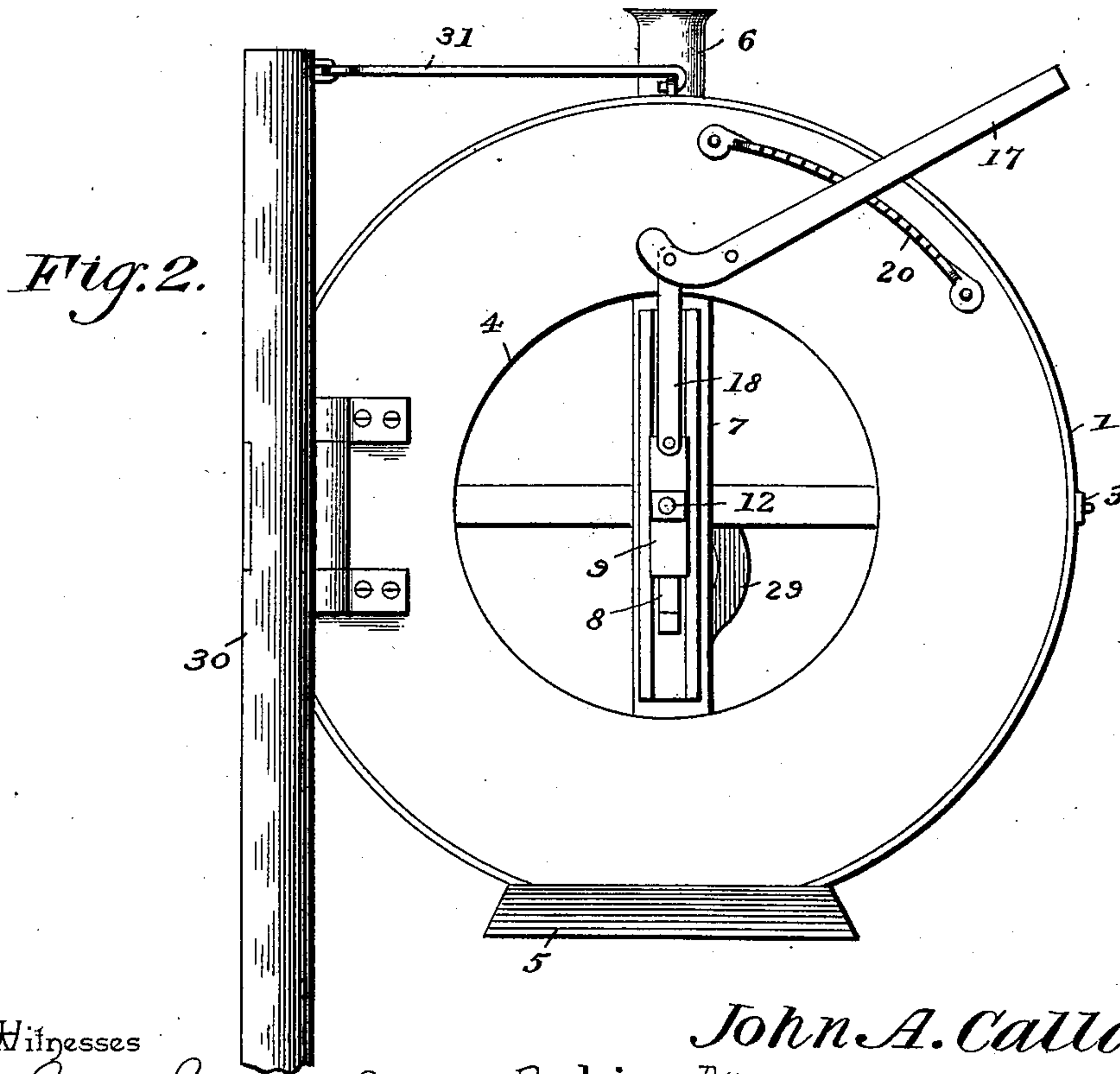
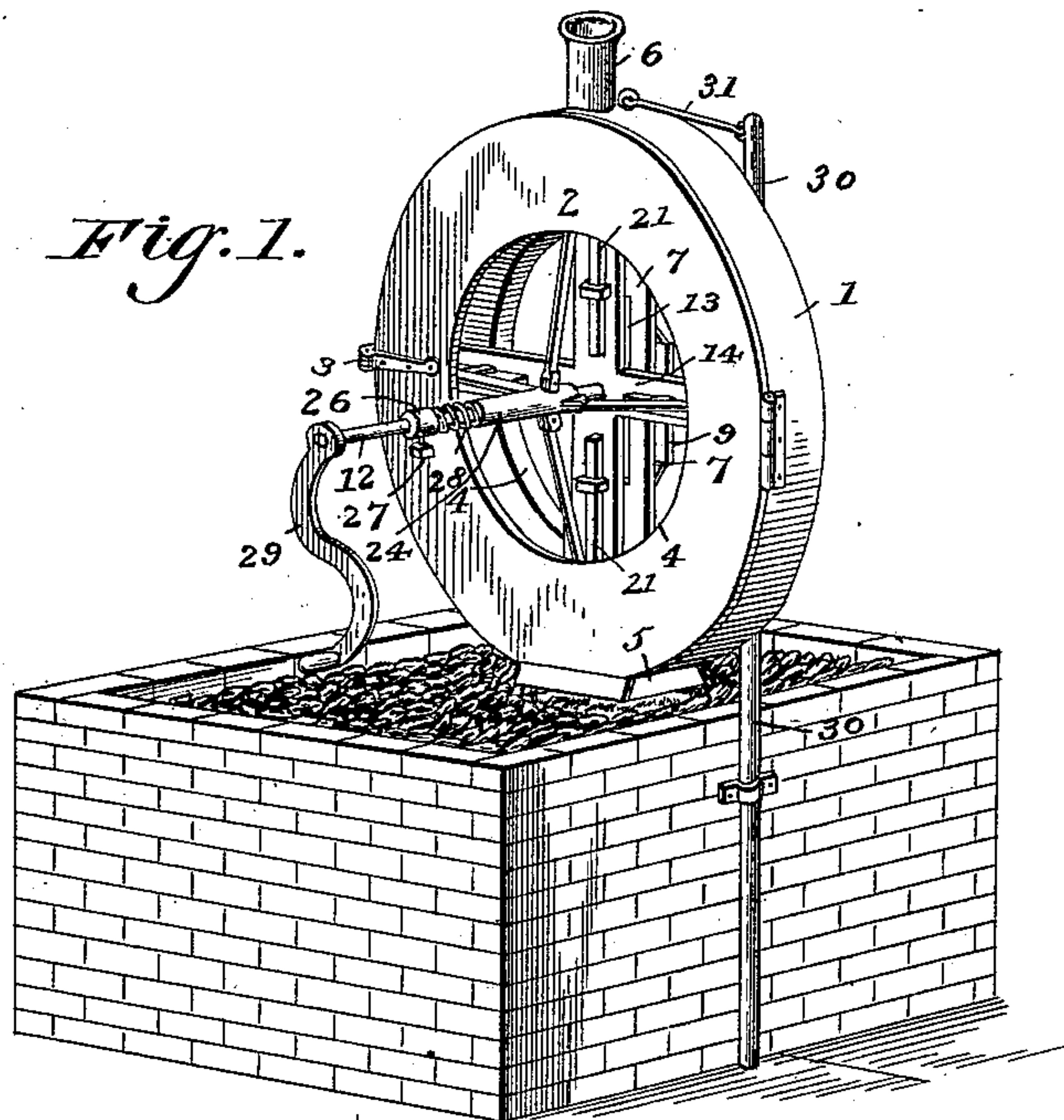


J. A. CALLAWAY.  
TIRE HEATER.

No. 521,928.

Patented June 26, 1894.



Inventor

John A. Callaway,

By his Attorneys,

Callaway & Co.

Witnesses

Julius H. K. S.  
J. E. K. S.

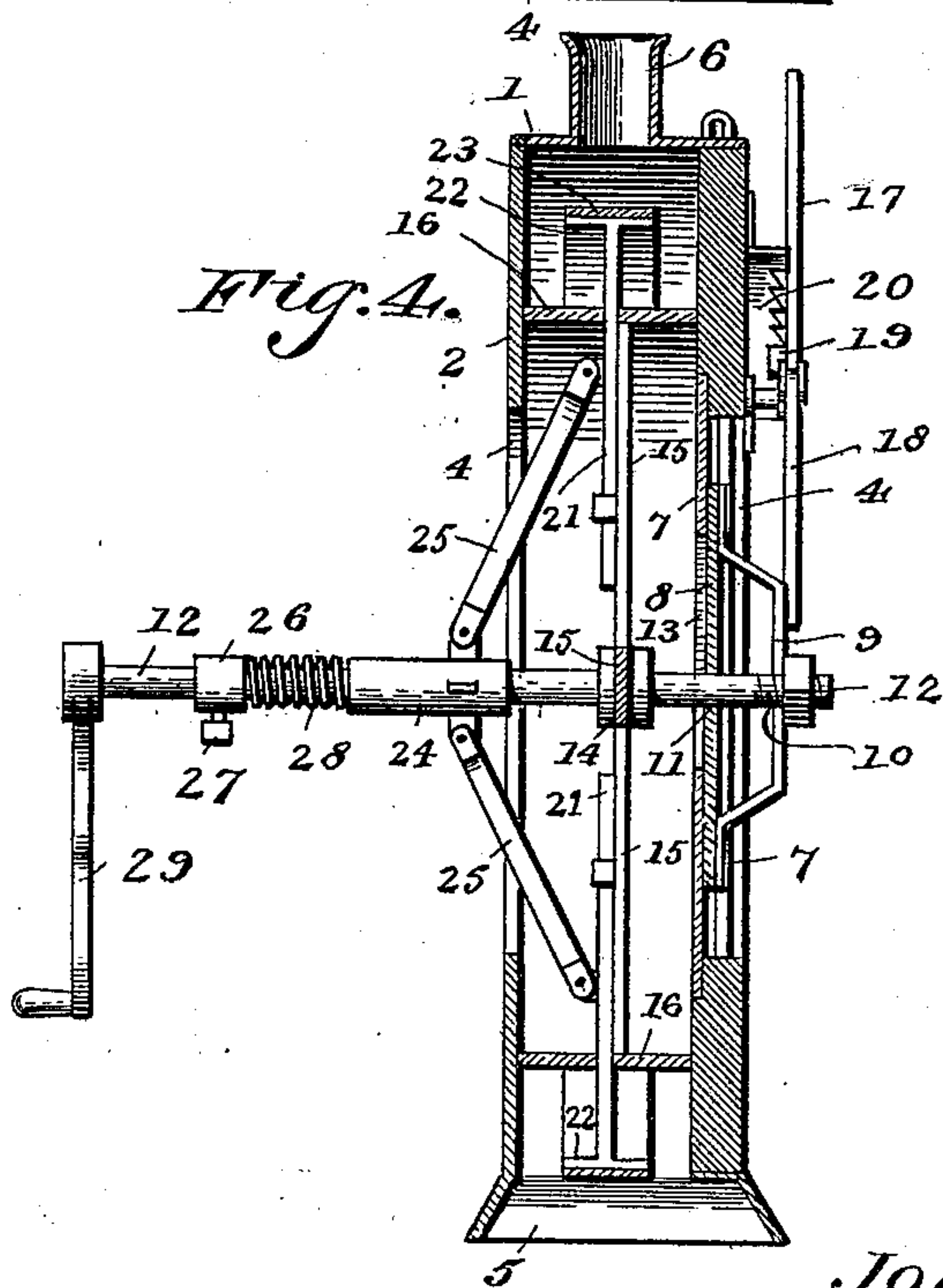
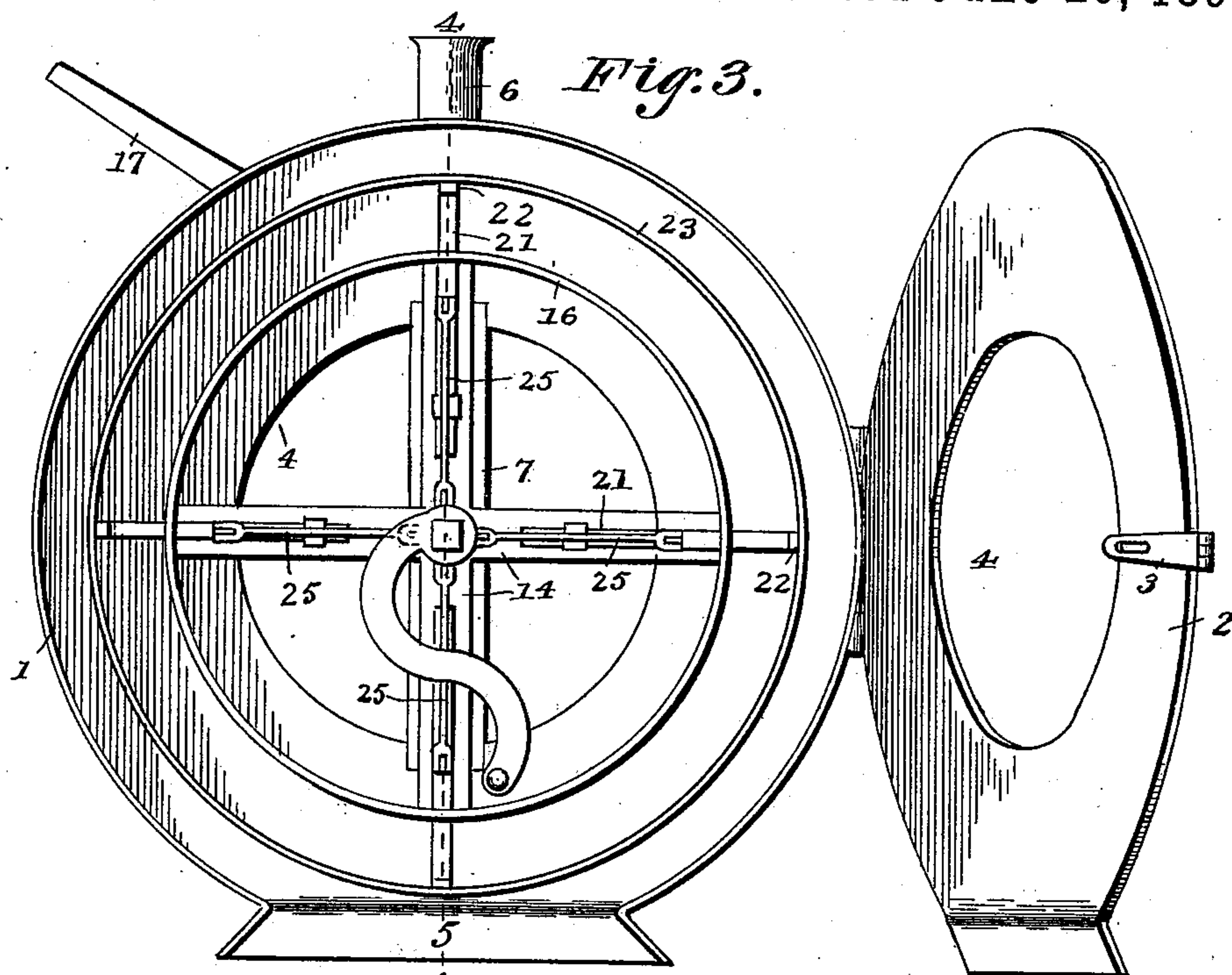
(No Model.)

2 Sheets—Sheet 2.

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Chas. Snow & Co.



# UNITED STATES PATENT OFFICE.

JOHN A. CALLAWAY, OF LAMPASAS, TEXAS.

## TIRE-HEATER.

SPECIFICATION forming part of Letters Patent No. 521,928, dated June 26, 1894.

Application filed October 12, 1893. Serial No. 487,961. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. CALLAWAY, a citizen of the United States, residing at Lampasas, in the county of Lampasas and State of Texas, have invented a new and useful Tire-Heater, of which the following is a specification.

My invention relates to a rotary tire-heater, and it has for its object to provide a device for use in connection with a blacksmith's forge, and which may be movably supported in the vicinity of the forge, whereby it may be swung into operative position or out of the way, as may be required; and furthermore, to provide means whereby the heat in passing through the device is concentrated upon the tire, whereby time and fuel are economized, and to provide means for automatically adjusting the rests to take up the expansion of the tire.

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 heater embodying my invention arranged in operative position over a forge. Fig. 2 is a rear view of the same. Fig. 3 is a front view with the door open. Fig. 4 is a transverse vertical section on the line 4—4 of Fig. 3.

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

1 designates a circular casing, provided with a hinged front side or door 2, having a suitable fastening device or hasp 3. The front and rear sides of the casing are provided with central aligned openings 4, a hood 5 is arranged at the bottom of the casing to fit over and receive the heat from the forge, and an outlet or flue 6 is provided at the top of the casing.

7 represents a vertical guide, which is secured to the rear side of the casing, and 8 represents a slide, which is mounted for vertical movement in the guide and carries a bracket 9, having a bearing 10, which is aligned with a corresponding bearing 11 in the slide.

12 represents a shaft, which is rotatably mounted in said bearings and extends

through a vertical slot 13 in the guide. Fixed to this shaft is a spider 14, comprising the radial arms 15 and the circular band 16, which, in width, is equal to the interval between the front and rear sides of the casing, whereby when the front side or door of the casing is closed an annular chamber, which I will term a heating chamber, is formed between said band and the exterior circular wall of the casing. Communicating with this heating chamber are the hood and outlet or flue above described.

17 represents an adjusting lever which is pivoted to the rear side of the casing and is connected, by means of a rod or similar device 18, to the bracket upon the rear side of the slide, said lever being provided with a dent 19 to engage the teeth of a segmental rack 20, whereby the slide and the spider supported thereby may be elevated and lowered in the casing and secured at the desired vertical adjustment. Slidably mounted upon the arms of the spider are the extension-bars 21, which are provided beyond the outer surfaces of the band or periphery of the spider with T-shaped heads or rests 22, which are adapted to bear against the inner surface of a tire 23, as shown in Fig. 3. Slidably mounted upon the shaft is a sleeve 24, which is connected, by pivotal brace-bars 25, to the extension-arms 21, whereby, when the sleeve is moved inwardly or toward the spider, said arms 21 are extended. A collar 26 is fitted upon the shaft and is provided with a set-screw 27, whereby it may be locked in any desired position, and between said collar and the outer end of the sleeve is arranged a tension-spring 28. A handle 29 is fixed to the outer end of the shaft, whereby the spider may be rotated during the heating of the tire.

When the tire is applied to the spider, the arms 21 are extended to cause the T-shaped heads carried thereby to bear snugly against the inner surface of the tire, and the adjustable collar is forced toward the sleeve to contract the interposed spring. Therefore, as the tire expands by the action of the heat the rests are automatically adjusted by means of said spring to prevent looseness of the tire.

The spider is capable of vertical adjustment to bring the lowermost side of the tire in proximity to the fire in the forge; and the exten-



sion-arms are capable of adjustment to fit either a large or a small tire.

The casing is preferably hinged to a vertical support or post 30, whereby it may be moved over the forge or swung back out of the way when not in use; and a retaining-rod 31, which is connected to the casing, is adapted to be engaged in an eye carried by the post to hold the casing in position when over the forge.

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

Having described my invention, what I claim is—

1. In a tire-heater, the combination of a circular casing provided at its bottom with a hood and at its top with an outlet, a rotary spider arranged within the casing and having a peripheral band of equal width with the interior of the casing to form an annular surrounding heating-chamber, rests carried by the spider to engage the tire, and means for rotating the spider, substantially as specified.

2. The combination with a casing provided in its lower side with a hood and in its upper side with an outlet, of an annular band arranged within the casing to form an annular heating chamber, a spider supporting said band, a slide mounted in a suitable vertical guide and having bearings in which the shaft of said spider is mounted, and adjusting de-

vices for securing the slide, spider and band at the desired vertical adjustment, substantially as specified.

3. The combination with a casing, of a rotary spider, movable rests carried by said spider, and spring-actuated means for automatically adjusting the rests radially, substantially as specified.

4. The combination with a casing, of a rotary spider, extension-bars slidably mounted upon said spider and provided with terminal rests or heads, a sleeve mounted upon the shaft of the spider, and connected by brace-bars with said extension-bars, and a tension device connected to the sleeve to automatically extend the extension-bars, substantially as specified.

5. The combination with a casing, of a rotary spider, extension-bars slidably mounted upon said spider and provided with terminal T-shaped rests or heads, a sleeve slidably mounted upon the shaft of the spider, bracing-bars connecting said sleeve to the extension-bars, an adjustable collar upon the shaft, and a tension spring interposed between said collar and the sleeve, 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.

JNO. A. CALLAWAY.

Witnesses:

E. N. WOLF,  
W. E. ADKINS.