

Fig. 2. It was found, however, in practice that the slight spring between the limbs caused the collars on (b) to "bind," and the connection (d) bent to correspond to (b) was a valuable suggestion by my confrere, Dr. Clarence L. Starr.

In operating with the wrench, the skin over the part may be further protected by placing blocks of "rubber sponge" between the bars (b) and (c) and the limb. The total length of the wrench is about two feet, and the width between its limbs from centre to centre four inches. This will be found to be large enough for almost any limb, and to be also small enough for children of such



FIG. 2.—Showing method of using the wrench. Notice that the curve on bar B brings it below the external malleolus, and almost opposite bar C on the horizontal limbs, thus increasing the leverage.

an age as to require the use of such a powerful wrench. Of course for any special case a larger or smaller one might be used.

I have used repeatedly the wrench described and figured above in children eight to ten years of age, and also on the knee of an average-sized adult. However, if I were having one made especially for the knee, I should have the limbs five inches apart from centre to centre. Of course a much lighter wrench would do for young children, but it should in any case be perfectly rigid, so that no spring in the wrench itself should take place, even when the surgeon was using all the effort he deemed wise. In practice