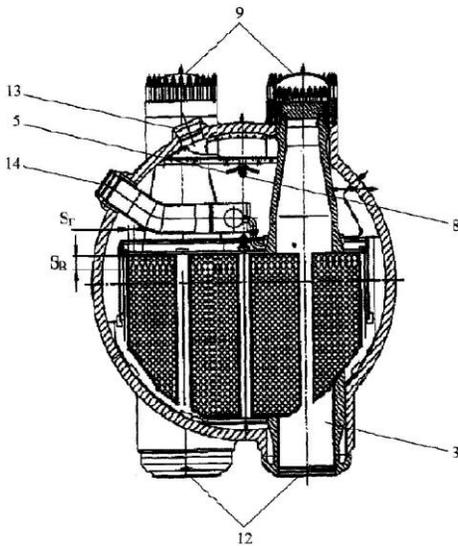


collectors, a bundle of heat exchange tubes, wherein the number of heat exchange tubes in a bundle is selected according to the claimed dependence on the outside diameter of a heat exchange tube, and the size of the gap between adjacent heat exchange tubes in a vertical direction is not greater than the size of the vertical interval between the heat exchange tubes in a bundle. The technical result of the invention is that of more efficient heat transfer inside the steam generator, together with a restriction of the number and maximum length of the heat exchange tubes, which makes it possible to use existing industrial tubes.

$$\frac{1,944 \cdot 10^6}{\pi \left( \frac{4 \cdot d_{\text{TP}}}{5} + 0,8 \right)^2} \leq N_{\text{TP}} \leq \frac{1,211 \cdot 10^6}{\pi \cdot d_{\text{TP}}} \quad (I)$$

$$\frac{1,944 \cdot 10^6}{\pi \left( \frac{4 \cdot d_{\text{TP}}}{5} + 0,8 \right)^2} \leq N_{\text{TP}} \leq \frac{1,111 \cdot 10^7}{\pi \cdot \left( \frac{4 \cdot d_{\text{TP}}}{5} + 0,2 \right)^2} \quad (II)$$

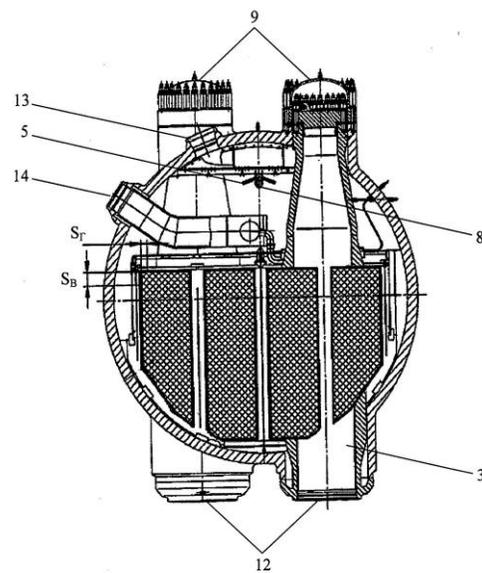


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 51: F22B; F28F  
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 72: LAKHOV, Dmitry Aleksandrovich, SAFRONOV, Alexey Vladimirovich  
 33: RU 31: 2014150429 32: 2014/12/12

**54: STEAM GENERATOR WITH A HORIZONTAL BUNDLE OF HEAT EXCHANGE TUBES AND METHOD FOR ASSEMBLING SAME**

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A steam generator with a horizontal bundle of heat exchange tubes comprises a welded cylindrical housing made from steel shells and provided with at least a connecting pipe for supplying feed water and a connecting pipe for removing steam as well as two ellipsoidal ends, devices internal to the housing, and an inlet collector and an outlet collector, which are connected to a bundle of heat exchange tubes that forms a heat exchange surface of the steam generator, wherein the inside diameter of the steam generator housing is selected on the basis of the claimed relationship. The steam generator housing is filled from the bottom up with the tubes of a heat exchange bundle to a height not greater than three quarters of the inside diameter of the housing, wherein the remaining space of the upper part of the steam generator housing can be used for drying steam. The technical result is the creation of a steam generator that requires less metal and provides for the drying of the produced steam in a single housing with a heat exchange surface.



ФИГ. 2

$$0,148 \cdot D + 0,637 \cdot \sqrt{0,054 \cdot D^2 + 3,142 \cdot \frac{N_{\text{TP}} \cdot S_1 \cdot S_2}{k}} \leq d_{\text{корн}} \leq 1,827 \cdot H,$$

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