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F. F. MOENCH

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ASPHALT CUTTER FOR ATTACHMENT TO A MOLDBOARD

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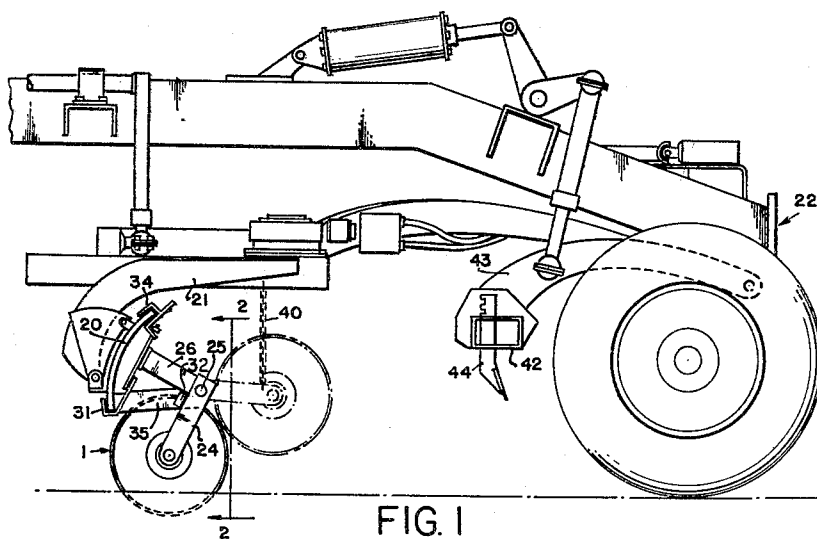


FIG. 1

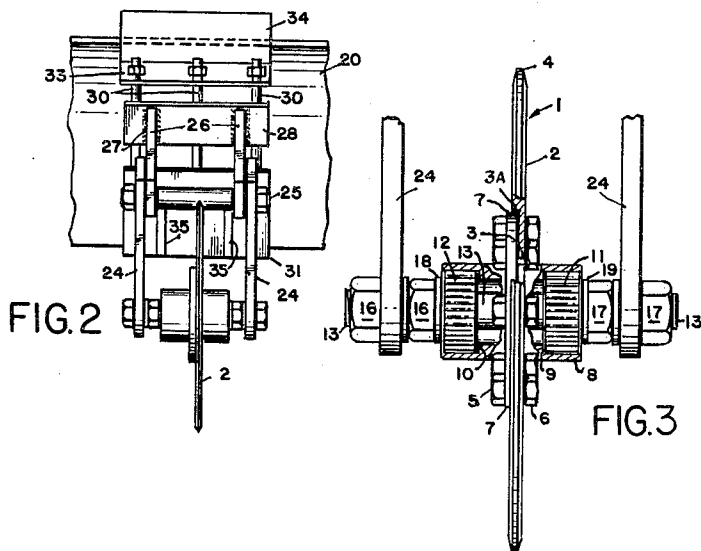


FIG. 2

FIG. 3

FRANK F. MOENCH
INVENTOR.

BY *James S. Civan*
ATTY

1

3,067,989

ASPHALT CUTTER FOR ATTACHMENT TO A MOLDBOARD

Frank F. Moench, Medford, Oreg., assignor to Specialty Manufacturing Inc., Denver, Colo., a corporation of Colorado

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2 Claims. (Cl. 262-20)

This invention relates to improvements in road machinery such as graders, bulldozers, and the like and more particularly to an asphalt cutter.

The principal object of the invention is to provide an asphalt cutter which is adapted for quick and convenient attachment to the moldboards or bulldozer blades of road machinery and adapted by the controlled lowering operations of the moldboards or blades of such machinery to be forced into cutting engagement with asphalt paving or similar road surfacing for cutting the same neatly, accurately and without disturbing the remainder of the road surface in contrast to scarifier teeth heretofore used for such work with machinery of the character described.

The foregoing and other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a fragmentary side elevational view showing the asphalt cutter of my invention applied to the hydraulically controlled moldboard of a road grading machine.

FIGURE 2 is a fragmentary elevational view on an enlarged scale taken approximately along the line 2-2 of FIGURE 1.

FIGURE 3 is a front elevational detail view on an enlarged scale and partly in section, of the asphalt cutter of this invention.

With continuing reference to the drawings, wherein like characters of reference designate like parts throughout the several views, and particularly FIGURE 3 thereof, the asphalt cutter of my invention indicated generally by reference numeral 1 comprises a disc 2 having a central opening 3 and reduced in thickness about the opening to provide a recess having an annular shoulder 3A, and provided with a cutting edge 4. The disc is secured concentrically by means of bolts and nuts 5 and 6 to a flange 7 integrated with a hollow hub 8 internally shouldered as at 9 and 10 for the mounting therein of roller bearings 11 and 12. By means of the shouldered recess 3A the disc is self-centering concentrically relative to the hub for simplicity and accuracy of assembly. Extending through the hub beyond the ends thereof and journaled within the roller bearings is a shaft 13 adapted to be secured to the bottom ends of supporting arms 24 by extension therethrough and by lock nuts 16 and 17 with retaining washers 18 and 19 for retaining the roller bearings within the hub.

In FIGURE 1, the asphalt cutter 1 is shown operatively secured to the tiltable moldboard 20 carried by a tiltable arm 21 operatively associated with a road grading machine indicated generally at 22. The cutter 1 is rotatably carried by the bottom ends of the supporting arms 24 whose top ends are swingably attached as at 25 to the outer end of a pair of brackets 26 welded as at 27 (see FIGURE 2) to a crossplate 28 in turn welded to clamping bolts 30 whose bottom ends are welded to a clip 31 adapted to engage the bottom edge of the moldboard 20. The top ends of the bolts extend through a flange 33 of an inverted clip 34 adapted to engage the

2

top edge of the moldboard. By this arrangement the cutter may be secured to the moldboard in any desired horizontally adjusted position relative thereto. Two diagonal braces 35 are welded at their forward ends to the outer ends of the brackets 26 and at their inner ends to the clip 31 for stabilizing the cutter 1 in operation as shown in full lines in FIGURE 1. To serve as a limit stop to prevent excessive rearward swing of the cutter 1 into damaging contact with the bottom clip 31, I weld a block of metal 32 to each supporting arm 24 for abutment with the brackets 26. For selectively holding the cutter in an inoperative position as shown in broken lines, I provide a chain 40 suspended at its top end from any suitable attachment to the grading machine and adapted at its bottom end for attachment to either arm 24.

While I have shown particular forms of embodiment of my invention I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention. Having thus described my invention what I claim as new and desire to protect by Letters Patent is:

1. An asphalt cutter adapted for securement to an upwardly and downwardly swingable moldboard of a road machine wherein the moldboard has a top edge and a bottom edge, said cutter comprising a top clip engageable with said top edge of the moldboard and a bottom clip engageable with the bottom edge thereof, clip-interconnecting means secured at their bottom end to said bottom clip and adjustably lockable at their top end to said top clip whereby both of said clips may be secured to said moldboard, a pair of spaced apart brackets permanently secured to said clip-interconnecting means and extending forwardly and downwardly therefrom, a pair of supporting arms swingably attached at their top end to said forward end of said brackets, a cutting disk rotatably carried by the bottom end of said arms, limit stop means carried by said arms and engageable with said brackets to prevent excessive rearward swing of said cutting disk into damaging contact with said bottom clip, and means for selectively holding said arms and cutting disk in an elevated and inoperative position relative to a roadway.

2. An asphalt cutter adapted for securement to an upwardly and downwardly swingable moldboard of a road machine wherein the moldboard has a top edge and a bottom edge, said cutter comprising a top clip engageable with said top edge of the moldboard and a bottom clip engageable with the bottom edge thereof, clip-interconnecting means secured at their bottom end to said bottom clip and adjustably lockable at their top end to said top clip whereby both of said clips may be secured to said moldboard, a pair of spaced apart brackets permanently secured to said clip-interconnecting means and extending forwardly and downwardly therefrom, a pair of supporting arms swingably attached at their top end to said forward end of said brackets, a shaft secured to the bottom end of said arms, a hub rotatably mounted upon said shaft between said arms, an annular flange integrated with said hub, a cutting disk having a concentric central opening therethrough to accommodate said hub and a concentric annular recess surrounding said opening for the reception of said flange, means removably securing said cutting disk to said flange, limit stop means carried by said arms and engageable with said brackets to prevent excessive rearward swing of said cutting disk into damaging contact with said bottom clip, and means carried by the road machine and attachable to said arms for selectively holding the arms and cutting disk in an elevated and inoperative position relative to a roadway.

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3

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