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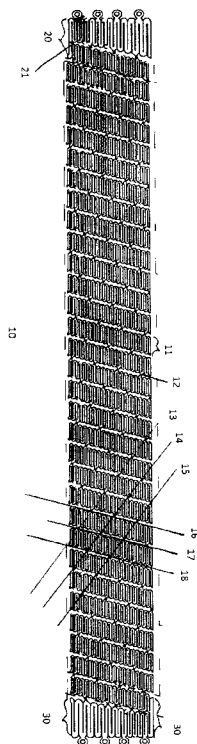
(54) **Title:** SELF-EXPANDING STENT

Figure 1:

(57) **Abstract:** A self-expanding stent (10), which is created by laser-cutting a Nitinol alloy tubing. A strut pattern of the stent (10) is formed from a continuous helical band that proceeds circumferentially and longitudinally along the length of the stent (10). The helices are formed by repetitions of sinusoidal forms, with a bridge (12) linking the apexes of struts on neighboring adjacent rows directly opposite of each other, for every 4-8 apexes. The linking bridges are substantially straight such that non off-setting pitches is created at the two connected apexes, resulting in a substantially diamond space (71,72,73) between adjacent rows of the struts, instead of a substantially interdigitated space. The strut repetitions are substantially sinusoidal or in a zigzag fashion. The bridges link the apexes of the repetitions forms directly on adjacent rows of struts. The ends of the stent (10) may be formed by using a transition zone on each end that employs gradually decreasing lengths of struts to complete the transition to an even end. The stent (10) made with this pattern and a suitable material has an optimal combination of torsional flexibility, high radial strength and good resistance to longitudinal compression.



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