



(12) **CORRECTED EUROPEAN PATENT APPLICATION**

(15) Correction information:
Corrected version no 1 (W1 A1)
Corrections, see
Bibliography
Remarks deleted

(51) International Patent Classification (IPC):
B29C 65/16 ^(2006.01)

(52) Cooperative Patent Classification (CPC):
B29C 65/1635; B29C 65/1667; B29C 65/1687;
B29C 66/112; B29C 66/1122; B29C 66/114;
B29C 66/5326; B29C 66/73921

(48) Corrigendum issued on:
24.07.2024 Bulletin 2024/30

(43) Date of publication:
12.06.2024 Bulletin 2024/24

(21) Application number: **22211602.2**

(22) Date of filing: **06.12.2022**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL
NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(71) Applicant: **Branson Ultraschall Niederlassung der**
Emerson
Technologies GmbH & Co. OHG
63128 Dietzenbach (DE)

(72) Inventor: **SIPOS, Ludovit**
91501 Nové Mesto nad Váhom (SK)

(74) Representative: **HWP Intellectual Property**
Ridlerstraße 35
80339 München (DE)

(54) **WAVEGUIDE FOR PLASTIC WELDING, ARRANGEMENT, AND WELDING METHOD WITH THE WAVEGUIDE AS WELL AS MANUFACTURING METHOD OF THE WAVEGUIDE**

(57) A curved and one-sidedly open waveguide (20) for plastic welding, especially for laser transmission welding, comprises a first reflecting element having a reflecting surface (26) by means of which laser light can be reflected. The reflecting surface (26) defines a receiving end (22) at which laser light from a laser light source, in particular a light guide (10) or a plurality of light guides (10), is receivable, and an output end (24) at which laser light is directable into a laser light transmitting work piece (15). The reflecting surface (26) is defined by a curve between the receiving end (22) and the output end (24) so that the reflecting surface (26) of the first reflecting element has a continuously curved concave shape when viewed in cross-section. Further, the first reflecting element is not opposed by a second reflecting element so that the waveguide (20) is open in the direction normal to the reflecting surface (26).

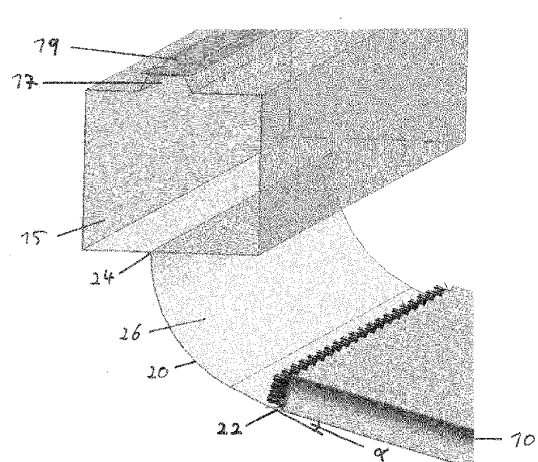


Fig. 1