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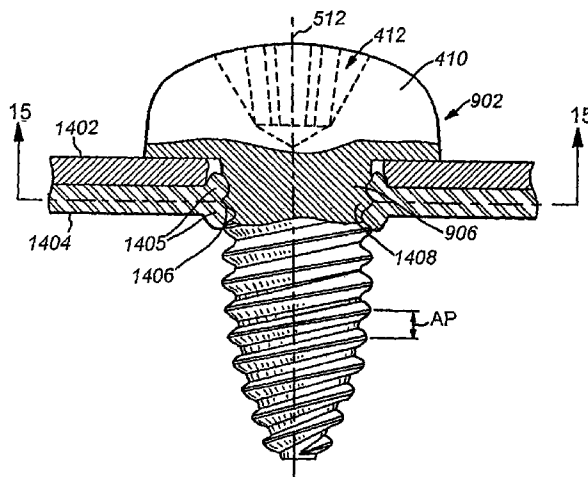
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(54) Title: SELF-TAPPING SCREW, BLANK, METHOD AND DIES FOR MAKING THE SAME AND METHOD FOR JOIN-
ING THIN WORKPIECES



(57) **Abstract:** A headed multi-lobed blank, method of manufacturing a self-tapping screw from the blank, and resulting multi-lobed self-tapping (902) screw for joining thin workpieces (1402, 1404) provides desirable thread-forming characteristics at the conical tip and body portions, and improved resistance to vibrational loosening near the head. The resulting screw, obtained from the blank and method, incorporates a threaded tapered root portion (906) between the screw head (410) and body portion having a cross section that varies from nearly circular in the area adjacent to the under-side of the head (410) to a maximum out-of-round (or lobular) cross section at the intersection of the tapered root portion (906) and the screw body. This shape, combined with a thread profile outer diameter that remains largely constant from the body portion through the tapered root portion (906), and a multiple coil (lead threaded) shape, ensure more secure holding of the screw (902) in a thin anchor material (1404) - with the anchor material extruded axially forward and backward (1405) around the root portion.



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