



FEDERAL SERVICE
FOR INTELLECTUAL PROPERTY,
PATENTS AND TRADEMARKS

(51) Int. Cl.

F24J 3/08 (2006.01)**(12) ABSTRACT OF INVENTION**(21), (22) Application: **2006139448/06, 07.11.2006**(24) Effective date for property rights: **07.11.2006**(43) Application published: **20.05.2008**(45) Date of publication: **20.12.2008 Bull. 35**

Mail address:

**215850, Smolenskaja obl., pos. Kardymovo, ul.
2-ja Mar'inskaja, 7, kv.1, V.N. Fisenko**

(73) Proprietor(s):

**Fisenko Vjacheslav Nikolaevich (RU),
Fisenko Jurij Vjacheslavovich (RU),
Fisenko Elena Vjacheslavovna (RU)**

(54) METHOD OF USAGE GEOTHERMAL ENERGY "FILL WELL"

(57) Abstract:

FIELD: hydrometallurgy, heating.

SUBSTANCE: invention concerns methods of geothermal energy rock mountain mass extraction and can be used during heating of buildings, structures, particularly dwellings, at the expense of conversion of geothermal heat of Earth crust in heat pump, and also in hydrometallurgy for reduction of system of minerals underground leaching energy content, including array of extracting and stripping (infiltration) boreholes. Well bore is divided by sealed partition at absorption area, located lower than sealed partition and pumping area, located higher than sealed partition, at that pumping area is completely fulfilled by heat-conducting liquid and in it is located manifold of heat taking system of thermal pump, at that in the capacity of sealed partition, separating absorption-pumping areas of well, it is used facility packer for pipeless liquid lifting from wells. Additionally in pumping area it is created stratal liquid flowage, and in absorption area it is created depression in stratal liquid, for instance by means of drowned pump, connected to facility for pipeless liquid lifting from wells. At that heat passing to refrigerant of thermal pump by manifold of heat taking system, located in pumping area of well, and extract from well by stratal liquid, is implemented in different circuits of refrigerant circulation. Additionally for systems of underground leaching, liquid, pumped into stratum through absorption well, is heated by means of placement into absorption well of one or several heat exchangers with closed

circuit of coolant circulation of heat distribution system for one or several thermal pump. At that heat transfer from refrigerant of thermal pump to heat-carrying agent of heat distribution system is implemented in separated circuits of coolant circulation of heat distribution system: in closed and open, at that in the capacity of open circuit heat-carrying agent of heat distribution system of thermal pump is used solvent factor, pumped into stratum through absorption well.

EFFECT: reduction of system of minerals underground leaching energy content.

12 cl, 6 dwg

