

UNITED STATES PATENT OFFICE.

HERMANN DIESENER, OF CHARLOTTENBURG, GERMANY.

CLAY-CLEANING DEVICE.

No. 803,563.

Specification of Letters Patent.

Patented Nov. 7, 1905.

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To all whom it may concern:

Be it known that I, HERMANN DIESENER, engineer, a citizen of the German Empire, residing at 92 Sophie Charlottenstrasse, Charlottenburg, Germany, have invented certain new and useful Improvements in Clay-Cleaning Devices, of which the following is a specification.

This invention relates to improvements in clay-cleaning devices of that kind for which I have obtained Letters Patent in the United States, numbered 644,795 and dated March 6, 1900.

More particularly, the invention consists in a novel arrangement and combination of parts, among which are a rotary annular disk, a support for a column of clay adjacent to the face of said annular disk, forming therewith a slit, a movable clearing device adapted to pass through said slit, and supports or receptacles arranged at the ends of said slit.

A clay-cleaning device embodying the improvements will be described, and the novel features pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical transverse sectional view of a clay-cleaning device embodying the improvements. Fig. 2 is a front elevation of the same.

The annular disk is indicated by A, and in the present case it is cast in one piece with the pulley C, fixed to the axle B.

D is a pug-mill outlet having an inclined surface E arranged in front of it. F is an adjustable plate fixed to said surface or support E and adapted to form with the annular disk slit G.

H is a column of clay pressed through the outlet or mouth D of the pug-mill and sliding on support E toward the front surface of the annular disk A. J is a movable clearing device crossing the column of clay and the said working slit G. The clearing device J by means of a cross-head K is fixed to sliding bars L, which are reciprocated by suitable actuating members M N and crank-shaft O.

P is a knife adapted to scrape the clay from the face of the annular disk A.

Q are supports extending from the ends of the working slit G.

R are loaded valves, which, in combination with the supports Q, form receptacles for the stones and nodules of marl which are eliminated from the working slit by the clearing devices J. The filling material of the said receptacles is designated S.

The operation of the clay-cleaning device

is as follows: The annular disk A is rotated by suitable driving-gear. At the same time the column of clay H is pressed toward the face of the said annular disk A. The pressure of clay enables the disk A to tear off or to peel off the material from the column of clay, so that a thin layer of clay adheres to the face of the disk. This layer of clay is scraped off from the face of disk A by knife P. The stones, nodules of marl, and other impurities of the clay are retained in the working slit G and are transported sidewise by the reciprocating device J and enter the receptacles which are formed by the supports. The mass S, which fills the receptacles formed by the supports Q and the valves R, cleans the stones, nodules of marl, &c., entering the receptacles, so that the loss of clay which is eliminated, together with the stony impurities, is diminished.

The improvements of my present invention over the machine which I have described in my said former patent consist, first, in the reciprocating clearing device J; secondly, in the use of an annular disk instead of a solid disk, and, thirdly, in the arrangement of the receptacles Q R at the ends of the working slit G. These improvements may be used either combined with one another, as illustrated on the drawings, or some may be used separately in combination with the clay-cleaning device described in my said prior patent.

By the reciprocating clearing device I obtain a more perfect elimination of the stony impurities toward both the sides of the column of clay and a more durable construction than with the rotatably-arranged clearing devices of the construction shown in my said former patent.

The employment of an annulus instead of a disk reduces the weight of the machine and facilitates the elimination of the stony impurities toward both the sides.

The receptacles Q R, arranged at the ends of the working slit and filled with some suitable material, such as a mixture of stones and clay, allowing the stones entering and retaining to some extent the clay including the stones, diminish the loss of clay, which is transported out of the machine together with the stones.

My invention is not limited to the particular embodiment thereof here shown and described as an illustration of my invention, as the same obviously is open to various modifications without departing from the spirit and

scope of the invention. For instance, I may employ any other actuating device for reciprocating the clearing member J or I may dispense with the movable valves R. At the same time I may employ a movable support instead of the fixed support Q, it being only necessary that there is a wall which in the embodiment of the invention shown is formed by the mass S of matter removed from the clay arranged at the end of the slit, adapted to receive the stony impurities which are transported by the clearing device J and to retain to some extent the clay adhering to the stones, &c.

Having now particularly described and ascertained the nature of the invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming therewith a slit, a reciprocating clearing device traversing said slit, and means forming receptacles arranged at the ends of the slit, substantially as set forth.

2. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the disk, a reciprocating clearing device traversing said slit, and means forming receptacles arranged at the ends of the slit, substantially as set forth.

3. The combination of a rotary annular disk, a support for a column of clay adjacent to the face of said disk and forming therewith a slit, a reciprocating clearing device movable from end to end of the slit, and means forming valved receptacles arranged at the ends of the slit, substantially as set forth.

4. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a reciprocating clearing device movable from end to end of the slit, side extensions, each with a movable side normally at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter re-

moved from the clay is formed between such column of clay and said movable side and opening, substantially as set forth.

5. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the disk, a reciprocating clearing device movable from end to end of the slit, side extensions, each having its side at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter removed from the clay is formed between said column of clay and said side and opening, substantially as set forth.

6. The combination of a rotary annular disk, a support for the column of clay adjacent to the face of said disk and forming therewith a slit, a knife located at a distance from the column of clay for removing the clay from the face of the annulus, a reciprocating clearing device movable from end to end of the slit, side extensions, each with a movable side normally at a distance from said column of clay and forming an opening with the bottom of said extension, whereby a wall of the matter removed from the clay is formed between such column of clay and said movable side and opening, substantially as set forth.

7. In a clay-cleaning device, the combination of a rotary disk, a support for a column of clay adjacent the face of said disk and forming therewith a slit, a reciprocating clearing device traversing said slit, a lower support at each end of said slit and forming a lateral continuation of the bottom wall thereof, and a movable wall forming with said support a receptacle for matter removed from the clay by said clearing device and adapted to be forced outward by the pressure of such matter.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HERMANN DIESENER.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.