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3,413,738

RUBBER BLADE FOR PLOW

Filed April 11, 1966

2 Sheets-Sheet 1

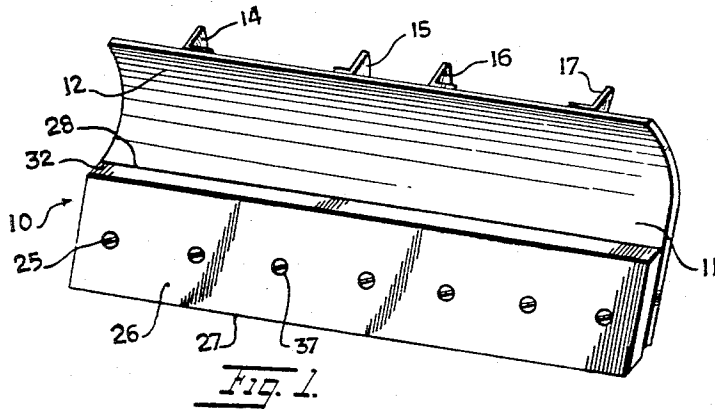


Fig. 1.

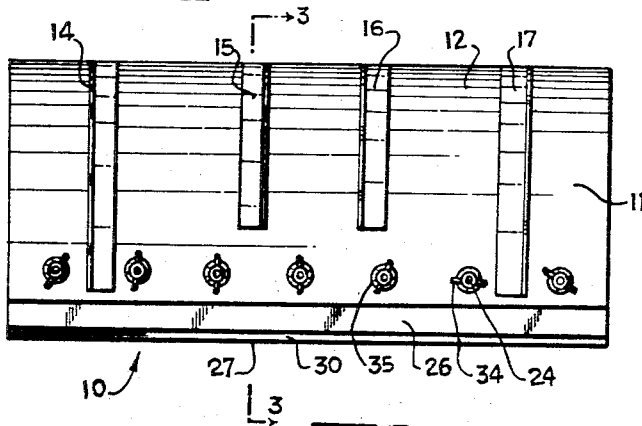


Fig. 2.

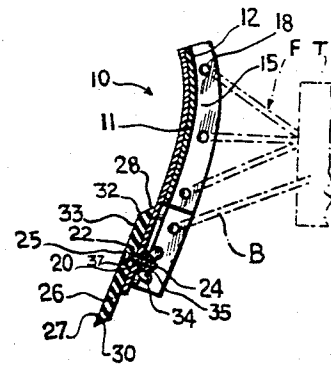


Fig. 3.

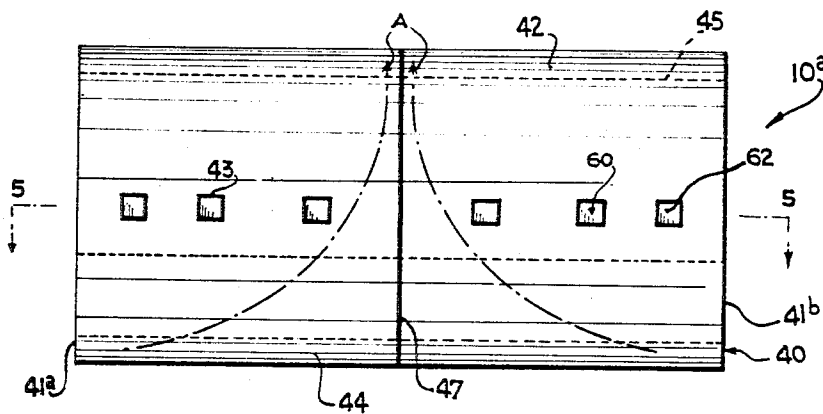


Fig. 4.

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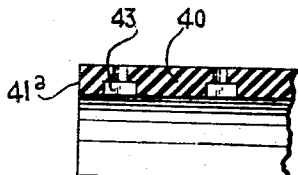
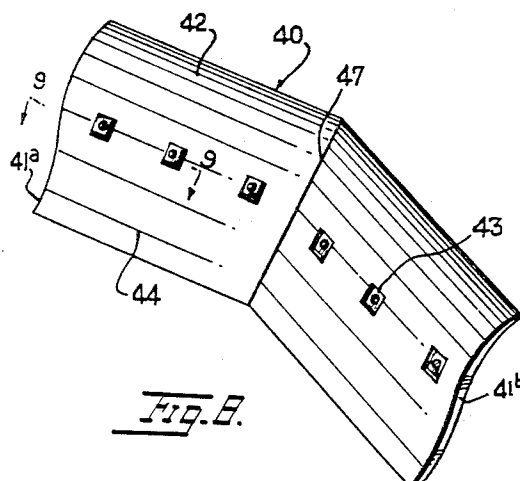
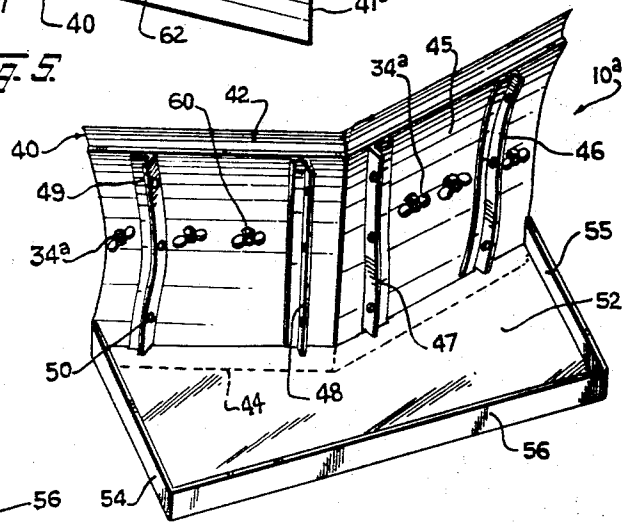
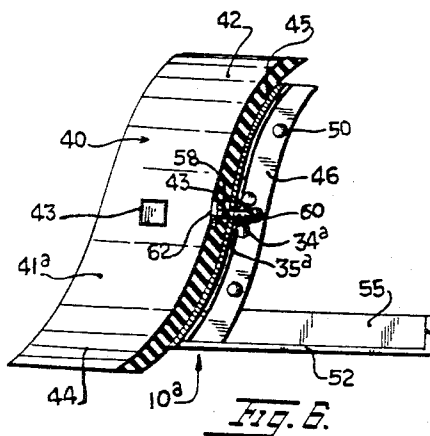
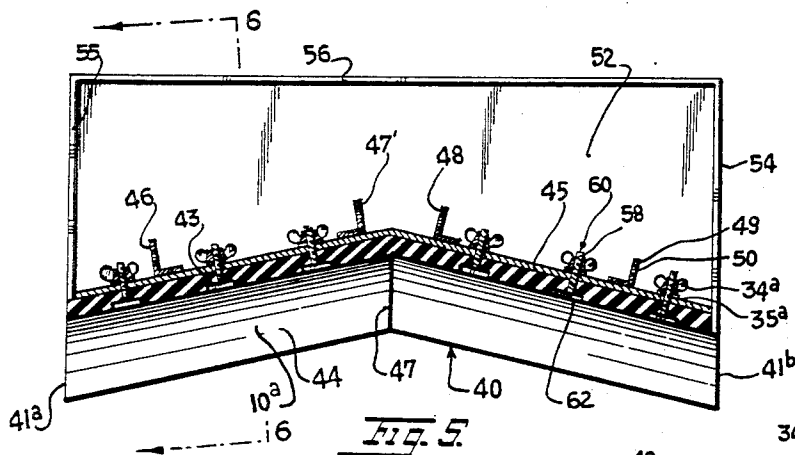
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2 Sheets-Sheet 1



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RUBBER BLADE FOR PLOW

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7 Claims. (Cl. 37-42)

ABSTRACT OF THE DISCLOSURE

The invention consists of a plow having a removable and reversible resilient scraper blade attached to a moldboard wherein both the moldboard and the blade are V-shaped in cross section with a concave lower portion and a convex upper portion. The upper and lower ends of the blade extend further than the corresponding edges of the moldboard.

This invention concerns a plow for pavement or roadway clearing equipment.

According to the invention there is provided a moldboard adapted for mounting on the front of a tractor, truck, bulldozer or the like. The moldboard has a flexible rubber blade secured thereto for yieldingly scraping and cleaning a roadway to remove snow, slush and other foreign matter, without damage to the roadbed commonly caused by use of all metal plows.

It is a principal object of the invention to provide a moldboard with a removable and reversible rubber scraper blade.

It is another object to provide a resilient pavement cleaning implement which will operate without use of rotary brushes or other complex mechanisms for clearing away snow, slush and debris, which implement will be substantially quiet in operation.

It is a further object to provide a roadway clearing implement which operates in direct contact with a roadway surface without injuring the surface, to leave the surface clean and substantially dry.

A still further object is to provide a moldboard plow and blade shaped and adapted to guide snow, slush and debris over the moldboard into a collecting tray.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a perspective view of a moldboard and blade assembly according to the invention.

FIG. 2 is a rear elevational view of the assembly of FIG. 1.

FIG. 3 is a vertical sectional view taken on line 3-3 of FIG. 2.

FIG. 4 is a front elevational view of another moldboard and plow assembly.

FIG. 5 is a horizontal sectional view taken on line 5-5 of FIG. 4.

FIG. 6 is a sectional view taken on line 6-6 of FIG. 5.

FIG. 7 is a perspective, rear view on a reduced scale of the assembly of FIGS. 4-6.

FIG. 8 is a front perspective view on a reduced scale of the blade alone, used in the assembly of FIGS. 4-7.

FIG. 9 is a fragmentary sectional view on an enlarged scale taken on line 9-9 of FIG. 8.

In FIGS. 1-3 is shown an assembly 10 including an elongated, rectangular, rigid moldboard 11 having a curved top edge 12. The curvature of the moldboard is concave at the front. The moldboard is provided with

spaced angle bars 14-17 at the rear having holes 18 for engaging ends of bars B of a carrying frame F indicated by dotted lines in FIG. 3, adapted for carrying the moldboard on a tractor T or other vehicle. The moldboard has a row of spaced holes 20 through which pass shanks 22 of screws 24. The screws have heads 25 flush with the outer front surface of a thick, flexible rubber blade 26. The blade has a lower sharp edge 27 and an upper edge 28 both formed by inclining opposite faces 30, 32 of the blade angularly to rectangular front face 33 of the blade. The blade is thus reversible to apply either sharp edge 27 or 28 to the ground for cleaning and clearing a pavement.

Wing nuts 34 are removably mounted on the shanks of screws 24 for quickly detaching, removing and reversing the blade 26 when required. Washers 35 are mounted between the nuts and moldboard. Holes 37 in blade 26 register with holes 22.

In FIGS. 4-9 is shown another plow blade 40 which is V-shaped in horizontal cross section and curved at opposite upper and lower edges 42, 44. A row of noncircular or rectangular holes 43 extends longitudinally along the blade midway between opposite edges. Edge 44 is concave and edge 42 is convex. The blade is generally rectangular in elevation; see FIG. 4. Edges 44 and 42 extend below the corresponding curved moldboard 45 at the bottom and above the moldboard at the top in assembly 10^a as clearly shown in FIG. 6. Curved angle bars 46-49 are provided for mounting the moldboard in a suitable carrying frame similar to the frame F of FIG. 3. Holes 50 in the angle bars serve for engaging ends of the several bars of the frame.

A flat tray 52 with upstanding side and rear walls 54, 55, 56 is welded to the lower edge of the moldboard 45 and extends horizontally rearward. The tray serves to collect snow, slush and debris which is guided by the flexible blade from the outer flaring ends 41^a, 41^b to the inner apical center line 47 and then as the moldboard and blade are pushed forwardly, the gathered material flows up and over the convex curved edge 44 into the tray 52; see arrows A in FIG. 4.

Wing nuts 34^a are threaded on shanks 58 of bolts 60 whose noncircular or rectangular heads 62 seat nonrotatably in the holes 43 in the blade. The heads 62 fit flush with the front surface of the blade. Washers 35^a are mounted between the nuts and rear side of moldboard 45.

The blade is preferably made of rubber about an inch or more in thickness. The blade has a length equal to that of the moldboard and a width greater than that of the moldboard. The blade serves to scrape and wipe clean any pavement to which it is applied. Due to the flexibility of the blade it cannot injure the pavement surface.

The blade completely covers the front of the rigid moldboard and provides a resilient pad to take up shock of impact against any stationary roadway obstruction which might be encountered.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A plow assembly for cleaning a pavement, comprising a rigid moldboard having a row of holes spaced longitudinally therealong between opposite edges, a resilient blade juxtaposed to the moldboard, a plurality of quickly detachable screws engaged in said holes and securing the blade to the moldboard, wherein the moldboard is V-

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shaped in section with a concave lower portion and a convex upper portion, and wherein the resilient blade is removably secured to one side of the moldboard, said blade being V-shaped in section with a concave lower portion extending below said lower portion of the moldboard and a convex upper portion extending above said upper portion of the moldboard.

2. A plow assembly for cleaning a pavement as defined in claim 1, wherein said moldboard has a plurality of spaced angle bars at the other side of the moldboard for securing the moldboard to a carrying frame.

3. A plow assembly for cleaning a pavement as defined in claim 2, and a tray secured to said other side of the moldboard and extending outwardly away from said other side, said upper portion of the blade extending over said tray for guiding snow, slush and debris into the tray.

4. A plow assembly for cleaning a pavement as defined in claim 1, wherein said blade has a plurality of noncircular holes extending in a row between opposite edges of the blade, and a plurality of bolts extending through said holes and registering holes in the moldboard, said bolts having noncircular heads engaged in the holes in the blade.

5. A plow assembly for cleaning a pavement as de-

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finer in claim 4, and wing nuts removably engaged on said bolts at the other side of the moldboard.

6. A plow assembly for cleaning a pavement as defined in claim 5, wherein said moldboard has a plurality of spaced angle bars at the other side of the moldboard for securing the moldboard to a carrying frame.

7. A plow assembly for cleaning a pavement as defined in claim 6, and a tray secured to said other side of the moldboard and extending outwardly away from said other side, said upper portion of the blade extending over said tray for guiding snow, slush and debris into the tray.

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