

IMPROVED SHIRTTAILS FOR REDUCING DAMAGING EFFECTS OF
CUTTINGS

ABSTRACT

An earth-boring bit has a bit body that includes head sections, each having depending bit legs with a circumferentially extending outer surface, a leading side, and a trailing side. A bearing shaft depends inwardly from each of the bit legs for mounting a cutter. The bit includes a beveled surface formed at a junction of the leading side and the outer surface of each bit leg. The beveled surface is angled relative to a radial plane emanating from the axis of the bit. The angle of the beveled surface is at least 20 degrees, and extends to an inner surface of the bit leg. The bit can also have a layer of hardfacing on the leading, trailing and shirrtail surfaces of the bit leg. A diversion finger of hardfacing extends circumferentially to direct cuttings.

Figure 1