No. 776,831. PATENTED DEC. 6, 1904.

S. L. GEDDES.

DEVICE FOR HOLDING TIRES FOR HEATING.

APPLICATION FILED NOV. 16, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

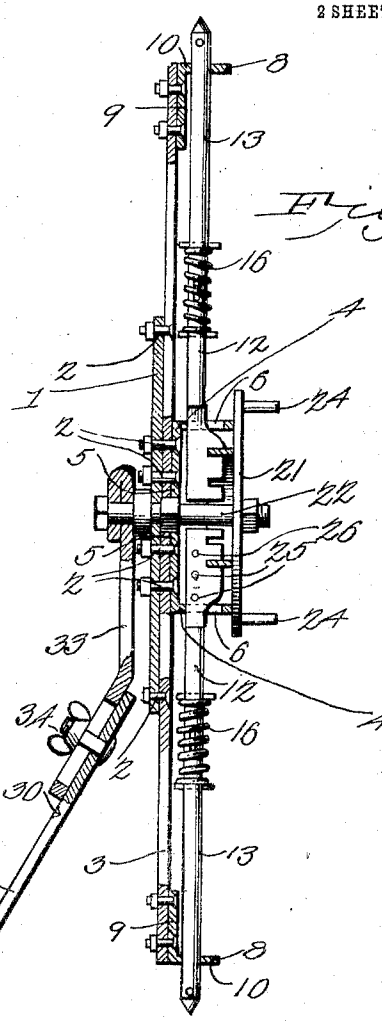


Fig. 5.

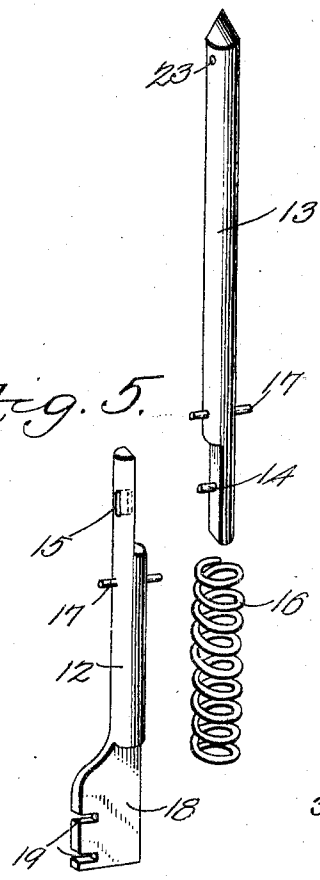
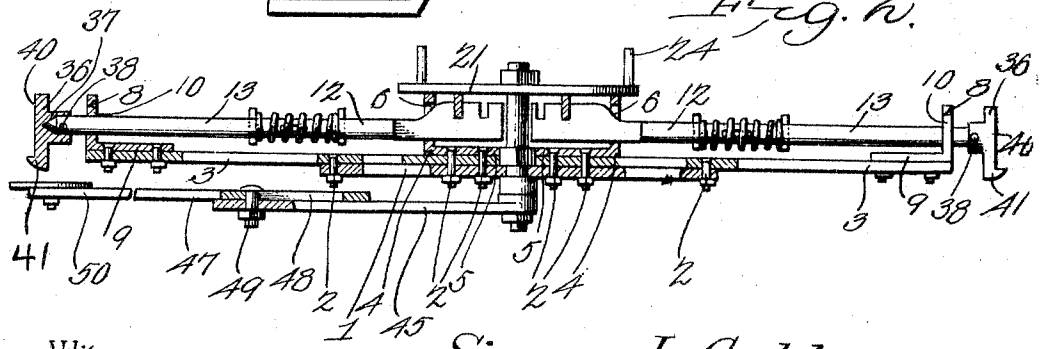


Fig. 2.



Witnesses

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DEVICE FOR HOLDING TIRES FOR HEATING.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

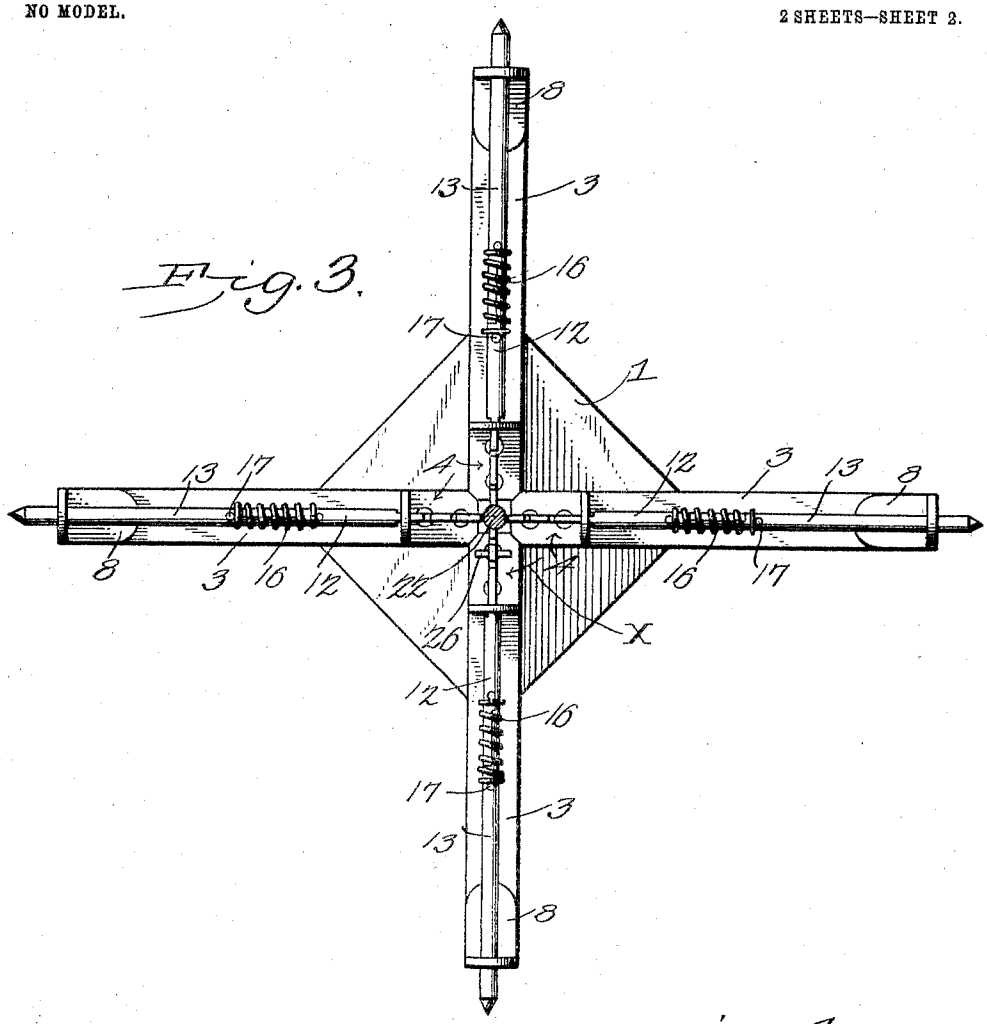
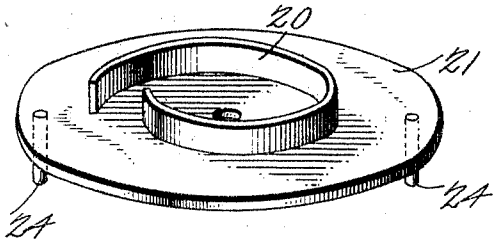


Fig. 4.



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No. 776,831. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

SIMPSON L. GEDDES, OF WELLINGTON, KANSAS.

DEVICE FOR HOLDING TIRES FOR HEATING.

SPECIFICATION forming part of Letters Patent No. 776,831, dated December 6, 1904.

Application filed November 16, 1903. Serial No. 181,375. (No model.)

To all whom it may concern:

Be it known that I, SIMPSON L. GEDDES, a citizen of the United States, residing at Wellington, in the county of Sumner and State of Kansas, have invented a new and useful Device for Holding Tires for Heating, of which the following is a specification.

This invention relates to devices for holding tires for heating, and has for its object to provide a device of the character described by means of which one or more tires may be easily and quickly secured and held above a forge or in front of the flame of an oil-burner or blast-lamp.

A further object of the invention is to provide in a device of the character specified improved operating devices by means of which the tire-engaging arms may be simultaneously brought into engagement with the tire at a plurality of different points and the tire held with its center coincident with the center of the supporting device.

A further object of the invention is to provide an improved form of tire-engaging arm by means of which the device is adapted to engage tires which have been distorted from true circular form.

A further object of the invention is to provide an improved attachment for each supporting-arm to adapt the device for simultaneously presenting a plurality of tires to the source of heat.

In the attainment of the objects above mentioned and others which will appear as the invention is fully disclosed I make use of the construction and combination of parts of a device for holding tires for heating shown in preferred form in the accompanying drawings, described in the following specification, and having the novel features thereof specifically pointed out in the appended claims.

In the drawings, Figure 1 is a view, partly in side elevation and partly in section, of the preferred form of the invention in operative position. Fig. 2 is a view, partly in side elevation and partly in section, showing a modified form of the invention designed for use with a blast-lamp as the source of heat, the tire-engaging bars being provided with attachments for holding two or more tires. Fig. 3 is a front view of the spider and tire-engaging bars with the cam-plate removed. Fig. 4 is a view in perspective of the cam-plate from the rear. Fig. 5 is a view of the parts of one of the tire-engaging bars unassembled.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference throughout, 1 designates a base-plate, preferably square in outline, on which are secured by small bolts 2 or otherwise a plurality of radially-arranged supporting-arms 3, in this instance four in number, which form, together with the base, a spider upon which the tire-engaging bars are slidably supported. Each of the arms 3 is provided near its inner end with a bracket 4, consisting of a base portion 5, which is secured upon the arm by means of the bolts 2 and the upturned slotted portion 6, which serves as a guide for the flattened inner end of one of the tire-engaging bars. Each of the arms 3 is provided at its outer end with a somewhat smaller bracket 8, which consists of a base portion 9, secured upon the bar, and an upturned end portion 10, having a round opening therein for the passage of one of the tire-engaging bars.

Each of the tire-engaging bars is preferably formed of two sections, an inner section 12 and an outer section 13, the two sections being lapped, as shown, and connected by a pin 14 on the inner section, which engages a slot 15, formed in the outer section. The sections 12 and 13 of each of the tire-engaging bars are prevented from separation by relative lateral movement by means of a coiled spring 16, wound around the overlapping portions of the two sections and secured between pins 17, extending through the two sections at suitable points. The inner end of inner section 12 is flattened, as shown at 18, and is provided with two or more kerfs 19 for engagement with a cam-rib 20 on the inner surface of a circular plate 21, which is rotatably mounted upon a pivot-pin 22 at the center of the apparatus. The outer section 13 of each of the tire-engaging bars has a pointed outer end, as shown, which is adapted for engagement with

the interior surface of an ordinary metal tire and is also provided with a transverse opening 23, whose utility will be hereinafter explained.

The plate 21, with the cam-rib 20 on the inner surface thereof, which engages the kerfs 19 in the inner ends of the tire-engaging bars, forms the means for simultaneously projecting the several tire-engaging bars through the brackets provided on the supporting-arms of the spider. To facilitate the turning of the plate 21, a pair of pins or handles 24 are provided on the outer surface of the plate at points near the periphery thereof, and in order to limit the outward movement of the tire-engaging bars under the influence of the cam-plate one of the bars is provided with a plurality of openings 25 in the flattened end 18, and a pin 26 is fixed in one of said openings to limit the outward movement of the bar by contact with the upturned end 6 of one of the brackets 4. As the outward movement of all of the tire-engaging bars is brought about by means of the cam-rib 20, the movement of all the bars outward will be checked whenever the movement of one is checked, and consequently the pin 26 serves to limit the outward movement of the entire set of tire-engaging bars.

In order to support the spider, with the members carried thereby, above the fire of an ordinary forge, I provide an extensible bracket 30, comprising an arm 31, with a slotted base 32, by means of which the position of the bracket may be adjusted, and a slotted extension 33, which is secured in adjusted position on the arm 31 by means of a thumb-screw 34, passing through a hole in the arm 31 and the slot in extension 33. The spider, with the brackets carried thereby, is rotatably supported on the bracket 30 by passing the end of the pivot-pin 22 through the opening provided therefor in the upper end of the extension 33, and when the spider is so supported a tire held by the tire-engaging bars can be carried through the forge-fire and all portions thereof successively heated.

When it is desired to support two tires for simultaneous heating, a member 36, having a socket 37 of suitable size to receive the end of one of the tire-engaging bars, is fitted over the end of each bar and secured in position thereon by means of a pin 38 passing through openings 39 in the socket 37 and through the opening 23 in each tire-engaging bar adjacent to the outer end. Each member 36 has a face 40, which is perpendicular to the plane in which the tire-engaging bar is moved, and at one end of each member 36 there is formed an outwardly-projecting lug 41, which forms a shoulder against which a tire may be pressed to hold it in proper position while another tire is being placed upon the members 36.

In order to secure a single tire only upon the device, the tire-engaging bars will be projected to a position such that the tire may be barely slipped over the ends thereof, and the tire will then be slipped over the ends of the tire-engaging bars in the position shown in Fig. 3 and will be secured in that position by turning the plate 21 in the direction indicated by the arrow X until further movement of the tire-engaging bars is stopped. After a tire has been sufficiently heated the tire-engaging bars will be retracted by turning the plate in the direction opposite to that indicated by the arrow X and the tire removed from a holder and applied to the wheel in the usual manner.

When it is desired to heat a tire by means of a blast-lamp, the spider, with the structures mounted thereon, will be supported upon an attachment 45, comprising a member 46, in one end of which the pivot-pin 22 of the spider is secured, and a member 47, having a slot 48 to receive a bolt 49, by which the members 46 and 47 are connected. The member 47 affords support for the blast-lamp, (not shown,) which is seated upon a plate 50 at the outer end of the member 47. When the spider is supported upon the attachment 45, the arms are disposed in a horizontal instead of a vertical plane and the flame of the lamp is projected horizontally in the usual manner.

As the lamp by means of which heat is applied to the tire may be of any preferred construction and forms no part of the present invention, any description or illustration of the lamp for the purpose is regarded as superfluous.

Having thus described the nature and use of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a device of the character described, of a supporting member, a plurality of independently-yieldable tire-engaging members mounted on the supporting member, and means for simultaneously bringing said yieldable tire-engaging members into engagement with the tire.

2. The combination in a device of the character described, of a supporting member, a plurality of independently-yieldable tire-engaging members arranged for radial movement on said supporting member, and means for projecting said tire-engaging members.

3. The combination in a device of the character described, of a supporting member, a plurality of independently-yieldable tire-engaging members mounted on said supporting member for radial movement, and means for projecting and retracting said tire-engaging members.

4. The combination in a device of the class described, of a support, a plurality of endwise-movable tire-engaging members radially disposed on said support, each of said members including two slidably-connected sections and a spring engaging the outer section to hold the same at its outer limit, and means con-

nected to the inner sections of the tire-engaging members for projecting the same outwardly.

5. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars which consist of two lapped sections connected for limited movement, and having a spring encircling the overlapping portions of said sections to keep the bars normally extended, and means for projecting said bars.

6. The combination in a device of the character described, of a supporting member, a plurality of radial tire-engaging bars slidably mounted on said supporting member, each of said bars consisting of an inner and an outer section the adjacent ends of which are overlapped and connected by a pin-and-slot connection, springs encircling said overlapping portions of the sections of each bar, and means for projecting said bars.

7. The combination in a device of the character described, of a supporting member, a plurality of radially-arranged tire-engaging bars, and a cam engaging all of said bars and forming means whereby said bars may be simultaneously projected.

8. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars radially arranged on said supporting member, and a rotatable cam engaging all of said bars at their inner ends and forming means whereby said bars may be simultaneously projected.

9. The combination in a device of the character described, of a supporting member, a plurality of tire-bars radially arranged on said supporting member and having notches in their upper surfaces, and a rotatable cam having a spiral rib engaging said notches and forming means whereby said tire-engaging bars may be simultaneously projected.

10. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars radially arranged thereon, a rotatable cam engaging all of said bars and forming means whereby said bars may be simultaneously projected, and means for positively limiting the outward movement of one of said bars.

11. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars radially mounted on said supporting member, a cam engaging all of said bars and forming means for simultaneously projecting said bars, guide members on said supporting member in which said bars slide, and a transverse pin arranged in one of said bars for contact with one of said guide members to limit the outward movement of the bar.

12. The combination in a device of the character described, of a supporting member, a plurality of radially-arranged bars slidably mounted thereon, a detachable end piece for each of said bars adapted to afford support for a plurality of tires, and means for projecting said bars.

13. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging members movably mounted thereon, means for projecting said tire-engaging members, and detachable end pieces for said tire-engaging members adapted to afford support for a plurality of tires.

14. The combination in a device of the character described, of a supporting member, and devices carried thereby for simultaneously supporting a plurality of tires of the same diameter.

15. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars slidably mounted thereon, means for projecting said tire-engaging bars, and a plurality of end pieces detachably mounted on said tire-engaging bars and presenting tire-supporting faces disposed perpendicularly to the plane of movement of said tire-engaging bars.

16. The combination in a device of the character described, of a supporting member, a plurality of tire-engaging bars mounted thereon, means for projecting said tire-engaging bars, end pieces for said tire-engaging bars each comprising a socket to receive a tire-engaging bar, a tire-supporting portion disposed at right angles to the axis of the socket, and means for securing said end pieces on the tire-engaging bars.

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

SIMPSON L. GEDDES.

Witnesses:

CLARA BAUMAN,

W. W. SCHWINN.