

Title (en)  
**STEPPED SUPPORTING STRUCTURE**

Publication  
**EP 0086998 B1 19860430 (DE)**

Application  
**EP 83100855 A 19830129**

Priority  
DE 3202933 A 19820129

Abstract (en)  
[origin: EP0086998A1] 1. Stepped supporting structure for straight and/or spiral stairways, which comprises individual metallic supporting elements (1) which are connected to one another in a manner resistant to bending and pressure forces, wherein for supporting a step each supporting element (1) comprises a horizontally arranged supporting part (2) made of a square-section tube to which a vertically downwardly directed forward tubular portion (3) is welded in the region of the forward step edge and to which a vertically upwardly directed rear tubular portion (4) is welded in the region of the rear step edge, wherein also in order to connect each two directly adjoining supporting elements (1) the forward tubular portion (3) at the upper supporting element and the rear tubular portion (4) at the lower supporting element engage telescopically in one another, wherein moreover for secure clamping of two directly adjoining supporting elements (1) there is provided a clamping bolt (12) which is situated coaxially with respect to the two interengaging tubular portions and which on the one hand bears on a first apertured disc (7) situated on the rear tubular portion (4) and on the other hand engages in a screwthreaded bore (15) within the forward tubular portion (3), wherein the forward tubular portion (3) is surrounded by the rear tubular portion (4), and wherein an end section (15) on the lower end of the forward tubular portion (3) is of frustoconical construction with its outer surface (6) bearing against a corresponding frustoconical inner surface (9'), characterised in that the screwthreaded bore (15) is arranged within a second apertured disc (8) connected securely to the forward tubular portion (3), and the inner surface (9') is part of a conical sleeve (9) which with its cylindrical outer surface bears flush against the inner wall of the rear tubular portion (4) and, with its broader end face, tubular portion (4) near the lower end of the latter, the clamping bolt (12) being clamped between the two apertured discs (7, 8).

IPC 1-7  
**E04F 11/02**

IPC 8 full level  
**E04F 11/02** (2006.01); **E04F 11/035** (2006.01)

CPC (source: EP)  
**E04F 11/035** (2013.01)

Designated contracting state (EPC)  
AT CH DE FR GB IT LI

DOCDB simple family (publication)  
**EP 0086998 A1 19830831; EP 0086998 B1 19860430**; AT E19535 T1 19860515; DE 3202933 A1 19830811; DE 3363224 D1 19860605

DOCDB simple family (application)  
**EP 83100855 A 19830129**; AT 83100855 T 19830129; DE 3202933 A 19820129; DE 3363224 T 19830129