

The invention relates to the field of welding, specifically to equipment for butt welding of rails, and can be used both for repairing rail tracks in the field and for welding individual rails in hard-to-reach areas. Machine for contact butt welding of rails comprises a welding power source and two clamp devices, each electrically isolated from the other, each of which consists of a pair of double-arm levers with a synchronization mechanism. The latter are mounted so that they can rotate relative to one another around a common axis of rotation. Each pair of levers is hinged at one end to a clamping hydraulic cylinder, while clamping and current-conducting jaws are attached to the opposite ends of the levers. The machine is equipped with a hydraulic cylinder for moving (melting and precipitation) the clamp devices, which consists of a housing and a rod, wherein the first clamp device is mounted on the housing, and the second clamp device is mounted on the rod, with the ability for one to move linearly relative to the other along the axis of the hydraulic displacement cylinder, located in the vertical plane of symmetry of the pair of levers of each clamp device. The clamp devices are additionally connected to each other by means of two guide shafts and two bushings, which are coaxially mounted with the ability for relative axial movement on each of the two pairs of levers. On the housing and rod of the hydraulic cylinder, in the vertical plane of symmetry of the two-armed levers, supports are fixed on both sides of the clamping jaws of the first and second clamp devices to position the clamp devices on the rails to be welded, wherein, in the closed position of the double-arm levers for clamping the rails to be welded, the distance between the common axis of rotation of the double-arm levers and the horizontal plane passing through the longitudinal axes of symmetry of the current-carrying and clamping jaws is equal to the distance between the common axis of rotation of the double-arm levers and the horizontal plane passing through the longitudinal axes of symmetry of the guide shafts and guide bushings. Technical result: uniform distribution of the bending moment between the piston rod and the housing of the hydraulic displacement cylinder, guide axes, and guide bushings, as well as ensuring high precision and stability of rail centering during the welding process, contribute to their high-quality joining while complying with regulatory requirements for the geometric parameters of welded joints without altering the established optimal technological process