

Case 2.—A man, aged 38 years, had the fingers of his right hand caught while coupling cars. All the fingers were crushed, the palmar surfaces were split and torn, exposing the sheaths of the tendons from the palm to the tips. The bones were fractured in several places, the first phalanges of the index, middle and ring fingers, were fractured about half an inch from the knuckles. These fingers sloughed, and were removed at the fractures just mentioned. Sufficient integument lived at the sides to cover the stumps. The little finger, with the exception of the fracture, near the knuckle, was apparently injured as much as the rest, yet it lived. Had amputation been determined upon at the time of injury, all the fingers would have been removed at the knuckle joints. The stumps are movable, and the little finger, though stiff at the first joint which was laid open, and the tendon on the back injured, yet, with the thumb makes a very useful hand.

Case 3.—A boy, aged sixteen years, had his foot crushed by a car wheel, which passed obliquely over the end of the great toe to the upper end of the metatarsal bone of the little toe, crushing all the small toes, which were removed with the greater portion of the metatarsal bones. The great toe was left, as it was thought it might recover. The integument of the dorsum of the foot sloughed, as well as that surrounding the metatarsal bones of the great toe, excepting a piece about the size of a shilling beneath the ball. The toe fell off at the last joint, as well as the tissues covering the first phalanx, excepting at its junction with the metatarsal bone, which left the bone projecting about an inch bare and dry. I expected to see it fall off at the joint, but in a few days it began to look transparent, then reddish, when a few granulations sprung out of the distal extremity, which developed into an appearance like a mushroom on its stalk. These granulations extended gradually upwards, until they were met by those from above, when the bone was entirely covered. The whole covered with integument and made a very useful support.

Case 4.—A man, twenty-five years of age, while coupling cars, had his arm crushed from the shoulder to the elbow. The condition was as follows: bone unbroken, skin distended to its fullest extent and much discolored, soft parts crushed to a jelly, so that the bone could be felt at any point distinctly, as if it moved through a sack of clots. There was no pulse at the wrist, and the arm was cold. There was sensation in the fingers, pain, and considerable shock to the system. The case apparently required ampu-

tation at the shoulder. Yet the arm recovered perfectly after a time. It was three or four months before it got strong. The pulse in the wrist did not return while I attended him, though he assured me that he had one before the accident.

Case 5.—A man, thirty-eight years of age, of good constitution and temperate habits, had both legs run over by the cars. The right thigh was bruised from the trochanter to the knee. The wheel mounted the limb just below the knee, crushing the soft parts, fracturing the bones, and making two small openings in the integument. The blood was coagulated in the dorsum of the foot, sensation was partially destroyed in the foot and toes. The left leg was completely crushed above the ankle, and was amputated three inches below the knee. The patient and his friends strongly objected to amputation of the right thigh, consequently it was left to nature, though all present were of a decided opinion that there was no hope of its recovery. The amputation of the left leg was performed at 7 a.m. The patient complained of considerable pain in the right leg at about 9 a.m., and at noon sensation was entirely lost in the foot and leg, with other signs of complete mortification of the part. The shock at this time was great, and the man continued to sink until about midnight, when he remained between life and death for a few hours. A slight reaction occurred in the morning; but as it was thought that he was too weak to survive amputation of the thigh, it was decided to remove as much of the mortified parts as could be done without fatiguing the patient. The foot was removed at the ankle, the bones of the leg separately, as high as the fracture, and as much of the leg as could be taken away without causing pain. The object of this measure was to provide for external drainage, and to prevent contamination of the system. The condition of the limb now was that of sloughed flaps after amputation, and, to all appearances, stood a fair chance of making a good stump below the knee, as the sloughing in front did not extend above the fracture of the tibia, which was just below the attachment of the ligamentum patellæ, and behind the calf lived about four inches below the fracture, sufficient to make all the flap that would be required to cover the end of the bone. The flaps of the left leg also sloughed along their inner surfaces, so that both limbs were in the same condition, excepting the bruise on the right thigh, which sloughed subsequently. An incision was made from the knee to within four or five inches of the trochanter, and the whole was washed frequently, to