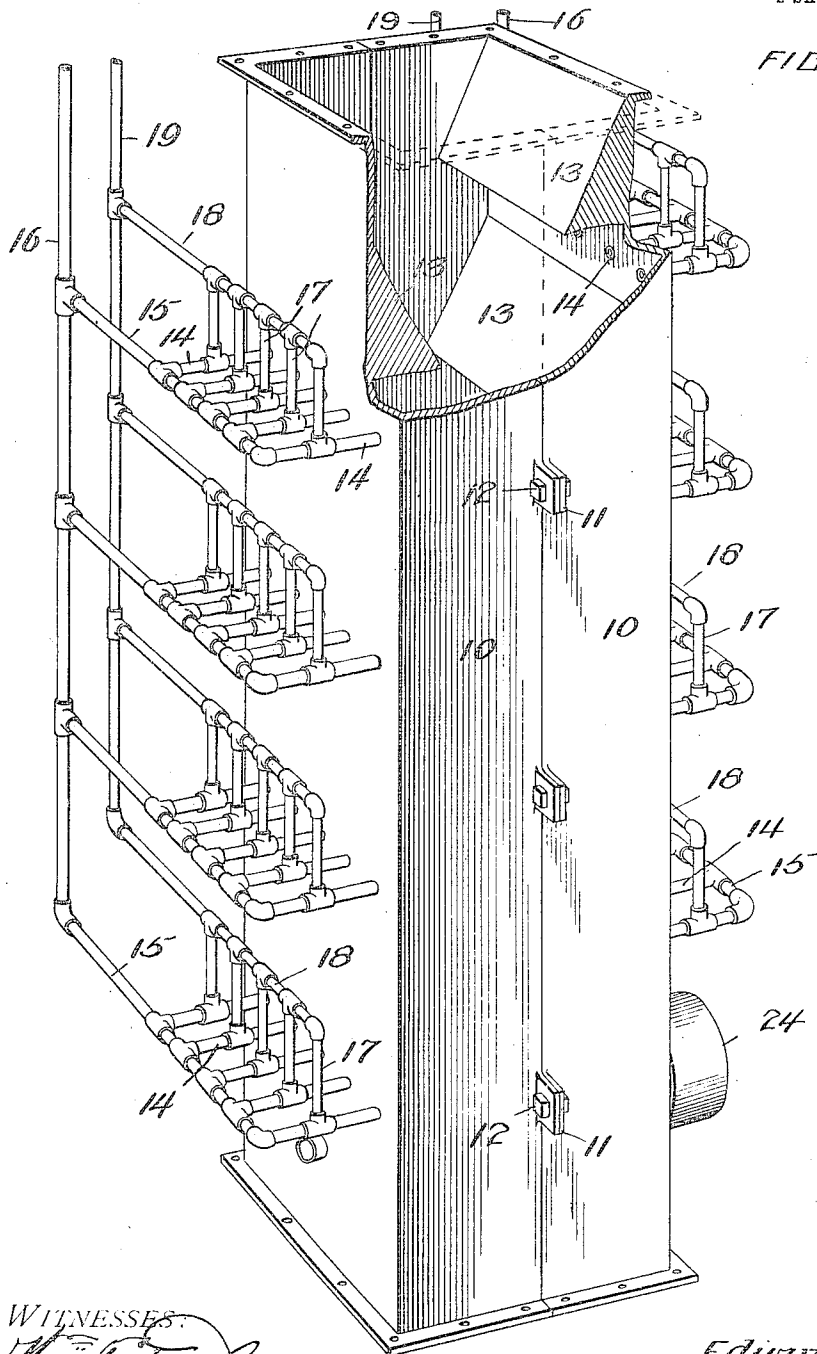


971,853.

E. LAMB.
SLAG DISINTEGRATOR.
APPLICATION FILED JUNE 18, 1910.

Patented Oct. 4, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

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BY

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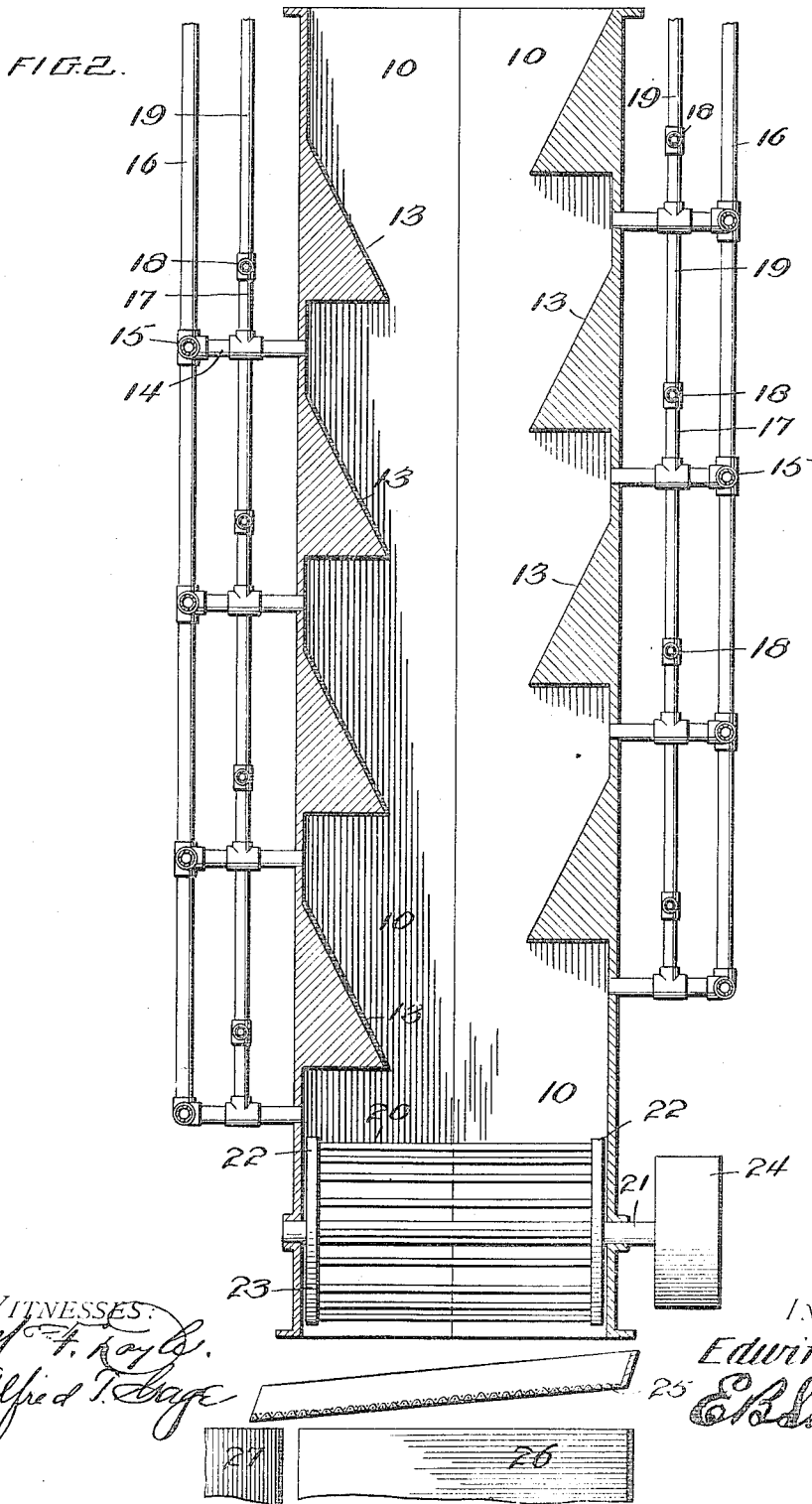
Attorney

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

EDWIN LAMB, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-HALF TO GERMAN B. BUEHRLE, OF YOUNGSTOWN, OHIO.

SLAG-DISINTEGRATOR.

971,853.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed June 18, 1910. Serial No. 567,682.

To all whom it may concern:

Be it known that I, EDWIN LAMB, a citizen of the United States, residing at Youngstown, county of Mahoning, State of Ohio, have invented certain new and useful Improvements in Slag-Disintegrators, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a slag disintegrator and particularly a construction adapted to subject the molten slag to a spray or stream of a disintegrating agent.

The invention has for an object to provide 15 a novel and improved construction of stack having alternately disposed inclined shelves and means beneath said shelves for introducing a disintegrating agent into contact with the falling slag, and also to provide means 20 for breaking the slag at the lower or delivery end of the stack.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the 25 appended claims.

In the drawings—Figure 1 is a perspective with parts in section illustrating one form of the invention; and Fig. 2 is a central vertical section.

30 Like numerals of reference refer to like parts in the several figures of the drawings.

The numeral 10 designates a stack which is preferably formed in sections provided with lugs 11 adapted to receive securing bolts 35 12 to assemble the sections and form a stack. This stack is provided with alternately disposed inclined shelves 13 upon the opposite side walls thereof. These shelves are disposed to deflect a portion of the falling slag 40 from one side of the stack to the other and thus assist in bringing it into intimate contact with the disintegrating agent which is introduced beneath the shelves by any desired connections, for instance the pipes 14 45 connected for that purpose. A series of these pipes are disposed beneath each shelf and connected with a feed pipe 15 extending to any suitable source of supply, as indicated at 16, by which steam or air pressure may be 50 introduced into the stack. The feed pipes 14 are connected with liquid feed pipes 17 which are connected by the pipe 18 with a

feed 19 for water or other liquid to be brought into contact with the falling slag.

At the base of the stack 10, a breaker 20 55 is disposed, which may be of any desired construction, for breaking the falling slag into small pieces. A desirable form is here shown which comprises a shaft 21 provided at opposite ends with heads 22 and a series 60 of ribs or bars 23 extending between these heads to engage and break the slag falling from the shelves 13. This breaker may be suitably rotated by means of a pulley 24 and beneath it a screen 25 is disposed which al- 65 lows any liquid to drain into the receptacle 26 while the slag is deposited into a separate receptacle 27, disposed at one end of the screen 25.

In the operation of the invention, the 70 molten slag is introduced at the upper end of the stack and by its contact with the shelves therein, is given an irregular course through the stack and constantly subjected to a cooling or disintegrating medium, such 75 as steam, water or air, which may be adjusted for induction either jointly or separately as the character of the slag requires. Under some conditions, the slag contains a large amount of cinder and it is, therefore, 80 necessary, to adjust or control the feed of the cooling or disintegrating agent in accordance with the character of the material treated. These sprays which contact with the hot slag during its downward course, 85 chill it gradually and thereby prevent any explosive effort of the slag due to sudden chilling, while at the bottom of the stack the slag is broken into sizes convenient for road making or other purposes, while the 90 finer portions which pass through the screen with the liquid may be ground up and used for cement and other purposes.

The invention presents a simple, efficient and economically constructed apparatus for 95 disintegrating slag and producing a useful product therefrom.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is— 100

1. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, and means beneath said shelves for introducing a disintegrating agent.

2. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, means beneath said shelves for introducing a disintegrating agent, and a
5 breaker at the lower portion of said stack.

3. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, means beneath said shelves for introducing a disintegrating agent, a breaker
10 at the lower portion of said stack, and a screen beneath said breaker.

4. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, a fluid feed connection disposed beneath said shelves, and a liquid feed communicating with said fluid feed.
15

5. In a slag disintegrator, a stack, a

breaker disposed at the lower portion of said stack, a fluid injector within said stack, and a liquid feed communicating with said
20 fluid injector.

6. In a slag disintegrator, a stack, a breaker disposed at the lower portion of said stack, a fluid injector within said stack, a liquid feed communicating with said fluid
25 injector, and a screen disposed beneath said breaker and inclined to deliver at one end thereof.

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

EDWIN LAMB.

Witnesses:

A. E. BURKY,

L. HELLER.