R. W. STIENEKER.

CLAY-PICKING MACHINE.

No. 186,896. Patented Jan. 30, 1877.

Fig. 3.

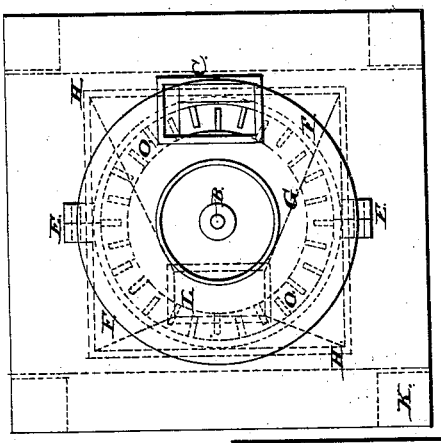

Fig. 2.

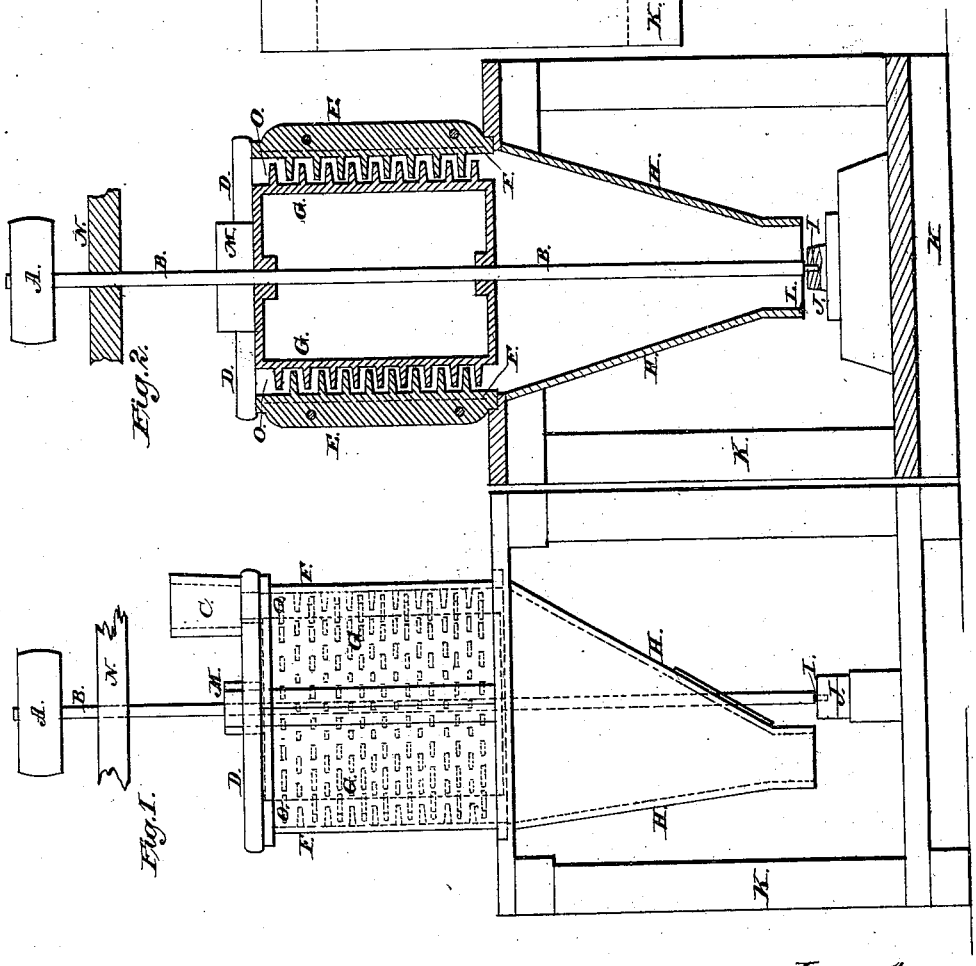

Fig. 1.

Attest:

Chas. E. Marsh.

M. E. Marsh.

Inventor:

Rudolph W. Stieneker

UNITED STATES PATENT OFFICE.

RUDOLPH W. STIENEKER, OF EVANSVILLE, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES E. MARSH, OF SAME PLACE, AND WILLIAM B. BROWN, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN CLAY-PICKING MACHINES.

Specification forming part of Letters Patent No. **186,896**, dated January 30, 1877; application filed December 14, 1876.

To all whom it may concern:

Be it known that I, RUDOLPH W. STIENEKER, of the city of Evansville, county of Vanderburg, and State of Indiana, have invented a Clay-Picking Machine, of which the following is a specification:

The object of my invention is to pulverize, aerate, and mix clay to be used in making what is known as "dry-pressed brick." Such brick are made from nearly-dry clay, compressed by great power into molds of the shape and size required for the brick. After the clay has passed between rollers there still remain in it pellets unpulverized, and so hard and compact that they cannot be pressed together into one cohering mass by the dies, and wherever any considerable number of these pellets occur together, there is no coherence at such spots in the brick after being delivered from the mold, no matter how great the pressure may have been; but all such places are brittle, and present the appearance, when broken, of a mass of small pebbles or coarse shot having been, with a small proportion of earth, pressed together. A brick with this defect is comparatively valueless. By the use of my clay-picker these pellets are so thoroughly pulverized, and the product of the pulverization so evenly distributed and mixed through the body of the clay already partially pulverized by the rollers, that it becomes one homogeneous mass, susceptible of being compressed into a brick of uniform grain throughout, and of great compactness. My picker not only operates on these pellets, but also aerates, pulverizes, and mixes all the clay that passes through it, and is designed to operate on every particle of clay that goes into the formation of the brick.

In the pickers heretofore constructed there has been difficulty in the clay clogging and choking the machine, and great power has been required to run them.

By means of my cylinders standing vertically, and by means of the clay which passes between them being introduced at the top, and by its own weight passing through to the bottom, the picker easily discharges itself; and this result is aided by constructing the hopper so that the clay is fed directly over the moving teeth, and in one spot only. By constructing the hopper so that the clay shall be fed into the circular space between the cylinders in one place only, covering but a small proportion of said circular space, instead of at any place along its line, all the clay which passes through the mill is subjected to the same amount of picking, and is discharged at the spout of a uniform fineness.

Figure 1 is a side elevation, showing the hopper, discharging-spout, and bottom, as well as the top of the shaft on which the inner cylinder revolves. Fig. 2 is a vertical sectional view. Fig. 3 is a plan view of my invention.

A is the pulley which drives the shaft B, to which the inner cylinder G is affixed. C is the hopper, from which the clay passes into the space between the cylinders and among the teeth; D, the top or movable wooden cover; E, the flanges of the outer cylinder, by which its two sections are united together. These flanges are fitted and fastened together with screws, so that the outer cylinder may be taken apart, and the teeth on both cylinders fully exposed to view and manipulation whenever it may become necessary to clean or repair them. F, the outer cylinder, composed of two half-circle segments or sections, attached together by the said flanges or screws; H, the spout by which the pulverized and mixed clay is conducted away from the picker; L, the mouth of the spout; I, the journal at the bottom of the shaft; J, the box in which said journal runs; K, the frame of the machine; M, the box in which the top part of the shaft runs. N is a support for the shaft B at its upper end; O, space between cylinders.

Corresponding letters in the different figures denote corresponding parts.

The clay, in a nearly-dry state, after having passed between rollers revolving with a varying velocity in relation to each other, passes between the outer cylinder and the inner one, revolving within the outer one at a speed of about three hundred or more revolutions per minute, according to the diameter of the cylinders. The outer cylinder is, by choice, sta-

tionary. The cylinders are, preferably, of cast-iron, and the teeth with which they are, respectively, fitted are, preferably, of wrought-iron. The outer cylinder is necessarily hollow, and the inner one preferably made so for cheapness, lightness, and convenience. The inside concave surface of the outer cylinder is fitted with teeth, which project into the space between the two cylinders. The outside convex surface of the inner cylinder is fitted with like projecting teeth, which, when the machine is in motion, run between the teeth of the outer cylinder. Between these surfaces of the two cylinders and among these teeth the clay passes from the top to the bottom of the cylinders, and is prepared by the action of the teeth as it goes into the spout below.

It is obvious, that either or both cylinders may be made to revolve, and, if both, in opposite directions, during the operation of picking clay; but I find it more convenient and cheaper to revolve the inner one alone.

I claim as my invention—

1. In a clay-picker for preparing clay for dry-pressed brick, the vertically-placed cylinder G, provided with rows of teeth on its convex surface, and the cylinder F, provided with like rows of teeth on its concave surface, when said cylinders are parallel to each other, and so arranged with reference to each other that by the revolutions of one or both, their respective different rows of teeth pass between each other, as and for the purposes specified.

2. The outer hollow vertically-placed cylinder, provided with teeth on its inner or concave surface, and constructed in two sections, so that said outer cylinder may be taken apart by separating the sections, for the purpose of cleaning or repairing the picker, as described.

3. The arrangement of the hopper C directly over the space between the cylinders F and G, so that the clay passes directly downward into said space, and is fed to the picker in one spot, and discharged freely throughout the entire space at the bottom of the cylinders, thereby insuring uniformity in the pulverization of the clay, as and for the purposes specified.

4. The combination of the hopper C, the cylinders F and G, provided with teeth on their respective concave and convex surfaces, the said cylinders open throughout the entire space at their bottom, all arranged in the manner as and for the purposes specified.

Witness my hand.

RUDOLPH W. STIENEKER.

Witnesses:

CHAS. E. MARSH,

M. E. MARSH.