

Patent Claims

1. An escape tunnel in a building with a centrally situated staircase (1) in the building, the escape tunnel comprising:

at least two telescopically overlapping segments (3, 4), each of which is equipped with a load-bearing skeleton having an inverted U-shape,

wherein a top wall and side walls of the load-bearing skeleton are covered on an outside with layers of a fire-resistant material; and

a self-activating drive system **(13, 32, 36)** that is horizontally shiftable in space **(14)** between the centrally situated staircase **(1)** and an external wall **(2)** of the building,

wherein the escape tunnel is located in a resting position inside the centrally situated staircase **(1)**, and

wherein, in an operating position of the escape tunnel, an outlet section **(15)** is situated within an open exit door **(16)** of the building while an exit **(17)** of the tunnel is situated on an outside of the building.

2. The escape tunnel according to claim 1, wherein adjacent ends of the at least two telescopically overlapping segments **(3, 4)** are interlocked with cover flanges **(5)**.

3. The escape tunnel according to claim 1, further comprising:

at least three telescopically overlapping segments **(3, 3a, 4)**,

wherein ends of adjacent telescopically overlapping segments are interlocked with cover flanges **(5)**.

4. The escape tunnel according to claim 2, wherein the load-bearing skeleton **(6)** of each telescopically overlapping segment **(3, 3a, 4)** is built of lateral spaced frames **(10)** with an outline similar to a letter U, adjacent lateral spaced frames **(10)** being permanently interconnected by means of slanted ties **(11)** and, on lower edges of the load-bearing skeleton **(6)**, being provided traction wheels **(12)**.

5. The escape tunnel according to claim 1,

wherein the at least two telescopically overlapping segments **(3, 3a, 4)** comprise two horizontally spread, parallel, and longitudinally shiftable rails **(22)**, each shiftable rail comprising a channel guide bar **(23)** and a drive toothed bar **(24)**,

wherein front endings **(25)** of the shiftable rails **(22)** are fixed to a front edge **(26)** of a telescopically overlapping segment **(4)**,

there being permanent roller supports **(28)** provided inside the shiftable rails **(22)** and fixed to the walls of the centrally situated staircase **(1)**, whereas toothed bars **(24)** of the shiftable rails **(22)** mesh with toothed wheels **(21)** of the

self-activating drive system **(13)** which is placed within the centrally situated staircase **(1)**.

6. The escape tunnel according to claim 5, wherein rear sections of the shiftable rails **(22)** are surrounded by tubular shields **(31)** made of a fire-resistant material and are mounted on fixed roller supports **(28)**.

7. The escape tunnel according to claim 1,

wherein the self-activating drive system comprises a flexible tie rod **(32)** without an end which is immersed in a channel **(33)** formed in a floor **(34)** of the building and spread parallel to the shiftable rails **(22)** with guide bars **(23)**,

wherein an upper section of the flexible tie rod **(32)** is connected pointwise to a front edge **(26)** of an internal segment **(4)** of the escape tunnel by means of a transversal driver **(35)**.

8. The escape tunnel according to claim 7, wherein the flexible tie rod **(32)** has a form of a leaf chain whereas a cross-section of the channel **(33)** is narrowed upwards.

9. The escape tunnel according to claim 1, wherein the self-activating drive system comprises a set of individual drives **(36)** which are coupled to traction wheels **(12)** of an internal segment **(4)**.