

TITLE OF INVENTION: A RETRACTABLE TUNNEL BORING SYSTEM

ABSTRACT

The present invention discloses a retractable tunnel boring system, comprising: a tubular casing assembly; a body assembly detachably connected to the casing assembly; and a cutterhead assembly detachably connected to a front end of the casing assembly and connected to an advancing end of the body assembly, the cutterhead assembly comprising a first cutting tool detachably disposed at a peripheral edge thereof, wherein at least a portion of an outer surface of the first cutting tool is located radially outward of an outer surface of the casing assembly. During retrieval, the first cutting tool is detached from the cutterhead assembly to reduce the outer diameter less than the inner diameter of the casing assembly. The cutterhead assembly and the body assembly are then detached from the casing assembly. A driving device is used to pull the body assembly and the cutterhead assembly backward, causing them to retract through the interior of the casing assembly and the jacking pipes until they are returned to the launch shaft, thereby facilitating disassembly and retrieval.

FIG. 1