Fig. 8

Fig. 9

Fig. 10

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Our invention relates to improvements in weed burner apparatus for attachment to and transporting by a tractor to destroy weeds in fields and the like.

The primary object of our invention is to provide an apparatus for attachment to a tractor comprising a generally rectangular frame adapted to be secured to the tractor in such a manner as to permit the retroactive movement of the frame to a position in which the burner head is directed rearwardly to avoid the face of any obstacles such as fences, trees, or other obstructions.

Another object is to provide an apparatus comprising, as shown in Figure 1, a general rectangular frame adapted to the tractor for the purpose of carrying the burner head in a generally rearwardly position of the tractor.

Still another object is to provide a generally rectangular frame adapted to the tractor for the purpose of extending the burner head rearwardly of the tractor.

A further object of this invention is to provide a burner head comprising a generally rectangular frame adapted to the tractor for the purpose of extending the burner head rearwardly of the tractor.

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The outer pipe section 121 forms a combustion chamber 127 communicating with the tube 97 at and preferably of slightly larger diameter. The rear end of the burner head 91 is welded as at 131 on the tube 97. Gas discharge apertures 133 in the rear end portion of the inner pipe section 121 provide for gas passing from the vaporizing chamber 127 into the combustion chamber 129 with air from the blower 43 and igniting in chamber 129 to discharge out of the rear end of the burner head 91. A dished deflector plate 135 downwardly flaring edgewise is suitably fixed, as by welding 137, to the rear end of said head 91 to direct flame downwardly as it is blown by the blower 43 out of the rear end of the combustion chamber 129.

A fuel delivery pipe 139 extends along the burner head 91 and tube 97 and communicates with the rear end of the vaporizing chamber 127 by a terminal elbow 141. An annular terminal elbow 143 on the pipe 139 is connected to a flexible pump discharge pipe 145 depending therefrom in the rear of the tower 1 and connected to the discharge side of a small pump 147 mounted on the before-mentioned cross bar 13 and to the shaft 149 of which the shaft 55 of the pulley 53 is operatively coupled as at 151 so that the pump 147 is driven by the power take-off shaft 51.

A source of liquid fuel supply such as oil is provided in the form of a drum 153 seating on the rear pair of cross bars 9 of the base frame 3 and which forms a rack for said drum on the rear of the side frames 15. Wire fasteners 155 are secured at one end to one bar 9 of the pair and trained around the drum 155 with the other ends retained by nuts 157 in notched lugs 159 on the other bar 9 of the pair securely anchoring said drum 155 in place. A fuel feed line 161 preferably flexible is suitably attached to a bottom bung 163 in said drum 153 and to the intake side of the pump 147.

A rearwardly opening dished guard plate 166 is suitably attached to the pair of cross bars 11 to surround the lower portion of the pulley 53 to prevent weeds from tangling with said pulley.

Means for preventing the flexible elbow pipe section 93 from buckling sidewise is provided comprising a pair of uprights 167 on the flange 96 on opposite sides of section 93, and a pair of bars 169 pivoted at one end, as at 171, on said uprights and extending along said section 93 on opposite sides thereof with their other ends riveted, as at 173, to opposite sides of the beforementioned collar 52.

The boom 87 is suspended in upswn or lowered position by a cable 175 having one end attached by a yoke 177 to the rear end portion of the tube 97 and its other end attached by a terminal coil spring 199 to a chain 201 adapted to be attached at different points in its length to a catch 103 on the upper cross bar 19.

In operating the described apparatus the boom 87 is lowered to lower the burner head 91 for heating as in a ground fire or the like. When said head 91 is properly heated and the pump 147 and blower 43 operating fuel pumped into the vaporizing a preheating chamber is vaporized therein and issues into the combustion chamber to mix with the air blown through the combustion chamber 129 by the blower 43 and be ignited by the fire so that flame is blown downwardly out of the battle plate 135 for destroying weeds. With the burner head thus operating the boom may be swung upwardly into any desired position and suspended in that position by the cable 175, spring 199 and chain 201 and in which it may be swung laterally in a wide arc to destroy tall weeds by rotating the collar 98 through manipulation of the hand wheel 119.

By operation of the power lift of the tractor 5 the entire apparatus may be raised or lowered as may be found desirable according to operating requirements.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact form and construction hereinafter specifically described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A weed burning apparatus adapted to be supported from the power lift of a tractor having a power take-off, said apparatus comprising a vertically disposed skeletonized supporting frame adapted to be supported from the power lift, a blower mounted on said frame, step-up drive means for said blower supported on said frame and adapted to be driven from the power take-off, an opposed tubular frame and Said frame and communicating with the blower, said boom having a flexible portion therein adjacent the inner end thereof, a swivel means connecting the boom to the frame for permitting swinging movement thereof about a vertical axis, lift means interconnecting the upper end of the frame with the boom for raising and lowering the boom, means associated with said swivel for rotating the boom about a vertical axis, stabilizing means mounted on said swivel means and extending upwardly alongside the flexible portion of the boom for preventing tilting movement of the boom about the longitudinal axis of the boom, means including a horizontal plate mounted on the inner end of the boom, a recessed circumferential flange on the discharge of the blower rotatably receiving said plate, said stabilizing means including a pair of uprights disposed on opposite sides of the flexible portion of the boom and being rigid with the plate for rotational movement therewith, and a pair of bars pivotally connected to the upper ends of the uprights and being connected to the boom outwardly of the flexible portion, said means for rotating the boom including a segment of an annular flange mounted horizontally on said uprights above the plate, a length of sprocket chain rigid with the periphery of the annular flange, a sprocket gear rotatably supported on said frame in meshing engagement with the chain, and handle means connected to said gear for rotation thereof, said handle means being disposed for access by the operator of the tractor.