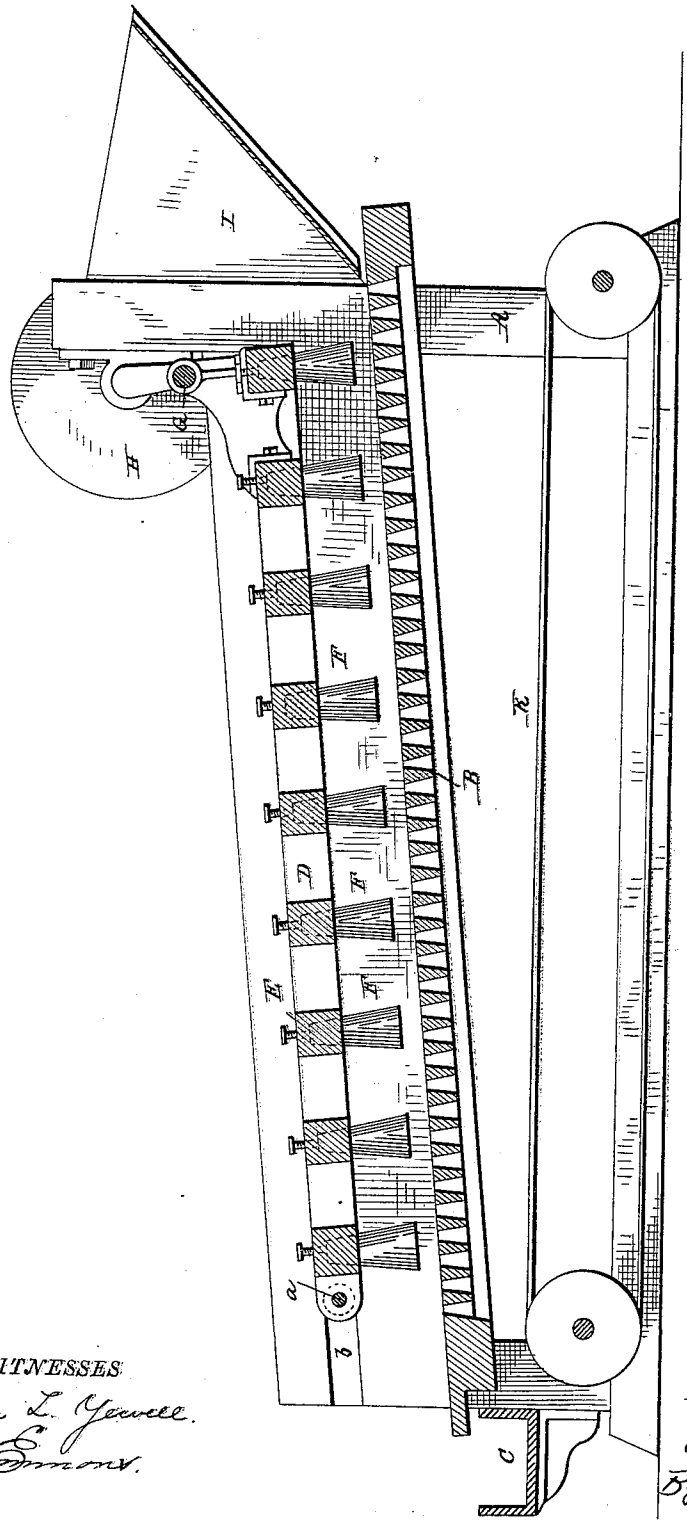
(No Model.)

J. A. BOYD.

DEVICE FOR DISINTEGRATING CLAY AND SEPARATING THE STONES THEREFROM.

No. 328,756. Patented Oct. 20, 1885.



WITNESSES

Edwin L. Yewell.

C. L. Emmons.

INVENTOR

Jas. A. Boyd,

By S. M. Finsabaugh

Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES A. BOYD, OF MINNEAPOLIS, MINNESOTA.

DEVICE FOR DISINTEGRATING CLAY AND SEPARATING THE STONES THEREFROM.

SPECIFICATION forming part of Letters Patent No. 328,756, dated October 20, 1885.

Application filed March 24, 1885. Serial No. 160,004. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BOYD, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Devices for Disintegrating Clay and Separating the Stones Therefrom, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in separators and disintegrators for the more perfect preparation of clay in the manufacture of brick.

The object of my invention is to provide a machine which will separate large and small stones from clay, and make it possible to use clay for brick-making purposes which has been heretofore rejected on account of the numerous stones and pebbles mixed therewith.

My invention consists of a suitable frame or casing having a movable perforated floor and a reciprocating frame provided with metallic brushes adapted to travel over the perforated floor and in close proximity thereto.

Other valuable and novel features of my invention will be fully described hereinafter and pointed out in the claims.

In the drawing I have shown a longitudinal vertical sectional view of my improved separator and disintegrator, which will now be described in detail.

A indicates a rectangular frame, properly inclosed, in which is suspended a movable slotted or perforated floor, B, the meshes or perforations of which may be of any desired size.

The floor B is level or slightly inclined from the front to the rear end of the machine, so that the stones can be more readily worked toward the rear of the machine and deposited in the chute or spout C.

D is a frame, of wood or other suitable material, the rear end of which is provided with friction-wheels *a*, adapted to travel in grooves or recesses *b* in the sides of the frame of the machine.

E are cross-bars forming part of the frame D, in which the steel brushes F are secured, said brushes being made adjustable by means of set-screws, or in any convenient or well-known manner, so that they can be set nearer to the perforated floor B as the ends of the brushes become worn away. The front end of the frame D is hung to the crank G, said crank-shaft being mounted in suitable bearings in the frame of the machine, and provided with a band-wheel, H, by means of which motion is imparted to the crank-shaft and to the frame D. The floor B may also be reciprocated, if found desirable.

I is a hopper or feed-box, into which the clay is thrown, and is worked toward the rear of the machine by means of the brushes F, the finer portions of the clay falling through the open floor onto the endless traveling belt or conveyer K, which conducts it to the brick-pressing machine or to any other desired point. The pounding and scraping or sweeping action of the brushes F on the clay tends to break up any lumps that may be in the clay, removes the clay from the stones or pebbles, and, as before indicated, works the stones or pebbles over the rear end of the floor into the chute or spout C at the rear end of the machine.

In pulverizing or disintegrating clay containing a large quantity of stones it is very destructive to the ordinary machines or disintegrators in which rotary beaters or brushes are used; but by using the device herein described I am enabled to remove the large and small stones with very little wear to the machine.

This device may be so constructed—*i. e.*, the floor may be made with larger openings, so that the machine can be used for the sole purpose of breaking the lumps of clay and removing the larger stones, the clay and smaller stones and pebbles which have found their way through the perforated floor being conveyed by the endless carrier K to a rotating-screen-cylinder provided with beaters and brushes in which the clay is reduced to a finely powdered or disintegrated condition and separated from the small stones and pebbles, such a machine being fully described and claimed by me in an application filed in the United States Patent Office March 12, 1885, Serial No. 158,518.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A machine for separating clay from stones, consisting of a casing provided with a perfo-

rated floor, and a reciprocating frame having brushes secured thereto, and adapted to travel to and fro over the perforated floor, as set forth.

2. In a machine for disintegrating clay and separating the stones therefrom, a casing having an inclined perforated floor, a reciprocating frame provided with brushes adapted to slide in ways in the frame or casing of the machine, and a crank-shaft attached to one end of said frame, whereby a sweeping and pounding action is imparted to the clay, as set forth.

3. In a machine for disintegrating clay and separating the stones therefrom, a reciprocating frame provided with adjustable metallic brushes, in combination with a perforated floor, as set forth.

4. In a machine for disintegrating clay and separating the stones therefrom, a casing provided with a suitable feed-hopper and having an inclined perforated floor, in combination with a reciprocating frame carrying metallic brushes and an endless belt or conveyer located beneath the perforated floor, as set forth.

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

JAMES A. BOYD.

Witnesses:
SAMUEL P. LOVER,
HENRY N. TIMOLAT.