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2,935,308

ROTARY PAVING CUTTER

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Fig. 1.

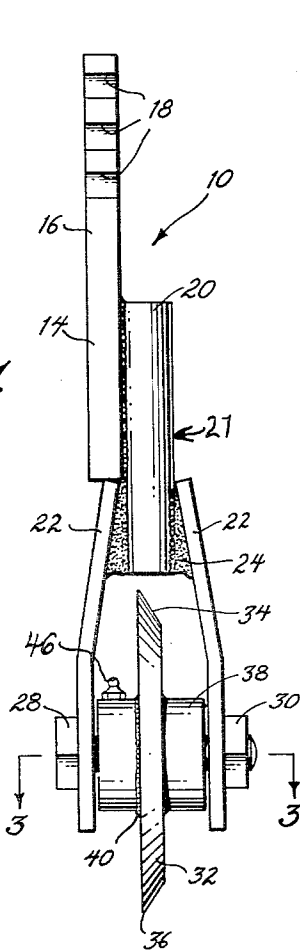


Fig. 2.

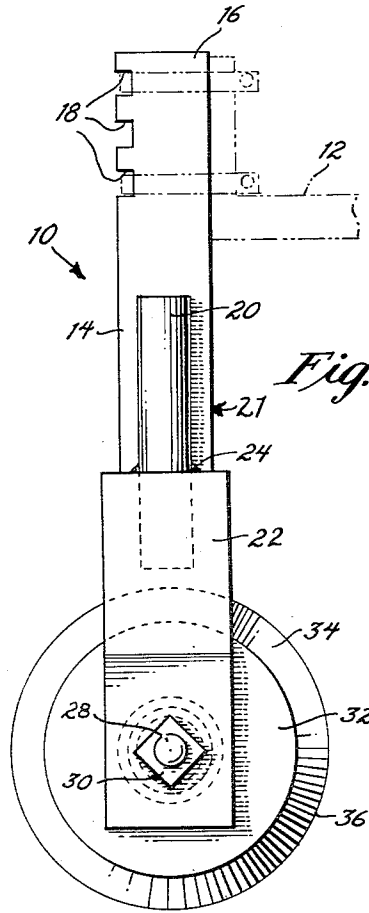
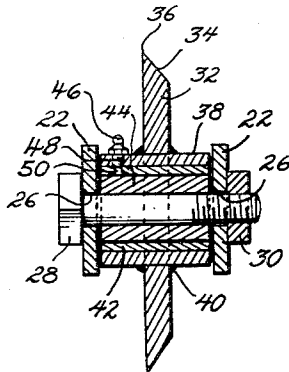


Fig. 3.



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ROTARY PAVING CUTTER

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4 Claims. (Cl. 262—20)

The present invention is directed to a rotary paving cutter, and more particularly to a rotary paving cutter for scoring and/or cutting asphalt or concrete paving or the like.

There has been a long felt need for a satisfactory tool for cutting precise boundaries about an area of faulty pavement. For example, in the patching of roads and highways, it is necessary to define an area which is to be removed and replaced. At the present time crude techniques and apparatus are conventionally utilized for cutting pavements and roadbeds, such as impact tools and hammers.

This invention has as an object the provision of a novel rotary paving cutter.

This invention has as another object the provision of a paving cutter which may be automatically operated.

This invention has as a still further object the provision of a paving cutter of relatively low cost construction which possesses a great degree of durability and strength.

Other objects will appear hereinafter.

For the purpose of illustrating the invention there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

Referring to the drawings wherein like reference characters refer to like parts:

Figure 1 reveals the rotary paving cutter of the present invention shown in end elevation.

Figure 2 is a side elevational view of the rotary paving cutter of the present invention secured to road equipment.

Figure 3 is a sectional view taken along line 3—3 of Figure 1.

Referring to the drawings, the present invention comprises the rotary paving cutter designated generally as 10, which rotary paving cutter is operatively engaged with road equipment 12.

Road equipment 12, which is shown in phantom line in Figure 2, may comprise any conventional power operated road vehicle, such as a tractor or the like.

A wide variety of means may be utilized for securing the rotary paving cutter 10 to the road equipment 12. In the illustrated embodiment the rotary paving cutter 10 comprises the upright 14 whose front edges 16 are notched at 18, which notches 18 are engaged with a mating clamping element in the road equipment 12.

The upright 14 may comprise a forged steel frame member which is lap welded to the rod 20 of the clevis 21. The clevis 21 comprises the legs 22 and 22 which are welded at 24 to the rod 20.

The legs 22 are provided with mating similar aligned holes 26 through which the bolt 28 may be passed. The bolt 28 is threaded at its end remote from its head, and carries the nut 30 at such threaded end.

The cutter wheel 32 is rotatably carried on the bolt 28 intermediate the legs 22 and 22 of clevis 21. The cutter wheel comprises a disc which is beveled at 32 to provide the sharp edge 36 and which is welded to the

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outermost surface of the hub 38 intermediate its ends by the weld metal 40.

The bushing 42 is force-fitted into the hub 38. The journal 44 which is force-fitted onto the axle of the bolt 28 is juxtaposed to the inside surface of the bushing 42.

A lubricant tap 46 may be provided on the exterior of the hub 38, which lubricant tap 46 is in communication through the aligned openings 48 and 50 in the hub 38 and bushing 42 with the clearance intermediate the bushing 42 and the journal 44. This enables pressure grease lubrication to be furnished intermediate the bushing 42 and the journal 44.

The rotary paving cutter of the present invention may be dragged or pushed along the paving surface which is being cut. Preferably, the cutter should have sufficient mass of its own to effect a cutting action upon the pavement over which it is being moved. However, if desired, the rotary paving cutter may be downwardly urged by the road equipment 12.

The side-by-side arrangement of the upright 14 and the rod 20, with the end of the upright 14 being abutted to one of the legs 22 of the clevis 21 permits a high degree of rigidity to be achieved by the rotary paving cutter of the present invention.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A rotary paving cutter comprising a rigid metal upright adapted at one end to be attached to a road vehicle, a clevis comprising a rigid rod having a pair of spaced apart legs secured to and extending from one end thereof, the free end portions of said legs being substantially parallel, said clevis being rigidly secured to the other end of the upright with the rod in side-by-side, overlapping relation with the upright and the upper end of one of the legs abutting the end of the upright, and a cutting wheel rotatably supported between the free ends of the clevis legs.

2. A rotary paving cutter comprising a rigid metal upright adapted at one end to be attached to a road vehicle, a clevis comprising a rigid rod having a pair of spaced apart legs welded to one end thereof and extending therefrom, the free end portions of said legs being substantially parallel, said rod being in side-by-side, overlapping relation with the other end of said upright and welded thereto, the upper end of one of the legs abutting against the end of the upright, and a cutting wheel rotatably supported between the free ends of the clevis legs.

3. A rotary paving cutter comprising a rigid metal upright adapted at one end to be attached to a road vehicle, a clevis comprising a rigid rod having a pair of spaced apart legs welded to one end thereof and extending therefrom, the free end portions of said legs being substantially parallel, said rod being in side-by-side, overlapping relation with the other end of said upright and welded thereto, with the upper end of one of the legs abutting against the end of the upright, a bolt extending through aligned holes in the free ends of the clevis legs, said bolt having a head on one end abutting the outer surface of one of the legs and having its other end threaded, a nut threaded on the threaded end of the bolt and abutting against the outer surface of the other leg, a journal force-fitted on the bolt between the legs, a hub rotatably mounted on the journal, and a cutter wheel secured to the outer surface of the hub, said cutter wheel comprising a disc having a beveled periphery providing a sharp cutting edge.

4. A rotary paving cutter comprising a rigid metal upright having a plurality of spaced notches in the front

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edge thereof adjacent of its ends for engaging with means for clamping the upright to a road vehicle, a clevis comprising a rigid rod having a pair of spaced apart legs welded to one end thereof and extending therefrom, the free end portions of said legs being substantially parallel, said rod being in side-by-side, overlapping relation with the other end of said upright and welded thereto, with the upper end of one of the legs abutting against the end of the upright, a bolt extending through aligned holes in the free ends of the clevis legs, said bolt having a head on one end abutting the outer surface of one of the legs

and having its other end threaded, a nut threaded on the threaded end of the bolt and abutting against the outer surface of the other leg, a journal force-fitted on the bolt between the legs, a hub rotatably mounted on the journal, and a cutter wheel secured to the outer surface of the hub, said outer wheel comprising a disc having a beveled periphery providing a sharp cutting edge.

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