

(12) INNOVATION PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. **AU 2013101370 A4**

(54) Title
Pick

(51) International Patent Classification(s)
E21C 35/183 (2006.01) **E21C 35/18** (2006.01)

(21) Application No: **2013101370** (22) Date of Filing: **2013.10.16**

(45) Publication Date: **2013.11.14**

(45) Publication Journal Date: **2013.11.14**

(45) Granted Journal Date: **2013.11.14**

(71) Applicant(s)
Yuhai LIU

(72) Inventor(s)
LIU, Yuhai

(74) Agent / Attorney
LIU YUHAI, c/o KY CHOW 2/142, Peninsula Rd., Maylands, WA, 6051

Abstract

A pick mainly comprising a pick body and an alloy body; the pick body comprises a pick head and a shank; the alloy body is formed by an alloy head and an alloy column; The pick is characterized in that, it has a wearing indicator ring on a conical surface of the pick head for clear and direct indication of wearing; when wearing marks reach the indicator ring, the pick can be timely replaced; use of the pick is maximized by allowing maximum wearing and at the same time ensuring that the pick seat remains unworn and undamaged. The pick has a novel structure, scientific design and high practicability.

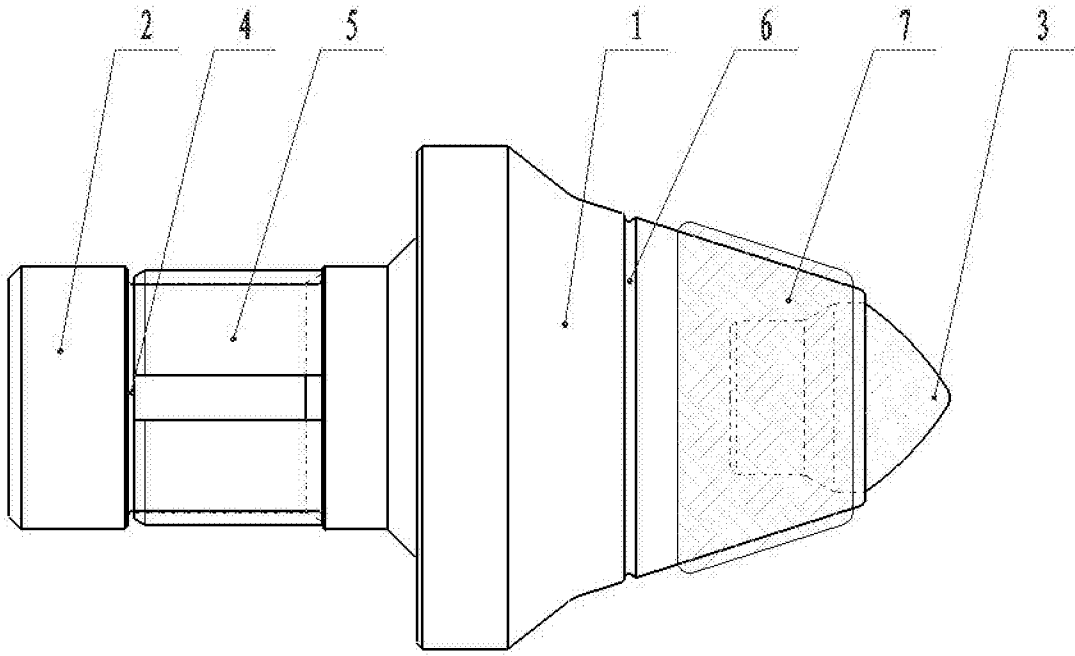


FIG.1

Pick**BACKGROUND**

The present invention relates to a tool for boring holes and more specifically pertains to an improved pick.

5 Picks are widely used in different fields such as mining, quarrying, water and electric engineering, smelting, road construction and so on. Nowadays, a pick available in the market is mainly formed by a pick body which comprises a pick head and a shank. The pick head is opened with an alloy cavity. An alloy body is welded inside the alloy cavity. As the alloy body wears out during use, it could not
10 protect the pick head effectively and thereby resulting in excessive wearing of the pick head. As a result, the alloy body peels off prematurely and the entire pick has to be discarded. Also, since the pick head wears out, untimely replacement of the pick will easily wear out and damage the pick seat and thereby hindering the normal operation of the pick seat or leading to a complete write-off of the pick seat.

SUMMARY

15 An object of the present invention is to provide a pick which has reasonable structure and properties. The pick of the present invention has a wearing indicator ring so that the pick can be timely replaced after it is worn out to the maximum limit within a range considered allowable.

20 The present invention is attained as follows:

A pick mainly comprising a pick body and an alloy body; the pick body comprises a pick head and a shank; the alloy body is welded inside an alloy cavity at the pick head; the alloy body is formed by a conical alloy head and a cylindrical

alloy column; the pick is characterized in that, an annular recess and wearing indicator ring(s) are provided at an outer periphery of the pick head.

According to the present invention, the wearing indicator ring is provided on a conical surface of the pick head for clear and direct indication of wearing. When wearing marks reach the indicator ring, the pick can be timely replaced. Use of the pick is maximized by allowing maximum wearing and at the same time ensuring that the pick seat remains undamaged. The present invention has a novel structure, scientific design and high practicability. The present invention can protect the pick seat, enhance wear-resisting performance and strength of the pick body. The present invention also enables convenient mounting and dismounting of the pick.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 is a structural view of the present invention.

An embodiment of the present invention is further described in detail below with reference to the accompanying drawings.

In FIG. 1, 1 is the pick head, 2 is the shank, 3 is the alloy body, 4 is the recess, 5 is a circlip, 6 is the indicator ring, and 7 is the wear-resistant layer.

As shown in FIG. 1, the present invention is an improved pick mainly comprising a pick body and an alloy body 3; the pick body comprises a pick head 2 and a shank 2; the alloy body 3 is welded inside an alloy cavity disposed at an upper end of the pick head 1. The shank 2 is provided with the recess 4 annular in shape at an outer periphery thereof for receiving a circlip 5. The circlip 5 has an opening thereon.

The shank 2 may have a flat surface or may be provided with a platform.

To ensure secured welding of the alloy body 3, wear-resistant material is overlay welded on an outer peripheral area of the alloy cavity of the pick head 1 to form an external wear-resistant layer 7. The wear-resistant layer 7 is a protrusive layer out from the pick head 1. The wear-resistant layer 7 can protect the pick head 1 effectively and enhance wear-resistance of the pick head 1.

5 During use, the circlip 5 is received inside the recess 4, and the shank 2 is received inside a pick seat via the circlip 5 and being fixed in position by the circlip 5. While a firm connection is secured, the pick can still rotate to facilitate removal of pulverized material and ensure that the pick body is worn out evenly.

Claims

The claims defining the invention are as follows:

1. A pick mainly comprising a pick body and an alloy body 3; the pick body comprises a pick head 1 and a shank 2; the alloy body 3 is welded inside an alloy
5 cavity at the pick head 1; the alloy body 3 is formed by a conical alloy head and a cylindrical alloy column; the pick is characterized in that, a wearing indicator ring is provided at the pick head.
2. The pick as in Claim 1, wherein the shank 2 is provided with an annular recess at an outer periphery thereof for receiving a circlip 5.
- 10 3. The pick as in Claim 1 or 2, wherein an external wear-resistant layer 7 is provided on an outer peripheral area of the alloy cavity of the pick head 1.
4. The pick as in Claim 3, wherein number of the wearing indicator ring is one or more than one.
5. The pick as in Claim 2, wherein the circlip 5 has an opening thereon.

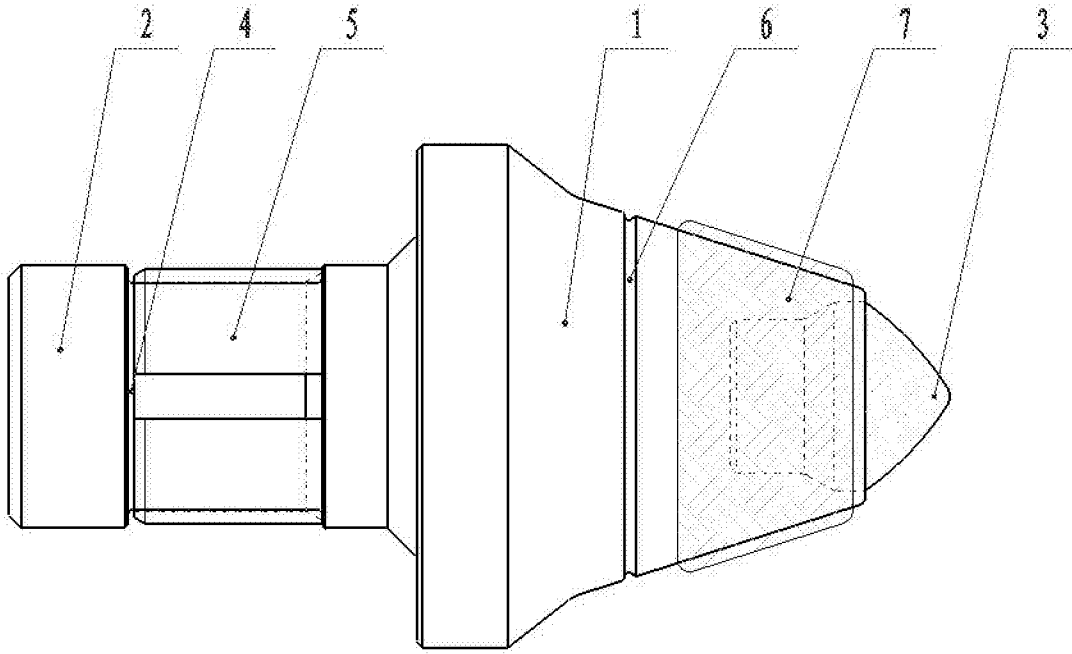


FIG.1