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ROCK GOUGE ATTACHMENT FOR BULLDOZER BLADES

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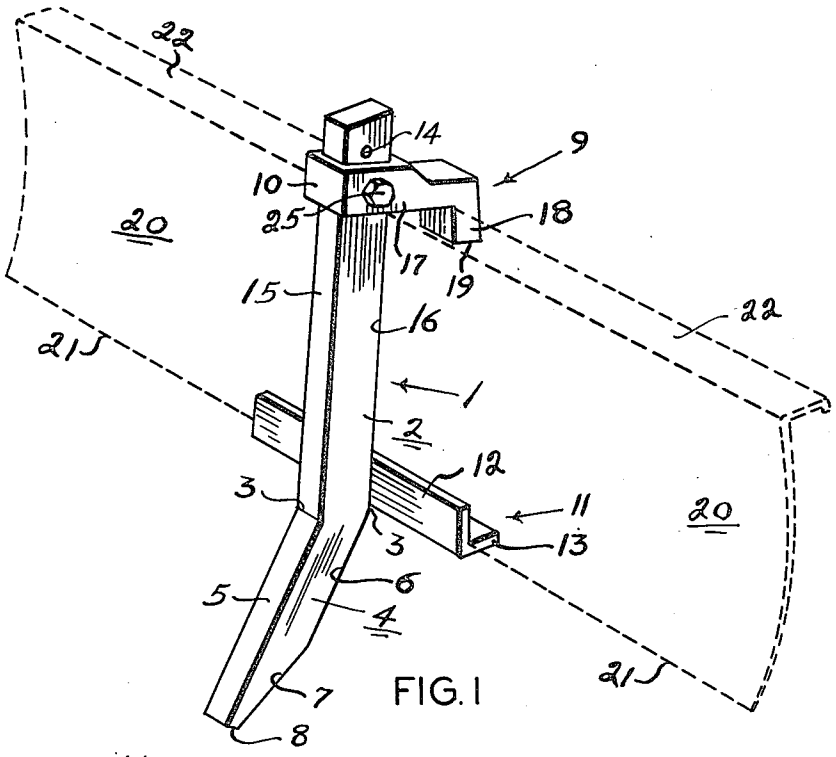


FIG. 1

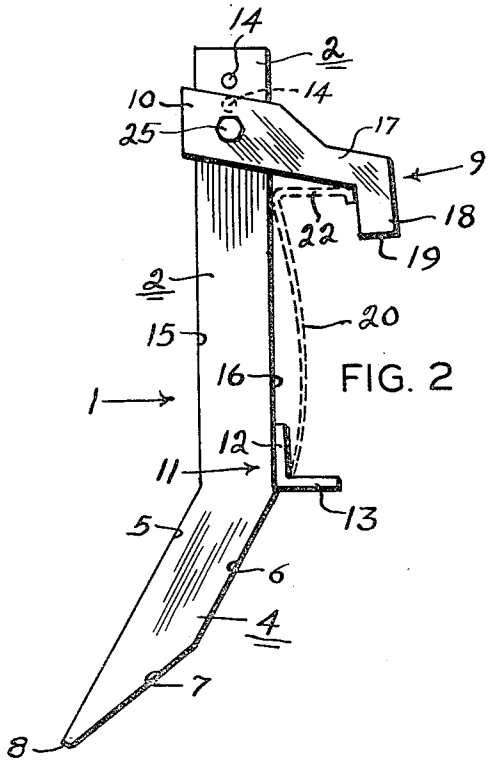


FIG. 2

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ROCK GOUGE ATTACHMENT FOR BULLDOZER BLADES

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1 Claim. (Cl. 37—145)

The present invention relates to earth moving bulldozers, and more particularly to rock gouging attachments for the blades of such bulldozers.

The principal object of the invention is to provide a gouge attachment for bulldozer blades, which attachment can be mounted on and dismounted from the bulldozer blade by the aid of the conventional hydraulic blade control.

A further object is to provide a gouge attachment of this class which is so designed that it will not become dislocated while in use.

Another object is to provide a gouge attachment of this class which is adjustable to fit bulldozer blades of different vertical widths.

An additional object is to provide a gouge attachment of the class described, which has few moving parts which may become worn or which may get out of order.

Other objects will be apparent from the following description when taken in conjunction with the accompanying single sheet of drawings, wherein:

Figure 1 is a perspective view of the device operatively installed upon a conventional bulldozer blade, the blade being shown in dotted lines; and,

Figure 2 is a side elevational view of the device installed on said bulldozer blade.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

The reference numeral 1 indicates, as a whole, a single piece gouge bar 1 of heavy metal, its preferred cross-sectional dimension being approximately 3 inches by 6 inches. The bar 1 has an upper straight shank portion 2 of a length somewhat greater than the height of the bulldozer blade upon which the device is to be attached. The numeral 3 indicates the lower end of said shank portion 2. The bar 1 further consists of a lower hook or point portion 4 integral with the shank but bent or tilted in a forward direction at an approximate seventy degree angle. The point portion 4 has a straight forward edge surface 5 extending its entire length, and its opposite or rear edge has a straight surface 6 parallel with but shorter than the forward edge surface 5. The rear edge face of the point portion 4 further includes a straight slanting edge face 7 which converges toward the forward face 5 to form therewith a point 8.

The upper shank portion 2 has parallel front and rear edge faces 15 and 16 respectively which are parallel to each other, the lower end of the edge face 16 is welded or otherwise rigidly attached to a horizontal angle iron sill 11 which faces rearwardly. The sill 11 is composed of a vertical flange 12 and lower horizontal flange 13.

The upper end of the shank portion 2 has a row of vertically spaced threaded through perforations 14 bored laterally therethrough, the purpose of which is more fully described hereinbelow.

The device further includes a bracket 9 which is vertically slidable along the shank portion 2 of the bar 1. This bracket 9 has a rectangular loop portion 10 having

a sliding fit around the shank 2, a rearwardly projecting arm 17 integral with the loop, and at the rear end of the arm 17, there is an integral downwardly turned hook element 18.

A conventional bulldozer blade 20 having a straight lower horizontal forwardly presented earth-cutting edge 21, and having an upper rearwardly turned flange or moldboard 22 parallel with said edge 21 is shown in the drawings. This blade 20 is the portion of a conventional earth moving bulldozer upon which the gouge mechanism of the present invention is adapted to be operatively installed.

Before the first installation, the blade 20 is measured vertically. The loop 10 of the bracket 9 is raised on the shank 2 sufficiently to barely provide clearance for the blade 20 between the upper surface of the sill 11 and the lower end 19 of the hook element 18. A stud 25 is then inserted in a bored hole, not shown, in one side of the loop 10 and into the nearest one of the threaded perforations 14 in the shank 2, where it is tightened in place. The device is then ready for installation upon the blade 20.

The first step in installation is to stand the bar 1 in an upright position. The bulldozer is then driven forwardly toward the rear edge of the bar with the blade 20 raised and with its lower edge 21 withdrawn to slightly trail the upper flange 22. The flange 22 is first inserted beneath the lower end 19 of the hook 18 and is then raised to nest between the hook and the rear edge 16 of the shank 2. Thereafter, the lower edge 21 of the blade is swung forwardly to seat upon the upper surface of the flange 13 of the sill 11. The blade is then tilted to present its lower edge 21 in front of its upper flange 22, thus completing the installation process.

With the device thus operatively installed upon the blade, it is held in place by the bracket 9 and the frictional engagement of the blade edge 21 upon the horizontal flange 13.

In use, the point 8 is presented to the ground ahead of the blade edge 21, and all gouging thrust is upwardly and rearwardly. The bracket 9 and sill 11 therefore maintain the device in operative position at all times during operation.

It is to be understood, of course, that the blade 20 is at all times handled by the conventional hydraulic lift mechanism which forms a part of conventional earth moving bulldozers. This hydraulic mechanism has a sufficient downward thrust to place most of the bulldozer's weight upon the point 8, if desired.

When it is desired to dismount the device from the blade 20, the bar 1 is stuck into the earth in a substantially vertical position. Thereafter, the bulldozer blade 20 is manipulated to first withdraw its lower edge 21 from engagement with the sill 11, and to then lower the flange 22 out of engagement with the hook bracket 9.

Obviously the invention is susceptible to some change or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claim.

I claim:

A removable rock gouging tooth attachment for a bulldozer having a moldboard, including: a metal bar disposed vertically adjacent the forward edge of said moldboard, said bar having an upper straight-shank portion extending upwardly above the upper edge of said moldboard, the lower end portion of said bar terminating in a downwardly and forwardly presented earth engaging point below the lower edge of said moldboard; a hook-clamp carried by the upper end of said shank portion, said clamp projecting rearwardly and downwardly from said shank for receiving the upper edge of said moldboard thereunder

as the same is moved forwardly and upwardly to lift the tooth; a horizontally disposed sill rigidly carried rearwardly by the lower end of said shank portion, said sill having a horizontal rearwardly projecting flange, the spacing between said flange and said hook-clamp being substantially equal with relation to the vertical height of said moldboard for frictionally receiving and holding the lower edge of the same on the upper surface of said flange when the lower edge of said moldboard is presented forwardly of the upper edge; and means for selectively adjusting the spacing between said hook-clamp and said flange, said means including, providing the upper end portion of said shank with a plurality of transverse perforations in longitudinal spaced-apart relation, and a pin extending transversely through said hook-clamp and

one of said perforations, whereby said tooth may be removed from the moldboard by a rearward and downward movement of the lower edge of the same after forcing said earth engaging point into the soil.

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