ABSTRACT

TITLE OF INVENTION : DEEP FOUNDATION EXCAVATION MACHINE

A bucket raising-lowering and opening-closing device (11) of a deep foundation excavation machine (1) comprises a raising-lowering cylinder (12), a first raising-lowering sheave (14) and a first opening-closing sheave (15), a second raising-lowering sheave (17) and a second opening-closing sheave (20), an opening-closing cylinder (18) for opening and closing a clamshell bucket (10), a raising-lowering rope (24), and an opening-closing rope (25). A stroke length of the opening-closing cylinder (18) is set to a value equal to or greater than a sum obtained by adding a stroke length necessary for opening and closing the clamshell bucket (10) to a stroke length required to remove the loosening of the opening-closing rope (25) that occurs when the clamshell bucket (10) lands, and the device further includes an opening-closing cylinder relief valve (45) that relieves excess pressure in the opening-closing cylinder (18) when the weight of the clamshell bucket (10) acts on the opening-closing rope (25).

Figure 3