

was also impaired. He suffered great nervous irritation. September 16th, the pain in the forearm and hand is very severe; he has also partial trismus; his jaws are stiff, but he can open them to the extent of about an inch. He has failed in strength and appetite and is emaciated." Dr. Lidell made an incision about two inches in length through the cicatrix down to the nerve, which was loosened and laid bare to the extent of the incision. The old cicatrix was also removed. The nerve did not appear to be injured in any way. The pain was apparently caused by compression of it—by the contraction of the cicatrix. The wound was left open to heal by granulation. He had been treated to date of operation by subcutaneous injections of morphia, which relieved the pain temporarily. September 17th, pain is slight, trismus lessened; passed a comfortable night. September 18th, pain continues, trismus subsided. The injections of morphia were continued at night, and a grain of sulphate of zinc ordered thrice daily. September 30th, treatment continued to date. The operation has only afforded partial relief. The pain continues quite severe. October 6th, the wound of the previous operation has entirely healed, but he cannot use the hand in consequence of the exalted sensibility of it; the pain in it is very severe, and he is suffering much from want of sleep. He has had several paroxysms of severe tetanic irritation, with some stiffness of the jaws, one of which occurred this morning. Assistant Surgeon George A. Mursick, U. S. V., made an incision through the cicatrix of the previous operation and dissected out the median and excutaneous nerves, which were found lying in close apposition, and resected three-fourths of an inch of each of them. They were both involved in the new cicatrix. October 19th, the operation of resection did not avail anything, and his condition is as bad as ever. The pain is now so severe as to deprive him of all rest, and the sensibility of the hand is so great that he will not allow anything to touch it. His general health is suffering severely. His countenance expresses great anxiety and his appetite has failed. Surgeon John A. Lidell, U. S. V., administered chloroform and amputated the right arm at the junction of the upper with the middle third by anterior posterior flaps. Marks recovered, and was discharged May 27, 1865, and pensioned.

Including the case just detailed, amputation was resorted to in twenty-nine instances after incipient tetanic symptoms; ten of the cases resulted favorably, and in several instances it is noted that the symptoms ceased after the operation. A few of these cases are here cited in detail:

CASE 1197.—Private D. E. Isham, Co. E, 154th New York, aged 19 years, was wounded in the left foot, at Chancellorsville, May 3, 1863, and was admitted to a field hospital of the Second Corps. Surgeon C. S. Wood, 66th New York, made the following report: "The injury was caused by the explosion of a shell, which carried away most of the foot and shattered the cuneiform bone and the astragalus, leaving the foot hanging by the integument of the plantar surface. There was but little hæmorrhage, but the shock was excessive and tetanic symptoms were present; in other words the case admitted of no delay. If I remember right the patient had lain out all night. Not knowing the extent of the injury I performed Chopart's amputation, but discovering the cuneiform and astragalus bones to be so much injured I proceeded, while the patient was still under chloroform, to perform Syme's operation." The patient was subsequently transferred to hospital at Alexandria, and later to Washington, where he was discharged from service January 22, 1864, and pensioned.

CASE 1198.—Sergeant T. Lewis, Co. E, 5th Michigan, aged 26 years, was wounded in the right forearm, at Gettysburg, July 2, 1863, by a round ball, which entered on the ulnar side just above the styloid process, passed obliquely across, and came out on the radial side about two inches above the joint, comminuting both bones in its course. He was admitted to Broad and Cherry Streets Hospital, Philadelphia, July 13th, at which time his general health was not very good, the wound being inflamed and very painful. Several fragments of bone were removed, flaxseed poultice was applied, and the forearm was placed in Bond's splint. Under a treatment of tonics, with opium at night, the patient slowly improved until August 25th, when he was suddenly seized with a chill followed by threatening tetanus. In consultation the next day it was decided to amputate the forearm as a means of saving life. The operation was performed by Teal's method, at the middle third, by Acting Assistant Surgeon A. Hewson, while the patient was under the influence of ether. He reacted readily. The stump was dressed with solution of lead and laudanum, being slightly elevated on a pillow. The wound granulated rapidly, and by September 20th cicatrization was almost complete, leaving a good stump without adhesion of flaps to the bones. A slight exfoliation from the end of the radius occurred during the progress of the case. The carpus and amputated portions of the bones of the forearm were forwarded to the Museum, with the history of the case, by Acting Assistant Surgeon W. F. Keating, and constitute specimen 2794 of the *Surgical Section*. The patient was subsequently transferred to Mower Hospital, where he was discharged from service April 20, 1864, and pensioned.

CASE 1199.—Corporal P. Nelson, Co. K, 139th Pennsylvania, aged 19 years, was wounded at the Wilderness, May 5, 1864, by a musket ball, which shattered the radius and ulna of the right forearm for two inches at the junction of the middle and lower thirds, also wounding the ulnar nerve. One week after receiving the injury the man entered Finley Hospital, Washington, where he did well until June 9th, when the arm became much swollen and symptoms of tetanus ensued, including stiffening of the jaws, great pain and restlessness, and irritable pulse. On June 11th circular amputation of the arm at the middle third was performed under chloroform by Acting Assistant Surgeon D. P. Wolhaupter. All symptoms of tetanus disappeared after the operation and the patient rapidly recovered. He was ultimately discharged from service July 27, 1865, and pensioned. The two lower thirds of the bones of the fractured forearm were contributed, with the history of the case, to the Museum by Surgeon G. L. Pancoast, U. S. V., and constitute specimen 2586 of the *Surgical Section*.

CASE 1200.—Sergeant A. Smith, Co. G, 66th New York, aged 47 years, was wounded at Fredericksburg, December 11, 1862, by a shell which carried away a large portion of the right foot. Partial amputation of the foot was performed in the field by Surgeon C. S. Wood, 63th New York. The peculiarities in the case were that symptoms of tetanus were quite marked, with great exhaustion, and that relief was afforded temporarily by chloroform, and permanently by the amputation. The patient continued to do well afterwards. He was discharged from service May 1, 1863, and pensioned. The history of the case was reported by the operator.