

Title (en)  
U-SHAPED STAPLE AND DEVICE FOR CLOSING BAGS AND TUBES

Publication  
**EP 0452338 B1 19930303 (DE)**

Application  
**EP 90900072 A 19891221**

Priority  
• DE 3844052 A 19881228  
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Abstract (en)  
[origin: WO9007459A1] U-shaped staples for closing bags and tubes in continuous strips comprise a base (7) and two branches (4) whose ends are bent outwards to form a connecting bridge (2) which can be detached from the individual staples in a strip (1) of staples. Damage to the closed package and other packages can be caused by burrs which are formed when the individual staples are detached from the strip (1) and which project beyond the width of the staple. To resolve this problem, the strip of staples has an approximately parallel-sided section (3) in the region of the ends (6) of the branches, which is narrower than the strip. The regions of the ends (6) of the branches, which are bent outward, therefore rest uniformly against the outer sides of the branches (4), within the width of the strip, without burrs which project beyond the width of the strip. A device for closing bags and tubes by means of these staples has a closing punch (9) which co-operates with a die (8). The effective surface (29) of the punch has a groove (10) whose width is equal to that of the staple and whose depth is less than the total thickness of the branch involved in the closing process. During the closing process, the side walls of the groove (10) guide the ends (6) of the branches and ensure that the ends (6) of the branches of the staples are pressed against the outside of the branches (4) of the staples without forming burrs.

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**WO 9007459 A1 19900712**; AU 4810190 A 19900801; AU 637594 B2 19930603; BR 8907862 A 19911022; DE 58903688 D1 19930408; DK 126391 A 19910627; DK 126391 D0 19910627; DK 169944 B1 19950410; EP 0452338 A1 19911023; EP 0452338 B1 19930303; ES 2040589 T3 19931016; FI 912929 A0 19910617; FI 97045 B 19960628; FI 97045 C 19961010; HU 211388 B 19951128; HU 900383 D0 19910930; HU T58251 A 19920228; JP 2927939 B2 19990728; JP H04502895 A 19920528; LV 11020 A 19960220; LV 11020 B 19960620; RU 2010756 C1 19940415; US 5247723 A 19930928; US 5497645 A 19960312

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