

Title (en)  
Lining for tunnels and nining galleries

Title (de)  
Ausbau für Tunnel und bergbauliche Strecken

Title (fr)  
Revêtement de tunnels et galeries de mines

Publication  
**EP 0799970 A3 19980819 (DE)**

Application  
**EP 97105226 A 19970327**

Priority  
• DE 19613517 A 19960403  
• DE 19620290 A 19960521

Abstract (en)  
[origin: EP0799970A2] The member is for a tunnel of circular or part-circular cross-section. The walling has a supporting dish-section, while on the inside is one of concrete. The first dish-section, bearing against the rock, curves to match the tunnel cross-section. It comprises solid-steel profiled members embedded in injected concrete. The upright (4) bears against the rock, while the arm flanges (7) extend towards the tunnel interior. All three have beads (9) running along their lengthwise edges, and they are at 120 deg. intervals. Alternatively, the arm flanges can include an angle of 90 deg., while the angle between each of them and the upright portion is 135 deg. The beads can be of round cross-section.

IPC 1-7  
**E21D 11/20**

IPC 8 full level  
**E21D 11/10** (2006.01); **E21D 11/20** (2006.01)

CPC (source: EP)  
**E21D 11/107** (2013.01); **E21D 11/20** (2013.01)

Citation (search report)  
• [A] DE 3810563 C1 19891012  
• [DA] GB 478442 A 19380119 - NORDISKA ARMATURFAB AB  
• [DA] DE 706933 C 19410609 - GERLACH KARL, et al  
• [A] US 4791772 A 19881220 - POTUCEK FRANK R [US]  
• [A] DE 3341957 A1 19840530 - HUFNAGL WALTER  
• [A] FR 2546208 A1 19841123 - CEGEDUR [FR]  
• [A] DE 2702672 A1 19780727 - BOCHUMER EISEN HEINTZMANN  
• [A] DE 2608956 A1 19770908 - STAHLAUSBAU GMBH

Cited by  
CN113463764A; CN111022084A; CN110159312A; CN113914905A; US9662694B2

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