CIRCUIT BREAKER CONTACT SPRING SUBASSEMBLY AND METHOD AND APPARATUS FOR MAKING, AND CIRCUIT BREAKER INCORPORATING, SAME


## ABSTRACT OF THE DISCLOSURE

The helical contact compression springs (55) of a circuit breaker (1) are preassembled in a contact clip (53) for easier assembly of the circuit breaker (1). The bottom wall (57) of an elongated trough (61) formed by the clip (53) is pierced by holes (65) forming cylindrical protrusions (67) extending into the trough (61). The clip (53) is placed over the springs (55) supported in a row in a fixture (77). A die head (81) presses on the spring clip (53) to compress all the springs (55) and then simultaneously insert punches (83) into the holes in the clip (53) to expand the protrusions (67) and secure the springs (55) to the clip (53). The fixture (77) includes a slide (99) mounted on guides (103) for movement between a loading position and an operating position under the die head (81). A support block (89) is pivoted on the slide (99) to present one of two sets of spring recesses (93a, 93b) for circuit breakers having different current ratings with the slide (99) in the loading position.

(Fig.1)