Title (en)

Apparatus for mechanically flowform bending of profiles

Title (de)

Vorrichtung zum maschinellen Fliessformbiegen von Profilen

Title (fr)

Dispositif pour le cintrage par fluoformage mécanisé de profilés

Publication

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Application

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Priority

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Abstract (en)

[origin: EP1908536A1] The device for automatic bending of longitudinal profiles (1) with a longitudinal axis useful in rolling bending machine, comprises a rolling mill (20) with a rolling head, a counter-pressure roller, which is arranged in reference to the rolling head and spaced by this on opposite side of the longitudinal profiles to be transformed, and roller pairs with two roller parts (13, 14) serving as counter-pressure roller having a first roller axis, which runs vertically to the longitudinal axis, a first Z-roller (18) with a second roller axis and a second Z-roller (19) with a third roller axis. The device for automatic bending of longitudinal profiles (1) with a longitudinal axis useful in rolling bending machine, comprises a rolling mill (20) with a rolling head, a counter-pressure roller, which is arranged in reference to the rolling head and spaced by this on opposite side of the longitudinal profiles to be transformed, and roller pairs with two roller parts (13, 14) serving as counter-pressure roller having a first roller axis, which runs vertically to the longitudinal axis, a first Z-roller (18) with a second roller axis and a second Z-roller (19) with a third roller axis. The two roller parts are coaxially arranged and floatingly stored, so that the relative axial distance is variable between the roller parts. A controlled pressure of the parts is exerted in a direction parallel to the first roller axis. The both Z-rollers run vertically to the first roller axis. The parts and the rolling head exert direct pressure on the profiles in a bending region of the rolling mill. The device acts itself a head, a rolling roller, and a roller head with the rolling head. The roller head has an arc-shaped region, but it is not implemented itself as rotationally symmetrical total body. The rolling roller is symmetrically implemented and rotationally stored in the reference of another rolling axis. The roller head has rollers, which are arranged in the arc-shaped region of the roller head. The rolling roller has a circumferential form, which is adapted to an interior form of the profiles to be bent. The roller parts have a circumferential form, which is adapted to an exterior form of the profiles to be bent. The pressure is exertable on one of the roller parts by each of the Z-roller, in which the relative axial position of the second roller axis and the third roller axis are automatically adjusted. The axial position of the other roller parts is fixed at the first roller axis. The Z-roller with a circumferential region presses against a front region of the roller parts. The rolling head and the parts are stored and arranged as counter-pressure roller, so that they are deliverable by a space reduction relative to each other to exert the two pressure sides of the profiles. The profiles are displaced by the device and are formed by the interaction with the rolling head and the roller parts in an arc-shaped profile. A material flow emerging at a bent outer side front wall over the region of the roller parts operating at sidewalls of the profiles are turned around over assigned sidewalls in a bent inner side of front wall. A bend line is shifted to the bent inner side of the profile and a structure flow is caused by the outer side in the direction of the inner side. Each of the roller parts has a partially conical circumferential form and sections, which have different circumferential diameters. Each of the roller parts is rotationally symmetrical in reference of the first roller axis. The diameter monotonically changes itself along the roller axis.

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