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SPOT WELDING BY POWDER MATERIALS AND IMPROVE STRENGTH IN MACHINE DETAILS

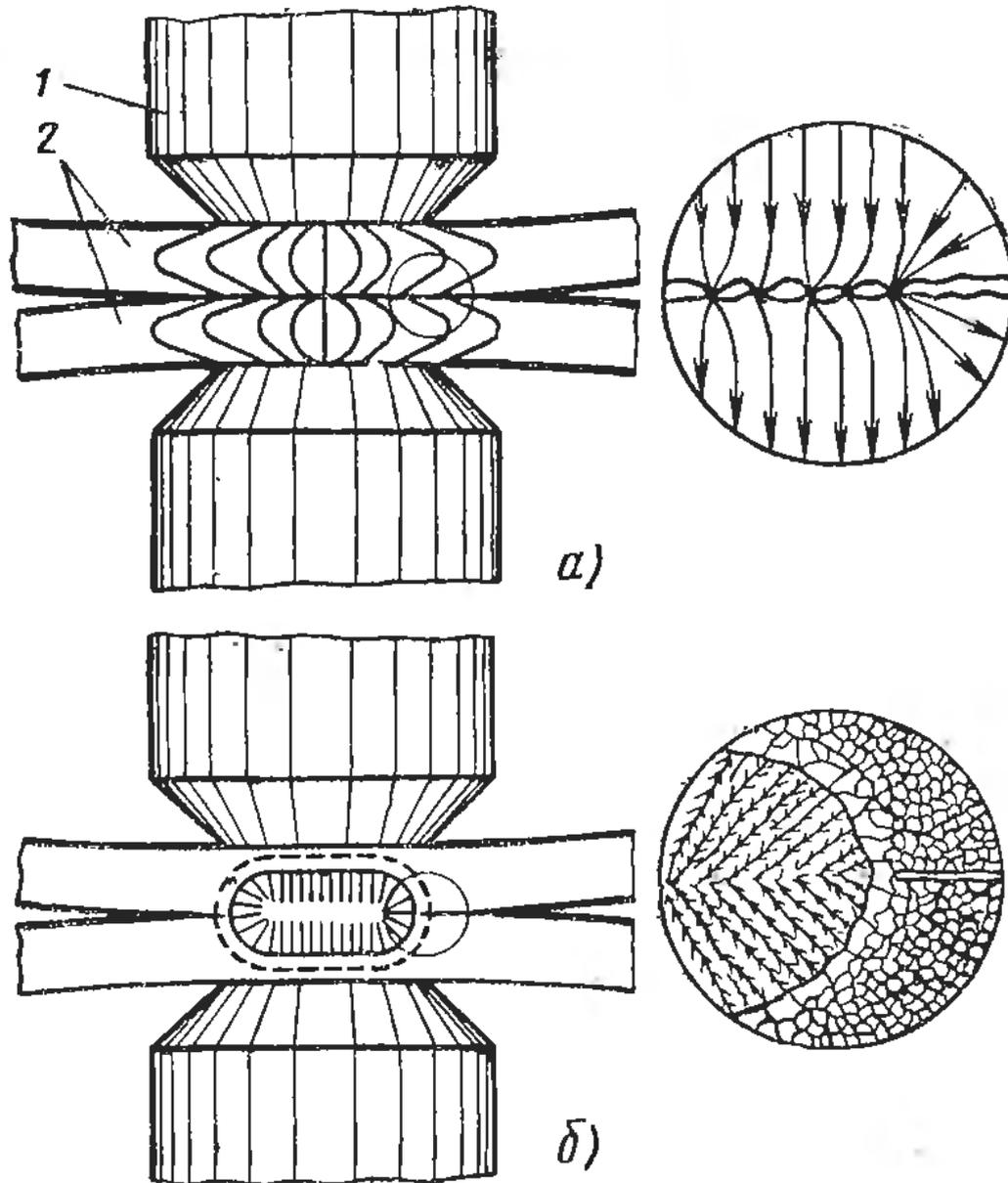
Welding process was developed in Russia and Ukraine. Engineer scientists Slavyanov, Benardos and Poton invented in 1800 in Russia. After 30 years in 1830 opened the first institute in Ukraine, the name was "Poton". Such as the first welder students graduated in this institute. This institute was only high education in Europe. And then over 1900 new welding processes invented in USA, France, and Germany. In 1930 USA, France, and Germany scientists invented gas, plasma and LASER welding types. Plasma and LASER welding processes are young welding processes in welding engineering. And there is 30 000-40 000° calcium temperature in plasma welding process. Electricity and gas ions use plasma welding process. It's very high temperature inside all welding processes.

There are big three group in welding engineering. There are:

1. Thermic
2. Thermo mechanic
3. Mechanic

The thermic welding process include: "arc welding", "automatic and half automatic arc welding with carbon", "atom hydrogen", "oxygen", "plasma", "LASER", "arc-argon" and others. Plasma and LASER welding processes use cutting metals. And this process use only thick metals. This welding processes use many machine building plants. "Arc welding", "automatic and half automatic arc welding with carbon", "atom hydrogen" and "oxygen" welding processes high temperature is 3000-6000° calcium. This welding processes use in light, expensive and colorist metals. They are: cuprum, nickel, titan, aluminum, gold, silver and iron carbon alloys. The first work is melting metals in these welding processes. The second work is weld metals. Thermo mechanic welding process includes all spot welding types. The spot welding is very old welding process in the welding

engineering. The first work is heat up metals in these welding processes and gives high pressure in welding point. This welding process time is very short. About 2-5 second. And this welding process use only thin metals. The thin metals size is 0, 2-7, 0 mm.



In this picture: 1- spot welding machine tool. 2-steel metal or welding material
 The first work is heat up metal (a) and the second work (b) is give high pressure
 in metal

My thesis theme is spot welding by powder materials and improves strength machine details. What are powder materials? They are: chrome, nickel, titan, merganser and others. This powder materials help strength in machine details.

Nowadays this powder materials use all machine building plants. And my opinion, this powder materials need use in automobile and air plane industry.