

Jan. 2, 1923.

1,440,741.

J. R. MATTHEWS.
STUMP BURNER.
FILED JAN. 17, 1922.

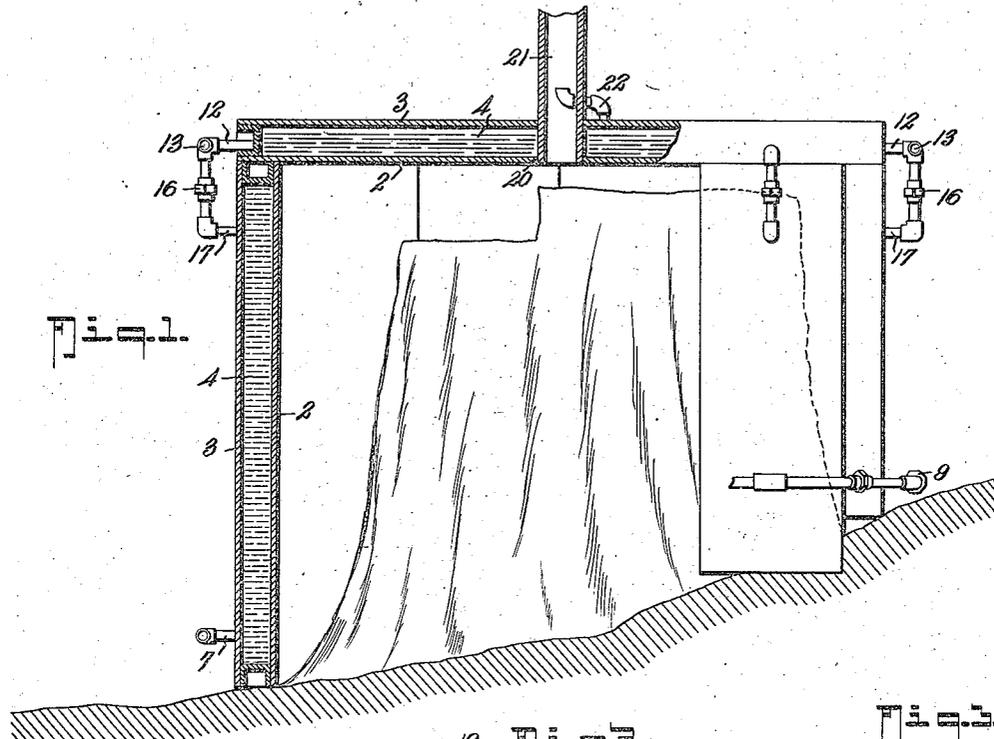


Fig. 1.

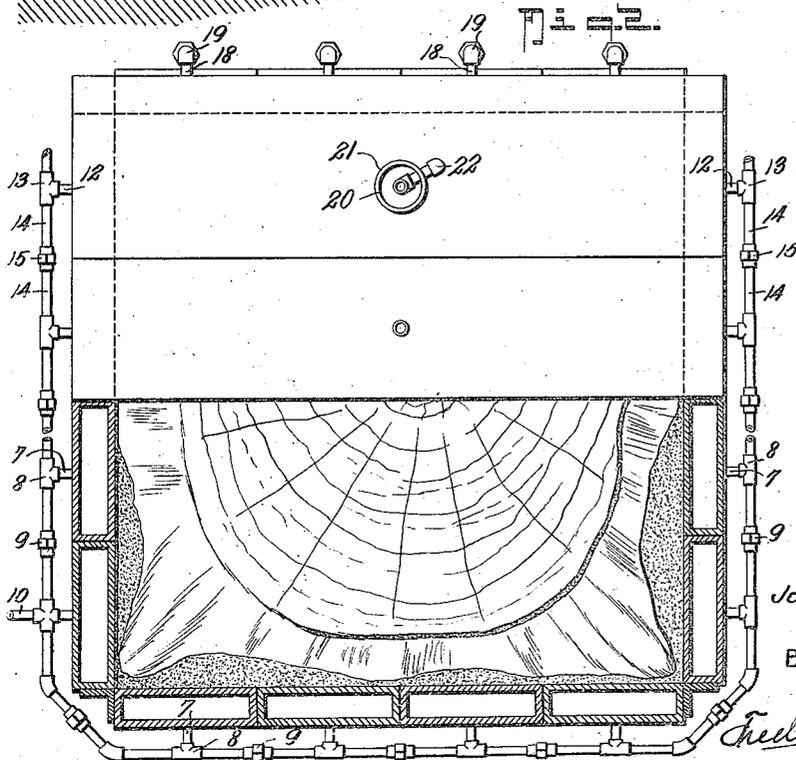
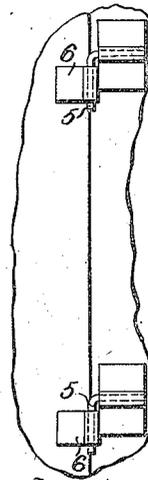


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN R. MATTHEWS, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

STUMP BURNER.

Application filed January 17, 1922. Serial No. 529,933.

To all whom it may concern:

Be it known that I, JOHN R. MATTHEWS, citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Stump Burners, of which the following is a specification.

This invention relates to a stump burner of that class wherein the stump is enclosed within a portable casing which retains the heat in contact with the stump and enables it to be consumed by slow combustion, and the improvements are directed to the provision of a sectional casing, which is water-jacketed, whereby the walls are protected against excessive heat, and in the sectional aspect the casing is adaptable to various sizes of stump under various conditions of ground line.

The water jacket spaces of the several sections are connected together, that the steam generated in them by the heat of the burning stump may deliver into an uptake or flue and induce a draught bringing in a fresh supply of air to support the combustion.

The invention is fully described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Fig. 1 is a vertical section showing the application of the device to a stump.

Fig. 2 is a plan and part section of the same.

Fig. 3, an enlarged detail of the hinge connection between the several sections of the casing.

The device comprises a series of relatively narrow rectangular wall and roof sections, each composed of an inner wall 2 and outer wall 3 preserving a water space 4 between them. These sections are connected together to form an enclosing casing by hinges, see Fig. 3, wherein downwardly bent pins 5 secured to the edge of one section fit in corresponding sockets 6 secured to the edge of the other.

The water spaces 4 of the several sections are removably connected together at the lower end by a nipple 7 inserted in the midwidth of each with a T connection 8 on it, extending the width of the section, with a union nut 9 on one end and a union screwing on the other end, that the T connections may be all connected together.

The nipples 7 of one of the sections may have a cross 10 to enable a water service to be connected to charge the jacket spaces with water.

The upper ends of these wall sections 2, 3 are levelled up to receive the roof sections which are of similar construction having inner and outer walls with a water space between. The width of the intermediate roof section is the same as that of the wall sections but the end sections of the roof are wider by the thickness of the sections.

The roof sections are connected together and to the upper end of the wall sections by a nipple 12 in each end of the roof section, on which nipple is secured a four-way T 13. The T ends are connected together by nipples 14 and unions 15 which thus connect the roof sections together and the fourth way of the T is downwardly directed and connected by a union 16 and elbow to a nipple 17 secured in the upper part of each wall section.

The wall sections which extend along the length of the adjacent roof section, are each connected to that roof section by pipe connections 18 with unions 19 in a manner similar to that of the lower ends of the wall sections.

Through one or more of the roof sections are apertures 20 to which a smokestack 21 may be connected, and adjacent the smokestack a pipe 22 is connected to the water jacket space of one of the roof sections to deliver the steam generated in the several sections into the base of the smokestack to induce a draught.

If the wall and roof sections are made in various lengths, but are interchangeable in their connections, the casing may, as shown in Fig. 1, be applied to irregular ground lines, or over prominent roots or boulders.

With this casing a stump may be enclosed to retain the heat of combustion while providing for escape of the vapours and the admission of sufficient air to support combustion.

The provision of the water jacket prevents the wall of the casing being excessively heated, and the escape of the steam generated into the uptake or smokestack stimulates escape of the vapours and induces a flow of fresh air to support combustion.

The sections are in sizes to be readily portable and can be quickly put together.

Having now particularly described my in-

vention, I hereby declare that what I claim as new and desire to be protected in by Letters Patent, is:

1. A stump burner, comprising in combination a series of elongated rectangular wall and roof sections, each section having a water space between its inner and outer wall, and provision for connecting its edges to those of the adjacent sections to form an enclosing casing, and means for removably connecting together the water spaces of the several sections.

2. A stump burner, comprising in combination a series of elongated rectangular wall and roof sections, each section having a water space between its inner and outer wall, and provision for connecting its edges to those of the adjacent sections to form an enclosing casing, means for removably connecting together the water spaces of the several wall sections, means for connecting together the water spaces of the several roof sections, and means for connecting the upper part of each wall section to the adjacent roof section.

3. A stump burner, comprising in combination a series of elongated rectangular wall and roof sections, each section having a water space between its inner and outer wall, and provision for connecting its edges to those of the adjacent section to form an enclosing casing, means for removably connecting together the lower end of the water

space of each wall section, means for connecting together the water spaces of each roof section, and means for connecting the upper end of the water space of each wall section to that of the adjacent roof section.

4. A stump burner, comprising in combination a series of elongated rectangular wall and roof sections, each section having a water space between its inner and outer wall, and provision for connecting its edges to those of the adjacent sections to form an enclosing casing, means for removably connecting together the water spaces of the several sections, and means for applying the steam generated in the water spaces to eject the vapours of combustion from the casing.

5. A stump burner, comprising in combination a series of elongated rectangular wall and roof sections, each section having a water space between its inner and outer wall, and provision for connecting its edges to those of the adjacent sections to form an enclosing casing, means for removably connecting together the water spaces of the several sections, an aperture through the roof providing for escape of the vapours of combustion from within the casing, a smokestack over such aperture, and a steam pipe from one of the roof sections delivering into the base of the smokestack.

In testimony whereof I affix my signature,

JOHN R. MATTHEWS.