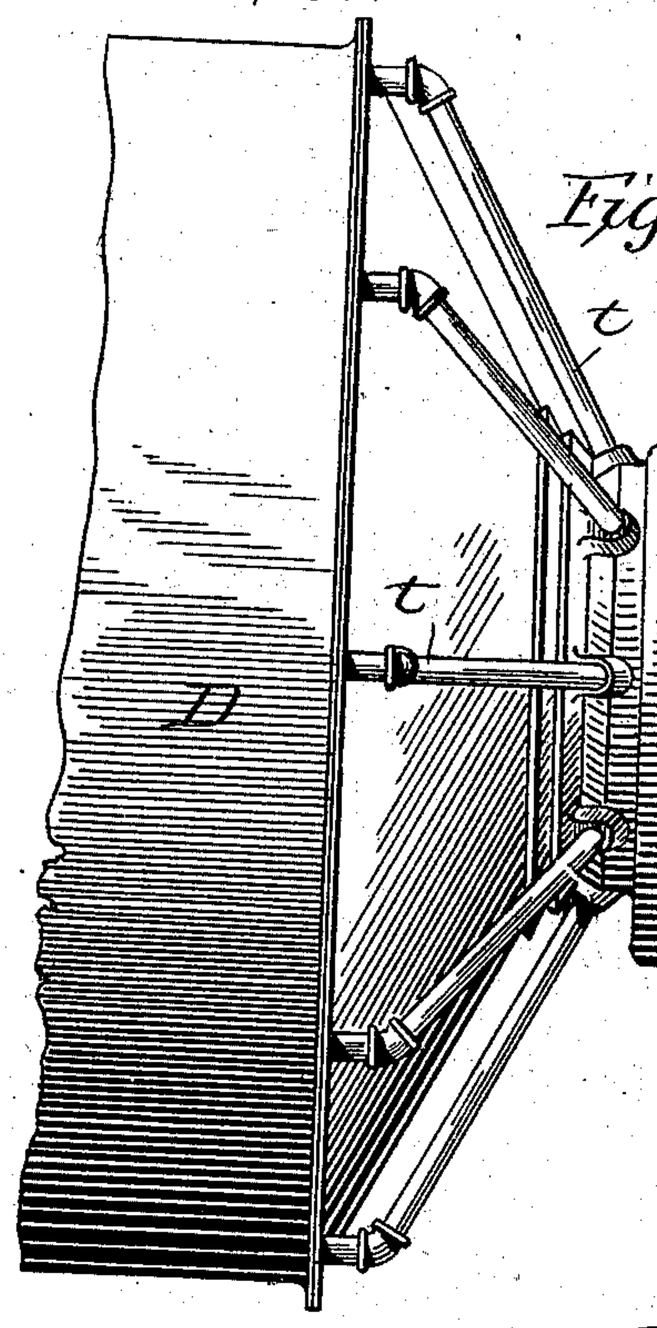
(No Model.)

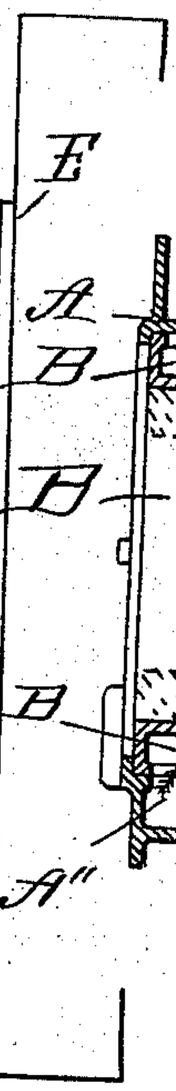
# L. S. AUSTIN.

## REVOLVING ORE ROASTER.

No. 557,937. Patented Apr. 7, 1896.

Fig. 1.



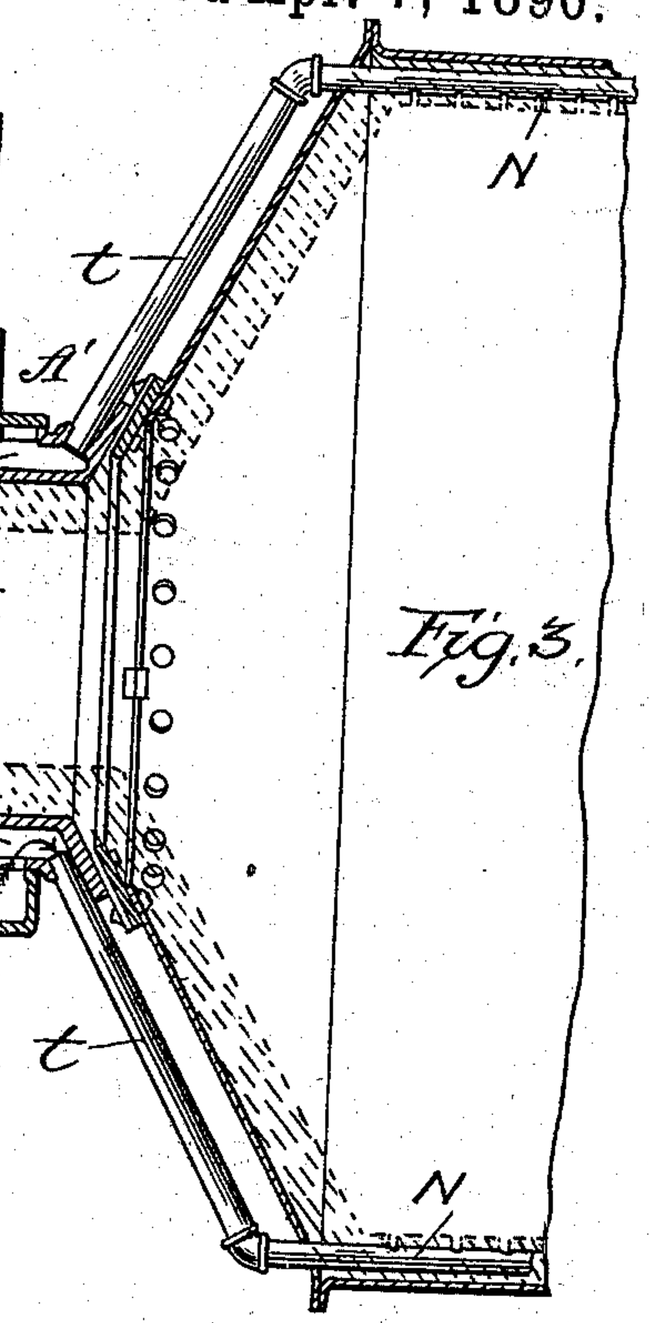




Fig. 3.

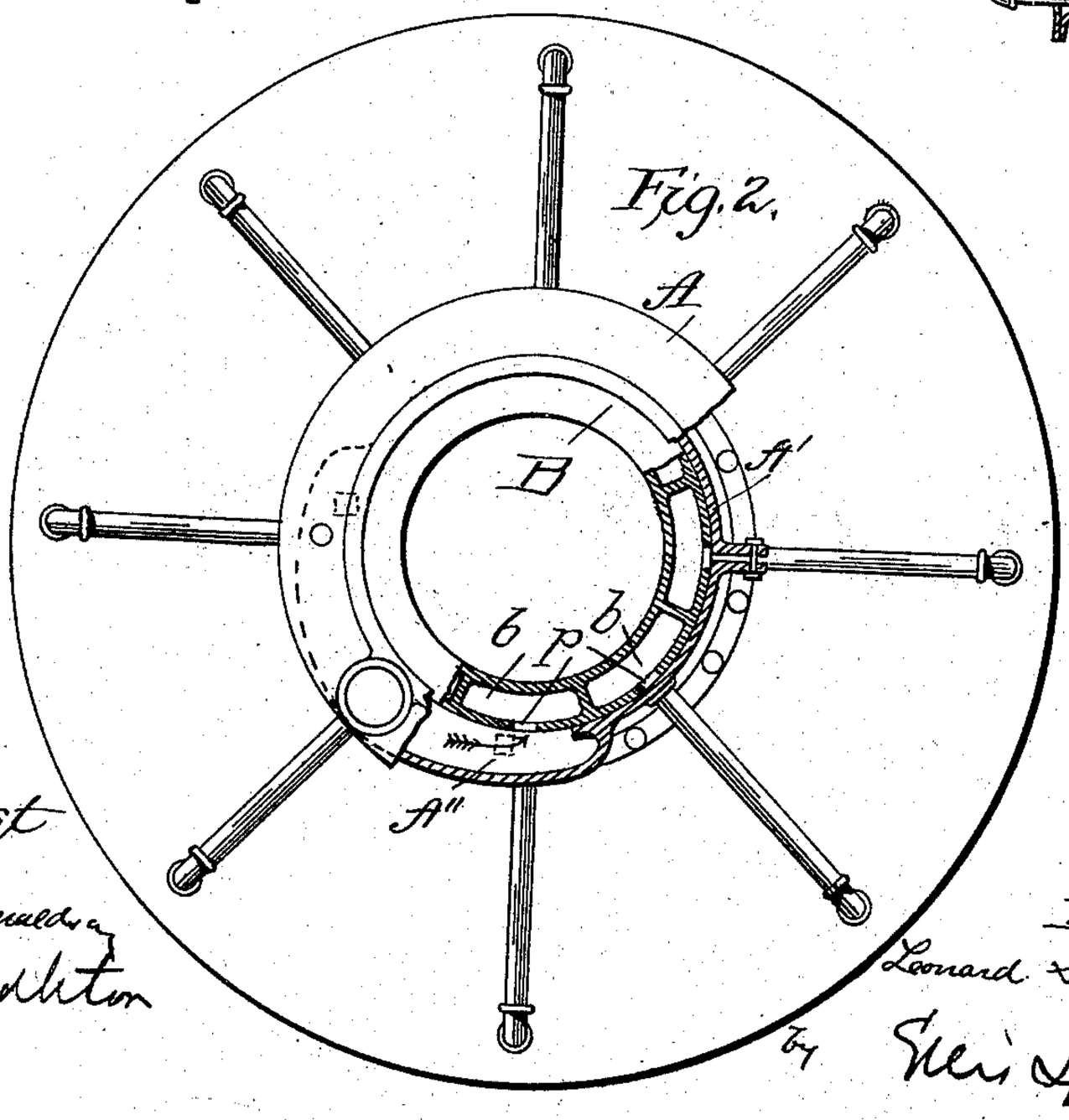



Fig. 2.

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# UNITED STATES PATENT OFFICE.

LEONARD S. AUSTIN, OF DENVER, COLORADO.

## REVOLVING ORE-ROASTER.

SPECIFICATION forming part of Letters Patent No. 557,937, dated April 7, 1896.

Application filed November 29, 1895. Serial No. 570,391. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD S. AUSTIN, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Revolving Ore-Roasters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in revolving ore-roasters of that class in which a series of pipes are arranged around the inner periphery of the roasting-cylinder, through which pipes air is forced under pressure into and through the body of the ore.

The object of the invention is to provide an improved form of connection between the main supply-pipe and the series for supplying air only to the pipes which are buried beneath the ore, the pipes above the ore being cut off from the air supply.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the end of a roasting-cylinder constructed in accordance with my invention. Fig. 2 is an end view of the same, and Fig. 3 is a section through a part of the cylinder.

Referring more particularly to the views, the roasting-cylinder is shown at D and may be of any desired form, except as hereinafter specified, and may be mounted to rotate in any well-known or desirable manner. It will also be understood that heat is supplied to the cylinder from a suitable fire-box at the end of the cylinder; but as this as well as the means for rotating the cylinder are old and well known and form no part of the present invention it is deemed unnecessary to illustrate them.

Completely embedded in the brickwork composing the annular wall of the cylinder are a series of pipes N N, which have openings toward the interior of the cylinder alining with corresponding openings in the brickwork. These pipes extend the full length of the cylinder and extend out through the end wall at one end, where they are connected by a series of inclined or branch pipes *t* to a hollow ring B, carried on the end of the cylinder. This ring is provided with a series of pockets or chambers *b*, one for each pipe *t* of the series, and also with a corresponding series of ports *p*, arranged centrally of the pockets and in their outer face. Another ring, A, surrounds the ring B and is provided for a portion of its circumference with a flange A′, which extends laterally over the ports in the ring B, as hereinafter described. The lower portion of the ring A is provided with a chamber A″, which has an inner open face of sufficient extent to include and be in communication with three of the ports *p*. The ring A, which of course is stationary, is connected with a suitable source of supply for air under pressure and is held in place against the ring B by pressure of springs *e*, bearing against the adjoining fire-box, mentioned above, and which is conventionally shown at E. It will thus be seen that as the cylinder rotates the air-supply pipe will be placed in communication with the three lowermost pipes, or the three which are embedded in the ore, through the chamber A″ and ports *p*, while the ports *p*, opening to the chambers communicating with the other pipes, will be closed by the lateral flange, and as each pipe successively passes under the ore in the rotation of the cylinder it will be placed in communication with the air supply.

As the cylinder rotates the ore naturally rises higher on the rising side of the cylinder, and hence it is desirable to have the chamber A″ set to one side of the center, as shown in the drawings.

While I have shown and described the pipes *t* arranged so that three are connected at a time with the air supply, it will be understood that I do not limit myself in this respect, as the number would depend upon the closeness of the pipes and the size of the cylinder.

Having thus described my invention, what I claim is—

In combination with a revolving ore-roasting cylinder having a series of air-pipes for supplying air to the interior thereof, an an-

nular ring carried on the end of said cylinder and having a series of pockets with radial ports, said pockets being in communication each with one of the air-pipes, a stationary ring having a lateral flange extending over the radial ports, said flange having an enlarged portion below and to one side of the axis of the cylinder, and an air-supply pipe communicating with the space formed by said enlarged portion, substantially as described.

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

LEONARD S. AUSTIN.

Witnesses:
J. R. HARPER,
J. H. EUBANK.