



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : B21D 47/02, 28/24, B21H 8/00	A1	(11) International Publication Number: WO 95/13151 (43) International Publication Date: 18 May 1995 (18.05.95)
(21) International Application Number: PCT/CA94/00620 (22) International Filing Date: 8 November 1994 (08.11.94) (30) Priority Data: 2,103,002 12 November 1993 (12.11.93) CA (71)(72) Applicant and Inventor: BODNAR, Ernest, R. [CA/CA]; 2 Danrose Crescent, Don Mills, Ontario M3B 3N5 (CA). (74) Agent: ROLSTON, George, A.; 55 Eglinton Avenue East, Suite 703, Toronto, Ontario M4P 1G8 (CA).	(81) Designated States: AM, AU, BB, BG, BR, BY, CZ, EE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, NO, NZ, PL, RO, RU, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ). Published <i>With international search report.</i>	

This Sheet Has Been Replaced

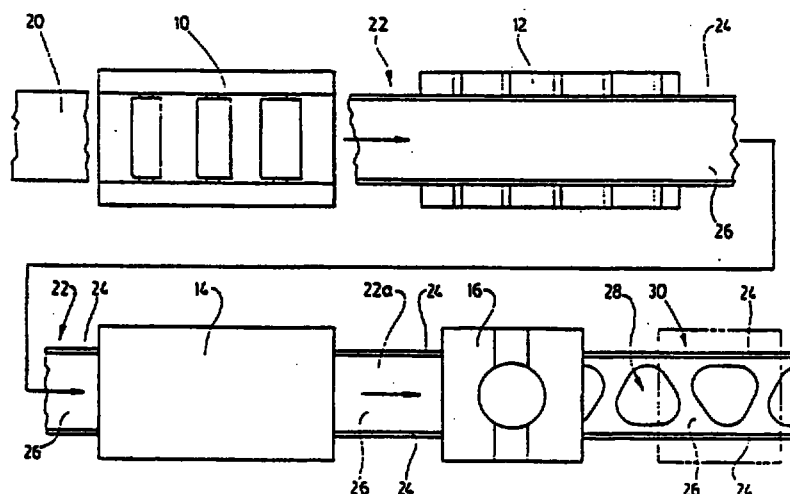


REPLACED SHEETS SG

- ☒ Description : paged 1 to paged 11
☒ Claim(s) : paged 20 to paged 25
☒ Drawing(s) : paged 1/2 to paged 1/10
☒ Abstract : paged 1/1 to paged -

DATE OF RECEIPT

(54) Title: HOT ROLLED BEAM AND METHOD OF MANUFACTURE



(57) Abstract

A method of manufacturing a one piece integral metallic beam (22) having flanges (24), and a web (26) joining said flanges, the beam having been hot rolled from a heated metal workpiece (20) to produce an integral one piece beam having flanges and a web extending therebetween, the flanges having a predetermined first thickness, and the web having a predetermined second thickness less than the first thickness, and in which the web is heated to a hot forming temperature, without substantially heating the flanges and, the web is passed through at least one metal forming die set (16), which is repeatedly closed on the web to form the web without forming the flanges. The method may also include the piercing of openings (28) through the web, and the forming of lips (30) around the openings, and also, the forming of a secondary product (52) from the portion of the web discarded from the opening, and also hot forging the lips (30) around the openings. Also disclosed is apparatus for carrying out the method, and a forming and forging die for both forming and forging a metal workpiece.