landing; Couch and Casey being near New Kent Court House, Hooker and Kearny near Roper's Church, and Richardson and Sedgwick near Eltham. On the 15th and 16th, in the face of dreadful weather and terrible roads, the divisions of Franklin, Porter, and Smith were advanced to White House, and a depot established. On the 18th the Fifth and Sixth Corps were formed, so that the organization of the Army of the Potomac was now as follows: Second Corps, Sumner — Divisions, Sedgwick and Richardson; Third Corps, Heintzelman — Divisions, Kearny and Hooker; Fourth Corps, Keyes — Divisions, Couch and Casey; Fifth Corps, F. J. Porter — Divisions, Morell and Sykes and the Reserve Artillery; Sixth Corps, Franklin — Divisions, Smith and Slocum.

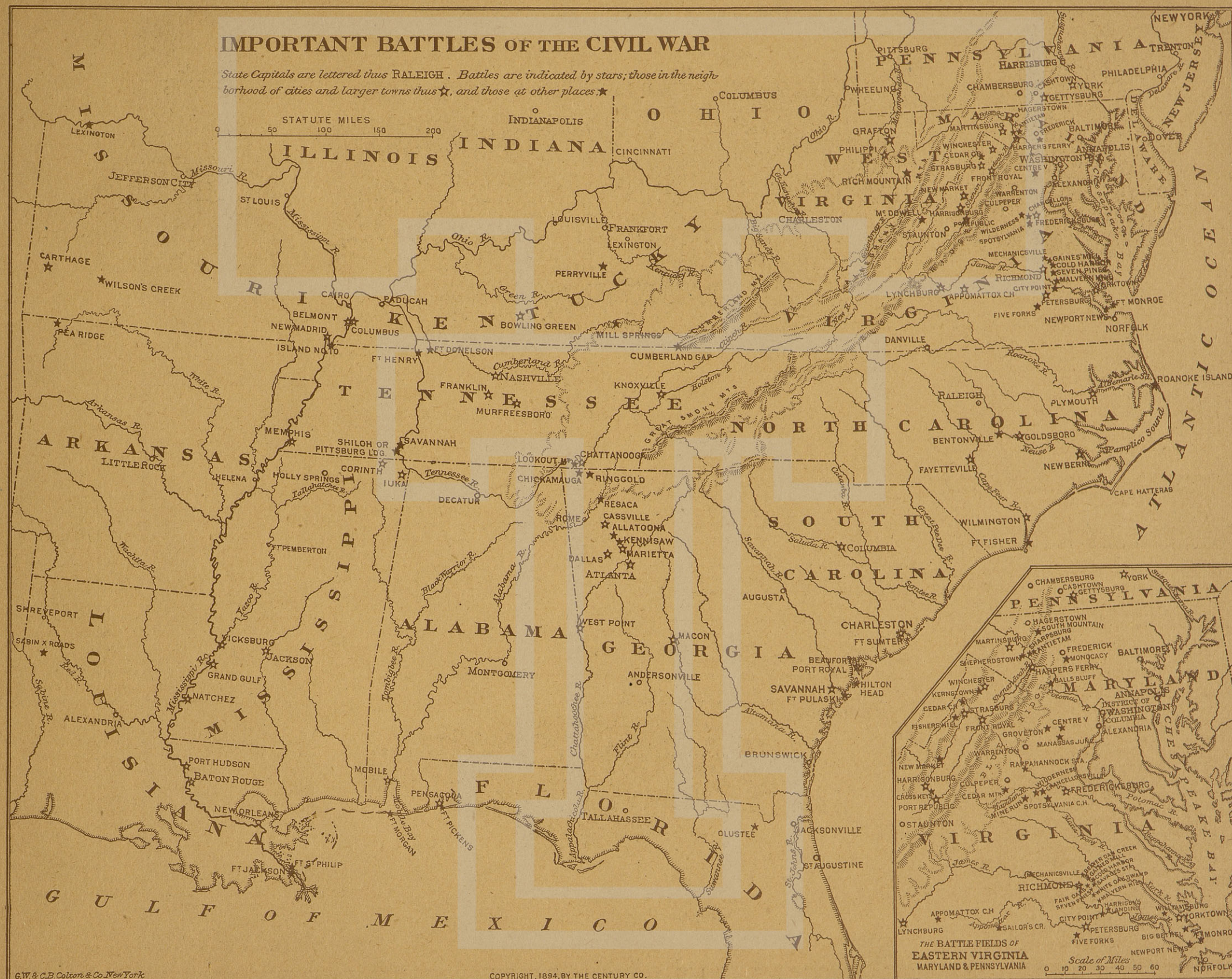
The cavalry organization remained unchanged, and we were sadly deficient in that important arm, as many of the regiments belonging to the Army of the Potomac were among those which had been retained near Washington.

The question now arose as to the line of operations to be followed: that of the James on the one hand, and, on the other, the line from White House



# IMPORTANT BATTLES OF THE CIVIL WAR

State Capitals are lettered thus RALEIGH. Battles are indicated by stars; those in the neighborhood of cities and larger towns thus ★, and those at other places ★





PART SIX WILL CONTAIN  
THE CONTINUATION OF GENERAL McCLELLAN'S ARTICLE ON  
**The Peninsular Campaign**

**The Siege of Yorktown**  
Recollections of a Private,—III. By Warren Lee Goss

**Manassas to Seven Pines**  
By the Confederate General Joseph E. Johnston

**Two Days of Battle at Seven Pines (Fair Oaks)**  
By the Confederate General Gustavus W. Smith

**Stuart's Ride Around McClellan**  
By a Confederate Colonel  
and

THE BEGINNING OF  
**The Opening of the Lower Mississippi and  
The Capture of New Orleans**

DESCRIBED BY ADMIRAL PORTER AND OTHERS—UNION AND CONFEDERATE