

(No Model.)

2 Sheets—Sheet 1.

J. PRUD'HOMME.
CALCINE FURNACE.

No. 522,853.

Patented July 10, 1894.

Fig. 1.

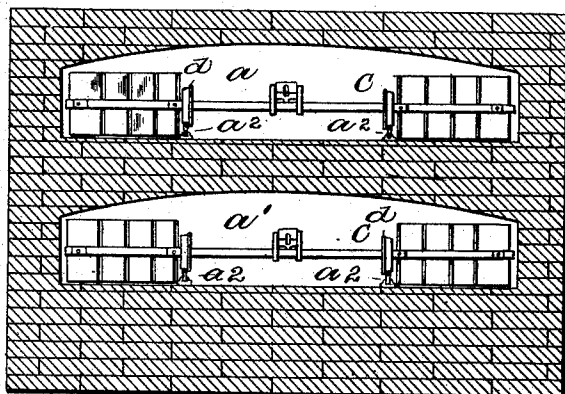


Fig. 2.

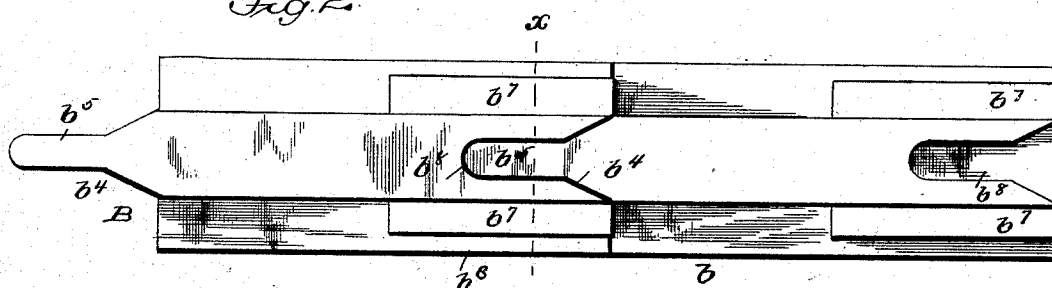


Fig. 3.

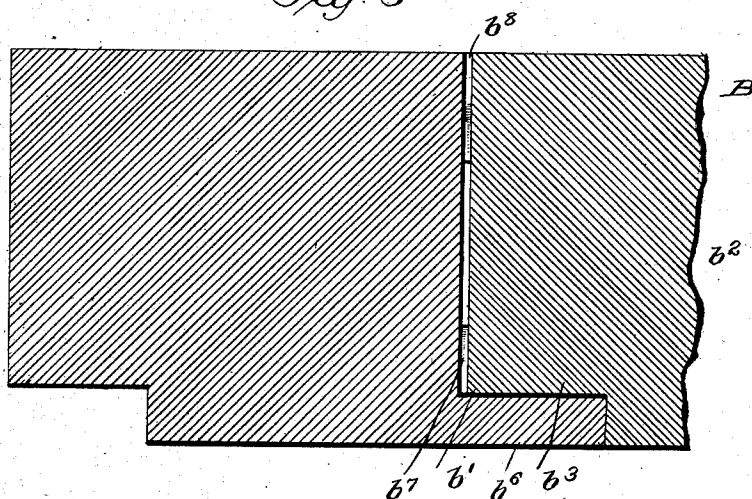
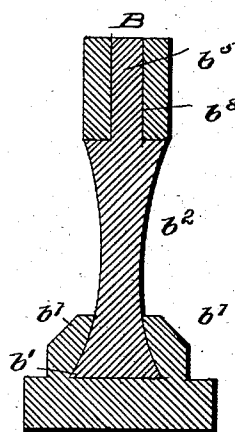


Fig. 4.



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Fig. 5

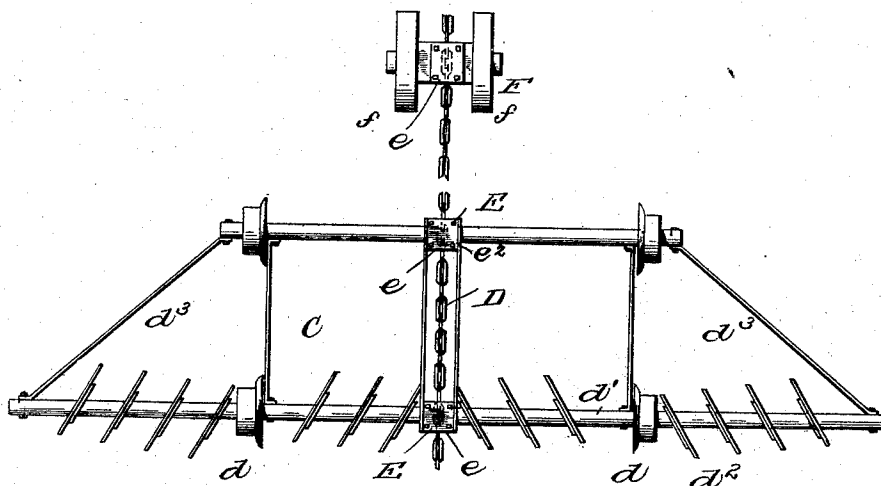
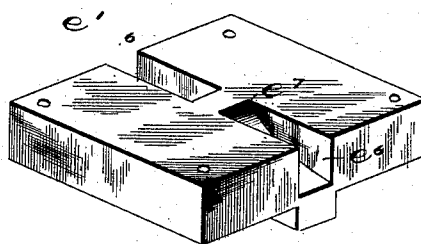
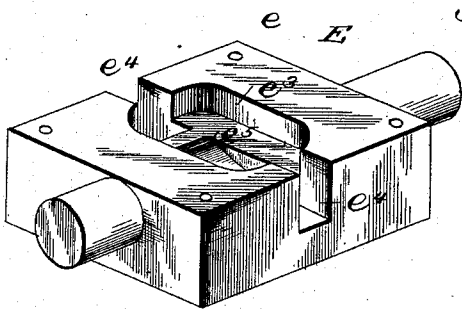


Fig. 6



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UNITED STATES PATENT OFFICE.

JOSEPH PRUD'HOMME, OF BUTTE, MONTANA.

CALCINE-FURNACE.

SPECIFICATION forming part of Letters Patent No. 522,853, dated July 10, 1894.

Application filed November 14, 1893. Serial No. 490,898. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH PRUD'HOMME, a citizen of the United States, residing at Butte city, in the county of Silver Bow and State of Montana, have invented certain new and useful Improvements in Calcine-Furnaces; and I do hereby 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.

This invention pertains to calcining furnaces and has for its object the production of a simple and improved plow for such furnaces whereby the contents may be readily and easily agitated.

A further object is to provide a new and improved track which is so constructed as to allow for expansion and contraction and yet not become deranged or useless, as is the case with those now in general use.

The invention comprises a calcining furnace having upper and lower passage-ways, expansible tracks in each of said passage-ways, plows mounted on suitable trucks designed to run on said tracks, and means for operating the same.

The invention further comprises a calcining furnace having upper and lower passage-ways, expansible tracks in each of said passage-ways, plows mounted on suitable trucks designed to run on said tracks, an endless chain running through each of said passage-ways, and clamps for securing said chains to said trucks.

The invention also comprises the details of construction, combination and arrangement of parts, substantially as hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings:—Figure 1 is a transverse sectional view of a calcining furnace showing my improvements. Fig. 2 is a plan view of the expansible track used in connection with my improvements. Fig. 3 is a longitudinal sectional view thereof. Fig. 4 is a transverse sectional view on the line $x-x$, Fig. 2. Fig. 5 is a plan view of one of the trucks showing the plows connected therewith. Fig. 6 is a view of the two portions of the clamp opened.

Referring to the drawings, A designates a calcining furnace built of brick or any other

suitable material and having upper and lower passage-ways a, a' . In each of these passage-ways is a track a^2 . The rails B of these tracks consist each of a base or flange b and a narrow tread b' connected together by a concaved web b^2 . At one end of each of these rails the base or flange is cut away so as to leave the web projecting out beyond the same, as at b^3 , and the tread of the rail is cut away in approximately V-shape as at b^4 and formed with a narrow tenon b^5 which extends to the end of the rail. At the other end of the rail the base or flange is extended as at b^6 , and is provided with suitable braces b^7 , while in the tread is cut a slot b^8 of a shape corresponding to the tenon b^5 and V-shape portion b^4 .

In practice the rails are placed end to end, the tenon b^5 entering slot b^8 and the projecting portion b^4 of the rail extending in between the braces b^7 which form a dovetail socket therefor. It will be seen that a track joined in this manner may readily expand or contract without causing the same to spread or become otherwise deranged, and that the rails require no other means for securing them together.

C, C, are two trucks mounted on wheels d designed to run on tracks a^2 . At the rear of each of these trucks is a bar or frame d' upon which are mounted plow shovels d^2 designed to stir or agitate the contents of the furnace as the trucks are moved. The bar or frame is strengthened by brace-rods d^3 extending from the forward portions of the trucks to which they are secured.

To the forward and rear portions of each truck C is secured an endless chain D, by means of clamp E. These clamps consist of two parts or members e, e' , the former being mounted at e^2 in the frame of the truck. The part or member e is provided with a recess e^3 into the ends of which are cut two vertical slots e^4 which are separated by an approximately V-shape ridge e^5 , and the part or member e' is provided also with two vertical slots e^6 which are separated by an approximately V-shape ridge e^7 in a manner similar to the slots e^4 of section e . These parts or sections are designed to be secured together by nutted bolts and when properly joined the slots e^4 and e^6 and V-shape ridges e^5 and e^7 of the sections coincide, a link of chain

D passing in each of said vertical slots and an additional link being held in slot e^3 by said V-shape ridges. The chain D is supported by trolleys F which consist each of one of the clamps E mounted on suitable wheels f designed to run between the rails of track a^2 , said trolleys being placed at periodical distances on said chain. Power is applied to the chains from any suitable motor, (not shown.)

The operation and advantages of my invention are apparent to those skilled in the art to which it appertains. In calcining furnaces the great degree of heat serves to injure the tracks and render the moving of the trucks uncertain if not impossible. But from what has been said it will be readily seen that I have produced a simple and efficient track which can readily expand or contract under the action of the heat. By means of my improved clamp the chain can be securely connected to the truck and all slipping is prevented.

I claim as my invention—

1. The herein-described calcine furnace, comprising the furnace having upper and lower passage-ways, and the expansible tracks in each of said passage-ways each of the rails of which has a lower extended portion at one end and a lower cut-away portion at its other end, and approximately dovetail connections, between said rails in combination with the trucks and means for moving the same, as set forth.

2. The herein-described calcining furnace having upper and lower passage-ways, and the expansible tracks in each of said passage-ways, each of the rails of said track having an upper V-shape tenon and a lower extended portion at one end, and a corresponding V-shape slot and lower cut-away portion at the other end, substantially as set forth.

3. The herein-described calcine furnace, having an expansible track therein each of the rails of which is provided at one end of its tread with a V-shape tenon end, having a longitudinal extension and a lower extended portion, the other end of the tread having a corresponding approximately V-shape slot

and a lower cut away portion and lower dovetail braces, substantially as set forth.

4. In a calcine furnace, the combination with trucks carrying the plows, and a chain connected thereto, of clamps for binding said chain, comprising each a lower pivotal part or member having a central recess provided with slots at its ends, a V-shape ridge between said slots, and an upper part or member also having slots separated by a V-shape ridge, the links of said chain fitting in said slots, substantially as set forth.

5. The herein-described improvement in calcine furnaces, comprising the furnace having upper and lower passage-ways, expansible tracks in each of said passage-ways, the tracks of which are provided with a V-shape tenon and a lower extended portion at one end and a corresponding V-shape slot and lower cut-away portion at the other end plows mounted on suitable trucks designed to run on said tracks, an endless chain running through each of said passage-ways, clamps for securing said chains to said trucks and means for imparting motion to said chain, as set forth.

6. The herein-described improvement in calcine furnaces, comprising the furnace having upper and lower passage-ways, the expansible rails in each of said passage-ways, the tracks of which are provided with a V-shape tenon and a lower extended portion at one end and a corresponding V-shape slot and lower cut-away portion at the other end the dovetail and tenon connections between said rails, plows mounted on suitable trucks designed to run on said rails, the two-part clamp pivotally mounted on said trucks, and having V-shaped slots therein the endless chain running through said passage-ways and secured in said V-shape slots of said clamps, and means for imparting motion to said chain, substantially as set forth.

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

JOSEPH PRUD'HOMME.

Witnesses:

ISAAC LORONSBRO,
A. E. WHIPPS.