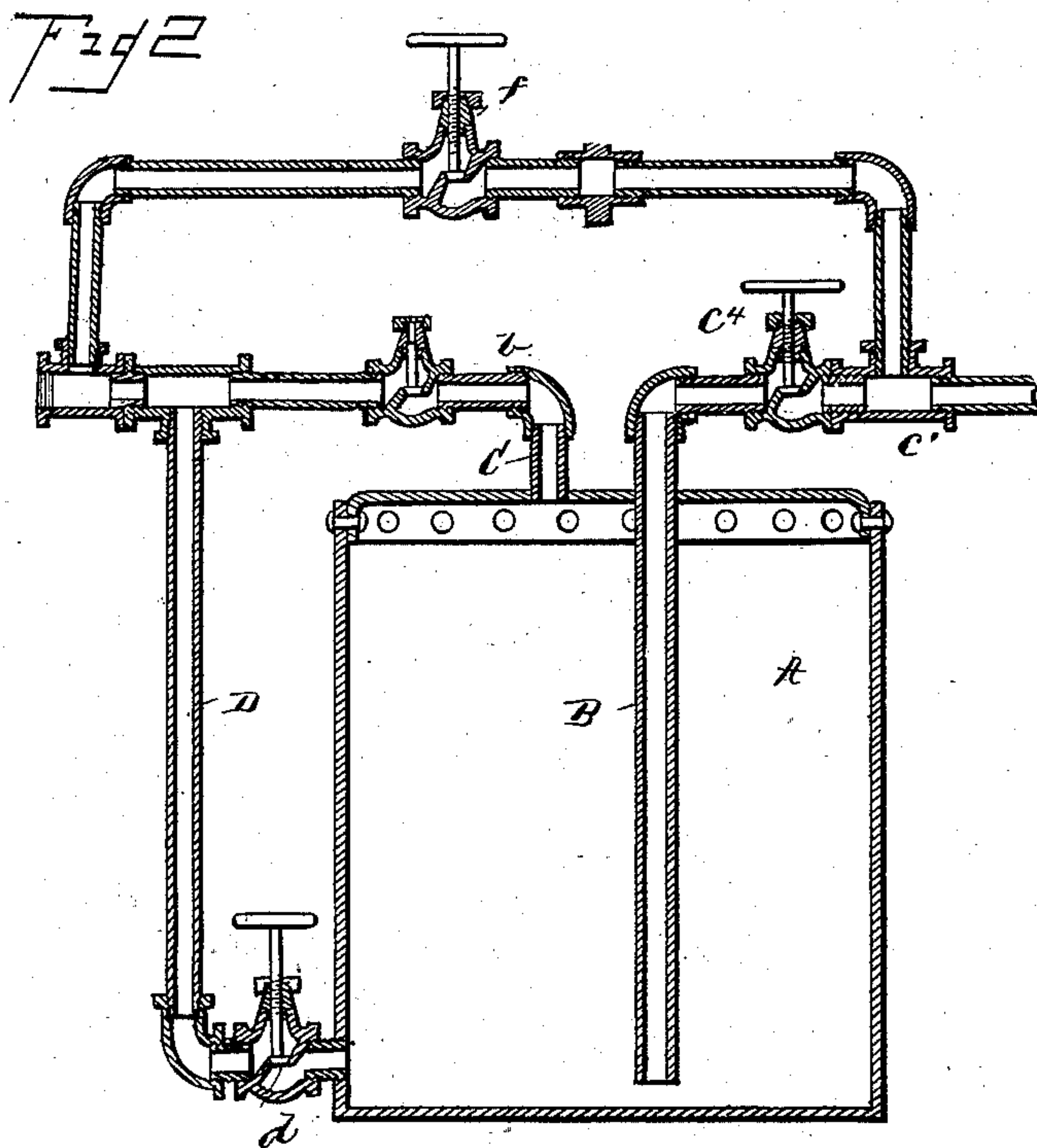
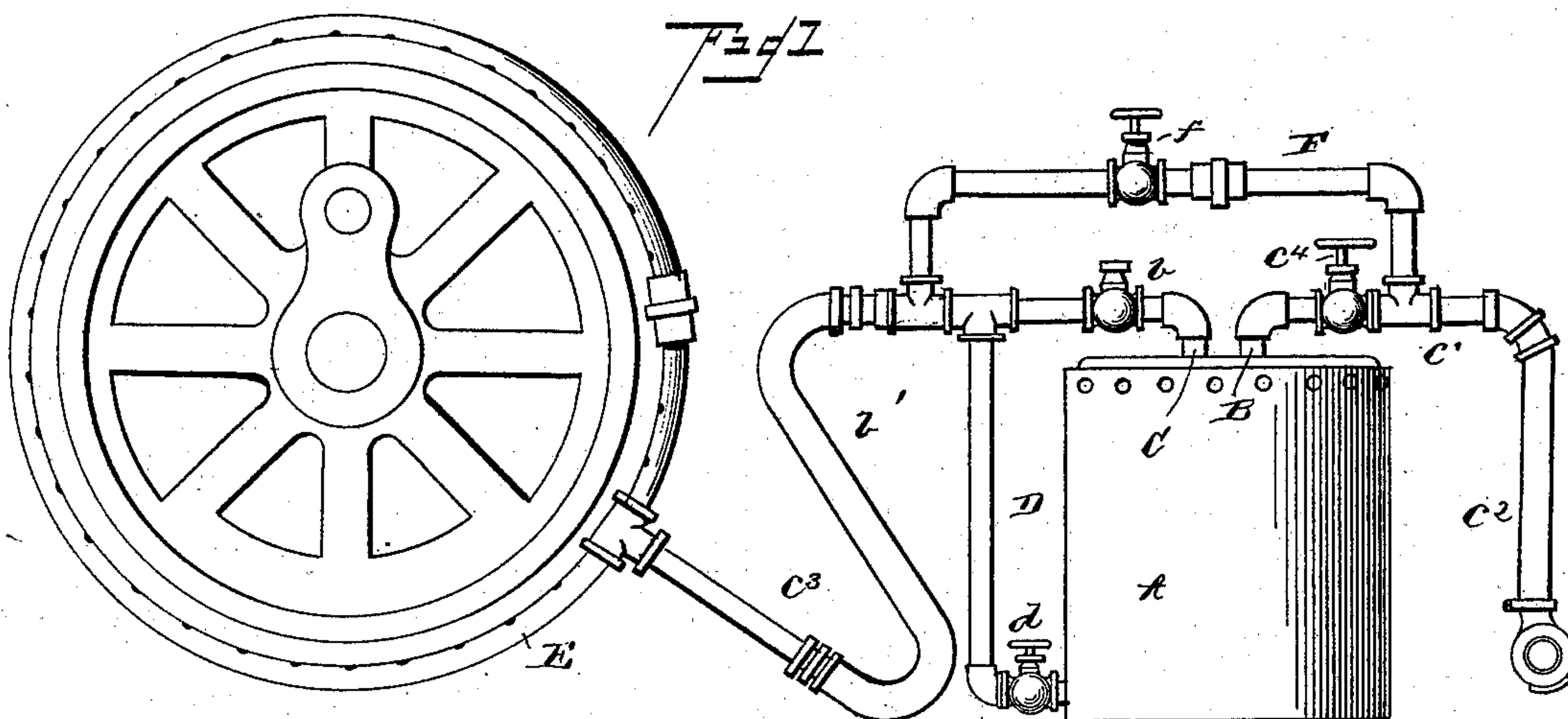


(No Model.)

J. W. FOIZEY.
APPARATUS FOR HEATING TIRES.

No. 406,719.

Patented July 9, 1889.



Witnesses
John Amirie
J. F. Riley

By his Attorneys

Chas. Brown & Co.

Inventor

James W. Foizey

UNITED STATES PATENT OFFICE.

JAMES W. FOIZEY, OF CHELSEA HILL, VIRGINIA, ASSIGNOR OF ONE-HALF TO
EDWARD H. WINSTON, OF SAME PLACE.

APPARATUS FOR HEATING TIRES.

SPECIFICATION forming part of Letters Patent No. 406,719, dated July 9, 1889.

Application filed April 22, 1889. Serial No. 308,121. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. FOIZEY, a citizen of the United States, residing at Chelsea Hill, in the county of Henrico and State of Virginia, have invented a new and useful Tire-Heating Apparatus, of which the following is a specification.

This invention relates to improvements in apparatus for heating tires, and is especially designed for locomotive-wheels.

Heretofore tire-heating apparatus have been constructed consisting of a hydrocarbon tank or reservoir, a valved air-supply pipe entering said tank and having connection with an air-pump, a valved outlet-pipe connected to an annular distributing-pipe, and a valved branch pipe connected to the supply and outlet pipes at points on opposite sides of the valves therein, whereby the blast of cold atmospheric air from the air-pump may be caused to pass directly to the outlet and be projected upon the periphery of the heated tire; but great difficulty has been experienced in heating the tires to the proper temperature in such time as to make the apparatus of commercial value, which is owing to the fact that the compressed air will carry only a comparatively small amount of the hydrocarbon vapor by this arrangement.

The object of the present invention is to obviate the above objection and provide means whereby the current of aeriform fluid passing to the distributing-pipe or burner may be impregnated and enriched with hydrocarbon to any desired extent.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation for the portable apparatus for heating tires. Fig. 2 is a vertical central sectional view through the hydrocarbon tank or reservoir and the several supply and exit pipes.

In the drawings, A designates a hydrocarbon tank or reservoir, which is preferably composed of a cylindrical metallic vessel having heads hermetically secured thereto, and it is made sufficiently strong to withstand the

pressure of compressed air. An air-supply pipe B passes through the upper head of the tank or reservoir and extends longitudinally within the same to a point a short distance above the bottom of said vessel, so that air can escape from the pipe B at the base of the tank or reservoir A. The tank or reservoir A contains a liquid—such as gasoline or other oils—and the air forced into the tank at the base thereof passes through this liquid hydrocarbon and becomes charged or saturated therewith and is rendered combustible.

An outlet-pipe C enters the head of the tank or reservoir A, but does not extend any distance into the tank, so that the compressed air is caused to pass through the liquid hydrocarbon before it can escape through the outlet-pipe; but this does not enrich the air sufficiently to produce the necessary heat to raise the tire to the desired temperature, and in order to remedy this I provide a pipe D, which enters the side of the tank A near the bottom, in order to be below the surface of the liquid, and communicates with the outlet-pipe C a short distance from where the latter leaves the tank, whereby the pressure of the compressed air upon the liquid hydrocarbon will force the latter up through the pipe, thereby enabling the current of aeriform fluid passing through the outlet-pipe to be charged with hydrocarbon to any degree of richness. A valve *d* is provided in the lower portion of the pipe D to regulate the flow of the liquid hydrocarbon.

The air supply and outlet pipes comprise metallic sections *b* and *c'* and flexible sections *b'* and *c''*, respectively, the two sections of each pipe being suitably coupled, the metallic sections being preferably fixed in the head of the tank. The flexible section is provided with means whereby it may be coupled with an air pump or compressor, which is generally the one in a locomotive.

In order to uniformly distribute the gas or volatile vapor around the tire, so as to uniformly heat and cause the latter to expand equally in all directions, an annular distributing-pipe E is employed, which is made slightly larger in diameter than the tire around which it is to be placed and is provided with a series of transverse apertures, as shown.

The unconfined end of the flexible section of the outlet-pipe C is provided with a rigid section c^3 , which is coupled by a T-shaped elbow with the annular distributing-pipe, whereby the current of volatile vapor is conveyed to the distributing-pipe E, where it can be ignited to heat the tire and cause a uniform expansion.

The rigid section c' of the air-supply pipe is provided with a cock or valve c^4 to prevent the air entering the tank A, and the corresponding section b has an automatic check-valve to prevent air or vapor returning to the tank.

An intermediate branch pipe F may be connected to the air-supply and outlet pipes on opposite sides of the valves thereof, and this pipe F is provided with a cock or valve f , by means of which and the valve of the air-supply pipe a current or blast of atmospheric air from the air-pump may be conducted directly to the outlet-pipe and directed upon the tire to cool the latter and hurry up the contraction.

From the foregoing it will readily be seen that the current of gas passing through the

outlet-pipe will be enriched to any desired extent to enable the tire to be raised to the necessary temperature in a short time.

What I claim is—

1. In a tire-heating apparatus, the combination of a reservoir or tank, an air-supply pipe communicating therewith, an outlet-pipe, and the hydrocarbon supply pipe D, entering the tank or reservoir below the surface of the liquid and communicating with the outlet-pipe, substantially as described.

2. In a tire-heating apparatus, the combination of a reservoir or tank, an air-supply pipe, an outlet-pipe, and the hydrocarbon-supply pipe D, entering the tank near the bottom and communicating with the outlet-pipe and provided with a cock or valve, substantially as described.

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

JAMES W. FOIZEY.

Witnesses:

CHARLES A. ROSE,
JAS. MACDOUGALL.