(No Model.)

J. L. DURROUGH.

CLAY MILL.

No. 306,068. Patented Oct. 7, 1884.

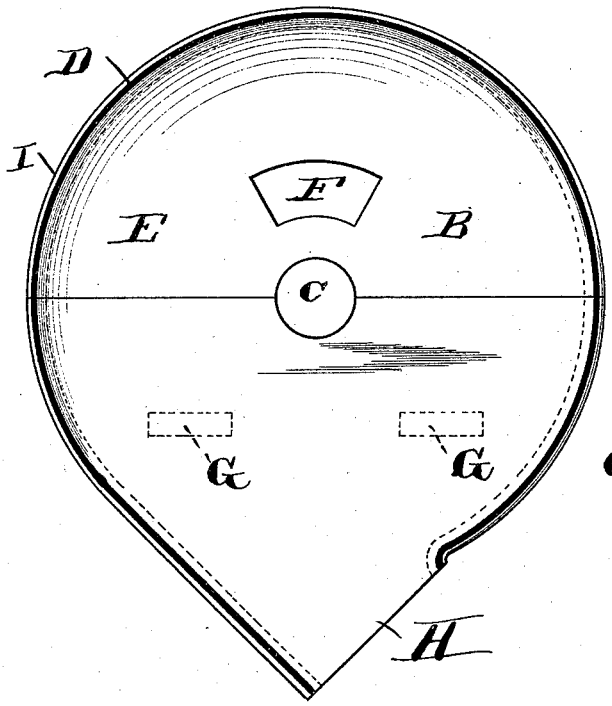

Fig 2.

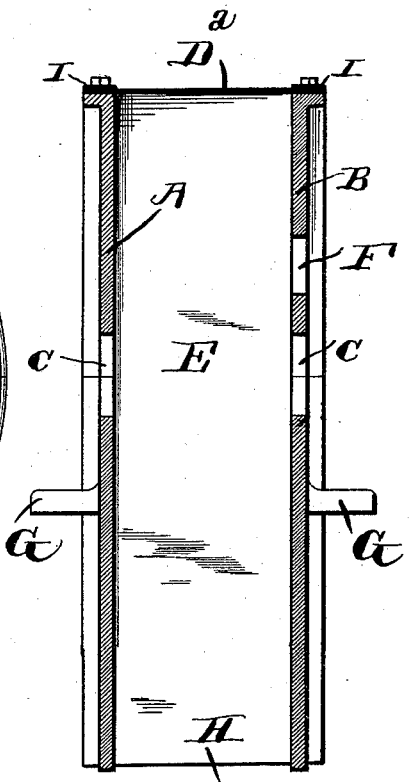

Fig 1.

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UNITED STATES PATENT OFFICE.

JAMES L. DURROUGH, OF HAMILTON, OHIO.

CLAY-MILL.

SPECIFICATION forming part of Letters Patent No. 306,068, dated October 7, 1884.

Application filed February 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. DURROUGH, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Clay-Mills, of which the following is a specification.

This invention pertains to that class of clay-mills in which disintegrating and grinding mechanism is in whole or in part inclosed in a surrounding case. It relates particularly to the construction of the case, with the object in view of preventing the clogging of the mill by the adhesion of clay to the interior of the case.

The invention will be fully understood from the following description, taken in connection with the accompanying drawings, in which Figure 1 is a vertical diametrical section of the case of a clay-mill embodying my improvement, and Fig. 2 a vertical section of the same upon the line *a*.

In the drawings, A represents one of the metal-case sides of a clay-mill; B, the opposite side of the same; C, apertures through the sides for the passage of a shaft, to operate whatever character of disintegrating mechanism may be placed within the case; D, a circumferential jacket formed of cloth or other flexible fabric and attached to the two sides, thus completing the incasement; E, the interior of the case where the disintegrating mechanism is to work; F, the inlet-aperture of the case; G, bolt-lugs formed upon the sides, for the purpose of securing the structure to suitable framing; H, the outlet of the case, and I clamping strips or hoops by which the cloth jacket D is secured to the rim of the sides.

Clay-mills having cases of the form set forth are in common use and well known, but the jacket D has always been formed of metal or wood or other inelastic material.

In the operation of the machine a light mass of moist clay would be thrown against the jacket and would adhere. Later another mass would adhere to the first one, and this would continue until the entire jacket had received a deposit of clay reaching from its interior to the periphery of the disintegrating device. In this condition everything tended to the clogging of the mill, and especially after a stoppage of the mill it would be found that the accumulation of clay inside the jacket prevented the restarting of the mill without cleaning. In the practical operation of such mills every movable piece about them has in turn been broken in attempts at restarting after a stoppage with a foul jacket. Experience finally dictated the regular cleaning of the interior of the jacket several times a day, which was effected by removing the upper half of the case, made separable upon the line J, and digging out the interior with suitable implements. These stoppages for cleaning detracted just so much from the working time of the machine, represented by so many thousand brick per day, in case the machine was working upon brick-clay.

Experience, investigation, and ingenuity have been taxed to the utmost to devise a material with which the jacket could be lined which would prevent the adhesion to the interior of the jacket of the clay thrown in contact with it. Tests have been made with deposits of base and precious metals, with linings of glass, porcelain, oils, and pigments, but with no beneficial results. The first light lump of clay would lightly adhere and furnish a good foothold for subsequent deposits.

I have discovered that a flexible jacket formed of cloth, canvas, or ducking, or similar material will answer to remove all the difficulties inherent in a rigid jacket. A lump of clay may strike the jacket and adhere, but the next lump that strikes the jacket vibrates it in a dancing manner and shakes the first piece off, and so on.

While cases with rigid jackets have heretofore necessarily been constructed so that they could be readily opened and cleaned, no such provision is necessary in connection with my improvement, as the interior of the jacket never requires to be cleaned; hence the case need never be opened for the purpose. The jacket may therefore be put on in a single piece.

The jacket may be secured to the rim of the sides by means of hoops or strips secured by rivets to the rim of the sides and clamping the material of the jacket, or by any other suitable means.

I claim as my invention—

1. In a clay-mill case, the combination, with rigid parts, of a flexible part secured thereto, and adapted to vibrate under the action of impinging masses of clay.

2. In a clay-mill case, the combination of rigid side pieces, A and B, and the flexible circumferential jacket D, secured at its edges to said side pieces, substantially as and for the purpose specified.

3. In a clay-mill case, the combination of rigid side pieces, A and B, and circumferential cloth jacket D, secured thereto at its edges.

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