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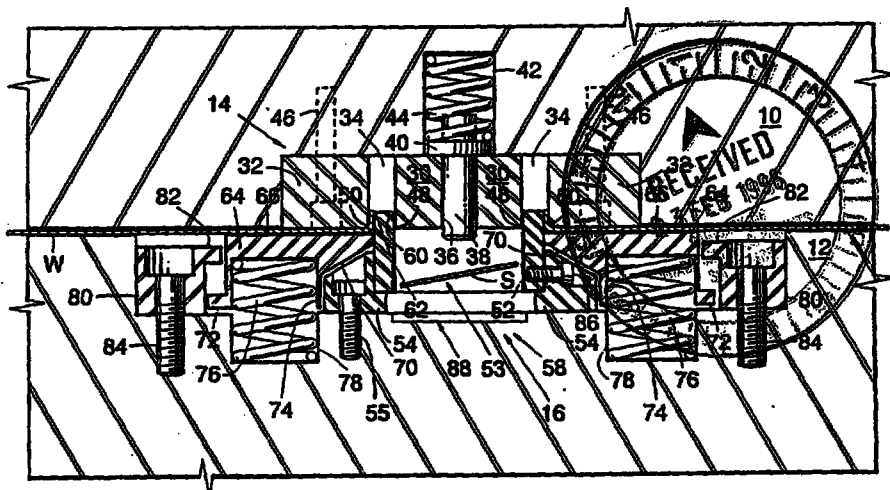
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(54) Title: TWO STAGE DIE SET

(57) Abstract

A two stage die set for sequentially blanking an opening in a work piece, and thereafter forming edges of the work piece around the opening and having a male die assembly (14), having a male blanking die (30), a male forming die (32) spaced from the male blanking die (30), and a recess (34) therebetween, a female die assembly (16) having a generally hollow female die sleeve (52), the die sleeve (52) being shaped and dimensioned to correspond to the shape of the male blanking die (30) and to receive it in telescopic relation, a moveable support plate (64) located around the female die sleeve (52), the moveable plate (64) being biased so as to urge it into a first extended position, and the moveable plate (64) yielding to the male forming die (32) of the male die assembly (14), when the male and female dies (14, 16) are closed together, so that the male blanking die (30), in co-operation with the female die sleeve (52) blanks out a portion of a work piece (W) and forms an opening, and upon further relative movement between the male and female dies (14, 16) towards one another, the male forming die (32) co-operates with moveable plate (64) and the female die sleeve (52), to cause deformation of an edge portion of the work piece (W) around the opening, ejector apparatus (38) in the male blanking die (30) being resiliently movable, so that it is withdrawn into the blanking die (30), upon closure of the die on a work piece, and, after blanking of the portion of the work piece the ejector (38) is extended from the male die (14), and displaces the blanked out slug portion, and, a passageway (88) in the female die assembly (16) communicating with the female die sleeve (52) for receiving the slug which is then disposed of through the passageway (88).



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