

Coskery (O. J.)



ON A NEW APPARATUS  
FOR  
FRACTURES OF THE LEG.

By OSCAR J. COSKERY,

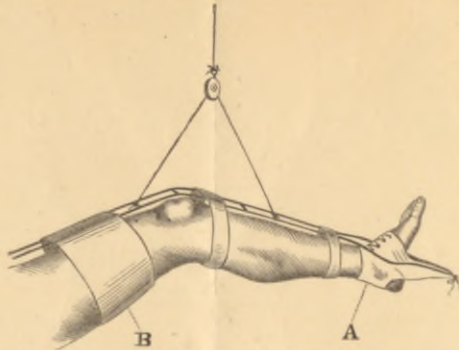
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WHILE fully satisfied of the fact that no apparatus other than the starch or plaster-of-Paris bandage is required in the great majority of fractures of the leg, still there are certain injuries in which these applications will not suffice. In a simple fracture of both bones of the leg, with some comminution, I have applied the starch-bandage, and had the patient walking on crutches on the fifth day; still, for badly comminuted fractures near either joint, and more especially for compound comminuted fractures and for resections—in a word, wherever *extension* of some degree is required—the starch or plaster is useless. It is for the latter variety of fracture above spoken of, and preëminently for Pott's fracture, that the present instrument was devised.

As will be seen by the accompanying woodcut, the splint consists in another adaptation of the wire, first used by Dr. N. R. Smith; but the principle upon which it acts will not permit of its application to the thigh.

The figure represents the splint as applied before the bandage, which encircles all, has been used, and may be called the

*permanent* apparatus. As shown, the wires, moderately strong (Nos. 7 to 10 are the best sizes), should extend from the upper portion of the middle third of the thigh to nine inches below



the sole of the foot. From about one inch above the malleoli to their upper extremity they should be parallel, three inches apart, and bent in an easy position opposite the knee. One inch above the malleoli they should commence to bulge, and a little above the sole of the foot, which should be the widest part of the splint, the separation must be from five to six inches. The wires then slope gradually to three inches in width, and are then securely fastened by a strong end-piece. Along the whole course of the splint the wires are fastened together by cross-pieces of wire.

The application is as follows: the splint, measured upon the sound limb, is first bent opposite the knee, and the gaiter is applied to the foot of the injured side. The injured member is then held in an easy position by an assistant, the patient's thigh being held at an angle of near  $60^\circ$  to the trunk, with the knee bent. The foot is then carried through the bulge between the wires, and a piece of adhesive plaster, *B*, from six to eight inches wide, is made to encircle both thigh and splint. (The other two bands shown in the figure are merely suspensory.) The gaiter, *A*, is then attached to the end-piece by means of tapes, as shown in the cut. By making traction upon the tapes passed over the end-piece, and fastened when a sufficient amount of extension is gotten, the splint is then forced upward, and this movement is counteracted by the ad-

hesive plaster on the thigh, the gaiter acting as the *extension*, the plaster as the *counter-extension*. The toes can be elevated or depressed by loosening or tightening the lacing of the gaiter at its lower portion. A common roller is then carried over all, from one end of the splint to the other. This bandage can be removed at every dressing, but the apparatus, as shown in the drawing, remains until the cure is effected, the surgeon increasing or relaxing extension as may be required.

I have never had an opportunity to use this apparatus in any of the conditions for which it is proposed except in two cases, the short notes of which are as follows :

Joseph V., a Pole, aged thirty-nine years, was admitted into St. Joseph's Hospital in this city, on May 18, 1872, having an hour before admission received a comminuted fracture of the right thigh, together with a simple fracture of both bones of both legs. The apparatus above spoken of was applied upon the side of the fractured thigh, the latter being supported by sand-bags. The leg was taken out of the splint in the sixth week, when it was found that the point of fracture could only be obscurely made out.

J. S., aged 36 years, German, had a heavy steam-radiator fall upon the lower portion of the left leg. There was no opening down to the fracture, but tearing of the skin to such an extent as to necessitate frequent dressing. The diagnosis was comminuted fracture of lower end of leg-bones, probably extending into joint. In this case the apparatus was left on for seven weeks and the result was good.

I claim nothing from these two cases, as, of course, they are too few to form even the vaguest opinion upon. Still, I would beg of my professional brethren a trial of this very inexpensive and easily applied apparatus in any such cases as, in their judgment, may require the patient to remain in bed, and when extension is necessary. I believe, however, that it will be most useful in Pott's fracture, gun-shot fractures, and compound fractures near the joints.

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