

Title (en)

Drainage water pumping station and method for operating the same.

Title (de)

Drainagewasserpumpenanlage und ihre Bedienungsweise.

Title (fr)

Station de pompage pour eau de drainage et sa méthode de commande.

Publication

EP 0523389 A1 19930120 (EN)

Application

EP 92110297 A 19920617

Priority

JP 14855791 A 19910620

Abstract (en)

A plural drainage pumps PH (3) are disposed on the high floor gradation state at the circular shape (20). A plural drainage pumps PL are disposed on the low floor gradation state at the circular shape (20). The drainage pump PH disposed on the high floor gradation is installed at the high level. The drainage pump PH is set one having the low pump head and the large capacity in comparison with those of the drainage pump PL disposed on the low floor gradation. An outer shape of an underground pump construction building is formed a circular cone shape (20) spreading toward an upper portion. The discharge water power can be reduced and the construction area for the underground pump construction building can be reduced and further the engineering working amount such as a digging working at the underground can be lessen. <IMAGE>

IPC 1-7

E02B 11/00; E03F 5/22

IPC 8 full level

E03F 1/00 (2006.01); **E03F 5/22** (2006.01); **F04D 15/00** (2006.01); **F04D 29/44** (2006.01); **F04D 29/60** (2006.01)

CPC (source: EP)

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Citation (search report)

- [A] US 4049013 A 19770920 - SHENK WILLIAM
- [A] EP 0193137 A2 19860903 - SMITH & LOVELESS INC [US]
- [A] US 4919568 A 19900424 - HURLEY DENNIS [US]

Cited by

DE19507698A1; CN106013390A; CN107587580A; CN112359954A; CN113152626A

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EP 0523389 A1 19930120; EP 0523389 B1 19961211; DE 69215775 D1 19970123; DE 69215775 T2 19970605; DE 69226967 D1 19981015;
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