

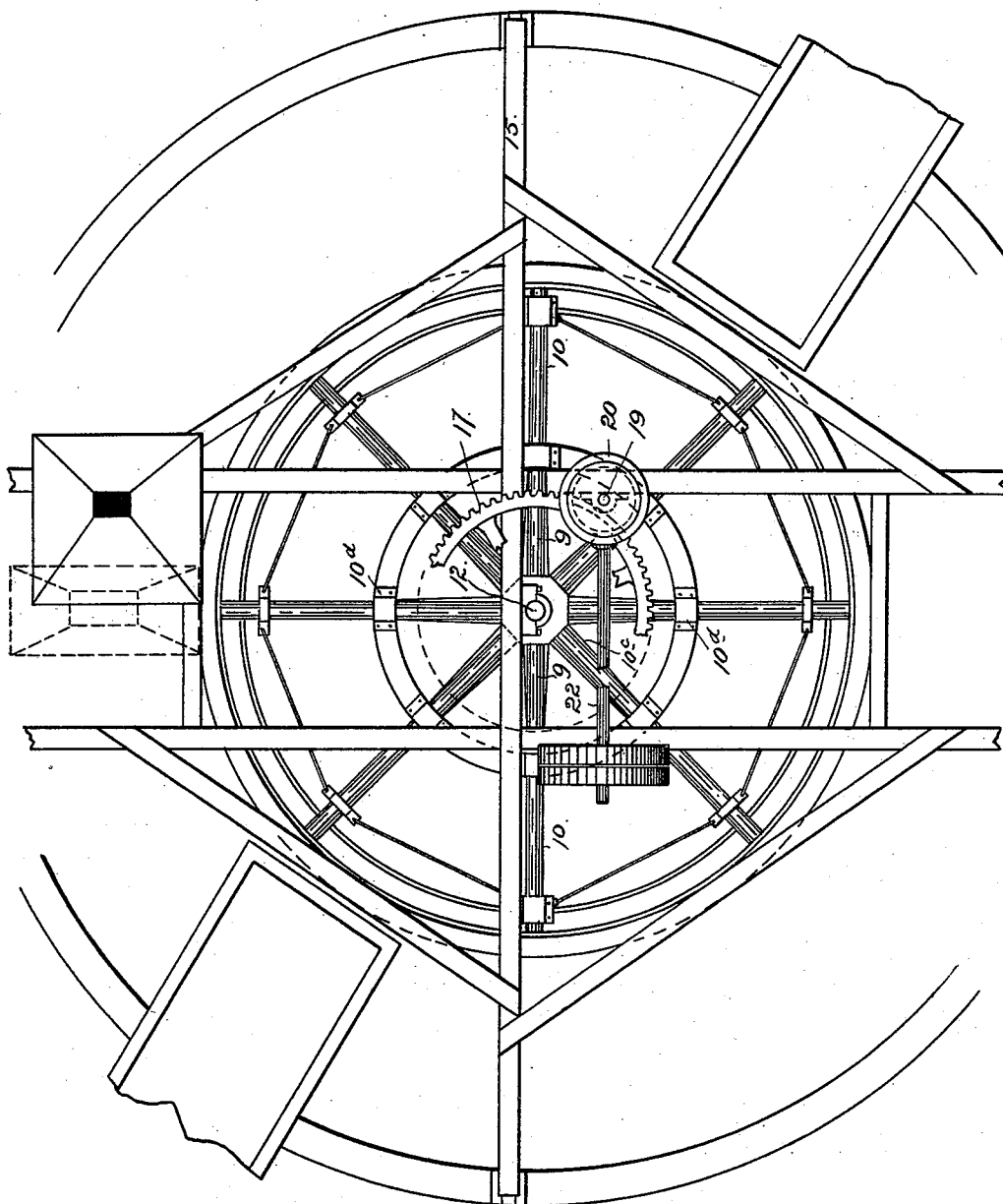
(No Model.)

2 Sheets—Sheet 1.

J. ROGER.
ROASTING FURNACE.

No. 523,650.

Patented July 24, 1894.



WITNESSES:

G. J. Rolland
J. M. Sale

Fig. 1

INVENTOR
John Roger
BY *A. J. Mein*
ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

J. ROGER.
ROASTING FURNACE.

No. 523,650.

Patented July 24, 1894.

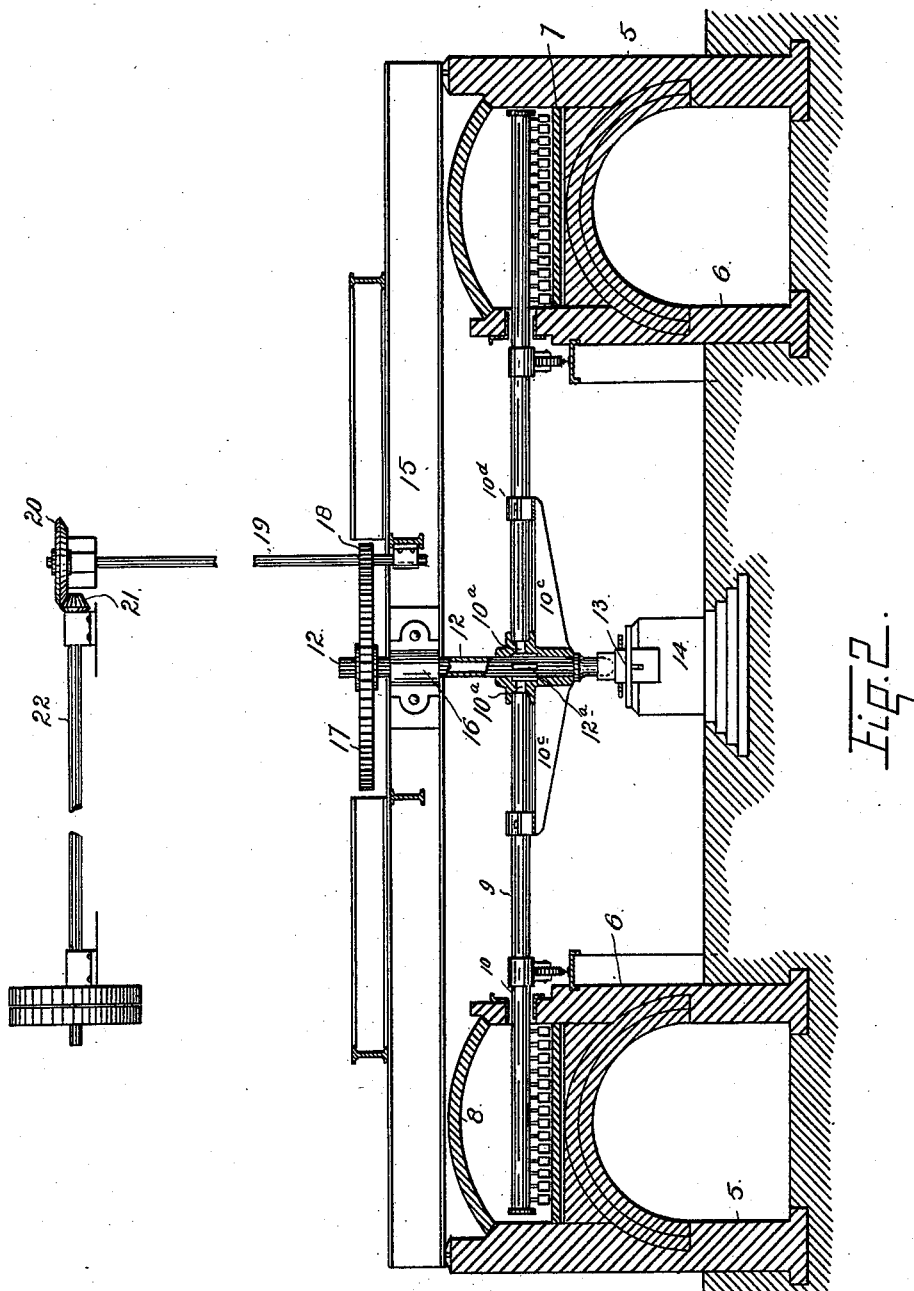


Fig. 2.

WITNESSES:

G. J. Rolland
J. M. Sals

INVENTOR
John Roger
BY
A. J. Mein
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN ROGER, OF DENVER, COLORADO.

ROASTING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 523,650, dated July 21, 1894.

Application filed May 29, 1893. Serial No. 475,871. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROGER, a subject of the Queen of Great Britain, residing at Denver, in the county of Arapahoe and State of Colorado, United States of America, have invented certain new and useful Improvements in Roasting-Furnaces; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in ore-roasting furnaces of the class shown and described in Letters Patent of the United States No. 488,797. This style of furnace has an annular hearth to which the ore is fed, and horizontally rotating arms carrying rabbles for manipulating the ore and moving it over the hearth from the point of feed to the point of discharge.

My improved construction will now be described more in detail and consists of the features, arrangements and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings:—Figure 1 is a top or plan of an annular furnace provided with my improvements. Fig. 2 is a vertical section of the furnace.

Similar reference characters indicating corresponding parts or elements of the mechanism in these views, let the numerals 5 and 6 designate the outer and inner circular walls respectively. These walls are connected by the annular hearth 7 and the arch 8 above. Between the arch and the hearth is the ore-roasting chamber into which the hollow rabble arms 9, project through a horizontal slot 10, formed in the inner wall. The inner extremities of arms 9 are open and received in sockets formed in a hub 10 made fast on the hollow rotatable column 12, the lower extremity of which is provided with a step box 13, suitably supported upon a pedestal 14. The

upper extremity of this column is journaled to a horizontal cross beam 15 by means of a suitable box 16. That part of the column where the hub is attached is provided with openings 12^a coinciding as to position with apertures 10^a formed in the hub and leading to the open ends of the arms 9. This construction allows the air fed from any suitable air forcing apparatus to the hollow column, to pass to the hollow rabble arms 9.

The hub is provided with spider arms 10^b of suitable length which extend radially therefrom and form supports for the arms 9 by means of boxes 10^d. The lower part of these boxes is formed integral with the arms while the upper part is removable and secured to the integral part in any suitable manner.

To the column 12 is made fast the wheel 17 having a cogged periphery engaging a fast pinion 18 on the vertical shaft 19 connected with the power shaft 22 by means of the bevel gears 20 and 21. The gear wheel 17 is shown attached to the upper extremity of the column. It is obvious however that this wheel may be attached to any other part of the column as convenience or circumstances may require.

The cross beam 15 to which the vertical column is journaled, forms part of the strong horizontal frame work supported upon the outer walls of the furnace and suitably braced as shown in Fig. 1.

Having thus described my invention, what I claim is—

In a roasting furnace of the character described, the combination, with the rabble arms, of the vertical, hollow rotatable column provided with a hub having spider arms which afford a support for the rabble arms, the inner extremities of which enter sockets formed in the hub, the column and the hub being apertured to allow the passage of air to the arms, substantially as described.

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

JOHN ROGER.

Witnesses:

MARY A. WHEELER,
W. N. SLITER.