

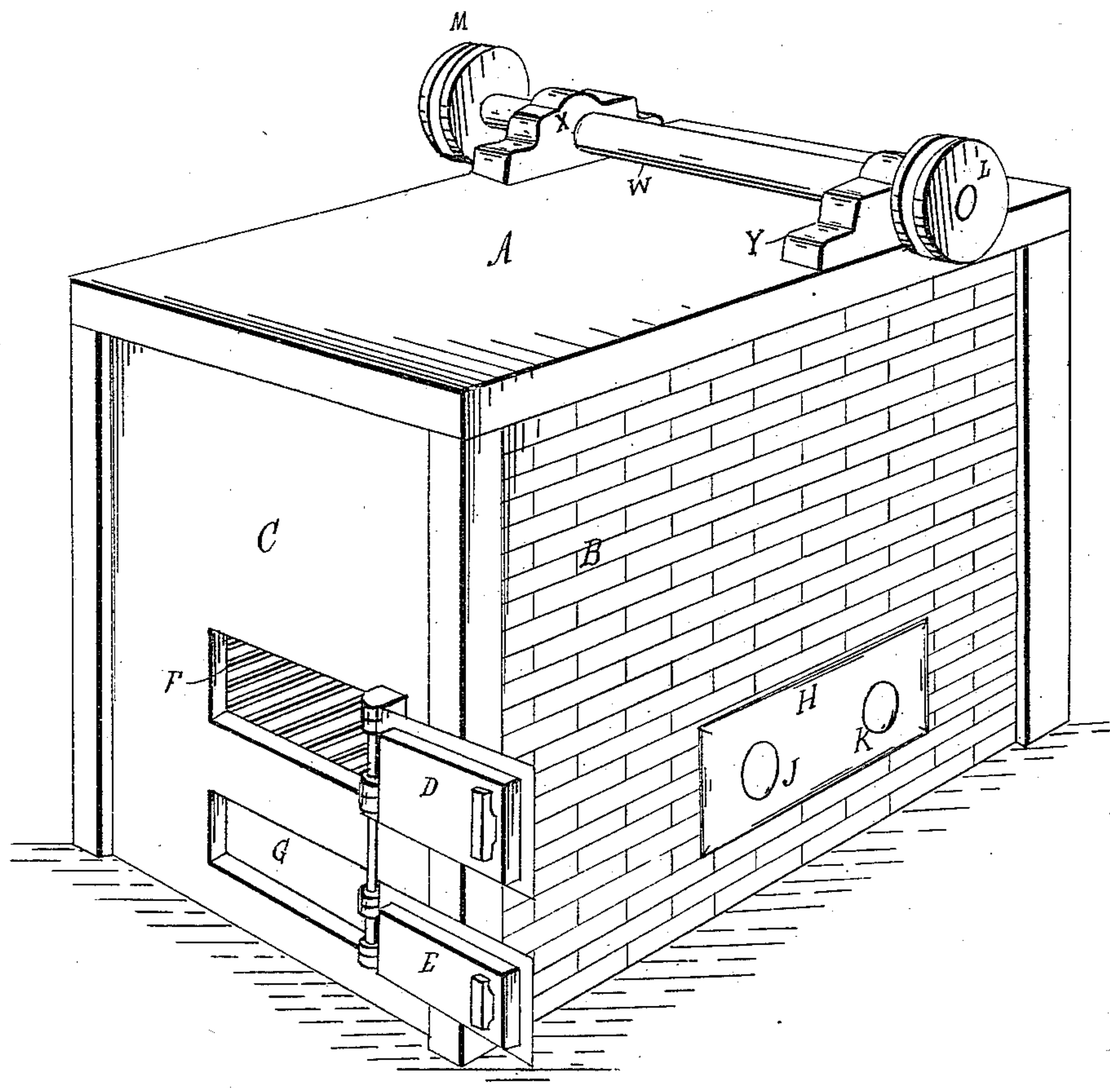
H. DUFFEY.
Tire-Heating Furnace.

2 Sheets—Sheet 1.

No. 226,164

Patented April 6, 1880.

FIG. 1.



WITNESSES

C. Ed. Hodgkin
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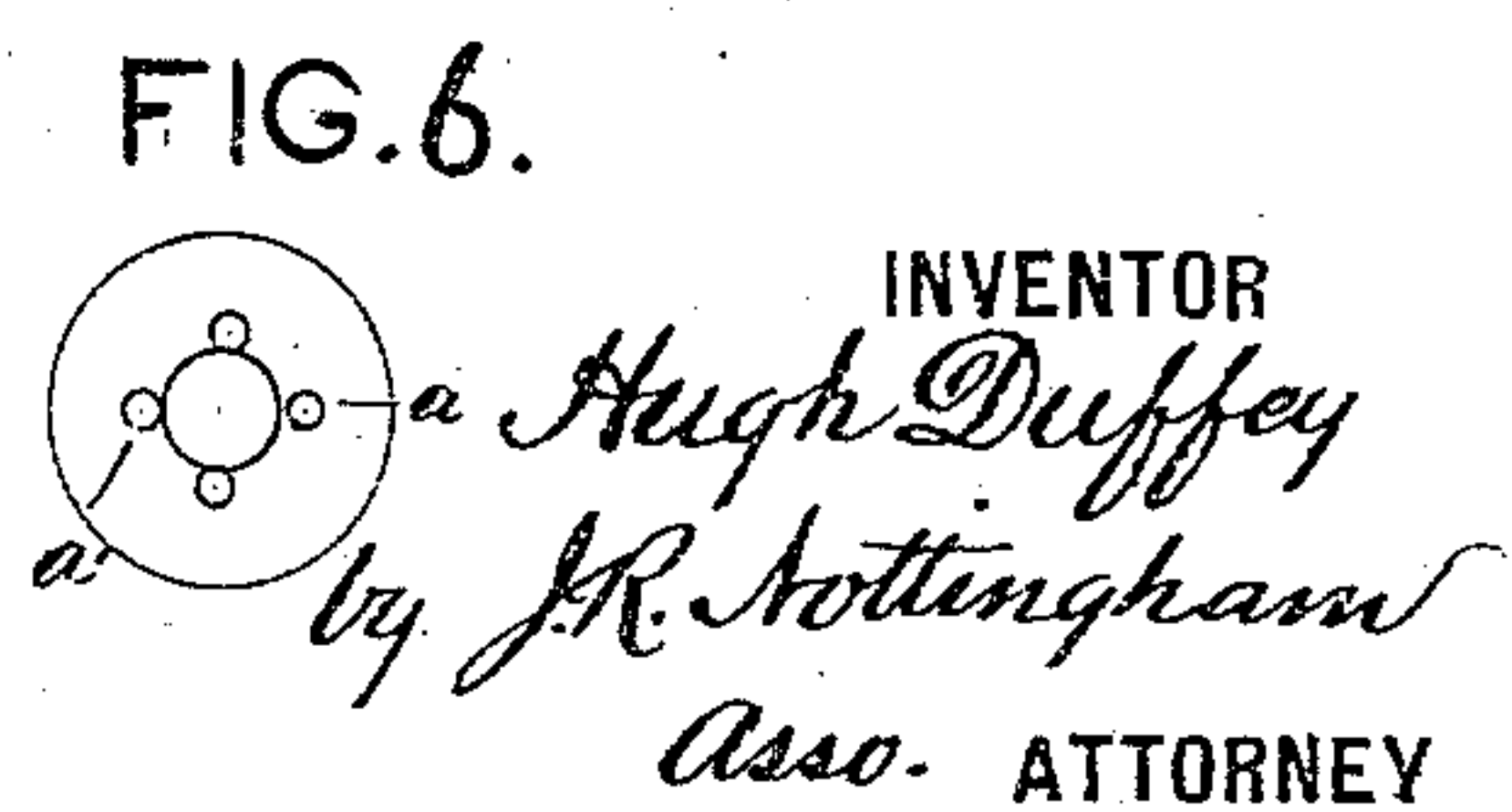
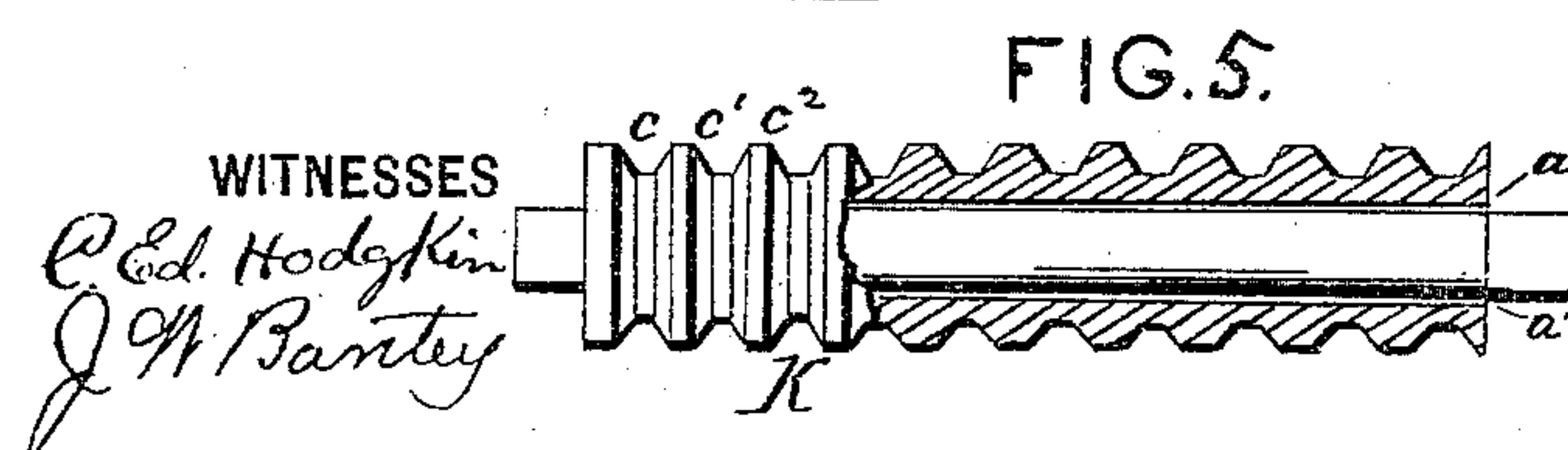
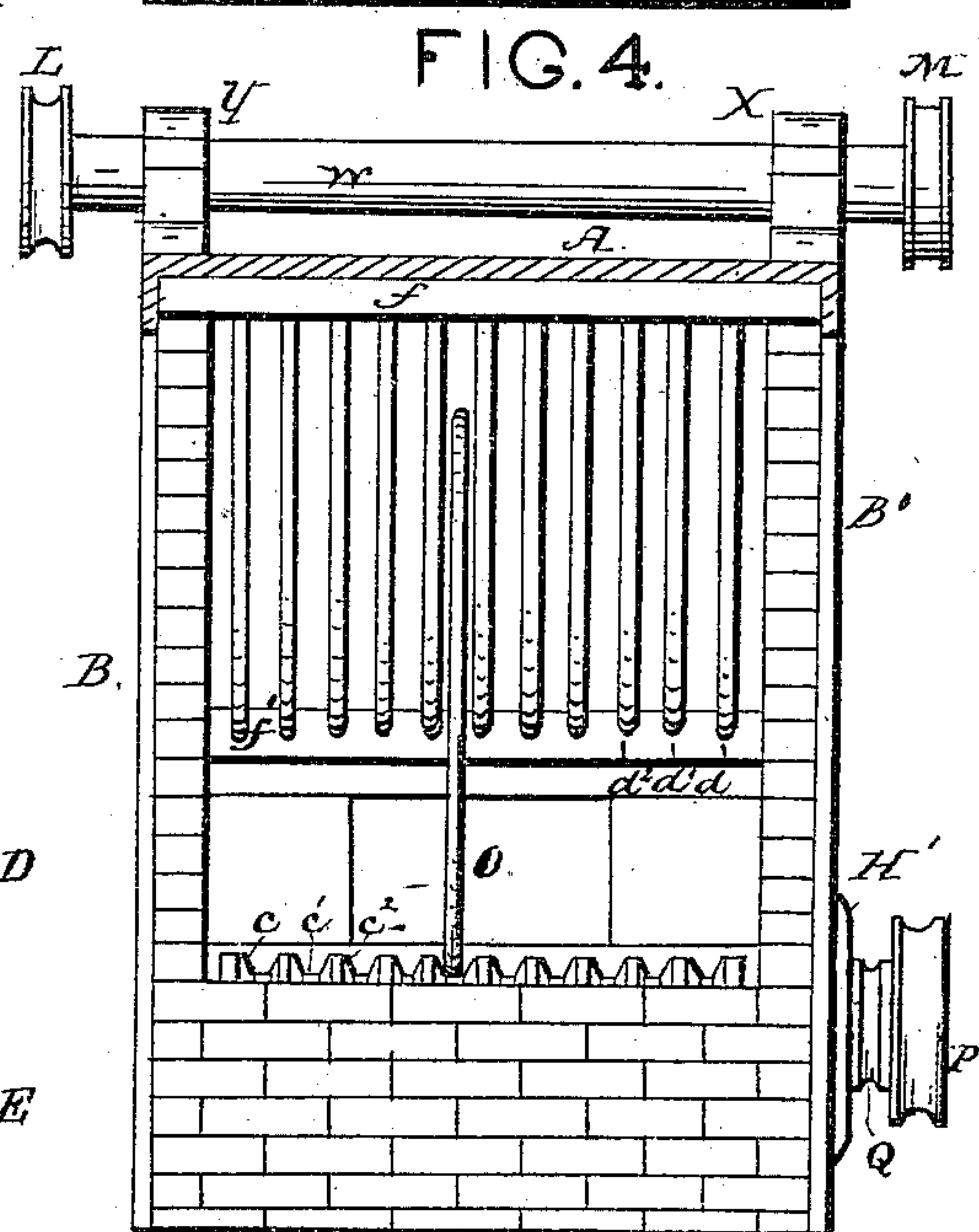
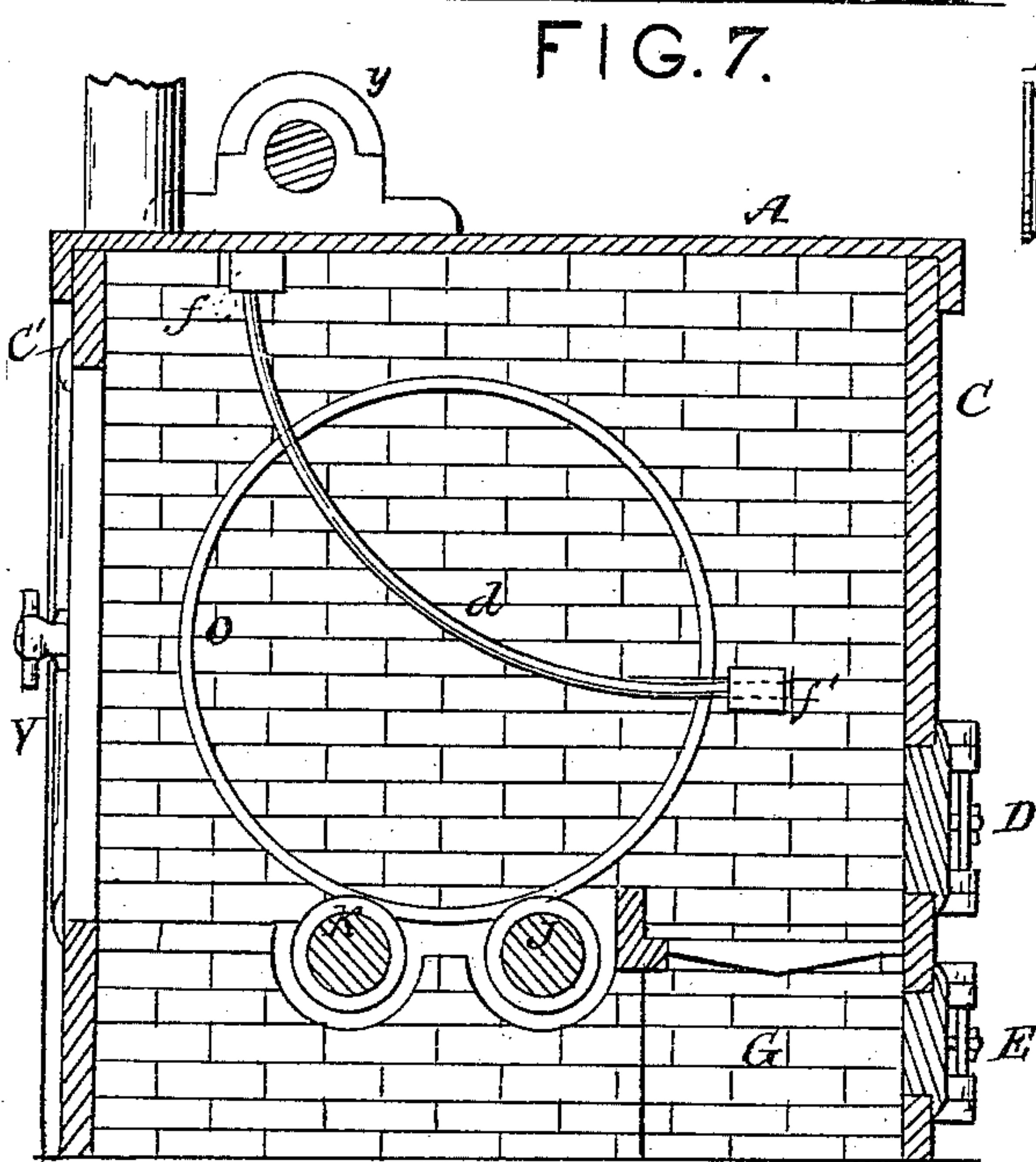
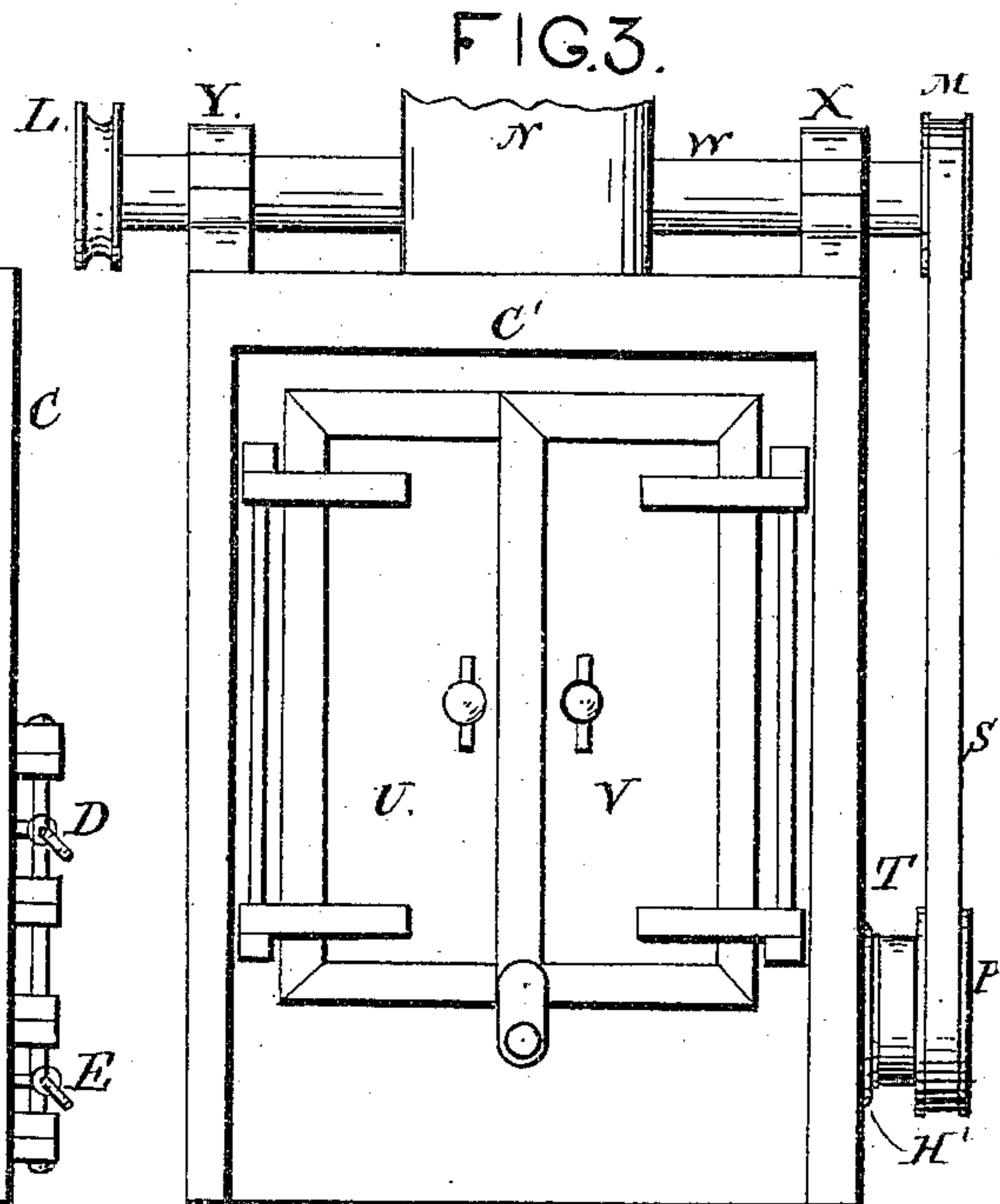
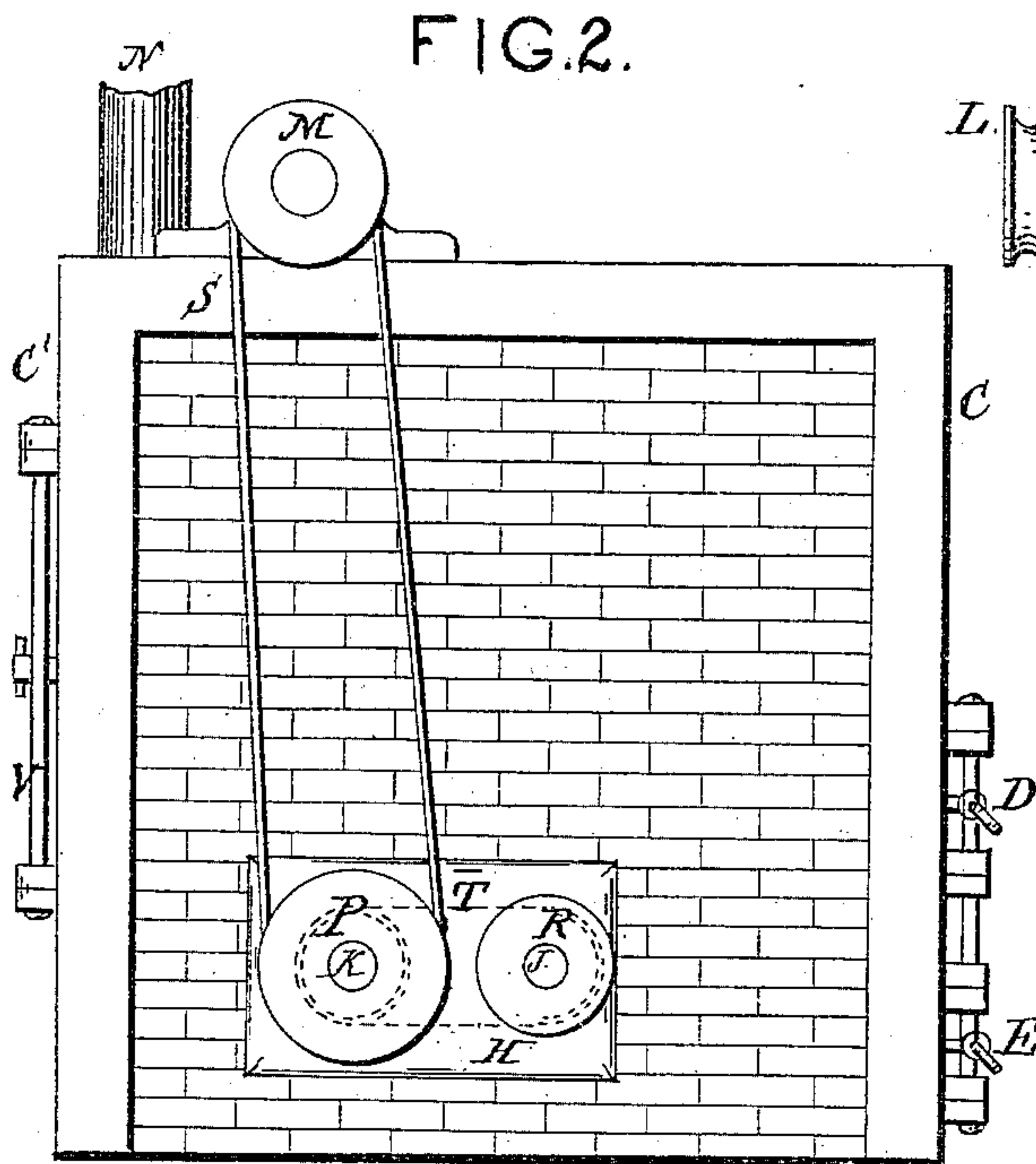
INVENTOR

Hugh Duffey
by *J. R. Nottingham*
Asso. ATTORNEY

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UNITED STATES PATENT OFFICE.

HUGH DUFFEY, OF CORTLAND VILLAGE, NEW YORK.

TIRE-HEATING FURNACE.

SPECIFICATION forming part of Letters Patent No. 226,164, dated April 6, 1880.

Application filed October 31, 1879.

To all whom it may concern :

Be it known that I, HUGH DUFFEY, of Cortland Village, in the county of Cortland and State of New York, have invented certain new and useful Improvements in Tire-Heating Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In said drawings, Figure 1 represents a perspective view of my tire-heating furnace. Fig. 2 represents a side elevation of the same, showing the side not seen in Fig. 1. Fig. 3 represents an end elevation, showing the end not seen in Fig. 1. Fig. 4 represents the end elevation shown in Fig. 3, but with the front removed, showing the internal arrangement and mechanism. Fig. 5 represents one of the rollers, showing a longitudinal section of the same. Fig. 6 represents a cross-section of one of the rollers. Fig. 7 represents a side elevation of the internal arrangement and mechanism of the furnace.

The same letters on the several figures indicate like parts.

The object and purpose of my invention is to uniformly and evenly heat a number of tires at once for the purpose of expanding them prior to setting the same.

My invention consists in two annular grooved metal rollers, arranged so as to revolve in the same direction in an oven or furnace, upon which rollers are placed the cold tires, said tires being separated and kept vertical by metallic guides placed in the same vertical plane as the rings on said rollers, as will be hereinafter fully specified and shown.

I will now describe the construction of my tire-heating furnace with reference to said drawings.

A, B, B', C, and C' represent walls of the furnace, which may be made out of brick or iron, as desired.

D and E represent, respectively, the doors to the fire-box F and ash-pit G.

H represents a plate of iron, in which the annular grooved rollers J and K respectively

have their bearings. A similar plate, H', is used on the opposite side for a like purpose.

L represents a pulley, to which motion is transmitted from any suitable motive power. L turns the shaft W, upon the other end of which is the pulley M, said shaft W having bearings in the standards Y and X.

S represents a belt, which transmits motion from M to the pulley P, which revolves the roller K. Another belt, T, transmits motion from the pulley Q to the pulley R, which revolves the other roller, J.

The relative sizes of these different pulleys I make to depend upon the speed required.

The roller K is made of metal, and has annular grooves made in it, as shown in Fig. 5 at $c\ c'\ c^2$. Each of these grooves receives a tire and keeps the tires separated. The other roller, J, is similar. Longitudinal perforations are made, as shown at $a\ a'$, in said rollers. Said perforations let cold air pass through, so said rollers will not melt or become warped by the heat.

$d\ d'\ d^2$ are metallic guides, between which the tires are placed and kept vertical, said guides being attached to cross-bars f and f' . One tire (represented by O) is in position. The tires are inserted by opening the doors U and V. The rod f' prevents said tires from going too far in.

N represents the chimney of the furnace. The dimensions of the several parts of the furnace and of the mechanism connected therewith are proportioned to the use required.

Having described the construction of the furnace with its mechanism, I will now describe its use and operation: A fire is made in the fire-box F. The tires to be heated are placed in their proper position by opening the doors U V. The transverse rod f' prevents said tires from going in too far. The rollers J and K are set in motion, and said tires resting thereon are revolved and are kept separate by said metallic guides. Every part of each is being continually brought around into the hottest part of the fire, and thereby uniformly heated. As many tires can be put in at once as there are grooves in the rollers, and when hot can be removed and replaced with cold ones, and this operation can be repeated, the furnace being all the time kept full.

It is not essential that the fire-box be situated as shown; but it may be directly beneath the rollers, the said perforations therein allowing cold-air drafts through them.

5 I do not confine myself solely to the said perforated rollers, for, unless the rollers are right in the fire, I can dispense with said perforations.

10 Having thus described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

15 1. In a tire-heating furnace, the hereinbefore-described metallic guides, arranged as hereinbefore described, whereby the tires are kept separate, thereby allowing the hottest tire to be removed and replaced by a cold tire with-

out disturbing the others, as hereinbefore described and shown.

2. The combination, in a tire-heating furnace, of the annular grooved rollers, the guides, 20 and operating mechanism, whereby the tires are operated upon and kept separate while revolving and heated uniformly, substantially as specified.

In testimony that I claim the foregoing as 25 my own I affix my signature in presence of two witnesses.

HUGH DUFFEY.

Witnesses:

GEO. J. MAYCUMBER,
M. A. MYNARD.