May 26, 1931. H. A. INGALLS 1,807,412

ROAD TREATING APPARATUS

Filed Oct. 30, 1928

Fig. 1.

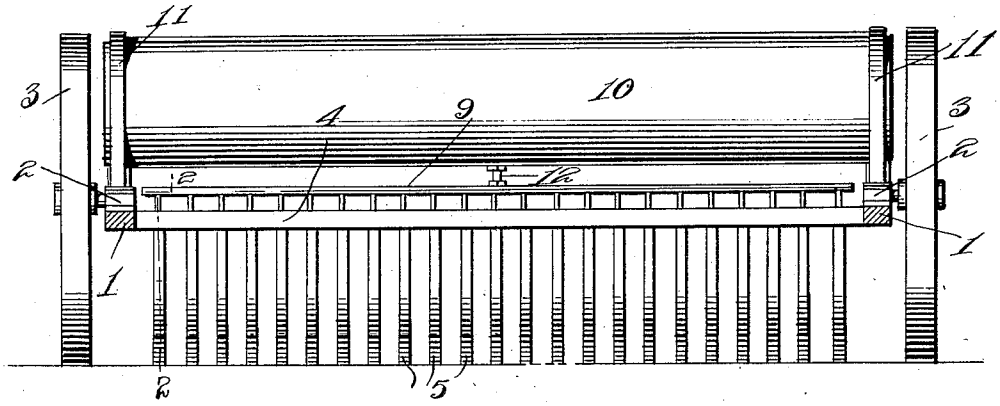


Fig. 2.

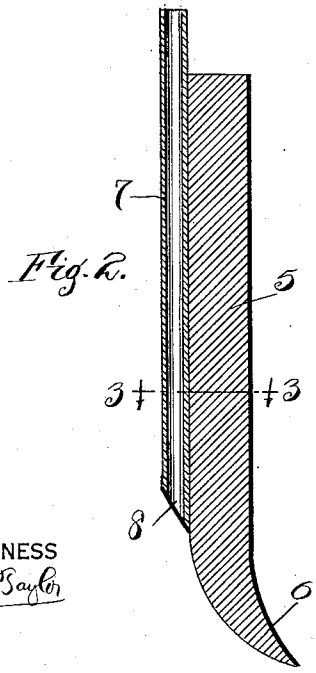
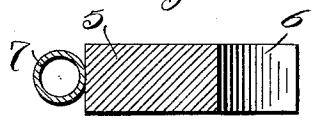


Fig. 3.



WITNESS
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UNITED STATES PATENT OFFICE

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ROAD TREATING APPARATUS

Application filed October 30, 1928. Serial No. 315,959.

This invention relates to road treating apparatus, and is more particularly concerned with means for applying to a road way surface, fluid, such as oil or tar compositions, for penetration of and assimilation by its upper layer crust or topping.

Mere surface application of road treatment fluid has the disadvantage of insufficient penetration of and assimilation by its top crust or layer, and wastage of the applied fluid by drainage and dissipation on the wheels and tires of passing traffic.

It is the object of my invention to provide road treating means ensuring penetration of applied treatment fluid into the upper crust of the road surface, and to provide means for applying such treatment fluid not subject to clogging from roadway surface material.

With these and other objects in view, the invention consists in certain novel features of construction, and combinations and arrangements of parts as hereinafter more fully set forth and pointed out. The invention will be more fully understood from the following detailed specification which is to be read in conjunction with the accompanying drawings forming part thereof and in which:—

Figure 1 is a view in transverse section showing the rear end of a road machine embodying the elements of the present invention.

Figure 2 is a vertical longitudinal section on an enlarged scale through a scarifier tooth and fluid feeding tube.

Figure 3 is a transverse horizontal section on the line 3—3 of Figure 2.

The road treating means of this invention comprises essentially a gang of road surface scarifier tools, which may be disks, or as shown, teeth, mounted on the frame of a wheeled vehicle and adjustable toward and from the road surface to vary the degree of penetration, and a corresponding gang of treatment fluid feeding tubes associated with the scarifying tools and discharging the treatment fluid at points slightly above and rearwardly of the tools as the vehicle is moved over the roadway.

In Figure 1 of the drawings, I have shown conventionally the frame 1 of such a wheeled vehicle, this frame carrying journals 2 for the axles of the road wheels 3 and being adjustable thereon toward and from the road-way surface. A cross bar 4 of the frame mounts a gang of spaced road scarifying tools in the form of bars 5 suitably affixed to and depending from said cross bar and having toothed lower ends 6 outturned and beveled to a broad cutting edge (Figure 3) to groove or scarify the top of the road surface to the depth predetermined by the adjustment of the frame.

To the depending rear face of each bar is rigidly secured a treatment liquid discharge pipe 7 with its lower end terminating appreciably above the toothed lower end 6 of the bar and cut on a sharp bias upwardly and rearwardly at 8 to prevent clogging by the material of the road surface thrown upwardly by the scarifying tool.

The series of pipes 7 extend upwardly to a manifold 9 traversing the frame. A tank 10 for holding the road treatment fluid is mounted by straps 11 on the frame 1 to move therewith and is connected by a central discharge pipe 12 with the manifold 9. This tank with its pipe 12, manifold 9, and flow pipes 7 will move with the frame 1 and its scarifier tool bar 4, so that the scarifier tools and flow tubes with their supply tank and supply line will be moved in unison when adjusted.

The road treatment fluid, for example, crude oil, will flow in the grooves cut in the road surface by the scarifying tool to which their pipes are attached and which they follow as the vehicle moves over the roadway. The top surfacing of the roadway, will, therefore, be penetrated and the liquid will penetrate in and be absorbed by the topping material. Obviously, the scarified and treated road surface is leveled and rolled following scarification and liquid treatment.

The embodiment of the invention in structural form and its application to a road-working vehicle have been shown in a general and illustrative form rather than a restrictive one since various changes and modifications in consonance with the spirit of the in-

vention and the scope of the appended claims are contemplated in adapting the invention to varying conditions of manufacture and use.

What I claim, therefore, and desire to secure by Letters Patent is:

1. Road surface treating equipment comprising a wheeled vehicle having a road traversing member, a plurality of scarifying bars depending substantially vertically therefrom in laterally spaced relation terminating at their lower ends in road way grooving broad edged teeth, a reservoir for holding road treating fluid mounted on said vehicles, and a conduit fixed to each of said bars at its rear face and depending therewith to a lower terminal discharge point above its lower toothed end, the upper end of each conduit having communication connection with said reservoir.

2. Road surface treating equipment comprising a wheeled vehicle having a road traversing member, a plurality of road surface scarifying bars depending substantially vertically therefrom in laterally spaced relation with their lower ends having broad front faces forwardly curved and terminating in broad edged, road grooving teeth, a reservoir for holding road treating fluid mounted on said vehicle, a conduit fixed to the rear face of each of said bars and depending therewith to terminate at a fluid discharge point at the rear of and above its grooving tooth, the lower discharge end of said conduit inclining upwardly and rearwardly, a tank for road treatment fluid mounted on and traversing the vehicle, a traversing trunk conduit supported substantially below said tank and having a fluid conduit in communication therewith, the upper ends of said bar-fixed conduits having communicating connection with said traversing trunk to receive fluid therefrom.

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