

(No Model.)

2 Sheets—Sheet 1.

J. J. A. MORATH.
TIRE HEATER.

No. 586,612.

Patented July 20, 1897.

Fig. 1.

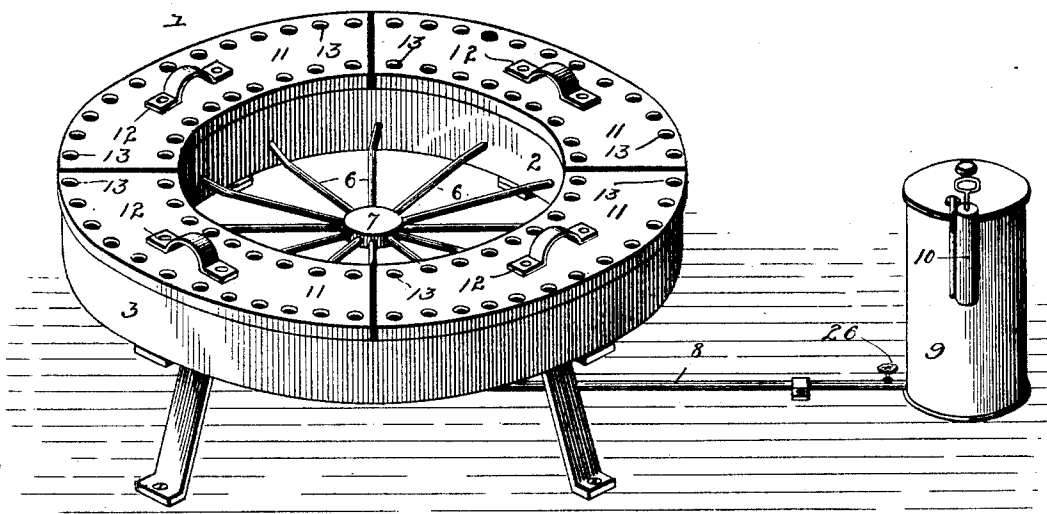
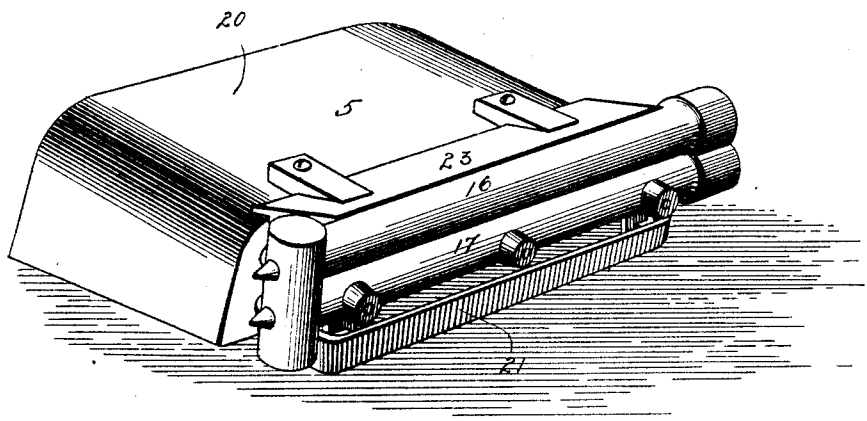


Fig. 4.



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Witnesses

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R. J. Morath

By *his* Attorneys.

Cashnow & Co.

(No Model.)

2 Sheets—Sheet 2.

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TIRE HEATER.

No. 586,612.

Patented July 20, 1897.

Fig. 2.

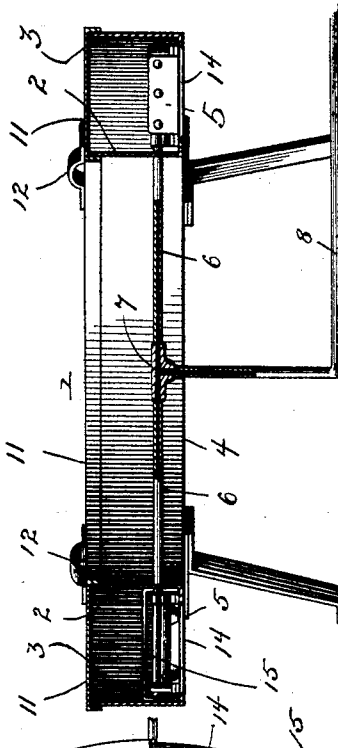
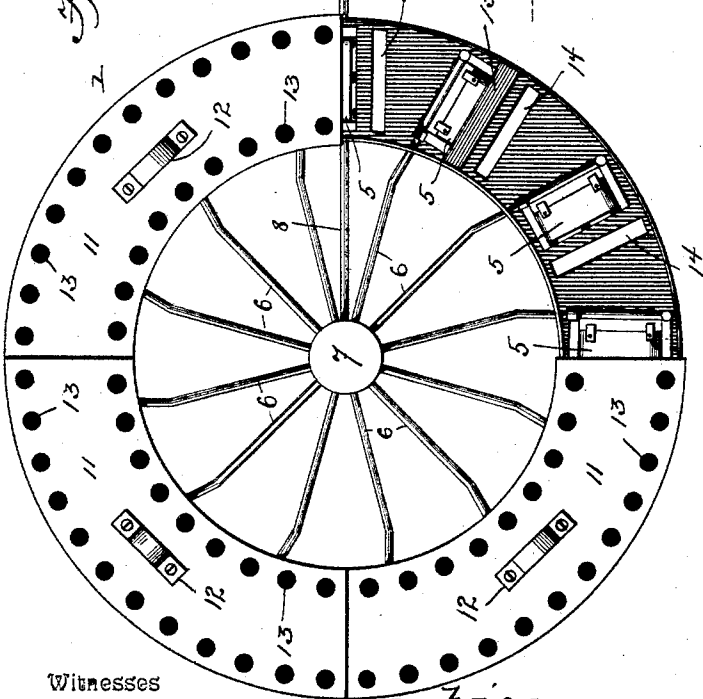


Fig. 3.



Witnesses

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C. A. Snow & Co.

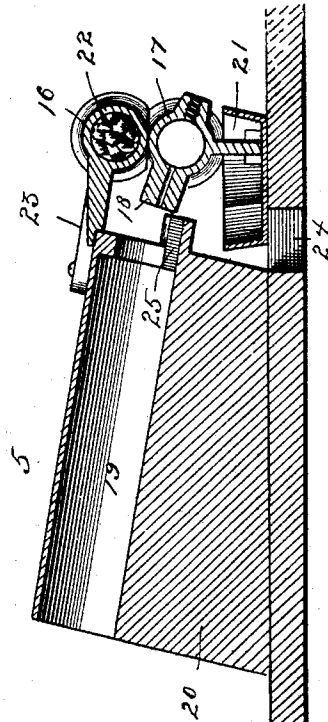
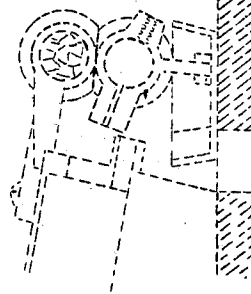


Fig. 5.



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UNITED STATES PATENT OFFICE.

JACOB J. A. MORATH, OF CLAYTON, MISSOURI.

TIRE-HEATER.

SPECIFICATION forming part of Letters Patent No. 586,612, dated July 20, 1897.

Application filed October 12, 1896. Serial No. 608,670. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. A. MORATH, a citizen of the United States, residing at Clayton, in the county of St. Louis and State of Missouri, have invented a new and useful Tire-Heater, of which the following is a specification.

My invention relates to tire-heaters, and has for its object to provide an improved device of the class named wherein fluid-fuel burners are employed as the means for generating the heat, thus insuring a uniform application of heat and enabling the same to be regulated to suit the tire which is under treatment.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a tire-heater constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a plan view with a portion of the cover removed. Fig. 4 is a detail view in perspective of one of the burners detached. Fig. 5 is a detail transverse section of the burner, showing in dotted lines the contiguous portion of the adjacent burner.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a drum or receptacle of annular construction having inner and outer concentric walls 2 and 3, connected by an annular base 4, which supports an annular series of burners 5, fuel being supplied to the burners by means of branch pipes 6, radiating from a distributor 7, with which communicates a supply-pipe 8, leading from a reservoir or tank 9. The tank is preferably provided with pressure-producing devices, such as a pump 10, thus adapting the reservoir or tank to be arranged in any convenient position either above or below the plane of the burners.

The drum or receptacle is provided with an annular removable sectional cover 11, each section being provided with a grip 12 and a series of perforations 13 for the escape of products of combustion, and the bottom or floor of the drum or receptacle is provided

between adjacent burners with air-inlet openings 14. Transverse or radial tire-rests 15 are also disposed in the drum or receptacle above the plane of the upper sides of the burners.

The construction of the burner embodies a vaporizing-tube 16, with which communicates the branch pipe whereby fuel is conveyed thereto, and a burner-tube 17, which is in terminal communication with the vaporizing-tube, and is provided with a plurality of jet-tubes 18, which discharge into independent mixing-chambers 19, formed in a casting 20, said mixing-chambers being inclined upwardly toward their outlet ends, as shown clearly in Fig. 5.

Located below the burner-tube is an initial ignition pan or trough 21, and spanning the interval between the vaporizing-tube, which is preferably provided with a granular filling 22, of gravel or its equivalent, and the contiguous edge of the casting 20, is a shield 23, while a draft-opening 24 is formed in the base of the burner beneath the plane of the jet-tubes. The inclination of the mixing-chambers is downward toward the initial ignition pan or trough, whereby condensed fuel is adapted to flow back into said pan or trough, a short spout 25 communicating with each mixing-chamber and terminating over the pan or trough, as shown in Fig. 5. A controlling-valve 26 is arranged in the supply-pipe to regulate the amount of fuel which is fed to the burners.

As above indicated, the burners are arranged in an annular series between the concentric inner and outer walls of the drum or receptacle with the outlet extremities of the mixing-chambers of one burner contiguous to the vaporizing and burner tubes of the adjacent burner, whereby in practice the flame produced in the mixing-chambers of one burner is discharged from the vaporizing-tube of the next burner to heat said tube to a sufficiently high temperature to insure the vaporization of the fuel before it reaches the burner-tube. This approximately horizontal discharge of the flame or products of combustion also insures the heating of the tire at all points equally, including those parts which are located between adjacent burners. In other words, the flame is discharged ap-

proximately in the plane of the tire and follows the direction thereof, whereby it is enveloped in flames throughout its length.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A tire-heater having an annular drum or receptacle provided with interior tire-supports, an annular series of vaporizing-burners located within the drum and having mixing-chambers arranged in an approximately horizontal plane, the mixing-chambers of one burner having their outlet ends contiguous to and adapted to discharge toward the adjacent burner and hence parallel with a tire on said supports, and means for supplying fluid fuel to the burners, substantially as specified.

2. A tire-heater having an annular drum or receptacle provided with interior tire-supports, an annular series of burners located in the drum or receptacle and having vaporizing and burner tubes and mixing-chambers which are disposed at an upward inclination from the burner-tube, the outlet ends of the mixing-chambers of one burner being located

contiguous to and adapted to discharge toward the vaporizing-tube of the adjacent burner of the series, and means for supplying fluid fuel to the burners, substantially as specified.

3. In a tire-heater, the combination with a receptacle, of a fluid-fuel burner having vaporizing and burner tubes arranged in a common vertical plane, said burner-tube being provided with jet-tubes, a casting located contiguous to said tubes and provided with mixing-chambers arranged respectively in alignment with the jet-tubes and inclining upwardly therefrom, an initial ignition pan or trough located below the burner-tube and adapted to receive drippings from the lower extremities of the mixing-chambers, and a shield spanning the interval between the vaporizing-tube and the contiguous side of the casting and extending over the jet-tubes, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB J. A. MORATH.

Witnesses:

ALBERT HEGE,

EMIL L. DOMBUCLE.