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The invention relates to the mechanical engineering, namely to a process and device for metal surface working and may be applied for hardening of parts by surface plastic deformation with concomitant application of the coatings of powdery material.

The process for application of coating onto the metal surface includes working thereof by plastic deformation with powder in the presence of ferromagnetic cylindrical granules, liquefied under the action of a monophasic pulsating electromagnetic field and placed into a chamber, provided with an electrode, with that the application of coating is carried out under the action of electric discharges, occurring between the electrode and the metal surface, connected to a power source.

The device for realization of the claimed process includes a chamber, wherein there are placed ferromagnetic cylindrical granules and powder, as well as an electromagnetic system for liquefaction of the ferromagnetic granules. The chamber is provided in the upper part with a cover, made of elastic material, under which it is fixed an electrode in the form of a metal slug, connected to the anode and in the lower part of the chamber it is mounted a gasket with elastic edge providing for the contact with the metal surface. The core of the electromagnet is made in the form of III, and the electromagnetic coils are connected between them in series or in parallel.

The result consists in enlarging the possibilities of locally working the parts of different forms and surfaces.

Claims: 2

Fig.: 5