

No. 692,376.

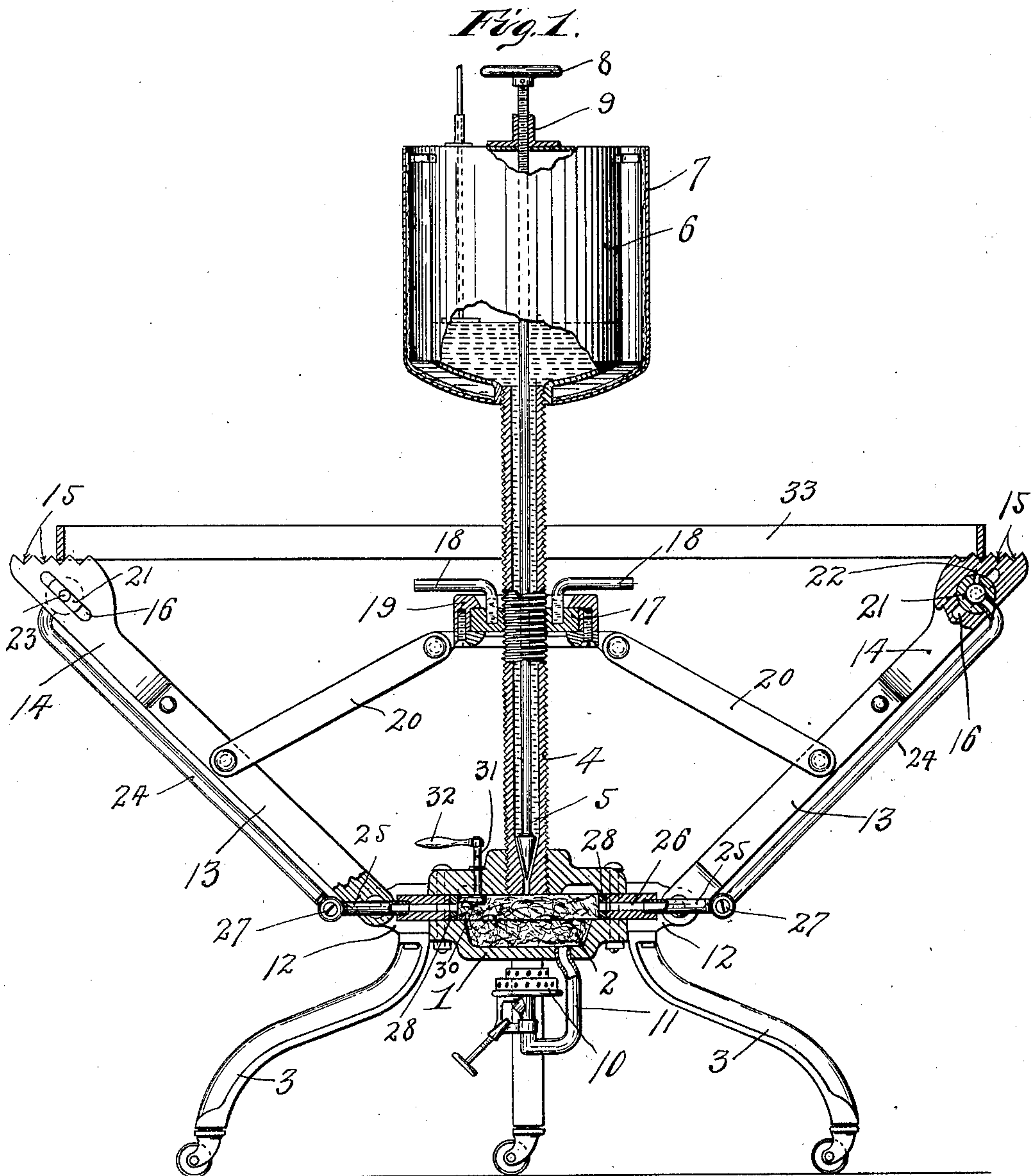
Patented Feb. 4, 1902.

C. SOLBERG.
TIRE HEATING DEVICE.

(Application filed Sept. 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
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By his Attorneys,
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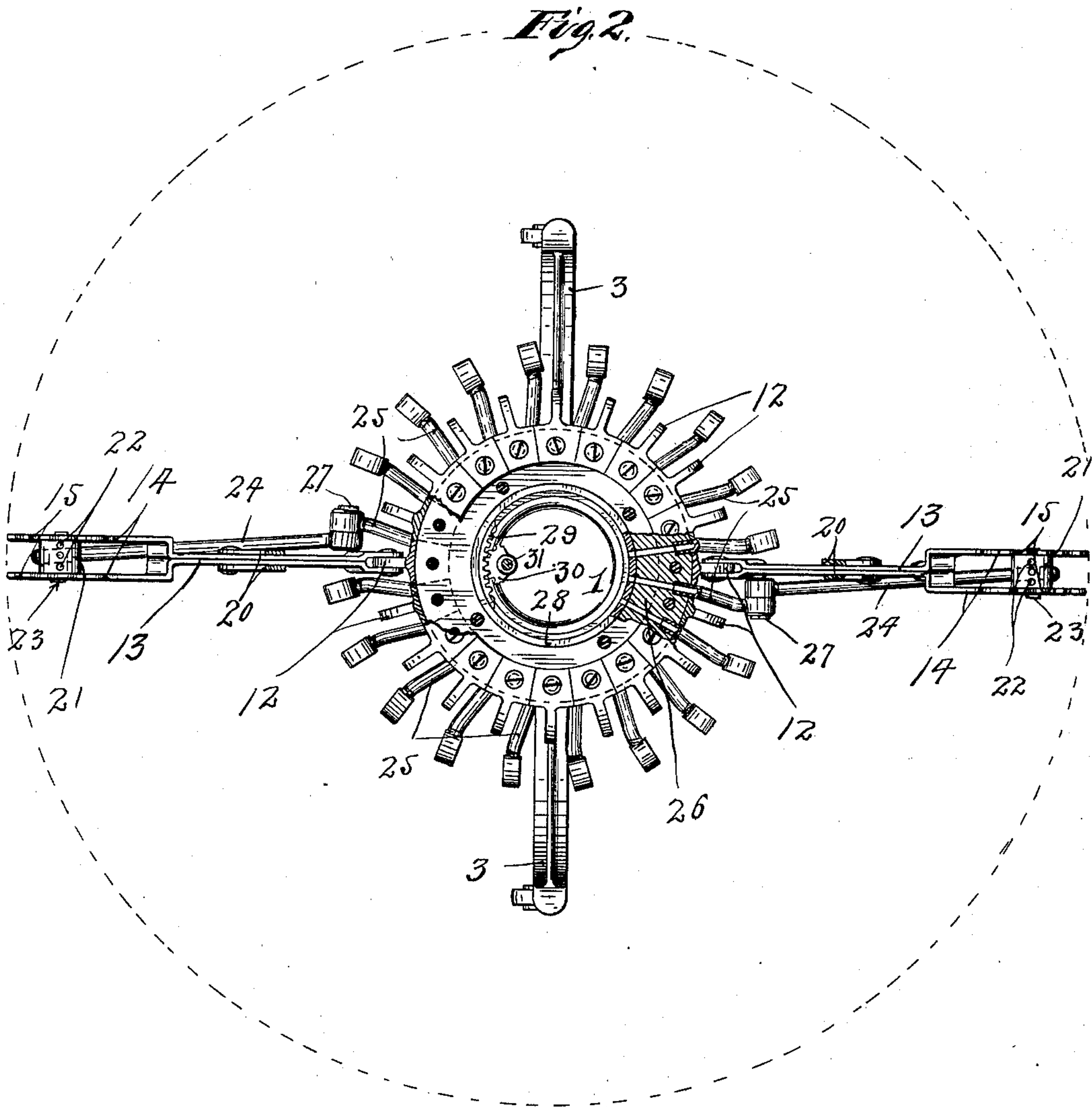
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Witnesses.
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UNITED STATES PATENT OFFICE.

CHRISTOPHER SOLBERG, OF EDEN VALLEY, MINNESOTA.

TIRE-HEATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 692,376, dated February 4, 1902.

Application filed September 27, 1901. Serial No. 76,747. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER SOLBERG, a citizen of the United States, residing at Eden Valley, in the county of Meeker and State of Minnesota, have invented certain new and useful Improvements in Tire-Heating Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved tire-heating device adapted for easy adjustment to tires of different sizes; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout both views.

Figure 1 is a view in central vertical section showing a tire-heating device constructed in accordance with my invention, and Fig. 2 is a plan view of the said device with parts broken away and with others removed.

The numeral 1 indicates a hollow body, which preferably contains asbestos wool or other absorbent non-combustible material 2. This member 1 affords a generating-chamber and, as shown, is supported at a suitable distance above the ground or floor by legs 3. A hollow tubular standard 4, which is screw-threaded on its exterior, rises from the top of the member 1 and communicates therewith at its lower end through a small passage which is adapted to be opened and closed by a needle-valve 5. An oil-tank 6 is secured to the upper end of the hollow support 5 and communicates therewith. To protect this tank 6 from intense heat, it is shown as provided with an outwardly-spaced asbestos-lined jacket 7. At its upper end the stem of the needle-valve 5 is shown as provided with a hand-wheel 8 and has screw-threaded engagement with a hub 9, secured on the top of the said tank. This screw-threaded engagement serves to hold the valve 5 in any set position.

The numeral 10 indicates an ordinary burner, such as used in gasoline-stoves, which burner is located immediately below

the generating-chamber 1 and communicates therewith through a small pipe 11.

To the peripheral portion of the chamber or member 1 is secured a plurality of hinged lugs 12, and to each of these lugs is pivoted the lower end of a tire-supporting arm 13, which is bifurcated at its upper end to afford two tire-supporting prongs 14. The upper portions of these prongs 14 are provided with tire-holding notches 15, and the sides thereof are provided with longitudinally-extended slots 16.

A disk-like nut 17, provided with hand-pieces 18, works with screw-threaded engagement on the tubular support 4. A non-rotary ring 19 is moved vertically by the said nut 17, the same having flanges which loosely embrace the said nut. Links 20 connect the non-rotary ring 19 with the intermediate portions of the several supporting-arms 13. As is evident, by turning the nut 17 the ring 19 may be moved upward or downward, so as to adjust the free ends of the arms 13 toward or from the central supporting-tube 4, keeping the same always in circular line concentric with the said support 4.

For each supporting-arm 13 there is a tuyere or burner 21, which, as shown, is afforded by a hollow head having one or more jets or perforations 22 and also a pair of trunnions 23, which work one in each of the slots 16 of the embracing-prongs 14 of the corresponding arms 13. Each tuyere 21 is connected by a small pipe or tube 24 with a radially-projecting tube 25, which, as shown, opens directly from a gas-outlet sleeve 26, which sleeves 26 open radially from the generating-chamber 21. The pivotal connections 27 between the tubes 24 and 25 are afforded by suitable flexible and hollow joints—such, for instance, as used in adjustable gas-fixtures. The inner ends of the gas-outlet sleeves 26 are adapted to be simultaneously opened and closed by a perforated ring or annular valve 28, which is suitably mounted within the generating-chamber and is provided with internal gear-teeth 29. The teeth 29 are in mesh with the teeth of a small segmental gear 30, carried at the lower end of a short vertical stem 31, which is suitably mounted in the upper wall of the chamber or member 1 and is provided with a

handpiece 32, by means of which said stem may be turned and said valve 28 adjusted.

33 indicates a tire, such as a wagon-tire, shown as supported by the several arms 13.

5 The manner in which the several radial tire-supporting levers 13 are adjusted is obvious and has already been stated. The adjustments of the said supporting-levers, as is further evident, cause corresponding adjustments of the several twyers or gas-burners 21, so that the latter are always kept in position to properly apply the flame to the tire. When the said levers 13 and twyers are adjusted, the trunnions 23 move in the slots 16 to prevent binding of the parts.

15 The device above described is extremely efficient for the purposes had in view. It may be made in various sizes and may be designed so that it is adapted for heavy work, such as heating the tires of locomotive drive-wheels. The device is always ready for use, and only such an amount of fuel will be used as is absolutely necessary in order to produce sufficient heat to expand the tire to the desired extent.

The device illustrated in the accompanying drawings is of course capable of considerable modification within the scope of my invention as described.

30 What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a tire-heating device, the combination with a common support, of a plurality of radially-adjustable burners, and a plurality of radially-adjustable tire-supports, which burners and supports are movable toward and from the axis of said common support.

2. In a tire-heating device the combination with a plurality of tire-supports and burners arranged in concentric circles, of means for supplying the combustible fluid to said burners, and means for imparting common radial adjustment to said supports and burners toward and from the axis of said common support, substantially as described.

3. In a tire-heating device, the combination with a centrally-located support, of a plurality of tire-supporting arms pivoted to said support at their lower ends and adjustable radially toward and from the axis thereof, of a vertically-adjustable element at the axis of said series of supporting-arms, links connecting said adjustable element with said supporting-arms, for imparting common adjustments thereto, and means for applying heat to the tire, substantially as described.

4. In a tire-heating device, the combination with a vertically-disposed screw-threaded standard, of a nut working thereon, a non-rotary ring carried by said nut, a plurality of radially-adjustable tire-supporting arms, a centrally-located support to which said arms are pivoted at their lower ends, a plurality of links connecting said supporting-arms to said ring, for imparting common adjustments thereto, and means for applying heat to the tire, substantially as described.

5. The combination with a plurality of tire-supporting arms, and means for simultaneously adjusting the same with their free ends always in circular arrangement, of a plurality of burners carried at the free ends of said arms, and gas-supplying connections to said burners having flexible joints which permit the said burners to move with said arms, substantially as described.

6. The combination with a gas-generating chamber, of a vertical tubular standard rising therefrom and communicating therewith, a plurality of radially-adjustable tire-supporting arms pivoted at their lower ends in the vicinity of said generating-chamber, a nut working with screw-threaded engagement on said tubular standard, a non-rotary ring carried by said nut, links connecting said ring to said supporting-arms, burners carried at the free ends of said arms, flexibly-jointed gas-tubes leading from said generating-chamber to said burners, and an oil-supplying tank communicating with the upper end of said tubular standard, substantially as described.

7. The combination with a generating-chamber 1, of the tubular standard 4 having the tank 6 at its upper end, the valve 5 for opening and closing the passage from said standard to said generating-chamber, the nut 17 working with screw-threaded engagement on said standard, the ring 19 loosely mounted on said nut, the supporting-arms 13 pivoted at their lower ends and pronged at their upper ends 14, said prongs having notches 15 and slots 16, the burners 21 mounted between said prongs 14 and provided with trunnions 23 working in said slots 16, the gas-tubes leading from said generating-chamber to said burners and having the flexible joints 27, the perforated valve-ring within said generating-chamber for opening and closing said gas-tube, and a burner located below said generating-chamber and communicating therewith, substantially as described.

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

CHRISTOPHER SOLBERG.

Witnesses:

I. H. REEVES,

GEO. P. MATHEW.