May 8, 1951 R. HUNKLER 2,551,883

TRENCH CLEANER

Filed June 15, 1949 2 Sheets-Sheet 1

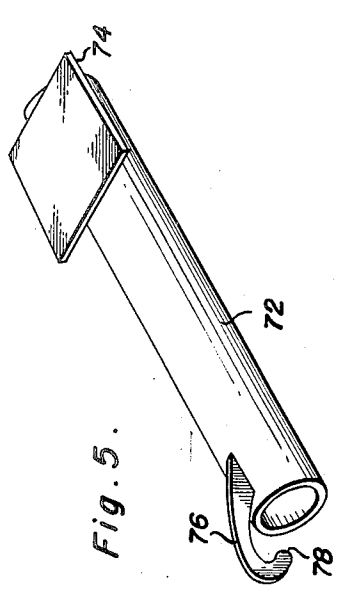


Fig. 5.

Fig. 1.

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TRENCH CLEANER

Filed June 15, 1949 2 Sheets-Sheet 2

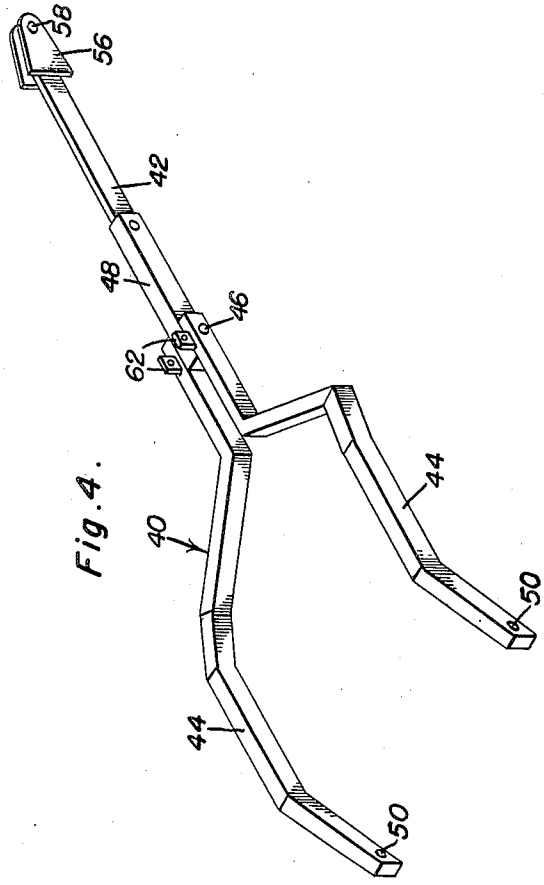


Fig. 4.

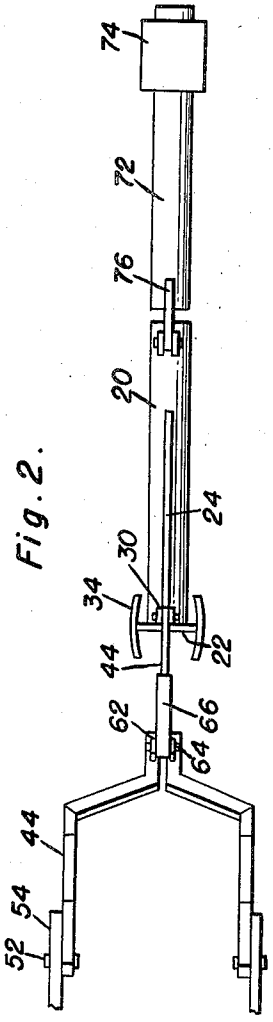


Fig. 2.

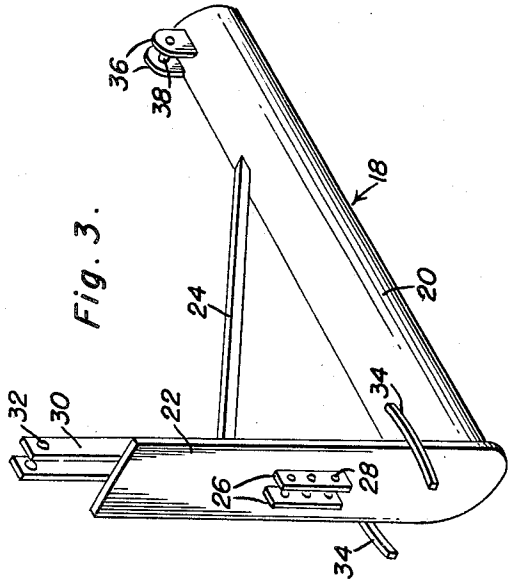


Fig. 3.

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UNITED STATES PATENT OFFICE

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TRENCH CLEANER

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Application June 15, 1949, Serial No. 99,313

1 Claim. (Cl. 37—86)

1

This invention relates to an attachment for a motor-operated trench digger, the primary object of which is to clean small particles or crumbs from the trench and at the same time produce an arcuate channel in the trench to permit tile to be effectively laid therein.

Another object of this invention is to provide a trench cleaner of the character described which may be adjustably pivoted upon the automotive vehicle carrying the trench digger.

A further object of this invention is to provide a trench cleaner which is sectional in construction, one of the sections being provided with a platform upon which a man can stand and lay tile in the channel produced while the attachment effectively cleans the trench dug.

A further object of this invention is to provide a device of the character described including a means for effectively guiding the trench cleaner within the trench.

And yet another object of this invention is to provide in an automotive vehicle having a trench digger carried at the rear thereof; a trench cleaner comprising a first elongated cylindrical member, means for adjustably pivoting said first member to the rear of the vehicle, a second cylindrical member, means for detachably pivoting said second member to said first member, a platform means at one end of said member for supporting a tile-layer.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated, by way of example only, in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the device shown attached to a motor-operated trench digger;

Figure 2 is a fragmentary top plan view of the device;

Figure 3 is a perspective view of the forward portion of the trench cleaner;

Figure 4 is a perspective view of the yoke for attaching the trench cleaner to the digger; and

Figure 5 is a perspective view of the rear section of the trench cleaner.

Specific reference will now be made to the drawings. In the several views, in the accompanying drawings and in the following specification, similar reference characters indicate corresponding elements throughout.

Indicated generally at 10 is an automotive vehicle, preferably a jeep, the rear of which is secured

2

to the conventional conveyor-type trench digger 12. The device of the instant invention is generally indicated at 14 and is attached to the rear of the vehicle 10 behind the trench digger, and accordingly functions to clean the trench 16 which has already been dug by the digger 12 in advance thereof.

The trench cleaner 14 consists of two sections 18 and 19 which are pivoted to each other and are secured to the vehicle 10 in a manner to be described hereinafter. The section 18 is shown clearly in Figure 3 and consists of a cylindrical or tubular member 20, to the forward end of which is secured a vertically extending plate 22. The plate 22 is additionally secured to the pipe 20 by means of a brace bar 24. Secured to the front face of the vertical plate 22 intermediate its ends is a pair of spaced, vertically extending lugs 26 having vertically spaced aligned apertures 28 therethrough. Secured to the rear face of the plate 22 and adjacent the top thereof is a pair of vertically extending, spaced bars 30 having aligned apertures 32 therethrough. Secured as by welding or riveting to the opposite edges of the plate 22 are a pair of somewhat arcuated, longitudinally extending rods 34, for a purpose to be later described. Secured to the rear of the cylindrical tube 20 is a pair of upstanding spaced lugs 36 interconnected by a means of a pin 38.

As shown clearly in Figures 1 and 4, a Y-shaped yoke 40 is provided having a leg portion 42 and a pair of arms 44 secured, as at 46, to a spacer bar 48 which is in turn secured to the leg 42. Adjacent the free ends of the arm 44 are apertures 50 for receiving bolts 52 securing the leg to the rear frame section 54 of the vehicle 10. To the rear end of the leg portion 42 of the yoke is secured a pair of spaced brackets 56 having aligned apertures 58 therethrough. Extending through a selected pair of the apertures 28 and the apertures 58 is a pivot pin 60. Thus, it will be seen that the yoke 40 can adjustably pivot the section 18 to the rear of the vehicle 10.

To further support the section 18 in adjusted position relative to the vehicle 10 upon the latter, the following means is provided. The rear portions of the arms 44 have secured thereto upstanding apertured lugs 62, see Figure 4, through which extends a pivot pin 64 which receives one end of the rearwardly extending bar 66, the latter having longitudinally spaced apertures 68 for receiving a further pivot pin 70 extending therethrough and through the apertures 32 in the bar 30 carried by the plate 22 on the forward section 18. Thus, it will be seen that the bar 66 may be

longitudinally adjusted upon the first section 18 while the yoke 40 may be vertically adjusted upon the first section as described hereinbefore.

The second section 20 consists also of a cylindrical or tubular member 72 of the same diameter as the tubular member 20 and carries at its rear a platform 74 for a purpose to be later described. At its forward end, the tubular member 72 carries an arcuated latch bar 76 having an inturned hooked end 78. The hooked end 78 of the latch bar 76 embraces the pivot pin 38 on the first section 18 so that the second section 20 is, in effect, removably pivoted on the first section 18, as will be readily understood.

In practical operation, after the trench 16 is formed by the trench digger 12, the sections 18 and 20 are pulled along in the trench, the arcuate bars 34 serving to guide the trench cleaner within the trench and prevents the latter from reaming the side walls of the trench. As the trench cleaner moves along in the trench, the sections 18 and 20, being cylindrical, form an arcuate recess. An operator stands on the platform 74 and, as the recess is formed, he lays tile in the recess to complete the recess. As will be readily understood, the movement of the trench cleaner through the trench scrapes small particles and crumbs from the trench just prior to the formation of the tile-receiving recess.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same

is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claim.

Having described the invention, what is claimed as new is:

In an automotive vehicle having a trench digger carried at the rear thereof; a trench cleaner comprising a first elongated cylindrical member, means for adjustably pivoting said first member to the rear of the vehicle, a second cylindrical member, means for detachably pivoting said second member to said first member, and a platform means at one end of said member for supporting a tile-layer, said first-named means including a vertical plate secured at the forward end of said first member, a bracket having vertically spaced apertures carried by said plate, a substantially Y-shaped yoke having its leg pivotally secured in one of the apertures provided in said bracket and its arms secured to the vehicle, spaced lugs carried by the leg of said yoke, spaced bars carried by said plate, and a bar pivoted at one of its ends between said lugs and adjustably pivoted at its other end between said spaced bars.

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