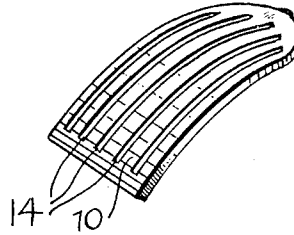


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STUMP-BURNER.

1,061,350.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER CLIFFORD BECKHAM, a citizen of the United States, residing at Paxton, in the county of Walton and State of Florida, have invented certain new and useful Improvements in Stump-Burners, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved stump burner and has for its primary object to provide a simple, inexpensive and efficient burner for this purpose which may be easily and quickly arranged in position at the root of the stump.

Another object of the invention resides in an improved burner construction, whereby practically all of the heat is concentrated upon the stump roots.

A further object of the invention is to provide improved means for supporting the fire bed and directing the fuel upon the roots of the stump and an air blast pipe connected to the burner to discharge air into the fuel chamber and cause the flames to eat their way through the stump and sever the same from its roots.

With the above and other objects in view, as will become apparent as the description proceeds, the invention consists in certain constructions, combinations and arrangements of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which—

Figure 1 is a vertical section of my improved burner showing the same arranged in position against the stump to be burned; Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1; and Fig. 3 is a detail perspective view of the fuel bed supporting grate.

Referring in detail to the drawing, 5 designates the body of the burner which is preferably constructed of cast iron, though if preferred, sheet metal may be employed. The major portion of the burner body is of substantially U shaped form in cross section as indicated at 6 while the upper end thereof is reduced and cylindrically formed as indicated at 7. The opposite side walls of

the portion 6 of the burner body are connected at their upper ends by means of the transversely disposed plate 8. The edge of this plate is curved inwardly so that the same will engage closely with the tree stump. A second longitudinally disposed plate 8' is arranged between the side walls of the body portion 6 of the burner and is disposed inwardly of the longitudinal edges of said side walls so that when the burner is in position, an air space will remain between this plate and the surface of the stump.

To the upper end of the cylindrical portion 7 of the burner body, an extension 9 is secured, said extension preferably consisting of a length of ordinary stove pipe. This extension is provided for the purpose of securing a good draft.

Between the lower ends of the side walls of the burner body 6, the grate plate 10 is arranged. This plate is arranged at an inclination of substantially forty degrees and rests at its lower end upon the inwardly projecting lugs 11 which are formed upon or secured to the side walls of the burner body. The upper end of this rack plate is provided with a hook 12 for engagement over the edge of an opening 13 provided in the body wall of the burner. The grate is provided with parallel longitudinal slots 14 through which the ashes may fall into the space beneath said plate.

A blast pipe 15 has one of its ends disposed through the opening 13 in the burner body, and is adapted to be extended there-through into close proximity to the tree stump and through the fuel bed. This pipe supplies air to the flames, and directs the same against the tree stump at its base, causing the flames to eat their way through the stump and sever the upper portion thereof from its roots. The outer end portion of the blast pipe extending exteriorly of the burner may be disposed at an angle or extended straight upwardly in parallel relation to the burner body. This blast pipe is preferably provided with a suitable damper plate 16 whereby the supply of air to the fuel bed may be regulated. A similar damper plate 17 is also arranged in the draft pipe 9 upon the upper end of the burner body.

In some instances, it may be found more convenient and economical to employ oil or other liquid fuels, and in such instances, the supply pipe is extended through the blast pipe 15, said supply pipe of course being connected to a tank or other reservoir wherein the oil is contained. The device, however, is admirably adapted for burning refuse material, which may be inserted into the fuel chamber through the blast pipe and is directed by the grate plate 10 against the tree stump at its base. By the provision of the air space above the fuel chamber which is formed by spacing the plate 8' from the tree stump, the greater portion of the stump will not be burned, practically all of the flames and heat being disposed at the base of the stump and consuming the roots thereof. The plate 8 at the upper end of the burner body causes the smoke and products of combustion to return downwardly through said air space and beneath the lower edge of the plate 8' and hence upwardly through the draft pipe.

It will be seen that by means of a burner constructed in the manner above stated, the walls thereof may be arranged in very close engagement with the tree stump so that the dirt which has been excavated adjacent to the stump will not fall into the fire chamber upon the fuel bed and extinguish the fire. In instances, where the stumps are unusually large, and the edge of the plate 8 does not contact closely therewith, pieces of scrap metal may be placed upon the plate 8 to close the open spaces between the edge of said plate and the stump. However, moist earth or other plastic material may also be used for this purpose.

From the foregoing, it is believed that the construction and manner of use of my improved stump burner will be clearly and fully understood. Owing to the simplicity of my invention, it will be obvious that the same can be cheaply manufactured and retailed at small cost. The burner may also be easily and quickly placed in position, and but slight excavation at the base of the tree stump is necessary. Owing to the fact that the proportions of the burner at its base are comparatively small, the branching brace roots which are disposed slightly below the surface of the ground may be cut while the stump is being burned through to separate the body thereof from the main roots. As the tree stump itself constitutes in effect, one of the burner walls, and the cast metal burner body, the remaining walls, it will be seen that it is impossible for the earth which is packed around the burner to fall into the fire chamber. Owing to the fact that the fuel bed is supported out of contact with the ground, the fire will not be extinguished when additional fuel is added thereto. When the fire is low and it is

desired to start the same again, a blower or bellows of any suitable construction may be inserted through the blast pipe and a stream of air directed to the fuel bed, to cause the fuel to readily ignite.

By means of my improved burner, a large field may be quickly cleared of tree stumps at comparatively small expenditure of time, money and labor.

The burner is extremely strong and durable in its construction and will efficiently perform the functions for which the same is devised.

While I have shown and described the preferred construction and arrangement of the several parts, it will be understood that the invention is susceptible of considerable modification, in the form, proportions and arrangement of the parts without departing from the essential features or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed is:

1. A burner of the character described comprising an elongated body of U shaped form in cross section provided with a cylindrical extension upon one end, a plate connecting the side walls of said body at the inner end of said extension, the longitudinal edges of the U shaped portion of said body and the edge of said plate being adapted for engagement with a tree stump, a fuel bed supporting grate arranged between the side walls of the body at its lower end, an air blast pipe connected to said body to supply air to the fuel bed, and a draft pipe connected to the extension of the burner body.

2. A burner of the character described comprising an elongated body of U shaped form in cross section, a plate connecting the side walls of said body at one of its ends, the edge of said plate and the longitudinal edges of said body walls being adapted for engagement with a tree stump, a longitudinally extending plate connecting the side walls of the burner body inwardly of their edges to provide an air space between said plate and the tree stump, a fuel bed supporting grate arranged at an inclination between the side walls of the burner body to direct the fuel against the base of the tree stump, an air blast pipe connected to the burner body to supply air to the fuel bed, and a draft pipe connected to the upper end of said burner body.

3. A burner of the character described comprising an elongated body of U shaped form in cross section having a cylindrical extension upon its upper end, a draft pipe connected to said extension, a longitudinally extending plate connecting the side walls of the burner body at their upper ends, said plate being spaced from the edges of said side walls to provide an air chamber be-

tween itself and the tree stump, a removable inclined fuel bed supporting grate arranged between the side walls of the burner body to direct the fuel to the base of the tree stump, and a blast pipe connected to the burner body at the upper end of said grate plate through which the fuel may be inserted, said pipe directing air to the fuel

bed to cause the flames to eat through the tree stump at its base.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WALTER CLIFFORD BECKHAM.

Witnesses:

S. M. QUICK,
MAMIE HILSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."