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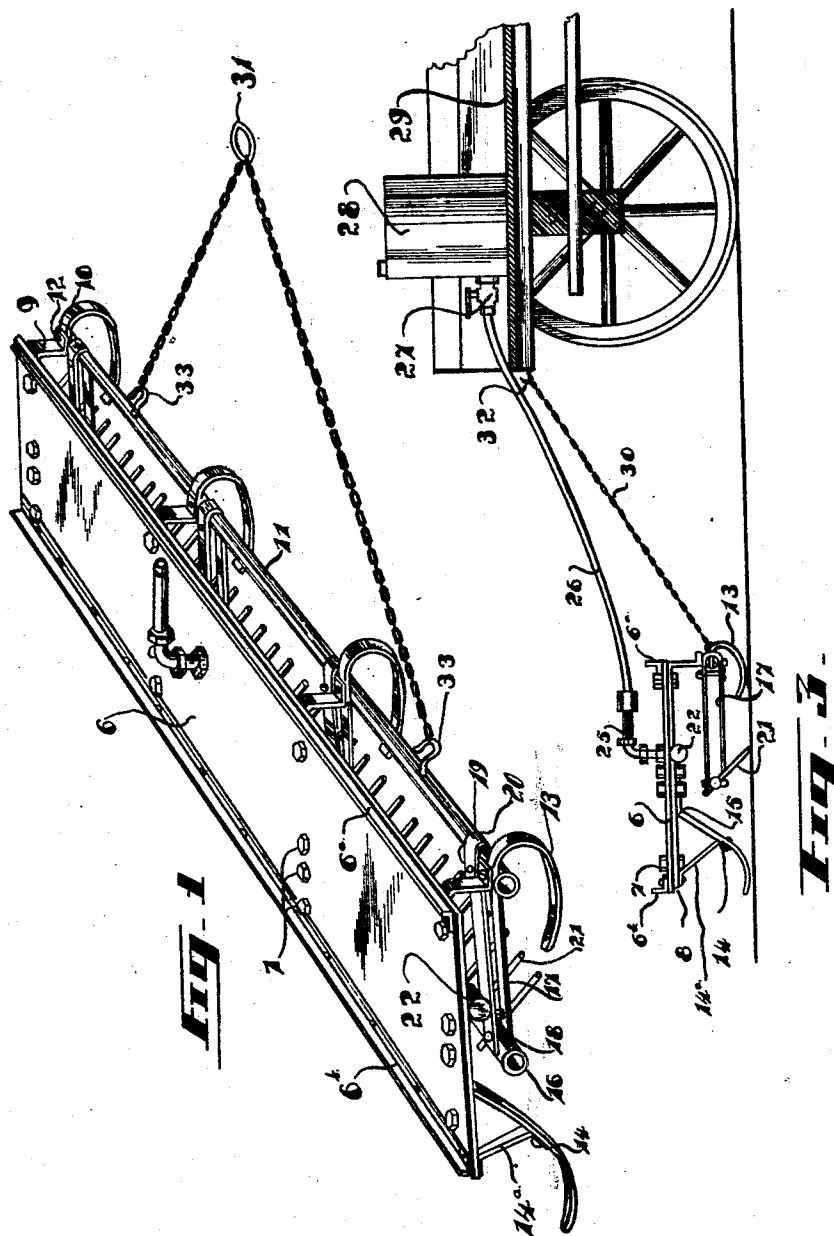
H. WORTHLEY

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STUBBLE BURNER

Filed Sept. 16, 1929

2 Sheets-Sheet 1



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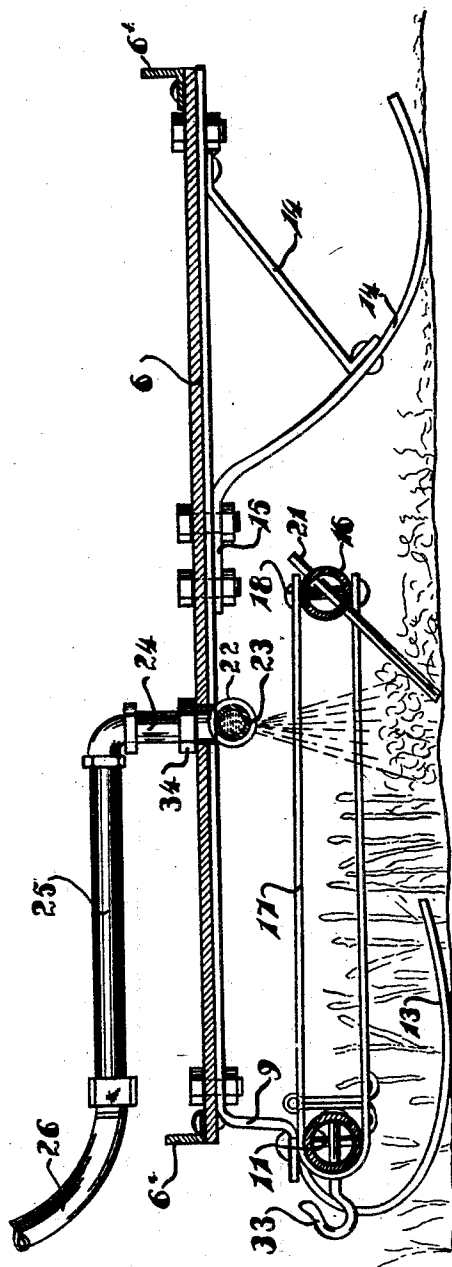
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UNITED STATES PATENT OFFICE

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STUBBLE BURNER

Application filed September 16, 1929. Serial No. 393,037.

This present invention relates to new and useful improvements in a stubble burner and has for its primary object the provision of a compact structure which may be readily drawn over the surface to lift up the leaning stalks and present them to the burner jets as the device passes over the stubble so as to assure thorough burning and complete destruction of the stubble, as well as insects such as locusts, grasshoppers, and the like, and thereby clear the land for cultivation.

Another object of the invention resides in the provision of a stubble burner of the character stated which includes curved spring arms or runners riding freely over the surface with the rake teeth operating on an incline between the forward and rear spring arms or runners, while the burner pipe is supported above the rake teeth with the burner jets spaced along so as to direct the stubble destroying blaze directly to the stubble as it is raised to upright position by the rake teeth.

A further object of the invention resides in the provision of a stubble burner of the character stated including a deflecting plate beneath which are supported the rake teeth and the burner nozzle as well as the curved spring arms or runners on which the device operates over the surface.

A still further object of the invention resides in the provision of a stubble burner of the character stated which is constructed so that all of the parts thereof are thoroughly braced and the complete device composed of the minimum number of parts of simple and inexpensive construction and arrangement and the stubble burner is highly efficient in operation.

To the accomplishment of these and related objects as shall become apparent as the description proceeds, my invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the claims hereunto appended.

The invention will be best understood and can be more clearly described, when reference is had to the drawings forming a part

of this disclosure, wherein like characters indicate like parts throughout the several views.

In the drawings:—

Figure 1 is a perspective view of the improved stubble burner;

Figure 2 is a vertical longitudinal section through the stubble burner; and

Figure 3 is a side elevation of the stubble burner, showing the same carried behind a wagon or the like on which is mounted the fuel supply tank for the stubble burner.

Referring more in detail to the drawings, it will be noted that the transverse flame deflecting plate 6 serves as the top of the stubble burner structure and has its forward and rear edges respectively reinforced by angle irons 6a and 6b secured on the upper face thereof. The plate 6 has secured on its under face by bolts 7 or the like, a plurality of longitudinally extended straps 8 located near the ends of the plate 6 and between the ends and the central portion of the latter, the straps 8 being extended across the plate 6. Depending forward ends 9 of the straps 8 have out-turned lower extremities 10 secured on the front transverse bar or tube 11 of the burner structure by appropriate securing members 12. Mounted on the securing members 12, intermediate the out-turned extremities 10 of the ends 9 of the straps 8 and the front bar or tube 11, are the upper ends of the curved forward spring arms or runners 13 which are turned back upon themselves and curved rearwardly and slightly upwardly beneath the front bar or tube 11. Cooperating rear curved spring arms or runners 14 are attached to the underside of the straps 8 by passing certain of the securing members 7 through the forwardly extended upper ends 15 of the respective curved spring arms or runners 14. Appropriate braces 14a are also employed between the main portions of the curved spring arms or runners 14 and the rear edge of the plate 6 to strengthen this portion of the structure and prevent the rear edge of the plate 6 from pressing down on the runners 14 and causing the latter to give under the pressure to which they are subjected

while the structure is heated, during operation of the stubble burner.

A rake bar, either hollow as shown or solid, and designated by the numeral 16, is carried in the ends of the plurality of U-shaped brackets 17 and secured therein by attaching members 18 past through the bar 16 and the brackets 17. The brackets 17 extend forwardly and have their bight portions 19 loosely mounted on the front bar or tube 11 and are prevented from moving forwardly on the latter by stop members 20 extended transversely through the brackets 17, near their bight portions 19. The rake teeth 21 are extended on an incline through the rake bar 16, the teeth 21 being inclined rearwardly so as to effectively ride on the surface and raise to upright position all fallen stubble or stalks.

A transverse burner pipe or nozzle 22 is extended beneath the plate 6, throughout the length thereof and has on its underside a plurality of spaced burner jets 23 directly above the lower ends of the rake teeth 21. The burner pipe or nozzle 22 is mounted on the depending end 24 of the fuel conducting pipe 25, a portion 26 of which may be flexible if desired and connected with the valved discharge nozzle 27 of the fuel supply tank 28 mounted on the wagon 29 or other means employed for drawing the device over the surface. A divided flexible connection 30 is employed between the wagon 29 and the front bar 11 of the device and is shown in the form of a chain having a ring 31 removably engaged with the clevis 32 on the end of a wagon 29, while the divided portions or ends of the chain are detachably mounted on the clevises 33 carried on the front bar 11. It may also be stated that the burner pipe or nozzle 22 is prevented from dropping away from the bottom of the plate 6, by means of the stop collar 34 forming part of the connection between the burner pipe or nozzle 22 and the depending end 24 of the fuel conducting pipe 25 and resting on the upper face of the plate 6.

As the construction of the device has thus been described in detail, brief reference is now had to its use and modus operandi: As the device is drawn over the surface it rides on the front curved spring arms or runners 13 and the rear curved spring arms or runners 14 thus permitting the device to travel over an uneven surface without materially interfering with efficient operation of the device. The rake teeth 21 will engage and raise to upright position any fallen or leaning stubble or grain stalks and the like and present them to the destroying blaze directed downwardly from the burner jets 23. The weight of the rake bar 16 and rake teeth 21 will result in the latter being maintained on the surface and as the supporting brackets 17 for the rake bar 16 are free to swing on the front bar 11 of the device, this efficient functioning of the rake teeth 21 will continue,

regardless of the unevenness of the surface and the resulting raising or dropping of one or more of the curved spring arms or runners 13 and 14. Owing to the connection 30 and the portion 26 of the pipe 25, both being flexible, the device is further permitted to operate efficiently over an uneven surface without interfering with the feeding of the fuel to the burner pipe or nozzle 22 or drawing of the device over the surface by the wagon 29 or other draft means.

From the foregoing description taken in connection with the accompanying drawings, it will be manifest that a stubble burner is provided that will fulfill all the necessary requirements of such a device but as many changes could be made in the above description and many apparently widely different embodiments of my invention may be constructed within the scope of the appended claims without departing from the spirit or scope thereof, it is intended that all matters contained in the said accompanying specification and drawings, shall be interpreted as illustrative and not in a limited sense.

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

1. A stubble burner including a transversely elongated deflector plate; front and rear curved spring runners supported beneath said deflector plate; angle irons on the upper face of the forward and rear edges of said burner plate to brace the same; brace bars between said rear curved spring runners and the rear edge of said deflector plate; a front bar suspended below the front edge of said deflector plate; a rake structure mounted for swinging movement on said front bar and beneath said deflector plate; a burner beneath said deflector plate and above the said rake structure; a fuel supply tank connected to said burner; and draft means extended from said front bar of the said stubble burner.
2. A stubble burner including a transversely elongated deflector plate having trailer rear spring supports, angular brackets depending from the front edge of said deflector plate; a front bar attached to the lower ends of said angular brackets; forward spring supports attached to said bar; a rake structure mounted for swinging movement on said front bar; and a burner at the underside of said deflector plate with burner jets directed toward the working ends of said rake.

In testimony whereof I hereunto affix my signature.

HERBERT WORTHLEY. [L.S.]