

ing up of adhesions in the meninges and neuroglia." For the present he considers the method must be considered empirical rather than scientific.

He also draws attention to the fact that two persons who have attempted to conduct the treatment on their own persons have died from asphyxia, and that death has occurred apparently as the result of suspension in two other cases where it was practiced without medical supervision.

He deems it "advisable that when undertaken it should be conducted by the physician and begun with caution. Pulmonary, cardiac and vascular disease, great debility and anæmia are held to be contra-indications."

In conclusion he states that "even if only temporary comfort can be given to any large proportion of the sufferers from this disease, it will be a

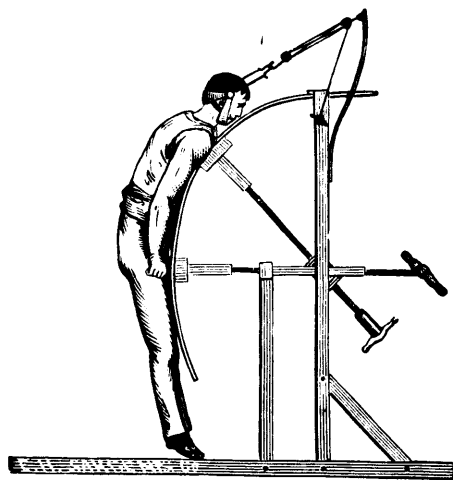


FIG. 6.—Upright Spinal Extension Frame.  
(Anterior curved position.)

great boon to both physician and patient, and so far mitigate what has been one of the opprobria of medicine."

To still further contribute to the successful treatment of locomotor ataxia, I wish to advocate the use of the curved board, combined with traction, and I contend that if suspension in a direct line, according to the Sayre method advocated by Charcot and Motchoukowski, exerts an appreciable influence in either elongating the spinal cord or stretching the spinal nerves, traction exerted upon the spine while it is curved *anteriorly*, with the patient resting comfortably during the process, will produce much more marked result. We

have already described the ligamenta subflava in a preceding portion of this paper, and it is now incumbent upon us to study their relations to this procedure.

The proximity to the spinal cord of this very elastic ligamentous structure should be borne closely in mind, for if any actual elongation of the cord or the spinal nerves does take place during traction, it must be due to the stretchable quality of these ligaments, which lie so close to the spinal canal.

I contend that the cord will be more elongated by traction in the anterior curved (see Fig. 6), than in either the posterior curved or vertical positions of the spine, and in support of my position a glance at the vertebral column in its entirety and in its relation to the spinal cord is necessary.

The spinal cord is the cylindrical elongated part of the cerebro-spinal axis contained in the spinal canal.

It does not completely fill this canal, its investing membranes being separated from the surrounding walls by areolar tissue and a plexus of veins, and it occupies in the adult only the upper two-thirds, of the canal extending from the foramen magnum to the lower border of the first lumbar vertebra where it terminates in a slender filament of gray substance which is continued for some distance into the filum terminale.

The spinal canal is posterior to the main portion (*i. e.*, the bodies and their intervertebral cartilages) of the vertebral column, and this is an anatomical feature to be emphasized, because on account of this arrangement, it is plain that a given amount of traction exerted on the column in an anterior curved position (this anterior curving or "flexion" of the spine being the most extensive of any of its movements, and freely permitted in the cervical and lumbar regions) must result in greater elongation of the cord itself, situated behind the vertebral bodies, and an equal amount of traction exerted with the column in any other position.

We will now place a patient face downward (Fig. 7) upon this recumbent traction frame in which the curve of the board is made to correspond as nearly as possible to the normal curve of the spine in the dorsal region. Owing to the flexibility of the cervical and lumbar region just referred to, the cervical and lumbar vertebræ assume