

A. Ingalls,

Furnace for Heating Tires,

N^o 31,170.

Patented Jan. 22, 1861.

Fig. 1.

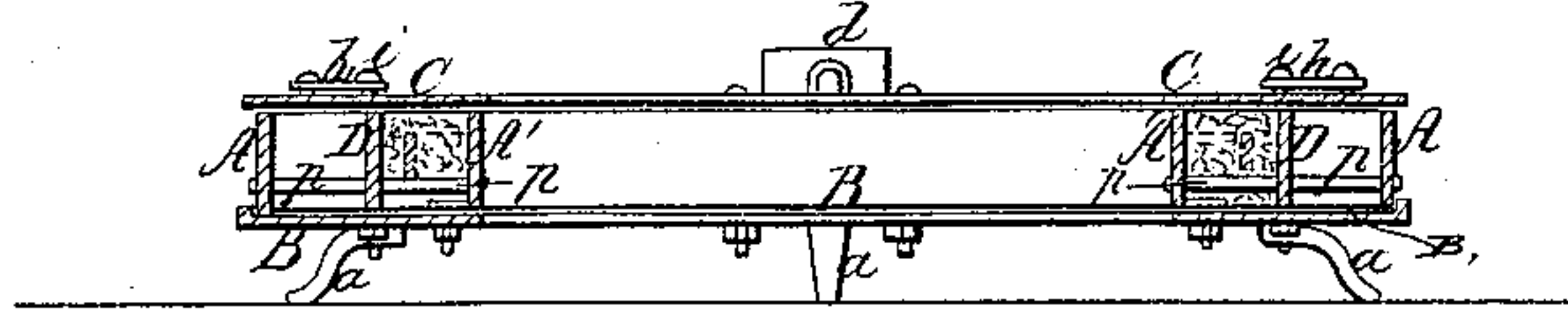


Fig. 2.

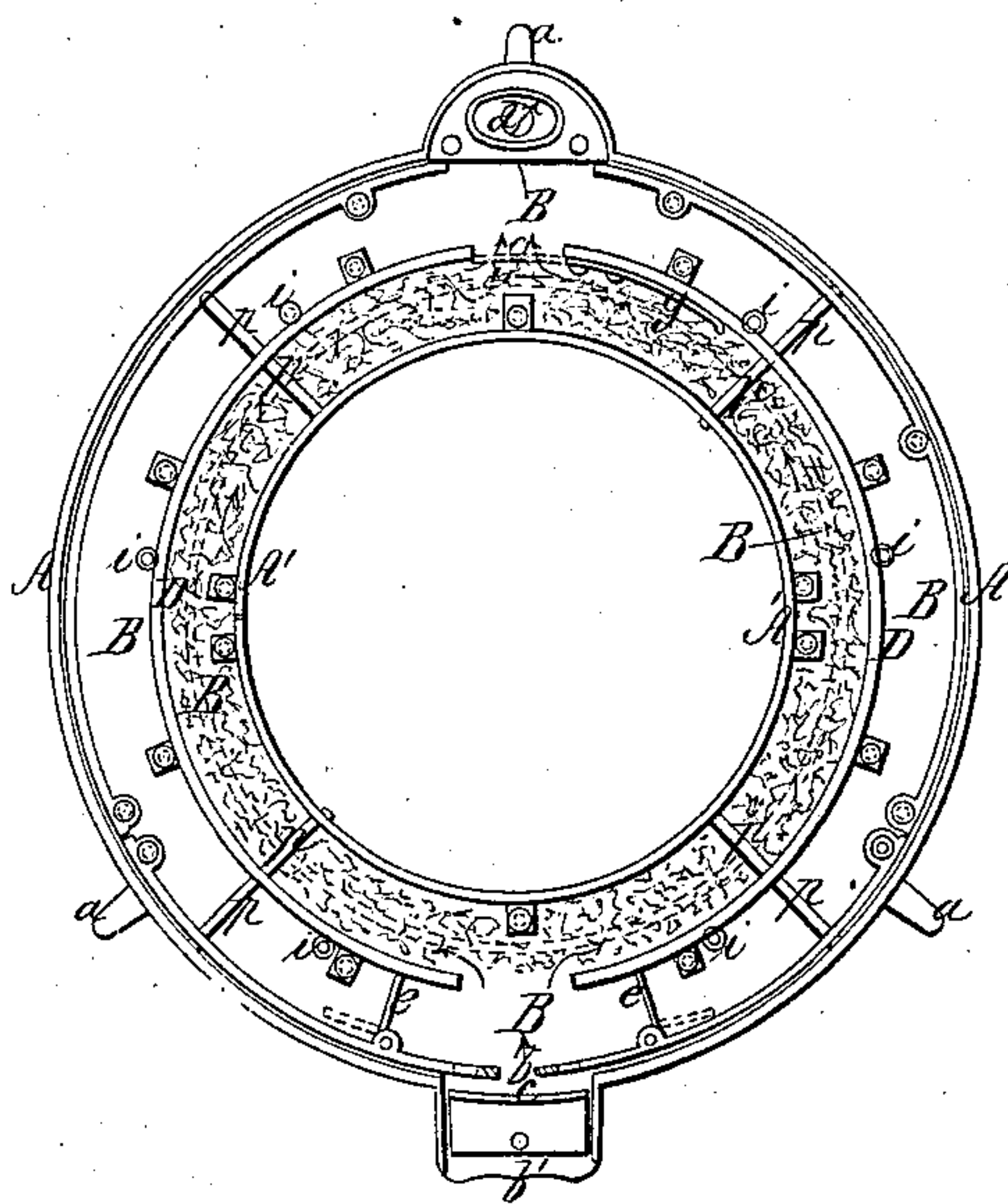
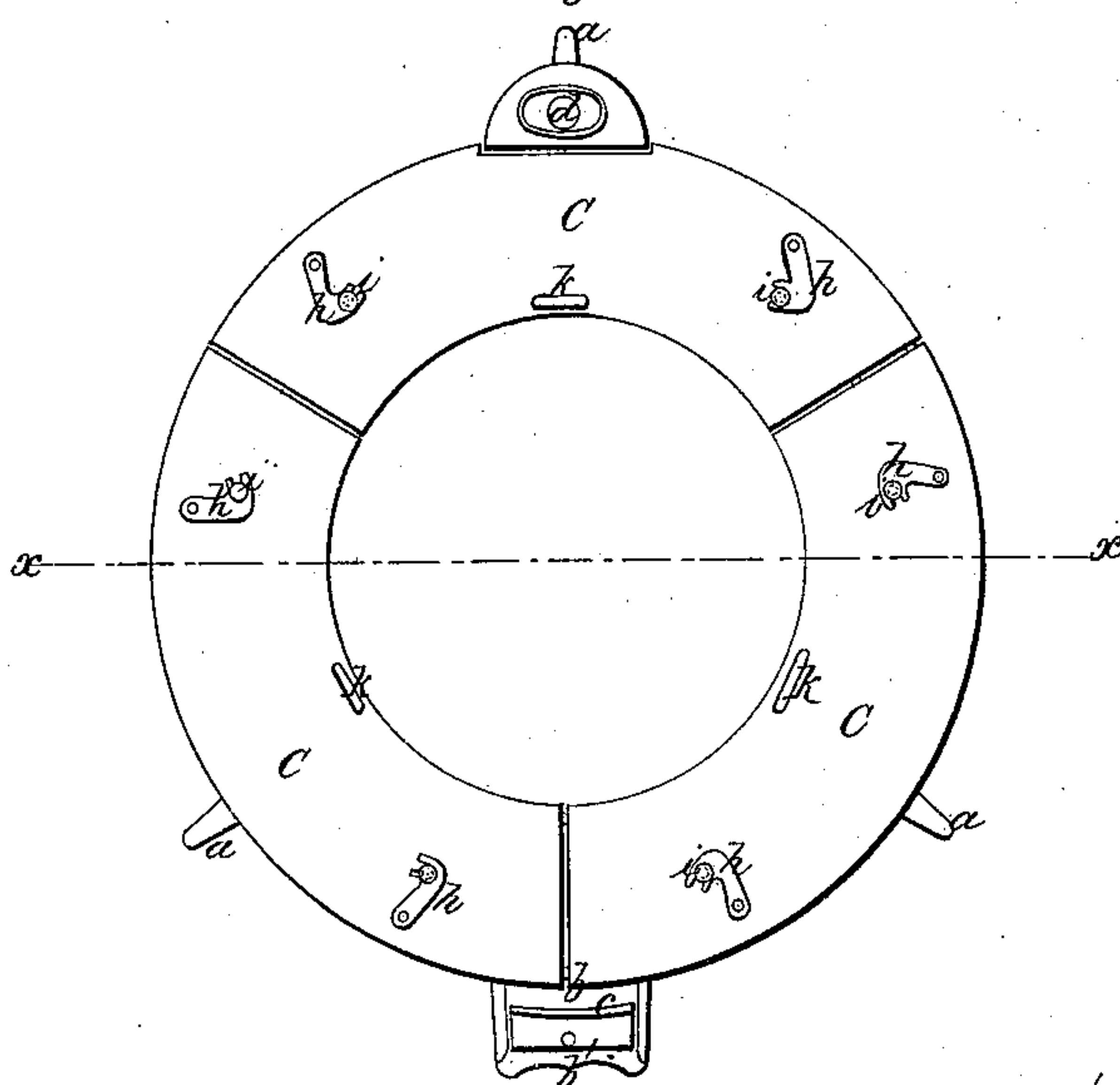


Fig. 3.



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ALFRED INGALLS, OF INDEPENDENCE, IOWA.

TIRE-HEATER.

Specification of Letters Patent No. 31,170, dated January 22, 1861.

To all whom it may concern:

Be it known that I, ALFRED INGALLS, of Independence, in the county of Buchanan and State of Iowa, have invented a new and Improved Tire-Heater; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—
Figure 1 is a vertical diametrical section through the improved tire heater. Fig. 2 is a top view of the heater with the covers removed exhibiting the interior of the same. Fig. 3 is a top view of the heater with the covers on.

Similar letters of reference indicate corresponding parts in the three figures.

My invention is a new and improved furnace for heating wagon tires of various diameters in which the tires can be readily brought to the proper degree of heat for applying them to the wheels, with a saving of time and fuel over the common method of heating tires.

The nature of my invention consists in the employment of a cylindrical furnace with a movable top, having two or more concentric chambers made in it, for receiving tires of different diameters and furnished with dampers or valves whereby the draft of the furnace may be conducted through either one of the concentric chambers from a door in the outer box to an escape pipe diametrically opposite to this door, as will be hereinafter fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, A', represent two concentric circular plates secured to the outer edges of a circular ring plate B, which together with the plates A, A', form the body of my improved furnace, and this furnace is covered closely with the segmental plates C, C, C, represented in Figs. 1 and 3 of the drawings. This circular box furnace is mounted on legs a, a, a, which support it in a horizontal position; b, is an opening through the outer plate A, and b', is a hearth which projects out from the bottom plate B, a suitable distance. The opening b, is intended merely as a draft hole and it may be closed with the plate c, at pleasure. Diametrically opposite to the opening b, a chamber d, is

formed outside of the plate A, having a pipe hole in its top for conducting smoke away from the furnace.

D, D, are two plates which are arranged in the same concentric circle, within the furnace, and at a suitable distance from the inner circular plate A'. The ends of the plates D, D, do not meet but they leave spaces between them which spaces are opposite the opening b, on one side of the furnace and opposite the chamber d, on the other side of the furnace thus forming direct communications with the draft hole b, and smoke escape hole d. The plates D, D, serve as divisions or partitions to form two concentric chambers within the furnace, or between the inner and outer walls A, A', of the furnace.

The communications with the draft hole b, of the outer concentric chamber of the furnace can be closed by the valves e, e, Fig. 2, and the communication of the inner chamber with the smoke escape chamber d, can be cut off by the sliding plate g, which closes up the opening between the rear ends of plates D, D, as represented in Fig. 2.

The entire furnace thus described may be made of sections of cast or wrought iron plates strongly bolted together in the manner represented in the drawings. The cover plates C, C, C, are made so as to fit down snugly over and around the edges of the plates A, A', and D, D, so as not to permit smoke to escape at the joints. These segmental cover plates C, C, C, are secured in their proper places on the furnace with hooks h, h, h, h, represented in Fig. 3, which catch under the heads of pins i, i, i, i, projecting up from the edges of the partitions D, D, as represented in Figs. 1 and 3. The covers C, C, C, have loops k, k, k, projecting from their upper surfaces under which a bar is placed to remove the covers, when hot, from the furnace.

Within the furnace and extending across the same a short distance above the bottom plate B, are fixed four rods p, p, p, p, which are placed at equal distances apart around the furnace. On these rods the tires are placed before the furnace is supplied with fuel so that the fire may circulate all around said tires. The inside circular plate A', is somewhat less in its diameter than the smallest tires, and the outside plate A, is

slightly larger in diameter than the largest-sized tires, so that the furnace will be adapted to receive tires of any ordinary diameter.

5 The operation of heating a tire with my improved furnace is as follows: The tire if it be a large one is placed in the outer chamber between plates A, and D, D, and on the radial rods *p, p, p, p*. The sliding damper *g* is then closed and the chamber
10 containing the tire is filled with small wood and charcoal, the covers being taken off for this purpose. When the covers C, C, C, are put on the furnace and secured down tightly the draft hole *b*, is opened and the fire is
15 started, which soon brings the tire to the proper heat for putting it on the wheel. If the tire to be heated is a smaller one than would fit into the larger chamber, it is arranged in the smaller chamber between the
20 plates D, D, and A', and the hinged valves or dampers *e, e*, are closed so as to cut off the draft from hole *b*, through the outer chamber and direct this draft through the inner chamber, as shown by the arrows, Fig.
25 2. The damper *g*, is now opened, and the

tire is surrounded with wood and fired in the manner above described.

The object of using the partition D, D, is to confine the fire around the tire which is being heated as much as possible, and thus
30 to heat the tire rapidly besides to save fuel.

When large and small tires are heated at the same time in the furnace all the three dampers should be open so that the fire may be supplied with plenty of air in both
35 chambers.

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

Combining with the horizontal circular
40 furnace herein described the inside concentric partitions D, D, movable covers C, C, C, the dampers *e, e*, and *g*, and supporting rods *p, p, p, p*, all arranged substantially as and for the purposes herein described.

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Witnesses:

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