

Abstract

The present application discloses a slurry balance and dual-shield dual-mode shield machine including: a front shield, a telescopic shield, a central movable platform, and a bracing shield. The slurry balance and dual-shield dual-mode shield machine has a dual-shield mode and a slurry balance mode. In the dual-shield mode, a bracing shoe mechanism extends out a bracing plate so that the bracing plate is supported on rock, and a movable mechanism drives a closing division plate to move to a first position. In the slurry balance mode, the bracing shoe mechanism retracts the bracing plate into an opening to close the opening, and the movable mechanism drives the closing division plate to move to a second position. The dual-mode shield machine provided in the present application has the slurry balance mode and the dual-shield mode, enabling it to be suitable for tunneling construction in complex underground environments, so that it can be used for both construction in high-water-content soft and loose soil layers, and construction in soft rock and hard rock and very hard rock strata, thus significantly improving the geological adaptability and construction efficiency of the shield machine, and reducing the construction cost.

Fig. 2