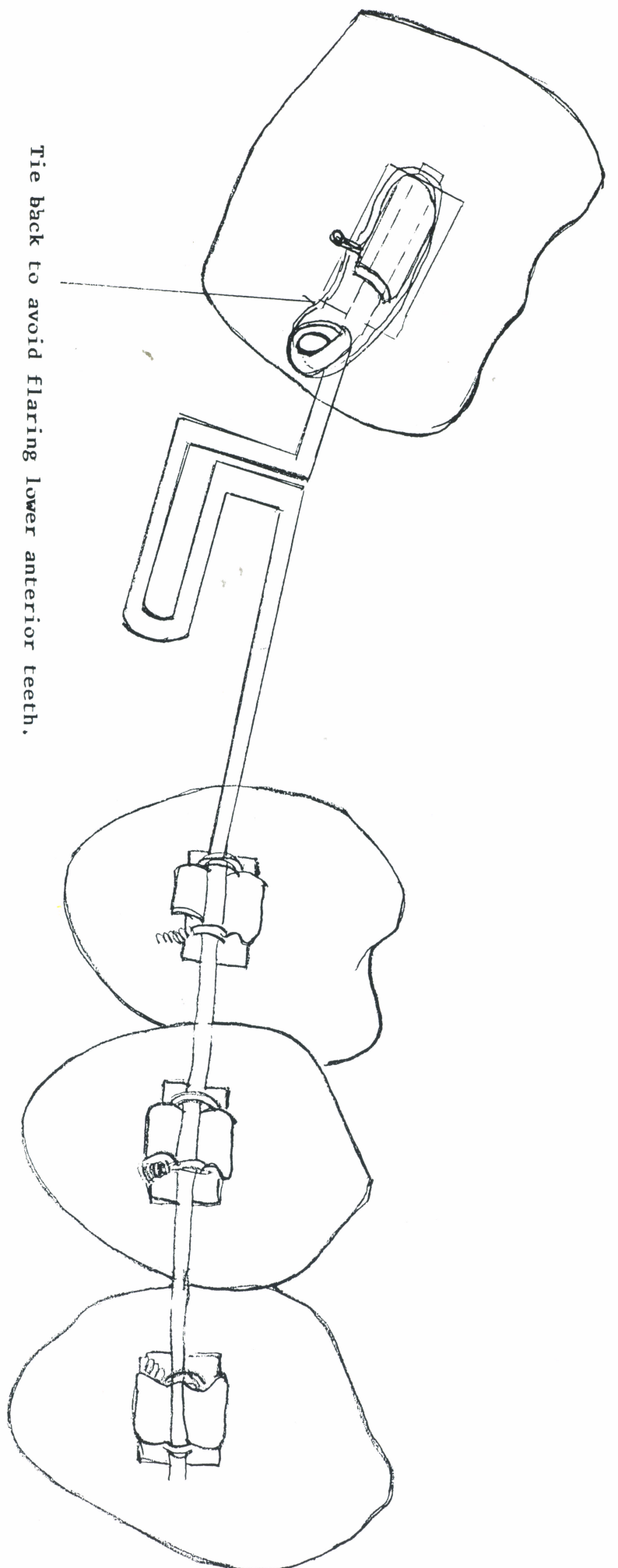
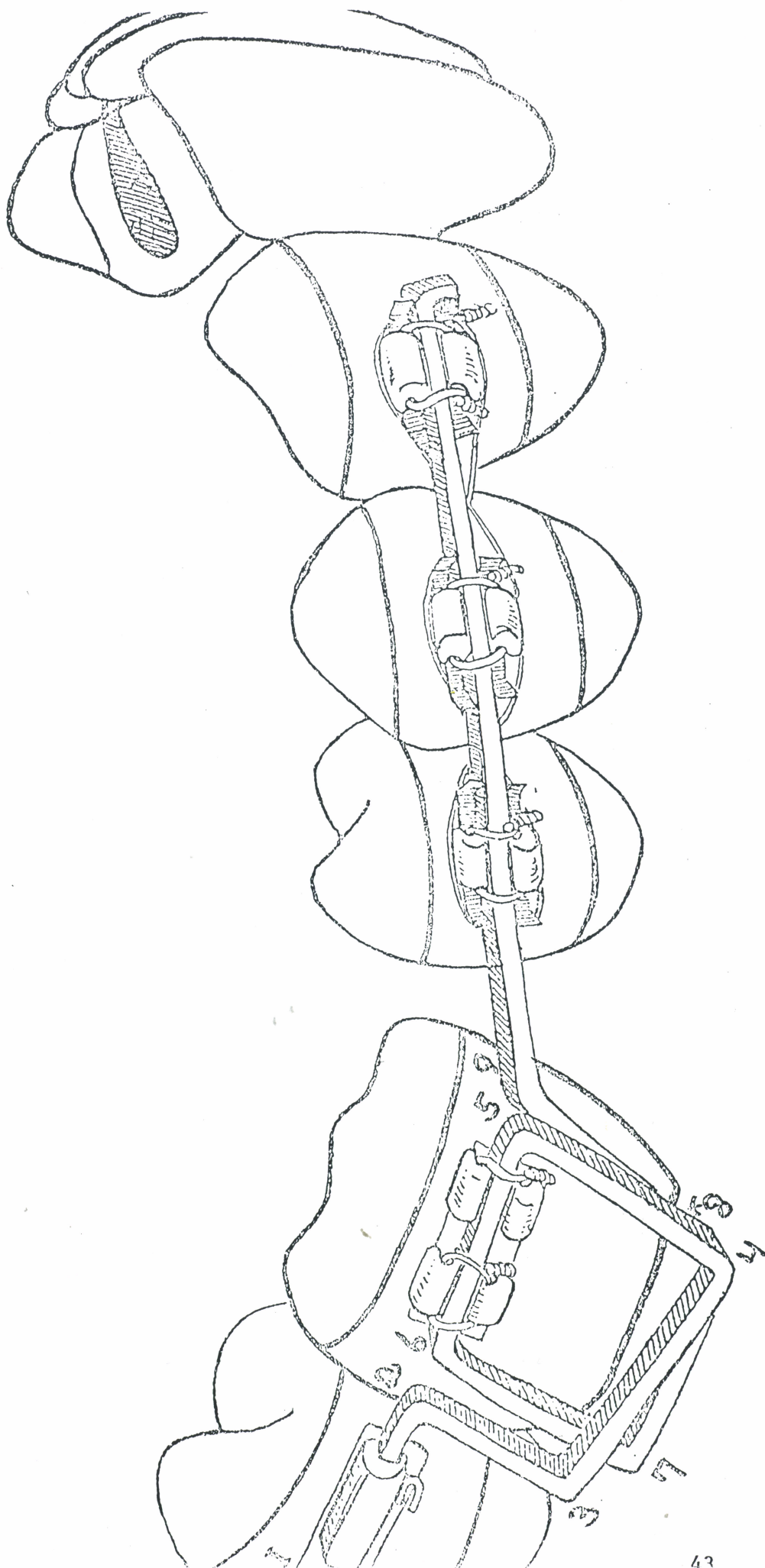
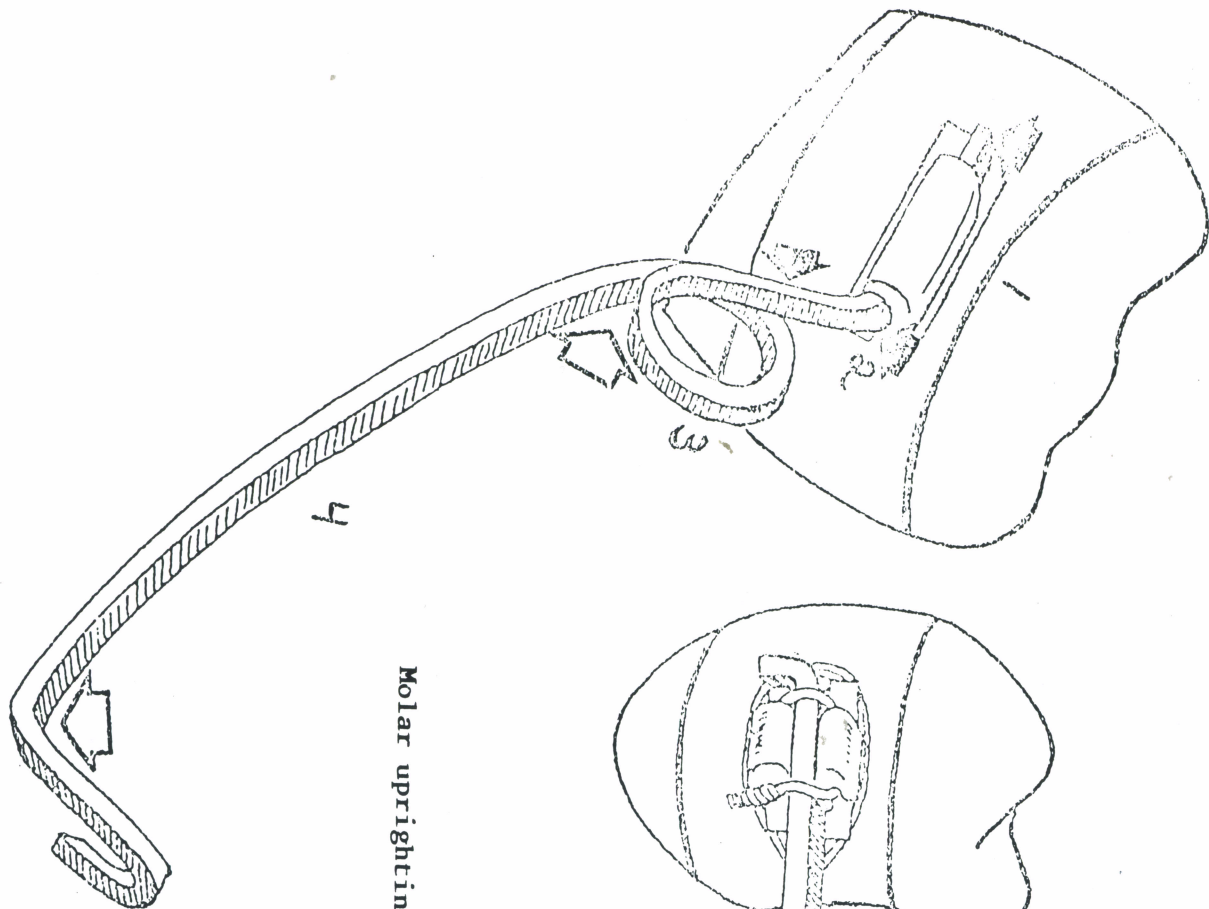




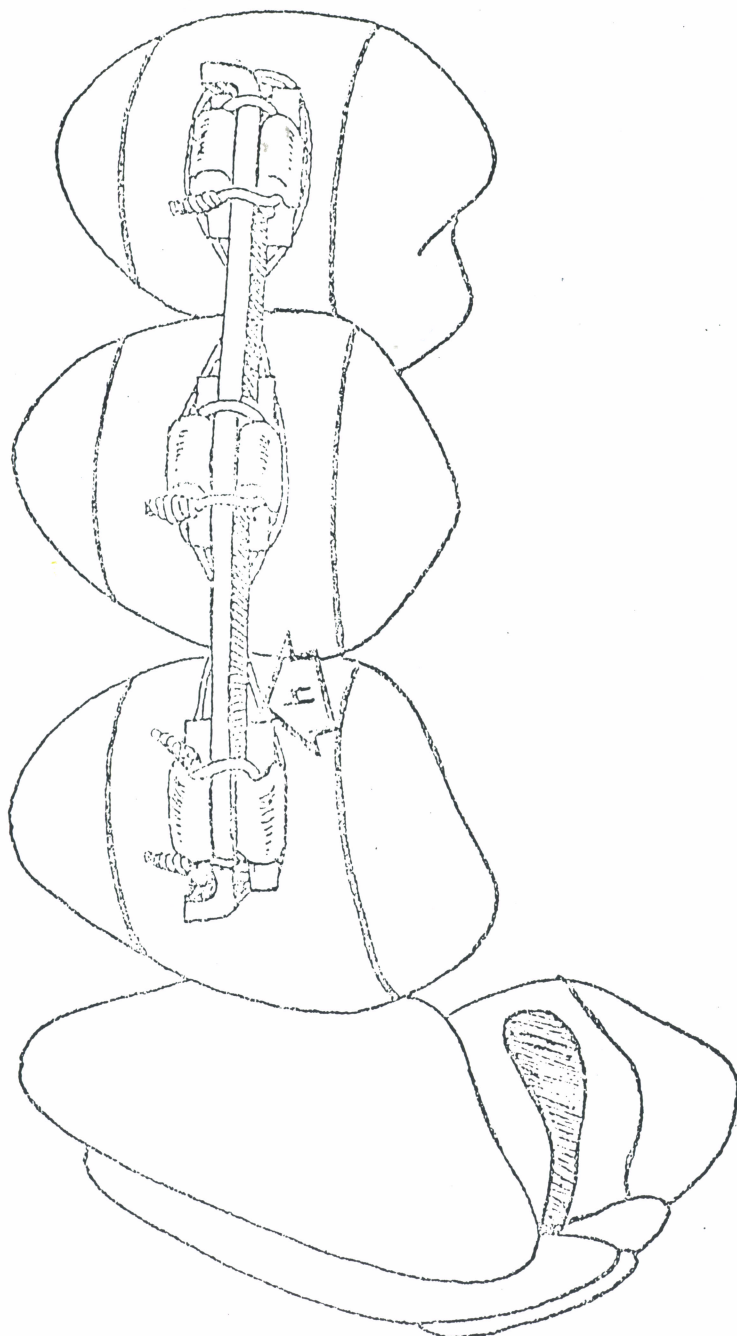
"L" loop needs to be incorporated into the arch wire with garble bend as shown above to avoid mesial tipping of lower second molars.



Box uprighting spring to upright lower 2nd and 3rd molars.

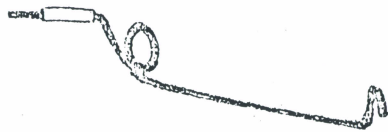


Molar uprighting spring.



G. The Helical Spring

The uprighting spring is made of rectangular wire (.019 x .025). A helical coil is bent into the wire so that the coil is compressed when the anterior arm of the spring is elevated to rest on the stabilizing wire.



The loop delivers the required force because the design simulates the action of an "open safety pin" which remains closed because of the stored energy in the coil.



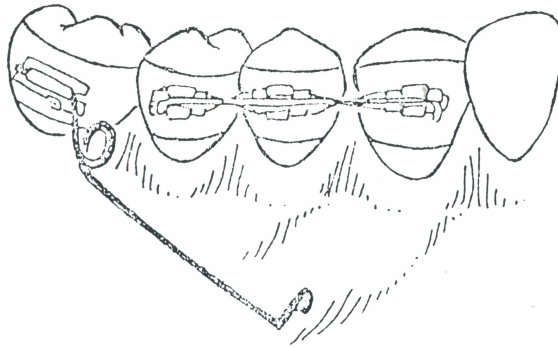
A small hook is bent into the mesial end of the wire to engage the stabilizing wire just distal to the bracket on the canine. When the tipped molar uprights it moves to the distal. Therefore, the mesial hook must be free to move along the anchor wire.



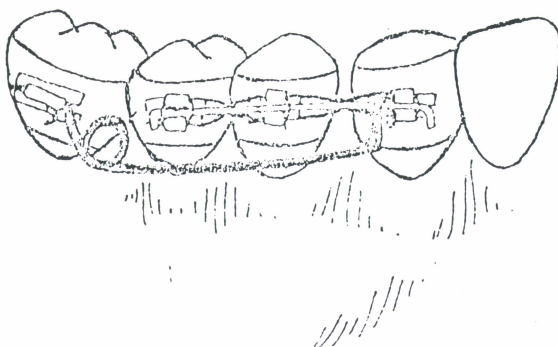
Compensating bends

The uprighting spring is contoured lingually to resist the resultant forces

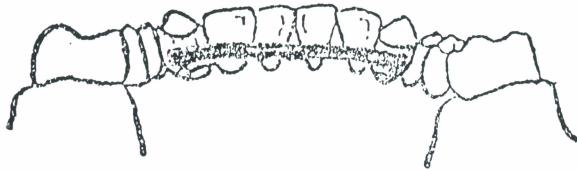
of the spring which cause the anchor segment to tip buccally. The molar also tends to rotate mesio-lingually. Therefore, a slight bend is placed in the wire distal to the helical loop.



The anterior arm of the spring should form a 45° angle to the anchor wire. The spring is activated by engaging the mesial hook onto the stabilized buccal segment wire. This delivers a force which tends to depress the stabilized canine-premolar anchor unit and upright and extrude the tipped molar. Therefore, it is necessary to periodically adjust the occlusion to permit the molar's upward and backward progress. For a detailed explanation of the biomechanical principles, see the article by Dr. Norton on biomechanical principles of molar uprighting.



This drawing shows a soldered lingual arch wire to the lingual of the two canines. Lingual arch should lie resting passively against the anterior teeth.



H, Cementation of bands (see section on cementation)