PATENT SPECIFICATION

DRAWINGS ATTACHED

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999,192

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Date of filing Complete Specification June 10, 1964.

Application Date Sept. 3, 1963. *No. 34770/63.*

Complete Specification Published July 21, 1965.

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Index at acceptance: —**A1 F(6B2, 6J3)**

Int. Cl.: —**A 01 d 49/00**

COMPLETE SPECIFICATION

Improvements to the Bearings in Breaker Bars

We THE HOLT BRACKEN BREAKER COMPANY LIMITED, a British Company, of 2 Parliament Street, Hull, Yorkshire, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to improvements in breaker bars of the kind comprising a sheath of wear-resistant material, such as steel, encasing a core of less costly material, such as cast iron, said sheath presenting non-radial projections or blades that constitute the crushing edges of the bar.

Breaker bars of the kind aforesaid are of weight sufficient to enable them to break or bruise weed growth when dragged over the ground, for example by a traction harness, the bars having at each end a journal which permits rotation of the bars during such movement. They are used for destroying growing bracken and similar weed growths, and with sections of much greater size and weight for destroying tropical and sub-tropical bush growths.

For instance, the ground pressure per linear inch of blade edge in one construction of bracken breaker for non-tropical use is 6.8 lbs., whereas the linear inch blade pressure of one construction of weed breaker for tropical use is over 60 lbs., the latter size being required for crushing and breaking tropical bush growth up to 25 feet or so in height, and up to 7″/8″ in diameter at the stem, such as Acacia type bush in tropical Africa, Brigalow bush in parts of Australia. Rhododendron in parts of the United Kingdom may also require the larger size of breakers.

The object of the present invention is to provide a breaker bar of the kind aforesaid which is easily and cheaply repaired.

The present invention is a breaker bar of the kind aforesaid comprising an axle projecting from each end of the core, sleeves adapted for fixed mounting one about each projecting end of the axle to provide between the core and a collar integral with the sleeve an annular groove for a harness bearing.

The axle may comprise either axle trunnions ragged one into each end of the core or a shaft continuous through the core.

Preferably the core is cast-iron, the trunnions or axle are steel and the sleeves and integral collars are of cast-iron.

Preferably each sleeve and integral collar and each projecting axle part are adapted for fixed mounting of the former on the latter by means of a steel cotter pin.

Embodiments of the present invention will now be ~~described~~ described, by way of example, with reference to the accompanying drawings in which:—

FIG. 1 is a longitudinal section of one end of a breaker bar according to one embodiment of the present invention; and

FIG. 2 is an elevation on the line II—II of FIG. 1 in the direction of the arrows.

Referring to the drawings in one embodiment of the invention, a breaker bar of the kind aforesaid includes a cast-iron core 10 of square cross-section having breaker blades (not shown) mounted at each of the corners of the core in recesses 10*A*. Steel axle trunnions 11 (one shown) are ragged one into each end of the core and ~~returned~~ retained therein by means of two orthogonally-arranged pins 12 and 13 to project from the core 10 centrally of the end faces 14 thereof. The projecting axle trunnion part 15 is about half of the total length of the trunnion. A cast-iron sleeve 16 of about 6 inches outside diameter and rather more than 3 inches wide is fixedly mounted on the projecting axle

[*Price* 4*s.* 6*d.*]

trunnion part 15 and is welded at 17 to the core to provide, between the core 10 and a collar 18 integral with the sleeve 16, an annular groove 19 for a harness bearing 20 which is 3 inches wide. The sleeve has an annular recess 21 on its core-adjacent face 22. A portion 23 of the projecting axle trunnion part extends beyond the combined sleeve and collar, which is of circular cross-section, when the said sleeve is contiguous with the core. In this portion 23, of the trunnion is a diametrical hole 24 in which a steel cotter pin 25 is located to ensure the fixed mounting of the combined sleeve and collar.

In a second embodiment of the invention the steel axle trunnions are replaced by a steel shaft extending throughout the core and projecting centrally from each of the end faces thereof.

An advantage of this invention is that if a breakage occurs in the sleeve, the combined sleeve and collar can easily be replaced.

WHAT WE CLAIM IS:—

1. A breaker bar of the kind aforesaid comprising an axle projecting from each end of the core, sleeves adapted for fixed mounting one about each projecting end of the axle to provide between the core and a collar integral with the sleeve an annular groove for a harness bearing.

2. A breaker bar according to claim 1 in which the core and the sleeves and integral collars are cast-iron.

3. A breaker bar according to claim 1 or 2, in which the axle comprises axle trunnions ragged one into each end of the core.

4. A breaker bar according to claim 1 or 2, in which the axle comprises a shaft continuous throughout the core.

5. A breaker bar according to claim 1, 2 or 3, in which the trunnions are steel.

6. A breaker bar according to claim 1, 2 or 4, in which the shaft is steel.

7. A breaker bar according to any preceding claim in which each sleeve and integral collar and each projecting axle part are adapted for fixed mounting of the former on the latter by means of a steel cotter pin.

8. A breaker bar substantially as hereinbefore described with reference to the accompanying drawings.

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Leamington Spa: Printed for Her Majesty's Stationery Office by the Courier Press.—1965.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained.

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