

HIGH-PRESSURE EJECTION NOZZLE APPARATUS AND GROUND
IMPROVEMENT APPARATUS IN WHICH HIGH-PRESSURE EJECTION
NOZZLE APPARATUS IS MOUNTED

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ABSTRACT

With a conventional ground improvement apparatus, hardening material liquid is sent out from a hardening material liquid supply pipe in an axial direction of an injection rod to a hardening material liquid ejection nozzle that is approximately
10 perpendicular to the axis of the injection rod, and therefore part of the flow of the hardening material liquid is subjected to turbulent flow, and thus there has been a problem in that the ejection distance of the hardening material liquid ejected from the hardening material liquid ejection nozzle decreases.

In the present invention, cement milk is more finely divided by a flow path
15 division portion 31x of a rear end inner diameter portion 28x of a nozzle main body portion 24x, whereby the turbulent flow of the cement milk is disturbed, and the cement milk is more finely laminarized while the flow rate distribution is made uniform by the divided spaces. Accordingly, the cutting ability of the cement milk ejected from the leading end of the nozzle main body 24x is significantly increased, and
20 thus it is possible to eject the cement milk a longer distance.

FIG. 4