ABSTRACT

An angle detection method for a bending machines for detecting a bending angle of a bent workpiece and an angle detection apparatus and an angle sensor thereof are provided.

A detection light is emitted toward a workpiece W from a light source 9 while the angle sensor 3 is rotated in the forward and reverse directions. A plurality of optical sensors 11, 13 arranged at mutually symmetrical positions with the light source 9 being at the center thereof receive the reflection light from the measurement object W. The quantity of received light is stored in relation to the rotation angle of the angle sensor 3 detected by an rotation angle detector 33. A angle calculation portion 35 calculates the angle of the measurement object W based on the peak values of the data of the quantity of the received light and the rotation angles of the angle sensor 3 corresponding to the peak values. Alternatively, the rotation angle detector 3 detects the rotation angles of the angle sensor 3 at the time when the quantities of the received light received by the pair of optical sensors 11, 13 are the same, and the angle calculation portion 33 calculates the angle of the measurement object W based on the rotation angles.
(Fig. 1)