

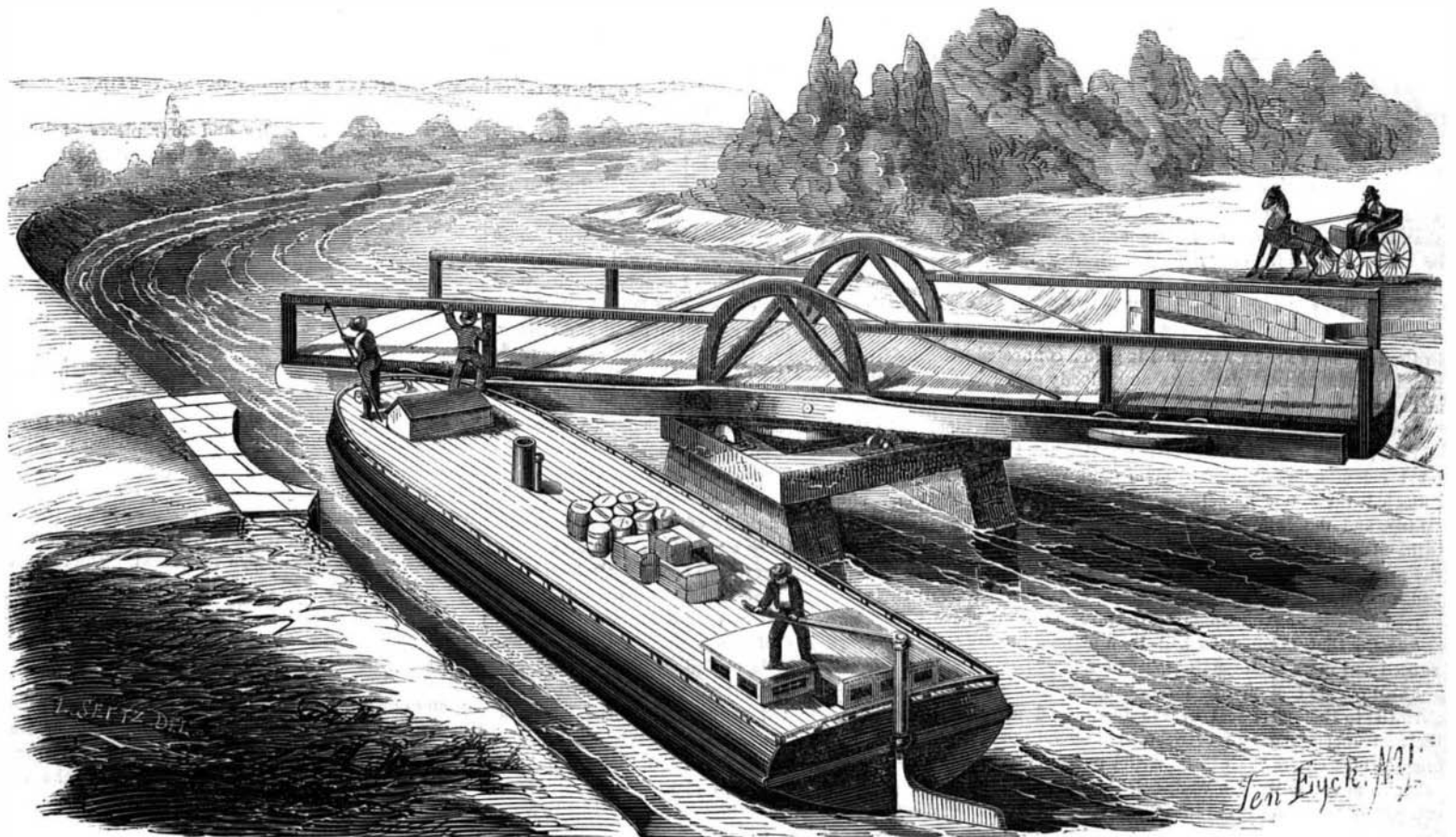
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NEW SERIES



SELSER'S SELF-CLOSING BRIDGE.

Improved Self-Closing Bridge.

As canals can be crossed only on bridges, large numbers of these structures are required for the country roads, and for the use of the numerous farmers whose lands are cut by canals. To raise all of these bridges so high that the boats may pass under them, not only increases the cost to the canal company, but the steep ascent on each side is a serious obstruction to the passage of loaded teams over the bridges. Many efforts have consequently been made to devise a swinging bridge which might be built but little above the level of the water, and which would be opened by the boat in its passage, and would return, after the boat had passed, to its position in line with the road. None of these plans have come into use because they were too complicated, or were otherwise objectionable.

The bridge here illustrated is exceedingly simple in construction, and the inventor says that on prac-

tical trial it has been found to operate with perfect success.

The bridge as represented in the engraving is balanced on a central pier, so that it may swing hori-

zontally upon a pivot, its support consisting of circular tracks running on rollers so arranged that as the bridge swings out of place to let a boat pass it rises a little, and then, after it has passed, the bridge returns to its proper position by the action of gravitation. The arrangement is plainly shown in the engravings.

Fig. 2

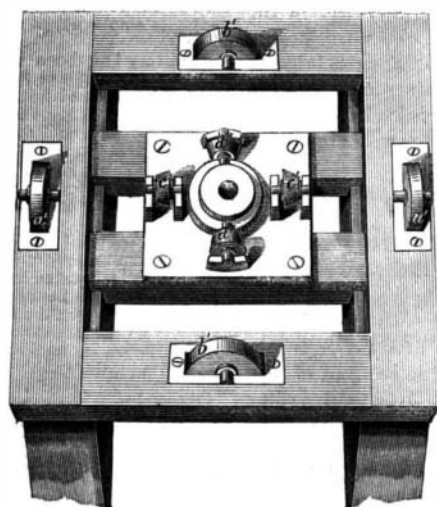


Fig. 3

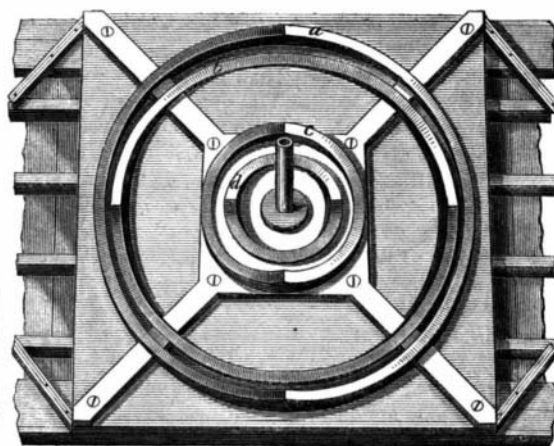


Fig. 1 is a perspective view of the bridge while being opened by a passing boat, Fig. 2 is a view of the upper part of the supporting pier with the bridge removed, and Fig. 3 is a view of the central portion of the bridge turned over so as to show the under side.

The outer ring, *a*, Fig. 3, rests upon the two rollers, *a' a'*, Fig. 2. The under surface of this ring is formed in four inclined planes, so that as the bridge is turned upon its center, it will be slightly raised by the inclined surface of the ring running upon the stationary rollers, and will consequently be brought back after the boat has passed, to its pro-

per position in line with the road. The ring, *b*, rests in like manner upon the rollers, *b' b'*, and as these are placed at right angles with the rollers, *a' a'*, it is neces-

sary to have the inclinations of the ring, *b*, turned a quarter of a circle from those of the ring, *a*. Near the center are two other rings, *c* and *d*, running respectively on pairs of rollers, *c' c'* and *d' d'*; four rings being provided in order to distribute the support over a sufficient surface.

Upon the sides of the bridge where the bow of the boat will strike, elastic arms, E E, or springs are provided to prevent a shock.

Where the topography renders it desirable, the bridge may be made of only one wing, with the pier on one side of the canal; in this case the bridge will be balanced by weights on its shorter end.

This bridge may be used as a draw on rivers as well as canals; thus dispensing with any attendant, and securing the closing of the draw after the passage of a vessel with absolute certainty.

The patent for this invention was granted October 29, 1861, and further information in relation to it may be obtained by addressing the inventor, John Selsor, at Williamsport, Pa.

NOTES ON NAVAL AND MILITARY AFFAIRS.

THE BATTLE OF CORINTH.

The most terrific fighting of the war took place at the battle of Corinth, the results of which were given in General Grant's dispatches, published in our last week's account. But as General Grant was more than 50 miles away from the scene, his knowledge of the affair was imperfect, and as full descriptions of the battle have since been published by able correspondents of the Chicago and New York papers, who were at Corinth, and by officers who participated in the battle, we are now enabled to give a connected narrative of this most desperate and bloody engagement.

After General Rosecrans returned from the pursuit of Price, which followed the battle of Iuka, the three rebel commanders Price, Villipigue and Van Dorn, collected their forces, between 20,000 and 30,000 strong, and determined to make an attack on Corinth. It is said that this design was concealed from the privates, and it is also said that the rebel generals had learned that the heavy siege guns had been removed from the fortifications of Corinth, and were not aware that these guns had been planted in advanced and more commanding positions.

At all events they marched round by the south of Corinth to the northwest of the town, and made their advance along and between the two railroads, one of which enters Corinth from the north, and the other from the west. On Wednesday, October 1, two companies were sent to cut the railroad coming from the north to prevent General Grant from dispatching reinforcements to Corinth, and from the time till Friday, the 3d, continual skirmishing was going on between our forces who were stationed beyond our fortifications, and the advance of the rebel army. On Friday a pretty severe fight occurred, the enemy attacking in force, and our advanced troops endeavoring to maintain their positions; they were driven back, however, with the loss of several cannon.

Before daybreak on Saturday morning our heavy siege guns opened on the advanced batteries of the enemy, which had been boldly planted within 500 yards of our forts. The enemy replied, but by six o'clock our superior weight of metal had silenced all of the enemy's guns, a portion of which were withdrawn and the others abandoned. Our soldiers advanced and seized the abandoned guns with a number of caissons. Then occurred the most terrible change that has taken place during this war. We give the description in the stirring words of the correspondent of the Chicago Tribune:—

At this time, as we learn from rebel prisoners, the rebel soldiers were gathered in the timber, out of range of the guns, and addressed by General Price and others upon the necessity of capturing Battery Robinett, whose murderous discharges were creating such havoc in their ranks, and alone prevented the capture of the town, and called for volunteers to attempt its capture. He represented the perilous nature of the undertaking, and demanded to know if 2,000 men, led by a general officer, were willing to undertake its capture. General Rogers promptly offered to lead the forlorn hope, and 2,000 men instantaneously stepped from the ranks. At 10 A. M. the enemy were discovered drawn up in two lines,

near the timber between the Mobile and Ohio railroad, one facing the town, the other the batteries, each at right angles to the other. The one destined for the town was drawn up just behind Halleck's old headquarters. At a given signal they moved forward rapidly under a heavy fire of grape and canister from our artillery in front and the battery to the left, followed at supporting distance by their reserves.

During their advance their colors were shot away several times and as often replaced. They crossed with difficulty the abattis of trees just outside of the town, and gaining a position where there were no obstructions, they came gallantly forward at a charge, sweeping everything before them. They occupied the streets of Corinth, and their line of battle was formed just in front of the office of the provost marshal. Meantime our batteries were playing upon them with excellent effect. A huge shell from battery "Williams" exploded in the midst of a solid column, and thirty were sent to their long account. Their reserves had been prevented from coming up by the attention of the batteries, and our boys rallying, charged upon them, and they scattered and ran, many of them being shot and bayoneted in their tracks. They were put to flight, and in great disorder reached the edge of the timber beyond the abattis, from which they started.

By this time the first line and reserves—what there was left of them—had reached their old position, the second line forming an angle of ninety degrees, were well advanced in the direction of battery Robinett. Disappointed in gaining a lodgement in the village, discomfited and disheartened they must confess to an utter rout if that battery be not taken. Once in their possession the town is theirs. The 2,000 men massed in single column, eight feet deep, moved forward in silence, General Rogers at the head, regardless of the shower of bullets which whistled about their ears and decimated their ranks. The decisive moment, the turning point of the engagement had arrived. Every battery bearing on the column was double charged with grape and canister, which burst over their devoted heads. Scores were killed at every discharge, but they moved steadily on, maintaining the silence of the grave. As fast as one soldier fell his comrade behind stepped forward and took his place. They charged up to the battery, reserving their fire till they reached the parapets. Twice repulsed, the third time they reached the outer works and planted their flag upon the escarpment. It was shot down and again planted, but shot down again. They fired from the parapet and through the embrasures, and had partial possession of the works. But their triumph was of short duration. According to previous instructions the gunners fell back behind the works, and battery Williams and battery Robinett threw a murderous fire. I was at short range and the missiles were directed with fearful accuracy. No body of men could stand that fire, and they reluctantly withdrew. This charge upon the battery was a magnificent but foolhardy affair.

The intensity of the fight may be judged from the fact that 260 dead bodies were found in and about the trenches within a distance of fifty feet of the works. Then came a splendid charge upon the disordered column by a portion of Col. Mower's brigade, and they were routed and almost annihilated. The attack upon the fort was twice repeated and as often repulsed. Col. Rogers and Col. Ross were killed, and several other well-known and important field officers. The fighting where Col. Mower made his charge was for a great portion of the time hand to hand, and of the most desperate character. As they retreated down the hill toward the timber, their starting point, batteries Robinett and Williams played upon them with double charges of grape and canister, and made their retreat take the character of a rout. In the meantime skirmishing was going on in front of battery Phillips, resulting in a sharp little fight, lasting fifteen or twenty minutes, at the end of which time the rebels retreated.

Beaten at every point, and disappointed in their well-conceived and nearly-executed plan of capturing Corinth, a general movement, as if retreating, was plainly perceptible along the entire rebel line. This was about 12½ on Saturday, and virtually the end of the engagement here. Our troops stood in line in readiness to receive them at every point should they

desire to renew the attack. It was thought that an attempt would be made to mass the rebel troops at some other point, but this expectation was not destined to be realized. The enemy slowly took up his line of retreat in the direction of Chervalla.

The enemy retreated to the northwest, but the next day (Sunday the 5th) they were met by General Hurlburt, who, by order of General Grant, was advancing from that direction, and who attacked them with fury, driving them back three miles towards Corinth. Here they were encountered by General Rosecrans, who was advancing in pursuit, and thus placed between two armies, it is said that the shattered troops of the enemy plunged into the morasses and fled to the South.

Rosecrans, Hurlburt and Ord retired with their forces, while McPherson alone continued the pursuit. He, however, followed but a few miles and at last accounts the remnant of the great rebel army of the southwest was at Holly Springs, some 50 miles southwest of Corinth. Why the pursuit was not more vigorous we do not understand.

STUART'S DASHING CAVALRY RAID.

On the 10th of October the famous rebel General Stuart, with 2,500 cavalry and four pieces of light artillery, crossed the Potomac river, to the northwest of our army, and marching rapidly across the narrow strip of Maryland, continued his course into Pennsylvania, as far as Chambersburgh, which is 16 miles north of the Maryland line. The force arrived at Chambersburgh at about seven o'clock in the evening.

During the night and in the morning they helped themselves to boots, shoes and clothing, which they said they much needed, out of warehouse stores, giving, in some instances, Confederate notes in payment. The next morning, at 8 o'clock, they set fire to all the buildings of the Cumberland Valley Railroad Company, which were mostly consumed, with four second-class engines—all the other engines of the Company having been run off for safety. Two warehouses, containing military stores belonging to the State, and placed there on the occasion of the former rebel raid, were also consumed. The loss of the Cumberland Valley Railroad Company is not much short of \$40,000. The Government property lost is worth not over \$2,000. It was the remnant of supplies for the troops.

They then marched to the southeast, sweeping around our army and pushing for the Potomac which they reached at Nolan's Ferry, on the 12th. Here were several regiments of Union infantry who prevented the passage, and the rebel cavalry broke up into numerous small squads, and succeeded in making their way across the Potomac at several fords. They captured about 1,000 horses during the march, and successfully completed one of the boldest dashes that have been made during the war.

OPERATIONS ON ST. JOHN'S RIVER, FLORIDA.

The following official report has been received by the Navy Department:—

UNITED STATES STEAMER VERMONT,
PORT ROYAL HARBOR, S. C., Oct. 5, 1862.

To Hon. Gideon Welles, Secretary of the Navy, Washington City:

SIR:—The Department is doubtless aware that an attack by the rebels had been made some time since on the gunboats employed on the inside blockade of St. John's River.

A battery had been erected on the St. John's Bluffs, and heavy guns planted, which kept those small vessels in the immediate vicinity of Mayport Mills.

Commodore Steadman, with a large force, had been ordered by Admiral Dupont to look to this. Having approached the fort and felt its troops, he urged that troops might be sent to aid in securing the garrison when the battery should be silenced by the gunboats, and to alter the insolent tone of the rebel military authority in that quarter.

General Mitchel, with his characteristic promptitude, detailed a suitable force for the purpose, under General Brannan, which sailed hence on the 30th ult.

I have now the honor to inform the Department that I have just received the report of Commodore Steadman, in which he informs me that the cooperating force under General Brannan having arrived and landed with great promptitude, the gunboats advanced, and after a spirited, and, as it seems, well directed fire, silenced the battery, which was then occupied by our force.

The rebels seem to have retired in much haste, leaving guns (nine in number—seven of which were 8-inch, and two 4½-inch rifles), munitions, provisions and camp equipage.

The success has been without loss on our side.

The vessels then ascended the St. John's to Jacksonville, and there learned that the rebel forces had retreated beyond that point.

We retain possession of St. John's River as far as Jacksonville.

WM. GODON, Captain,
Commanding South Atlantic Squadron.