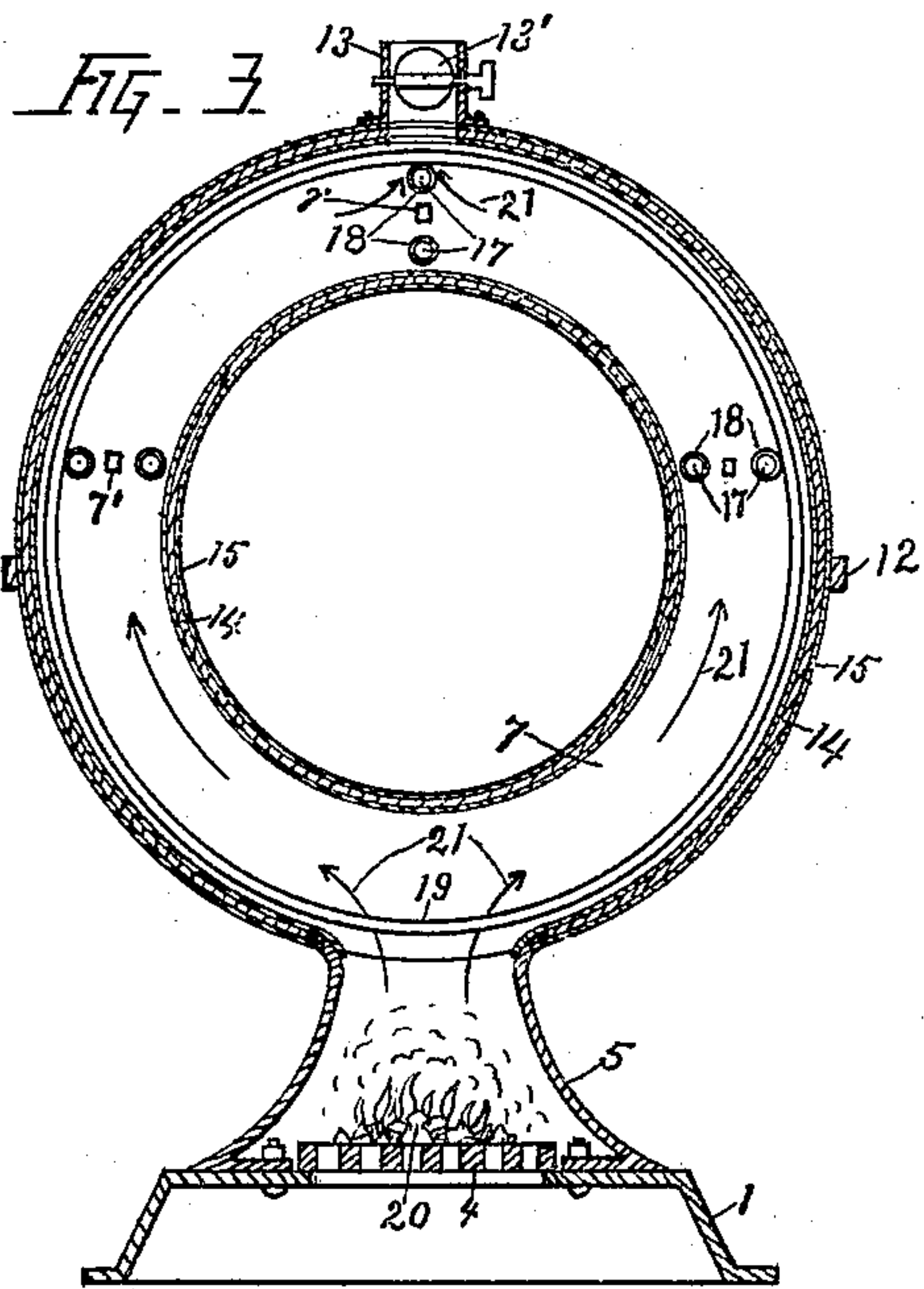
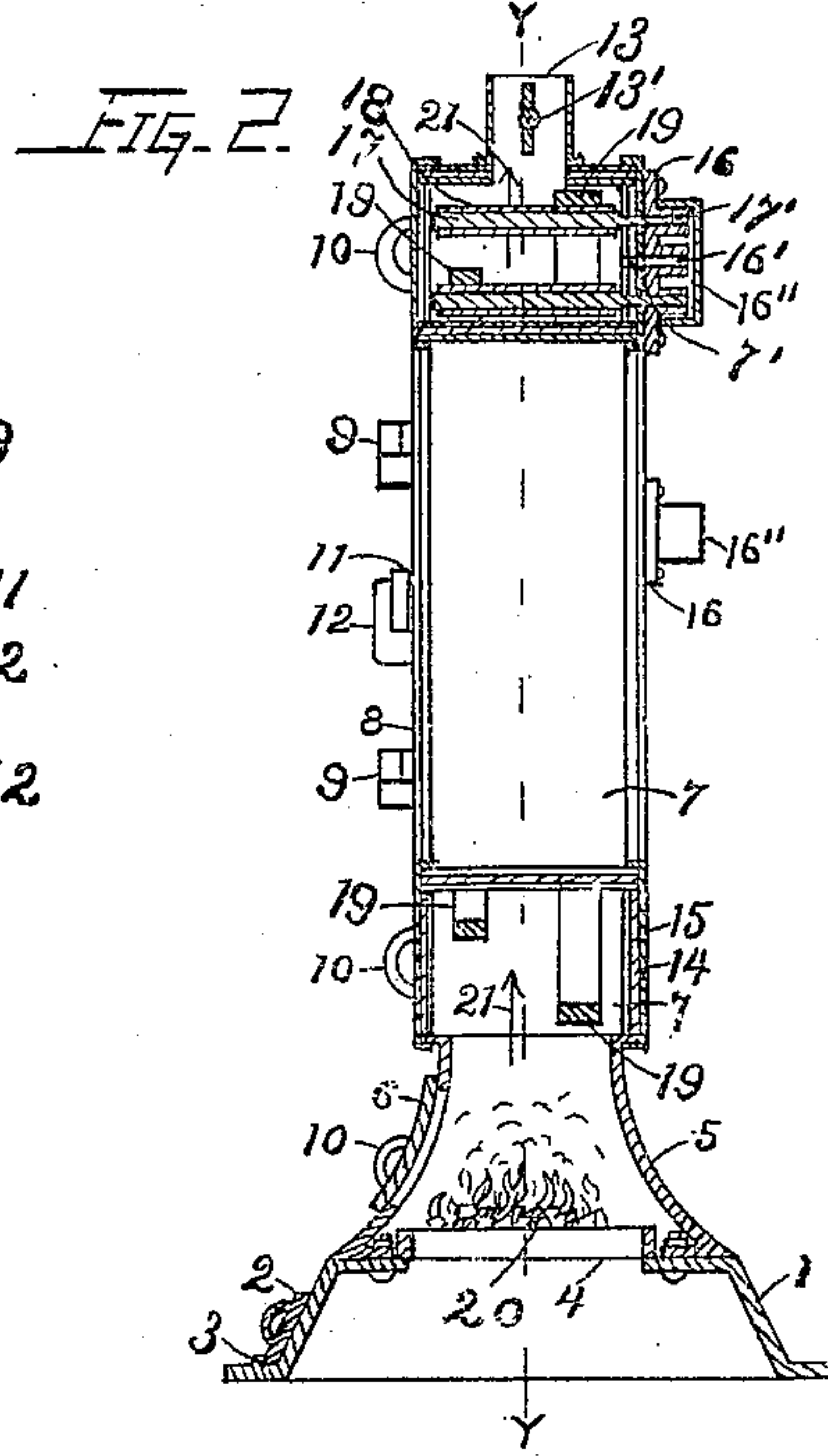
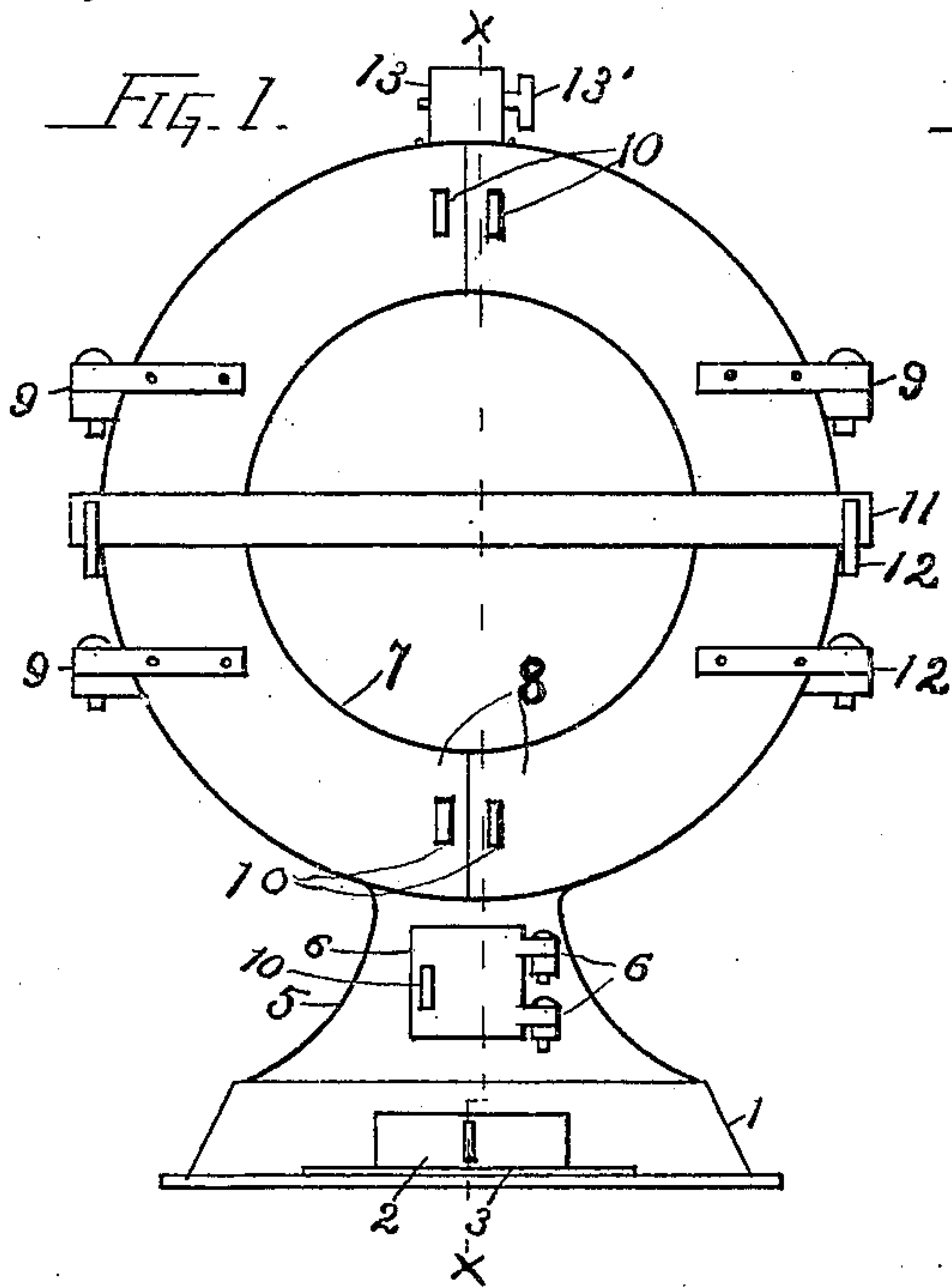


D. L. BROWN.  
TIRE HEATER.

APPLICATION FILED JUNE 23, 1909.

954,612.

Patented Apr. 12, 1910.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

DAVID L. BROWN, OF ST. JOSEPH, MISSOURI.

## TIRE-HEATER.

954,612.

Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed June 23, 1909. Serial No. 503,950.

*To all whom it may concern:*

Be it known that I, DAVID L. BROWN, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Tire-Heaters, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in that class of tire heaters, which are used for heating and thereby expanding metal tires, for setting the same on vehicle wheels; and the objects of my improvements are; first; to provide a tire heater, by the use of which, metal tires of various sizes and proportions, will be evenly and quickly heated, and thereby be evenly expanded throughout all of the parts thereof; second; to so construct a tire heater, that the same shall be cheap in cost of manufacture, neat, compact and durable, occupy the minimum amount of floor space, radiate the minimum amount of heat, from the outer surface thereof, and be extremely economical in the use of fuel; third; to so construct and arrange the parts of a tire heater, that tires can be placed in said heater, be amply supported therein, and be removed therefrom, with the utmost ease and rapidity, and be rotated on tire supports, as desired, and in which scale, or blister, will not be formed on the surface of said tires. I attain these objects by the mechanism illustrated in the accompanying drawing, in which;

Figure 1 is a front view of the heater. Fig. 2 is a transverse section, on the line X X, seen in Fig. 1. Fig. 3 is a longitudinal section, on the line Y Y, seen in Fig. 2.

My invention comprises the ash-pit 1, provided with door 2, slidable in channel 3, formed in the lower front edge of said ash-pit, for regulating the bottom draft of said heater. Mounted on said ash-pit, is the grate 4, surrounded by fire box 5, provided with fire door 6, pivotally secured by hinges 6' to said fire box. Secured on said fire box, is the concentric shaped oven 7, provided with two doors 8, pivotally secured to said oven by hinges 9. Said doors are each provided with eye pieces 10, secured thereon; whereby said doors are swung on their hinges. The gravity of fire door 6, holds said door in closed position. Oven doors 8 are secured in closed position, (see Fig. 1,) by bar 11, removably supported in brackets

12, secured to oven 7. Said oven is provided with breeching 13, secured thereon, and adapted to have a pipe, (not shown,) telescoped thereon, in the usual manner, for conducting smoke and gases from said oven. Said breeching is provided with damper 13'. Oven 7 and doors 8 are lagged with sheet asbestos 14, jacketed with sheet metal jacket 15.

Referring to Figs. 2 and 3, on the back of oven 7 are secured the metal reinforcements 16, each having a series of square apertures 16', formed therethrough, in register with a similar series of apertures 7', through the back of said oven, through which are passed the square shank end portions 17' of studs 17, on which are rotatably mounted the rollers 18, adapted to rotatably support one or more tires 19. Reinforcements 16 are each provided with a metal cover 16'', telescoped thereon, for covering apertures 16'.

In operation, studs 17, are mounted as described in the inner apertures of said series of apertures 7', for supporting tires 19, of the smallest diameter, within the scope of the heater, and in the outer and intermediate apertures of said series, respectively, for supporting tires of the largest and intermediate diameters.

It will be seen and understood, that one or more tires 19, can be easily and quickly placed on rollers 18, and that heat from burning fuel 20, which travels in the course indicated by arrows 21, will quickly and evenly heat said tire, which, upon opening doors 8, may be grasped by tongs and rotated on rollers 18, as desired, and be quickly removed from oven 7. It will also be seen and understood, by referring to Fig. 2, that doors 8, when closed in front of studs 17, keep said studs in position, in oven 7, and that when said doors are opened, said studs may be instantly removed or transposed as to position in apertures 7', thus providing removable holding means, whereby said studs are removably held in said apertures, by the use of which said oven can be adapted to receive the maximum number of tires, instantly, and without loss of time, in the following manner. Stud 17, are removed, as described from the intermediate and outer ones of apertures 7', and the space, thereby made vacant in oven 7 is filled with tires of various diameters the smallest ones being supported by the inner ones of studs 17 and the tires of larger sizes placed in succession



thereon. In Fig. 2, it will be seen that doors 8, when closed, retain studs 17 in place.

It will be seen and understood that the apertured reinforcements 16, secured on the back of oven 7, strengthen said oven at the points where the weight of tires 19 is supported; thereby allowing said back of oven 7 to be made of comparatively thin sheet metal, which is preferably done. Since the other parts of said oven, including doors 8 are not directly strained by the weight of tires 19, said entire oven, including said doors, is also preferably made of thin sheet metal; and since the same are covered with sheet asbestos 14, protected by sheet metal jacket 15, an oven is thus provided, which will neither absorb nor radiate an appreciable amount of heat, which arises from fuel 20; thereby economizing to the extreme in the use of said fuel.

Having fully described my invention, what I claim as new is:—

In a tire heater having an oven of concentric form and regulatable heating means for

heating said oven, and a plurality of series of square apertures through the back thereof, the combination with said oven, of a plurality of reinforcements, secured on the back of said oven, said reinforcements having square apertures therethrough in register with said apertures through the back of said oven; studs, adapted to support tires thereon, said studs each being provided with a square shank end portion, adapted to be removably inserted in said square apertures, and with a friction roll rotatably mounted on the remaining portion of said stud; a pair of oven doors, hinged to said oven and adapted to retain said studs in said apertures while said doors are closed, and covers, secured on said reinforcements for covering said apertures.

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

DAVID L. BROWN.

Witnesses:

EDWARD J. MAXWELL,  
JAMES M. ROGERS.