

sides to let down in sections was suggested by John Neil, nearly forty years ago. The sliding floor by which the box may be adjusted to suit any length of leg is a real advantage. By means of Schede's adhesive plaster sling for the heel, the application of which I show you, the suffering of the patient from pressure upon this part of his limb can be relieved, and the risk of having that surgical disgrace, a bed sore over the *os calcis*, entirely obviated.

The iron back splint, with well fitted lateral supports, when suspended, is better than a box. It can be made by any blacksmith; should be $2\frac{1}{2}$ to $3\frac{1}{2}$ inches wide, provided with cross pieces by which it can be swung, cut out at a point opposite the heel, bent at right-angles for the foot, and at an angle of 160° for the knee, and should be of metal sufficiently strong to support the weight of the limb without bending.

This appliance meets the indications excellently well in the treatment of severe cases of fracture of both bones, with over-lapping and over-riding of the fragments. It is not as well known here as it deserves to be, and so I show you a sample.

Without a doubt the most important advance ever made in the treatment of simple fractures was the introduction of plastic material for splint making. As surgeons, we can well afford to toast the memory of that unknown benefactor of his race, who first padded a broken limb with moss and plastered it with clay.

Of plastic splints now in use we may make two divisions. The first of these will include all those softened by heat, or otherwise, and moulded to a part upon which they become firm and unyielding. The second division will include materials liquid at the time of application but subsequently hardening.

Gutta-percha is supplied in sheet form for splint making. I utter no malicious slander when I say that it is not eternal. With rubber goods generally most of us find this out to our cost. It is no better than other plastic material in any respect, and not so good in some. It is non-porous, expensive and short-lived. On the other hand, it can be moulded so as to perfectly fit any part, and no force need be used in shaping it.

Sole-leather, being inexpensive and easily obtained, is a favorite material with many. It should be slowly and perfectly softened in cool water,

with or without acetic acid, and can then be adapted to the inequalities of a part almost as perfectly as gutta-percha. One who has time at his disposal, and who by practice has gained some skill in working with leather, can make capital side splints from it. If it be imperfectly softened, the attempt to make it fit down to the exact shape of a limb may be the cause of new injury at the seat of fracture. Exceedingly bad splints are often the result of trying to economize time by using very hot water for the softening of leather.

Felt, and similar poro-plastic material, is supplied in sheets and in blocked forms. The English make is thicker and stronger than the American, and for the leg at least, the models adopted are decidedly the best. Softened by slightly moist heat, they are easily moulded and give sufficient support. I show you samples from leading manufacturers. These materials soon become soft and useless if dipped into hot water whenever a change of shape is required.

Kocker's adaptable splint seems to be a good form of shellac-stiffened cloth. It is, as you see, rather light for use upon heavy limbs.

Wire gauze has long been in use for splints. Its most distinguished advocate at present is Professor Jarvis S. Wight, of Brooklyn. He has been kind enough to send me samples of the best gauze for surgical uses.

The lighter variety has $\frac{1}{4}$ inch meshes, is made of No. 20 iron wire, and is dipped into molten zinc, so that the wires are coated, and the points of intersection firmly soldered together. So made, the gauze is light, clean, cheap, strong and easily moulded to fit a part.

Mill-board is often referred to as though it is the same thing as, or is interchangeable with, paste-board or straw-board. It is really a great deal better than either, and is at once excellent for all its proper uses, easily obtained and cheap. It may be used as rigid as $\frac{1}{4}$ inch deal, or as plastic as felt or gutta-percha. I am in the habit of advising students to stuff a long stocking with oakum and to use it as a model in making plaster dressings and in moulding mill-board. In my hearing, many old practitioners have expressed surprise at the really excellent quality of the splints which were made by moistening the mill-board just sufficiently with hot water, moulding and bandaging it upon the model, and allowing it to dry in position.