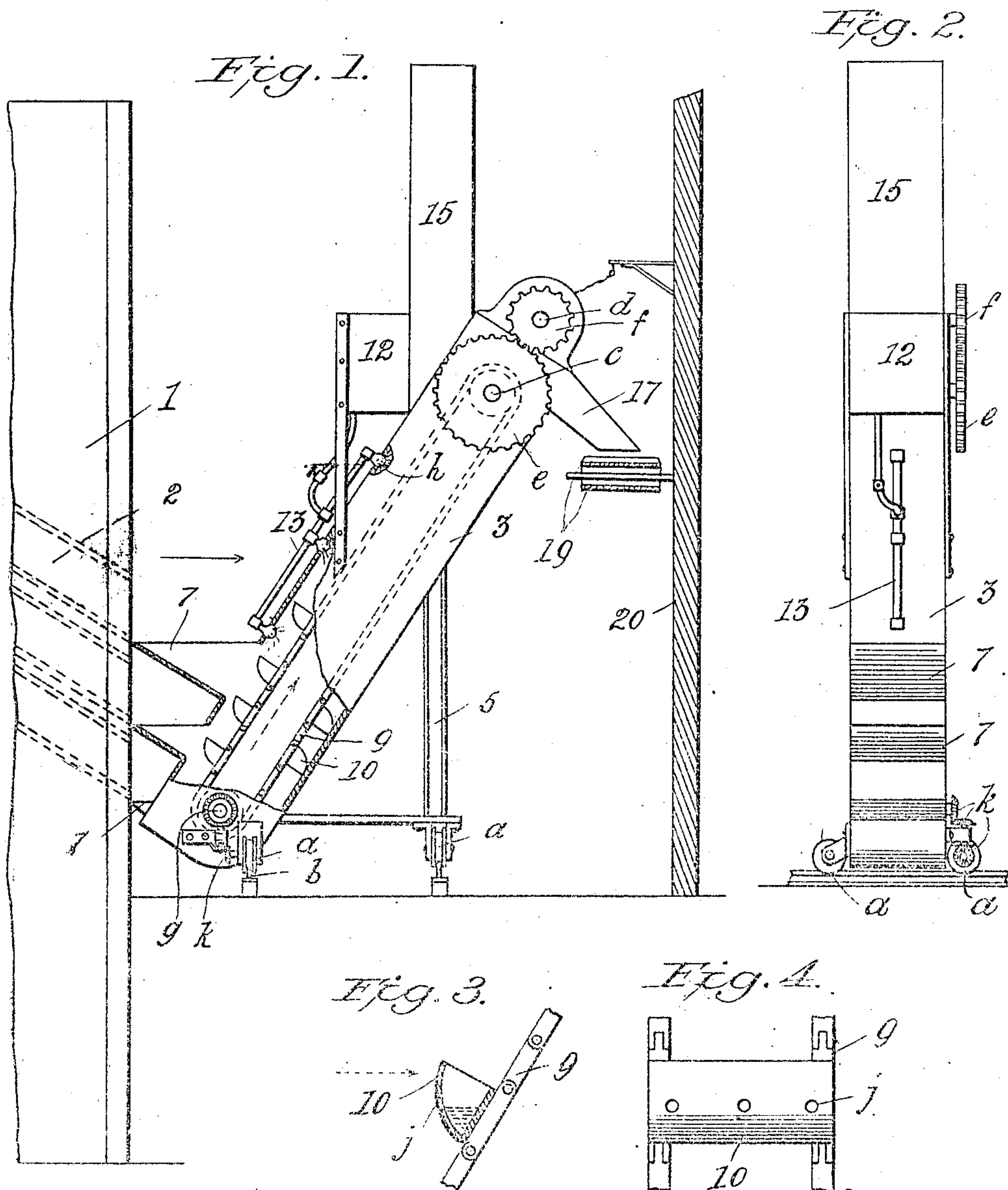


No. 843,251.

PATENTED FEB. 5, 1907.

L. ALBRECHT.  
COKE DISCHARGING APPARATUS.  
APPLICATION FILED JAN. 31, 1906.



WITNESSES:

C. H. Walker.  
John Nicholas Harsh.

INVENTOR  
Lewis Albrecht.  
BY *G. H. T. Howard*,  
Attorneys.



# UNITED STATES PATENT OFFICE.

LEWIS ALBRECHT, OF BALTIMORE, MARYLAND.

## COKE-DISCHARGING APPARATUS.

No. 843,251.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed January 31, 1906. Serial No. 298,733.

*To all whom it may concern:*

Be it known that I, LEWIS ALBRECHT, of the city of Baltimore and State of Maryland, have invented certain Improvements in Coke-Discharging Apparatus, of which the following is a specification.

The principal object of this invention is to facilitate the removal of cooled coke from the front of the retort-benches to some place exterior of the retort-house.

A secondary object of the said invention is to prevent excessive drenching of the heated coke during the discharging operation, as will hereinafter fully appear.

With these objects in view the present invention consists, first, in the combination, with a transferable coke-receiving and discharging apparatus, of an endless conveyer-belt extending parallelly with the front of the bench of retorts, or in a direction parallel with the path taken by the transferable discharging apparatus in being moved from one set of retorts to another, and to the outside of the retort-house, upon which the quenched and practically cooled coke is deposited.

The said invention consists, secondly, in means for limiting the quantity of water to which the heated coke is directly subjected, independently of the quantity of water furnished for quenching and cooling purposes, as hereinafter described.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a partly-sectional side view of a bench of retorts, together with the appliances forming the subject of the present invention. Fig. 2 is a view of Fig. 1 looking in the direction indicated by the arrow in full lines. Fig. 3 is a sectional side view, on an enlarged scale, of a part of the apparatus; and Fig. 4, a view of Fig. 3 looking in the direction indicated by the dotted arrow.

Referring now to the drawings, 1 represents a bench of retorts, and 2 the retorts, which are shown in dotted lines, and of the inclined description.

3 is a box supported in an inclined position by means of a suitable frame 5, having wheels *a* whereby the whole structure may be easily moved along track-rails *b*, which are laid in front of the bench of retorts in the retort-house. The box 3 is provided with a series of laterally-projecting coke-receivers 7, which extend nearly to the bench 1, and in

consequence of the inclined position of the box these receivers are of different lengths, as shown in Fig. 1 of the drawings.

Within the box 3 is an endless conveyer-belt 9, carrying buckets 10, which in the operation of the apparatus move in the direction represented by the arrow in broken lines in Fig. 1. The means for driving the conveyer may be of any approved description. In the drawings the upper shaft *c* of the conveyer is shown as driven from another shaft *d* by means of the gears *e* and *f*, and it is designed to apply an electric motor to the shaft *d*; but the motor is not shown, as its employment for the purpose described forms no part of the present invention. The lower end of the box 3 is made water-tight and supplied with water to such depth as will admit of the immersion of the buckets 10 and the chain-belt carrying them as they pass around the lower shaft *g* of the conveyer.

12 is a water-tank having a proper pipe connection with a spraying apparatus 13, the nozzles *h* of which enter the box 3 and are so placed as to discharge water over and into the buckets 10 as they ascend. The buckets 10 are made of a convenient size for conveying coke discharged into the box 3, and to prevent their holding more water than is requisite they are provided with overflow-holes *j*, as shown in Figs. 3 and 4.

15 is a pipe to carry off steam generated in the cooling of the coke.

17 is a spout or chute at the upper end of the box 3 to which the coke is discharged from the buckets of the conveyer, and the spout leads to a horizontal endless conveyer-belt 19, shown as adjacent to the wall of the retort-house, which belt carries the coke to some place outside of the building. As the endless conveyer-belt 19 extends longitudinally of the bench of retorts, coke may be delivered thereto at any point within its length, and no auxiliary apparatus—such, for instance, as wheeled cars—have to be placed to receive it. By the combination of a discharging apparatus proper with an endless conveyer-belt extending in a direction parallel with the course followed by the said discharging apparatus in moving along the front of the benches considerable manual labor is dispensed with and the entire discharging operation much simplified. The shaft *g* of the conveyer is also utilized in connection with the gears, which collectively are represented by *k*, as means to effect the rota-



tion of one set of the wheels *a*, which may be set in motion by any appropriate devices when it is required to transfer the apparatus from one vertical set of retorts to another.

5 The operation of this invention is as follows: When it is desired to discharge a set of retorts, the apparatus is wheeled in front of them, and the retorts drawn, the coke falling into the receivers 7 and passing  
10 thence to the box 3, where it is caught by the ascending buckets and finally discharged through the spout 17 to the endless conveyer-belt 19, which dumps it outside of the building. As before stated, the buck-  
15 ets of the conveyer are supplied with water to a uniform height in passing around the lower end of the box 3, and this water, together with that sprayed upon the coke as it is carried upward in the box, is so regulated  
20 in quantity that the coke is discharged in a practically dry and comparatively cool condition and without being reduced to small pieces by sudden contraction.

At the completion of the operation just de-  
25 scribed the apparatus is moved in front of the next set of retorts to be discharged, when the same operation is repeated.

I claim as my invention—

30 1. A transferable coke receiving and discharging apparatus adapted to be used in connection with a bench of gas-making retorts, comprising a box placed in an inclined position, an endless chain situated within the box carrying buckets, means to operate the

endless chain and its buckets, and an appli- 35  
ance whereby water is sprayed upon the said buckets, and the coke contained therein, as the same traverse the said box from the re-  
ceiving to the discharging end of the box, combined with an endless conveyer-belt ex- 40  
tending in a direction parallel with the path taken by the said discharging apparatus in being moved from one vertical set of retorts to another, the said conveyer-belt being ad-  
jacent to the delivery end of the discharging 45  
apparatus, and thereby adapted to receive the discharged coke and carry the same away from the bench of retorts, substantially as specified.

2. A transferable coke receiving and dis- 50  
charging apparatus adapted to be used in connection with a bench of gas-making re-  
torts, comprising a box placed in an inclined position, an endless chain situated within the  
box carrying buckets, means to operate the 55  
endless chain and its buckets, and an appli-  
ance whereby water is sprayed upon the said buckets and the coke contained therein, as the same traverse the said box from the re-  
ceiving to the discharging end of the box, the 60  
said buckets having overflow-holes to limit the quantity of water held by the buckets in-  
dependently of the quantity of water sup-  
plied to the same, substantially as specified.

LEWIS ALBRECHT.

Witnesses:

THOMAS G. HULL,  
WM. T. HOWARD.