

The invention relates to the solar engineering, namely to devices for conversion of solar energy to thermal energy, and can be used for supplying the industrial and household equipment with hot water and heated air.

The solar heater comprises a body (1) in the form of a rectangular parallelepiped with a transparent cover (9) installed thereon and with a heat-insulated bottom (2), an absorber (10) placed inside the body (1), consisting of a row of parallel pipes (11), placed with clearance about each other, fixed with the possibility of advancement therein of liquid heat-transfer agent from the terminal collectors, one of which is provided with a cold liquid heat-transfer agent inlet branch, and the other – with a heated liquid heat-transfer agent outlet branch, at the same time the pipes (11) are placed parallel to the cover (9). The walls (3) of the heater's body are made hollow, the cavities of three of which are joined with the possibility of gaseous heat-transfer agent circulation, and the cavity of the fourth wall is divided by a continuous horizontal partition (5) into two channels (6, 7). The cavity of the upper channel (6) is joined with the cavities (4) of the adjacent walls, and the cavity of the lower channel (7) is made closed, with a layer of heat insulation (8) on the outer wall and with a heated gaseous heat-transfer agent outlet branch. In the upper part of the internal walls (19), up to the absorber (10), there are made holes (16), and in the lower part of the outer wall of one of the three lateral walls there is made a hole for inlet of the cold gaseous heat-transfer agent into the communicating cavities. The pipes (11) of the absorber (10) are placed practically parallel to the lateral wall (3) with two channels (6, 7). The outer surface of the pipes (11) of the absorber (10) is covered with a light-absorbing material. At the bottom of the body between the opposite lateral walls (3), perpendicular to the pipes (11) of the absorber (10), there are installed with the possibility of placing thereon the pipes (11) at least two practically parallel to each other elongated supporting elements in the form of hollow volumetric geometric figures with through holes (18) into the lateral faces for gaseous heat-transfer agent circulation. The end faces of the supporting elements on the one part are made closed, and on the other part – open and conjugating with the holes made for their fixation into the internal wall (19) of the lower channel (7) of the fourth lateral wall.

The result consists in improving the operating conditions, in reducing the thermal loss of the heater, as well as in increasing its reliability and simplifying the construction.

Claims: 8

Fig.: 3

