

A B S T R A C TWELDING METHOD AND APPARATUS

For repairing a metal member by welding, a secondary electrode (2) is connected to the metal member (1) to be repaired. A welding foil (4), about 0.1 to 0.2 mm thick, is provided on a part of the metal member or a fine welding powder (40) of a proper volume is piled up thereon. The welding foil (4) or powder (40) is pressed against the metal member (1) along a line or at spots by means of a primary electrode (5) and an electrical conduction path is formed. A high current pulse (about 300 to 1500 amperes for about 1 to 4 ms) is passed through the conduction path to form line or spot type nuggets on the metal member (1). Thus, build-up welding can be done at dots or a line. A part of the build-up welded portion is ground away to obtain a desired surface or shape. A permanent magnet or an electromagnet may be provided in conjunction with the primary electrode when magnetic welding powder is used.

(Figure 4A)

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED