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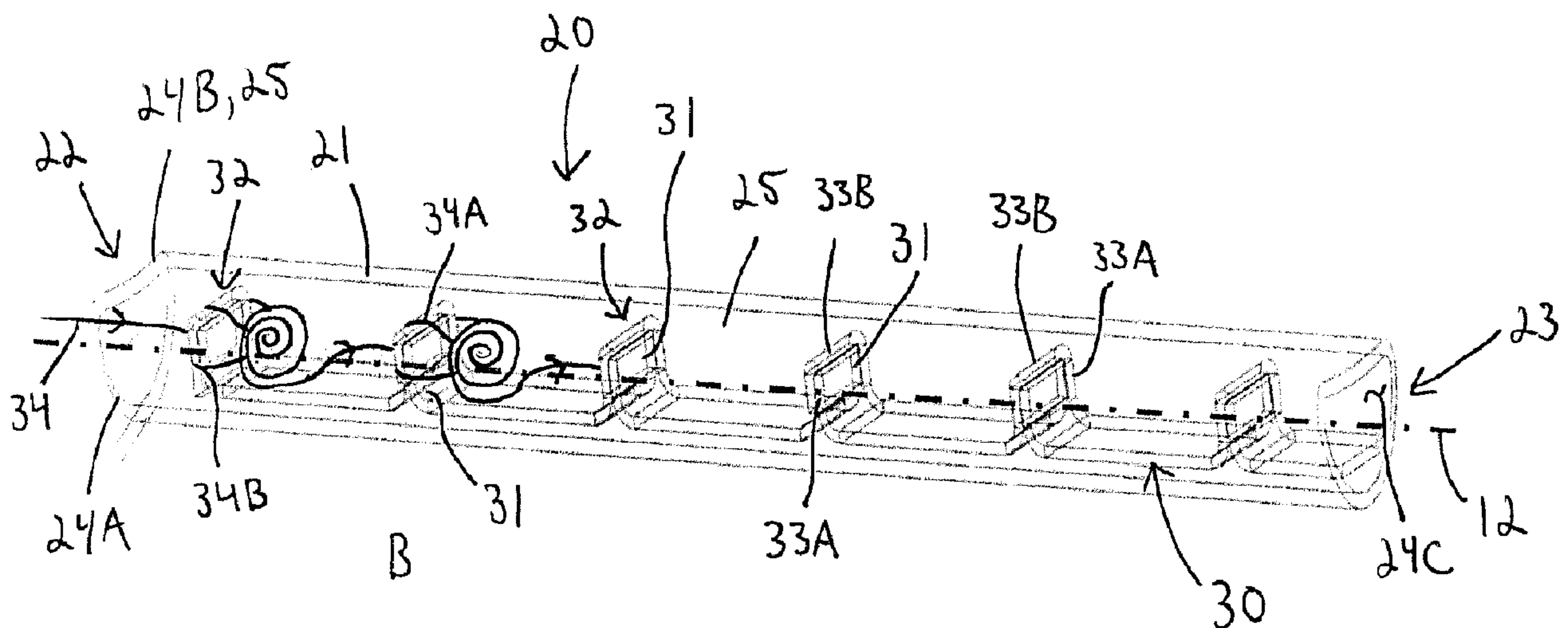
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(54) Titre : CONDUIT D~ECHANGEUR THERMIQUE ET ECHANGEUR THERMIQUE

(54) Title: HEAT EXCHANGE CONDUIT AND HEAT EXCHANGER



ABSTRACT

A heat exchange conduit includes a conduit body extending along a longitudinal axis between an inlet at one end thereof and an outlet at an opposed end. The conduit body has at least one conduit wall. At least one of the conduit walls is a heat-exchange wall shaped to be in heat exchange relationship with an object or fluid in contact therewith. An elongated turbulence strip is disposed within the conduit body and extends along a length thereof. The turbulence strip has longitudinally spaced-apart flow impact walls. Each flow impact wall has a peripheral rim and is perpendicular to the longitudinal axis. A flow gap for fluid flow is defined between at least a portion of the peripheral rim of each flow impact wall and an adjacent inner surface of the conduit wall.

HEAT EXCHANGE CONDUIT AND HEAT EXCHANGER

TECHNICAL FIELD

[0001] The application relates generally to fluid conduits and, more particularly, to heat exchangers.

BACKGROUND OF THE ART

[0002] Heated water is often rejected to the surrounding environment while still warm and thus becomes waste water. The heat in the waste water often has economic value, as it can be used to heat another fluid and save on heating costs.

[0003] A number of heat exchangers are known, but typically suffer from limited effectiveness with respect to heat transfer, relatively high cost and/or relatively large volume. Furthermore, some heat exchangers reduce the pressure of the fluid flowing through them.

SUMMARY OF THE INVENTION

[0004] There is accordingly provided a heat exchange conduit, comprising: a conduit body extending along a longitudinal axis between an inlet at one end thereof and an outlet at an opposed end thereof, a fluid flow passage extending between the inlet and the outlet for conveying a fluid therethrough, the conduit body enclosing the fluid flow passage having at least one conduit wall forming a heat-exchange wall, an inner surface of the conduit wall being in heat exchange relationship with the fluid within the fluid flow passage and an outer surface of the conduit wall shaped to be in heat exchange relationship with an object or fluid in contact therewith; and a turbulence strip disposed within the fluid flow passage of the conduit body, the turbulence strip being elongated and extending at least a majority of a length of the conduit body along the longitudinal axis, the turbulence strip having a plurality of flow impact walls which are longitudinally spaced-apart with respect to the longitudinal axis, each of the flow impact walls being perpendicular to the longitudinal axis and having a peripheral rim, a flow gap for the fluid being defined between at least a portion of the peripheral rim of each of the flow impact walls and the inner surface of the conduit wall adjacent thereto.

