(No Model.)

W. W. WALLACE & J. A. KRAMER.

CLAY CRUSHER AND SEPARATOR.

No. 251,660. Patented Dec. 27, 1881.

Fig. 1

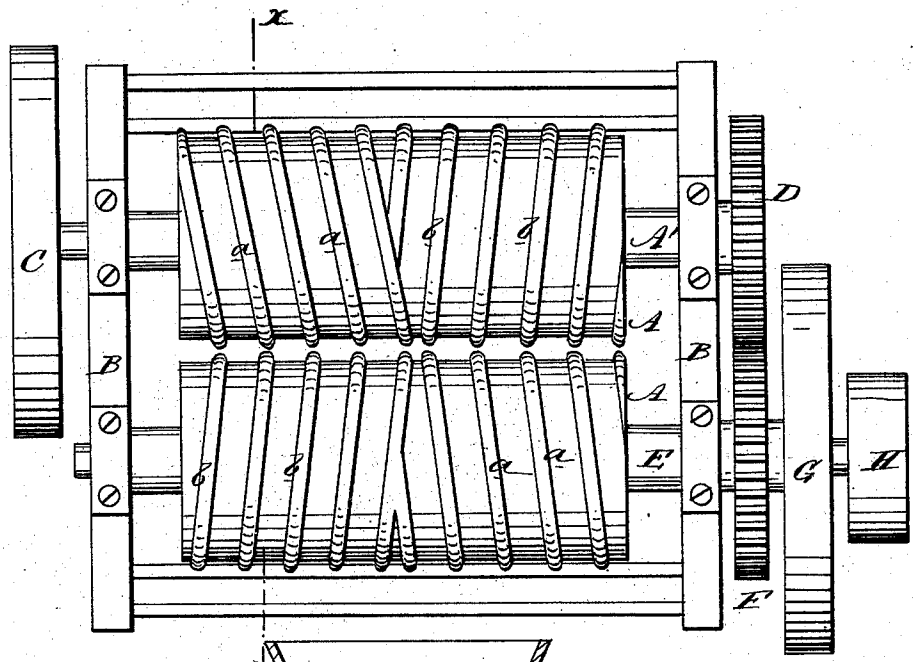
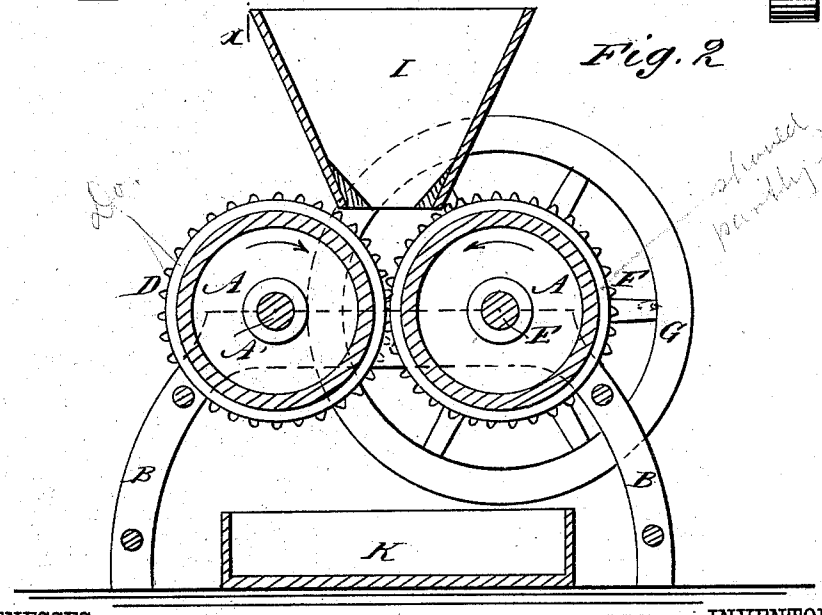


Fig. 2



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UNITED STATES PATENT OFFICE.

WILLIAM W. WALLACE AND JOHN A. KRAMER, OF FRANKFORT, INDIANA.

CLAY CRUSHER AND SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 251,660, dated December 27, 1881.

Application filed May 28, 1881. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM W. WALLACE and JOHN A. KRAMER, of Frankfort, Clinton county, Indiana, have invented a new and Improved Clay Crusher and Separator, of which the following is a specification.

The object of this invention is to provide a machine for pulverizing clay and at the same time separating from it the stone that may be in it.

The invention consists of two rolls set side by side and parallel with each other in suitable housings, each roll having formed on its face a right-hand groove, thread, or screw extending from the center to one end and a left-hand screw or groove extending from the center to the other end. The rolls are then set in their housings with the right-hand thread or screw on one roll in opposition to the left-hand groove, screw, or thread on the opposite roll, so that when the clay is introduced between the rolls through a hopper fixed centrally over them the stones in the clay are carried in the screws or grooves to the one or other end of the rolls and there ejected, while the clay passes through between the faces of the rolls, and is thereby crushed or pulverized to the desired condition.

Figure 1 is a plan of the crusher. Fig. 2 is a sectional end elevation of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A A represent the rolls, each of which is provided with a left-hand screw or thread, *a*, raised on its face and extending from the center of the roll to one end thereof, and a corresponding right-hand screw, *b*, extending from its center to the other end. These rolls A A are journaled in suitable housings, B B. The shaft A′ of one roll A has a fly-wheel, C, keyed on one end and a cog-wheel, D, on the opposite end. The shaft E of the other roll A has on one end a cog-wheel, F, that meshes with the cog-wheel D, a fly-wheel, G, and a band wheel or pulley, H, through which power is transmitted to the machine.

A hopper, I, is fixed centrally on top of the machine, and a trough, K, for receiving the crushed clay is set beneath the rolls A A. The clay, being fed into the hopper I, falls upon the rolls A A at their center. The stones in the clay are carried unbroken by the screw-threads *a b* to the one or other end of the rolls A A and there discharged, while the clay itself is ground between the rolls and falls into the trough K.

This machine is especially designed for preparing clay for the manufacture of bricks, tiles, &c., and the action of the screws saves the time and expense of removing the stones from the rolls by hand, as is usually done, and also avoids the danger of breaking the rolls.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A clay crusher and separator constructed substantially as herein shown and described, consisting of two rolls, each provided with right and left screws or grooves on their faces and set parallel with each other in suitable housings, as set forth.

2. In a clay crusher and separator, the rolls A A, provided with right and left grooves or screws *a b* on their faces, substantially as herein shown and described, whereby the stone is separated from the clay as the latter is crushed, as set forth.

WILLIAM WINFIELD WALLACE.
JOHN ADAM KRAMER.

Witnesses:
J. R. BROWN,
SAMUEL A. HOPPLE.