

CUTTER HEAD FOR EXCAVATION EQUIPMENT AND EXCAVATION EQUIPMENT HAVING THE SAME

ABSTRACT

The present disclosure provides a cutter head for an excavation equipment and an excavation equipment having the same. The cutter head comprises a base and cutters. The base is rotatable about a rotation axis along an excavation direction of the excavation equipment. The cutters comprise a plurality of radial rolling cutter sets spaced-apart in a circumferential direction defined relative to the rotation axis, each of the radial rolling cutter sets comprising a plurality of rolling cutters arranged radially starting from the rotation axis in a radial direction defined relative to the rotation axis. The rolling cutter rotation axis is perpendicular to the rotation axis of the base. The rolling cutters in each rolling cutter set is arranged to be backward by a predetermined distance in the excavation direction relative to an adjacent rolling cutter located on a radially inner side thereof, such that front ends of all the radial rolling cutters in the rolling cutter set are located on a same fitting circular arc. According to the present disclosure, the rolling cutters form a circular arc profile fitting curve, which can be well adapted to the arc-shaped structure of the main channel segment and is adapted to perform cutting operation on the main tunnel segment during construction of cross passage using mechanical method. The rolling cutter shaft receives a uniform force, which can avoid the occurrence of eccentric wear, and prolongs the service life.

Fig. 5