Redesigned Crutchfield Skull Tongs*

Technical Note Describing the Combined “Squeeze” and “Hook” Principle

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Previous skull tongs of this basic design have been tightened by forcing the pins deeper into the skull and by using the principle of “squeeze.” To compensate for the necrosis of the skull, which results from prolonged pressure, it is necessary to tighten the instrument from time to time; therefore, penetration of the inner table has been a matter of some concern. In a few instances after prolonged use, it has been necessary to reapply the pins using new holes. Now it seems that this problem has been solved.

When skeletal traction is indicated, it should be applied to the top of the skull so that the patient can be turned from side to side and thus reduce the danger of pressure sores over the back of the head, sacrum, and hips. For this and other reasons we have continued to use our small skull tongs, but at the same time have tried to improve their effectiveness. Our latest instrument (Figs. 1 and 2) preserves the original desirable features and adds the “hook” principle used in instruments made for application to the sides of the skull.3

When the auxiliary screws C and D are turned to extreme clockwise positions, installation of the pins is made in the same manner as with all instruments of this basic design.1,4 Pins with cylindrical points2 are far superior to the older pins with conical points; and instruments equipped with these pins may not require tightening under 7 to 14 days. The present instrument is made with larger pins (to provide more substantial guards), but with points of the same dimen-

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* The manufacturer of this instrument will be licensed by the Research Corporation (A Foundation), 405 Lexington Avenue, New York, New York 10017.

Fig. 1. The Crutchfield skull tongs, with pins in correct position for application to the skull.
sions so that our standard drill bit need not be modified.

When this new instrument becomes loose, the auxiliary screws C and D may be turned counterclockwise (equally) until a firm grasp is re-established. The auxiliary screws direct the points of the pins medially and upward away from the inner table of the skull (Fig. 2), whereas the master locking device (A) forces the pins downward in the direction of the inner table and dura (Fig. 1). After adjusting the auxiliary screws the master locking device (A and B) should be checked to determine if this mechanism should also be tightened to a slight degree.

Due to the firmness of grasp which can be achieved with this instrument, its removal from the skull may necessitate returning the pins to their installation positions.

References


