CLAIMS

1. A manufacturing method of a hydrogenated petroleum resin, comprising:

a thermal polymerization step of thermally polymerizing a cyclopentadiene compound and a vinyl aromatic compound;

a hydrogenation reaction step of hydrogenating a copolymer obtained in the thermal polymerization step in the presence of a hydrogenation solvent to perform a hydrogenation reaction; and

a volatile-component removal step of separating a hydrogenated petroleum resin from a reaction mixture obtained by the hydrogenation reaction step so that a hydrogenated low-molecular-weight component remains in a range from 6 mass% to 10 mass% in the hydrogenated petroleum resin, wherein

the volatile-component removal step is performed using a volatile-component removal device comprising: a pressuring device configured to pressurize the reaction mixture; a heater configured to heat the reaction mixture pressurized by the pressuring device under pressure; a decompression unit comprising a decompression space, a pressure of which is reduced and into which the pressurized and heated reaction mixture is flowed; and a path member comprising at least one flow path through which the reaction mixture passes and provided in the decompression space so that the reaction mixture flowed in the decompression space of the decompression unit passes through the flow path.

2. The manufacturing method of the hydrogenated petroleum resin according to claim 1, wherein

a flow rate (F) of the reaction mixture, an average diameter (D) of the flow path, and the number (N) of the flow path satisfy a condition expressed by a numerical formula (F1) below: