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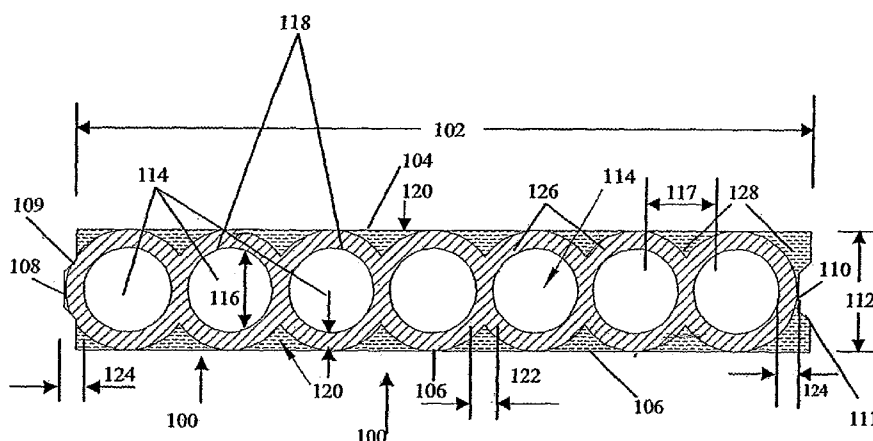
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(54) Title: A METHOD AND SYSTEM TO DESIGN A HOLLOW CORE CONCRETE PANEL



(57) Abstract: A method and system to design a hollow core panel that can be produced by a concrete extrusion machine, the panel comprising a width (W), a thickness (T), a top surface along the width W, a bottom surface opposite the top surface, a first end along the thickness T and a second end opposite said first end, a top flange located between an inside surface of the core and the top surface and a bottom flange located between an inside surface of the core and the bottom surface, the top flange and the bottom flange each having a flange thickness (t) and at least one hollow core extending along said length, the machine comprising at least one auger within a chamber having the dimensions of the width W, the thickness T and the length of the panel, the at least one auger having an outside surface with at least one blade extending outwardly from and spirally attached to the outside surface, wherein a quantity of concrete is added to the chamber and each of the at least one augers is rotated within the chamber to produce the at least one hollow core within the panel. The method comprises the steps of determining a minimum flange thickness (t_{min}); determining a specific number (N) and a specific diameter (D) for said at least one hollow core such that a calculated value for t is greater than or equal to t_{min}; and using said specific number (N) and specific diameter (D) to optimize at least one specific design parameter for the panel.

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