

Device for rotary-vibration drilling of boreholes or wells in medium-strength and strong rock formations comprises a housing, the front end of which is reinforced with carbide plates. The tool shank is designed with a lateral through-hole. The adapter has an axial cylindrical stepped bore at the front, in which the shank is located, and a thread at the rear for securing the adapter to the drill pipe. The adapter also features a round through-hole perpendicular to its axis. A pin is rigidly secured in the adapter's lateral through-hole and, with the ability to move axially, holds the shank through its lateral longitudinal slot. The design incorporates a spring. The technical result consists of ensuring a higher level of axial vibration load, stable and reliable torque transmission, increased impact energy at the bit face, and intensification of the drilling process. This result is achieved by the fact that a faceted protrusion is formed on the rear end of the housing, and a corresponding faceted opening is formed on the front end of the adapter. These elements are engaged with each other via a sliding fit, the length of which is at least 5 mm when the spring is unloaded. The shank is rigidly secured to the faceted protrusion. The spring is positioned around the shank, with one end resting against the bottom of the adapter's axial cylindrical stepped bore and the other against the end face of the housing's faceted protrusion. The length of the lateral through-hole is equal to a value not less than the difference in the spring's lengths in the free and fully compressed states. The width of this hole corresponds to the pin's diameter. The height of the faceted protrusion of the housing and, accordingly, the depth of the faceted hole in the adapter are no less than the specified difference in the spring's lengths. When the spring is fully compressed, the gap between the front end of the adapter and the rear end of the housing is at least 2–3 mm.