Jan. 8, 1929.

1,698,196

E. G. LANG

VEGETATION, SNOW, AND ICE DESTROYER

Filed Dec. 28, 1925

2 Sheets-Sheet 1

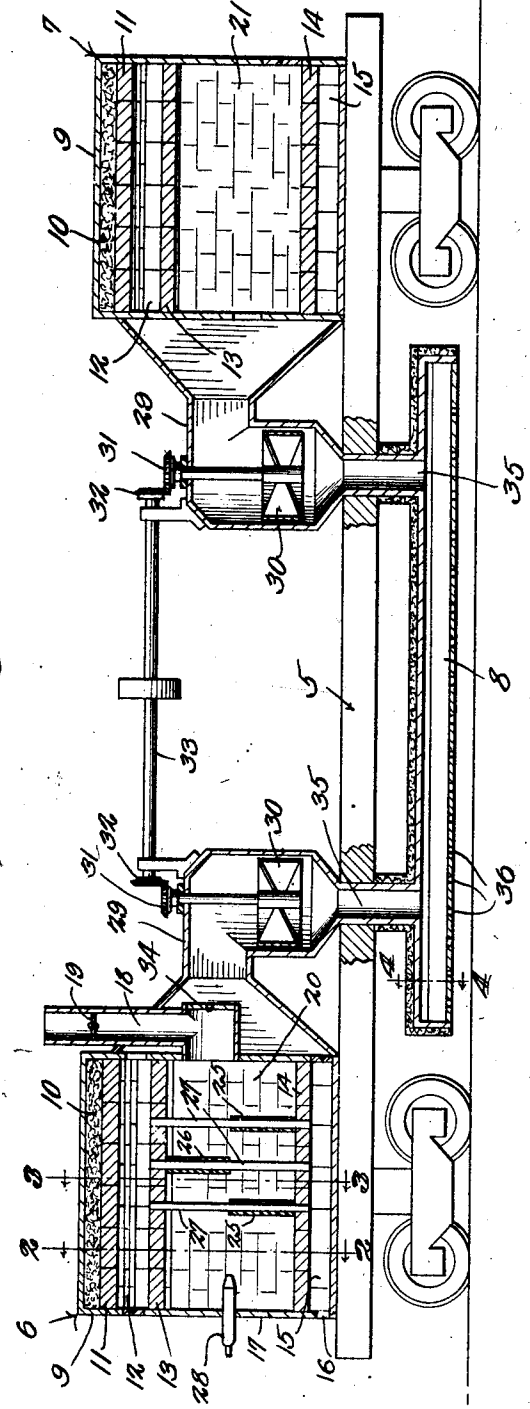

Fig. 1.

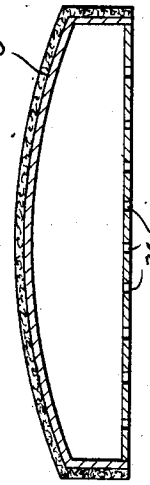

Fig. 4.

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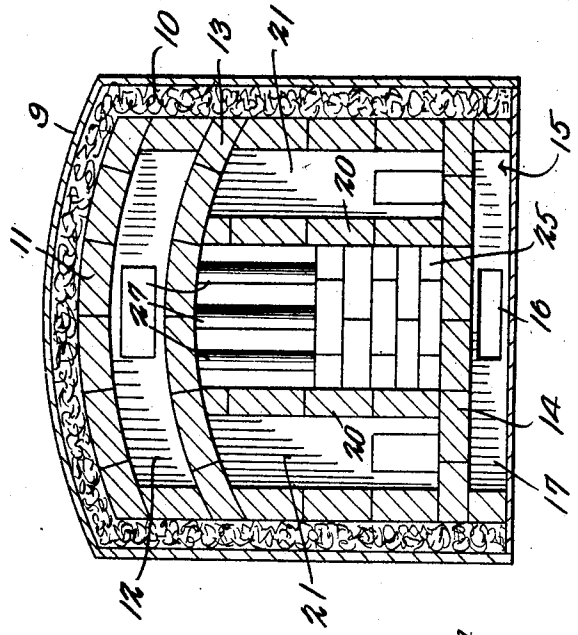

Fig. 3.

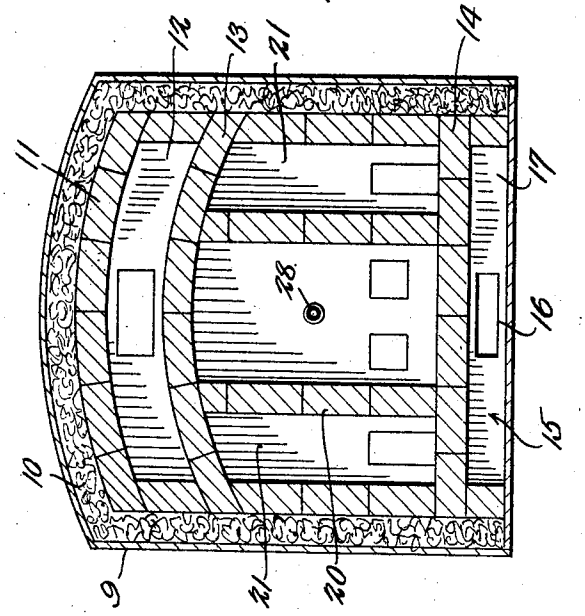

Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD GUS LANG, OF FORT WORTH, TEXAS.

VEGETATION, SNOW, AND ICE DESTROYER.

Application filed December 28, 1925. Serial No. 77,961.

The present invention relates to a device designed for destroying vegetation along railway tracks or the like, and aims to provide a device more especially designed for attachment to railway rolling stock, motor trucks, trailers or the like.

Another object of the invention is to provide a device of this character wherein the rails and ties of the railway track being cleared will not be subjected to the direct flames from the burners, the construction of the device being such that the heat from the burners will be directed to the vegetation in such a way that the growth of the vegetation will be prevented.

A further object of the invention is to provide a device of this character which will operate efficiently as a snow and ice remover thereby eliminating the use of plows of the like, for removing the snow and ice from tracks or streets.

A still further object of the invention is to provide a device of this character which may be readily and easily installed on a car, obviating the necessity of making extensive alterations in the car structure to mount the same.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a sectional view through a device constructed in accordance with the invention, and showing the device as mounted on a flat car.

Figure 2 is a vertical sectional view taken on line 2—2 of Figure 1.

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 1.

Figure 4 is a vertical sectional view taken on line 4—4 of Figure 1.

Referring to the drawings in detail, the reference character 5 indicates a flat car on which the device forming the subject matter of this invention is positioned. The device embodies burner chambers 6 and 7 respectively which are arranged at opposite ends of the car and adapted to supply the head 8 with heated air, the head 8 being in communication with both burner chambers.

In view of the fact that the burner chambers are identical, at both ends of the car 5, only one of the burner chambers will be described in detail. Each burner chamber is preferably rectangular in formation, however it is to be understod that the shape and size of the burner chambers may be varied to meet various requirements of usage.

The reference character 9 indicates the outer wall of a burner chamber which is lined with a suitable heat insulating material indicated at 10, the heat insulating material being positioned on the wall 11 forming the upper wall of the air chamber 12. The wall 13 is the upper wall of the burner chamber proper while the reference character 14 indicates the bottom wall thereof. The wall 14 or bottom of the burner chamber is arranged in spaced relation with the flat car on which the device is positioned, thereby providing an air space 15 which communicates with the atmosphere, through the opening 16 arranged in the front wall 17 of the burner chamber, to the end that air may pass through the space 15.

A pipe indicated at 18 communicates with the interior of the burner chamber proper and is supplied with a damper 19 which may be operated to cut off the passage of air from the burner chamber. This pipe 18 communicates with the atmosphere so that the gases and products of combustion may be carried off.

The walls of the burner chambers are constructed preferably of fire brick and as shown, the inner side walls which are indicated at 20 are arranged in spaced relation with the outer walls to provide air passageways 21 that are in communication with the upper passageway 12 formed between the upper wall 11 and wall 13.

Arranged within the burner chambers are walls 25 and 26 respectively, the walls 25 terminating in spaced relation with the wall 13, while the wall 26 terminates in spaced relation with the bottom wall 14, thereby causing the heat and products of combustion to take an irregular path through the burner chambers to insure the heating of the air passing through the air passageways.

Vertical tubes indicated at 27 are embedded in the walls 25 and 26 and have their ends terminating adjacent to the upper and

lower walls of the burner chambers, establishing communication between the passageways at the upper and lower portions of the burner chamber.

In each burner chamber is a burner 28 of the liquid or gaseous fuel type which is employed for heating the burner chambers.

Communicating with the various passageways of the burner chamber is a fan casing 29 in which the fan 30 operates, which fan is operated by means of the gears 31 and 32 which in turn are rotated by means of the shaft 33.

A damper indicated at 34 controls the passage of gas and fumes from the burner, into the fan chamber, and it will be obvious that by moving the damper 34, the passage of the fumes may be either admitted to the fan chamber or the pipe 18. A pipe indicated at 35 establishes communication between the fan casing and head 8 with the result that the air drawn into the fan casing by the fan 30 will be forced into the head to accomplish the purpose of the invention.

The head is elongated and substantially wide as the road bed over which it moves, the lower wall thereof being provided with openings 36 through which the usual heated air may pass to contact with the weeds, grass or other vegetation growing along the track, to scorch and destroy the same.

From the foregoing it will be obvious that due to this construction, heated air may be passed through the head to contact with the vegetation, the direct blazes from the burners, being housed in such a way as to heat the air which is directed to the vegetation on the track, eliminating the necessity of subjecting the ties, rails and rolling stock on the tracks, to the direct blazes and flames from the burners.

I claim:—

1. A device for burning vegetation along a railway track, including a wheel supported platform, a furnace at each end of the platform, each furnace including a casing, and a lining, the lining embodying side walls and a bottom, the bottom being spaced from the bottom of the casing and defining a lower passageway with the bottom of the casing, the passageway being open to the atmosphere at one end thereof, a partitioning wall spaced from the top of the lining and defining an upper passageway, said passageways extending throughout the length of the casing, vertical tubes establishing communication between the passageways and disposed within the path of travel of products of combustion passing through the casing, a burner extending into the casing and adapted to heat the tubes, an air discharge nozzle, and means for directing heated air to the discharge nozzle.

2. A device for burning vegetation along a railway track, including a wheel supported platform, a furnace including a casing, a lining in the casing, the bottom of the lining being spaced from the bottom of the casing and defining a lower passageway open to the atmosphere at one of its ends, a partition within the lining spaced from the top of the lining and defining an upper passageway, a plurality of rows of vertical pipes extending through the partition and bottom of the lining and establishing communication between the passageways, the rows of pipes being arranged in spaced relation with each other, vertical walls within the lining and extending upwardly from the bottom thereof and in which the lower ends of the pipes of certain rows are embedded, a wall extending from the partition and covering portions of the pipes of a row of pipes between the last mentioned rows of pipes, a burner in one end of the furnace for supplying heat to the furnace within the lining, the walls within the lining causing the products of combustion to take a zig-zag course, means for drawing heated air through the furnace, and a nozzle for receiving heated air from the furnace.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

EDWARD GUS LANG.