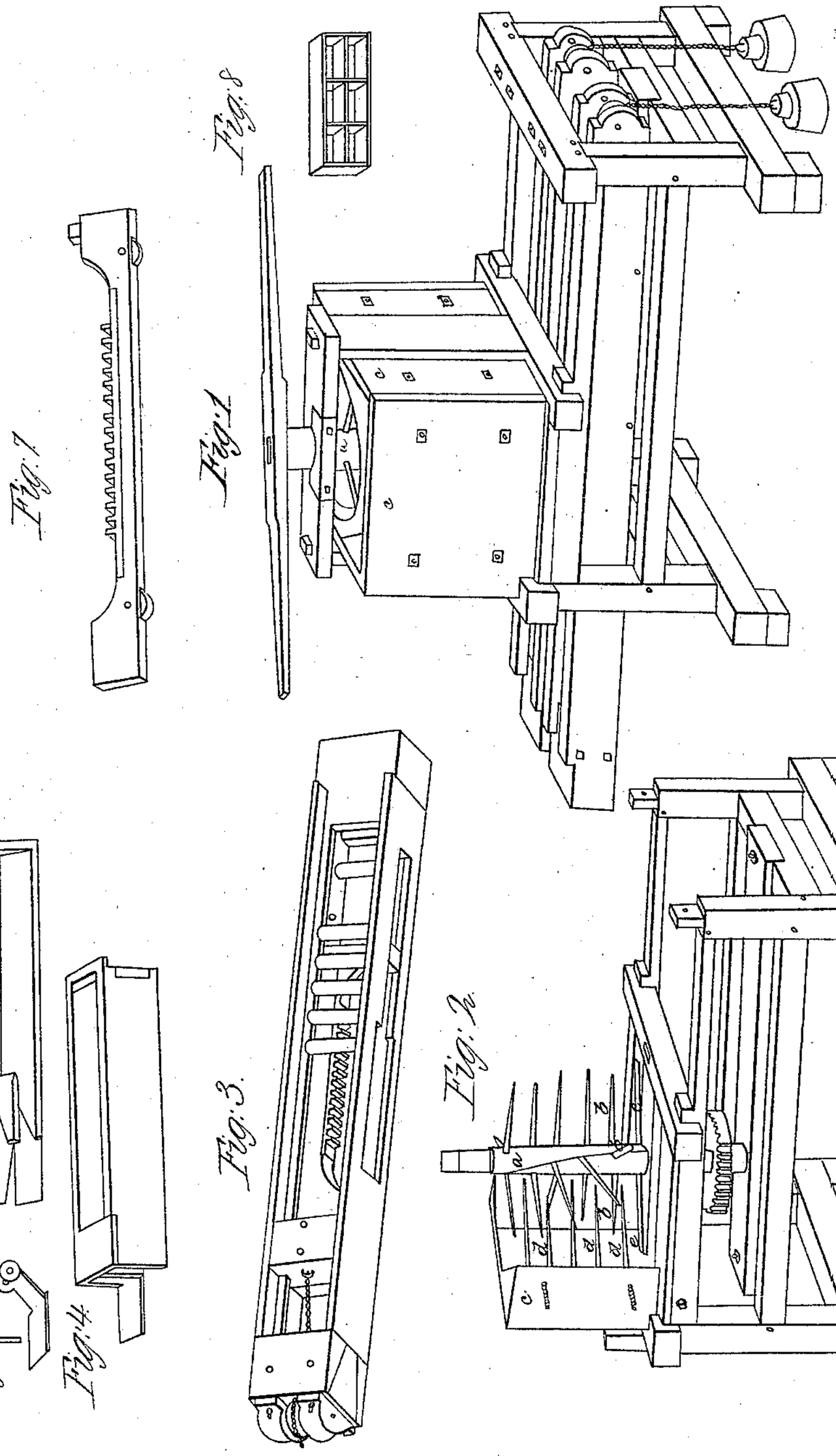
Ferriss & Swan,

Brick Machine,

No. 7,286, Patented Apr. 16, 1850.



UNITED STATES PATENT OFFICE.

CHARLES M. FERRISS, OF NEW MILFORD, CONNECTICUT, AND NATHAN SWAN, OF PATTERSON, NEW YORK.

PREPARING CLAY FOR BRICK-MACHINES.

Specification of Letters Patent No. 7,286, dated April 16, 1850.

To all whom it may concern:

Be it known that we, CHARLES M. FERRISS, of New Milford, county of Litchfield, and State of Connecticut, and NATHAN SWAN, of Patterson, county of Putnam, and State of New York, have invented a new and useful Improvement on the Machine Used for Grinding Clay Preparatory to Molding and Pressing Bricks; and we do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is a perspective view of the whole machine with the several parts in their places. Fig. 2 a perspective view of the interior of the machine with a portion of it removed. Figs. 3, 4, 5, 6, 7, and 8 perspective views of individual parts of the machine.

The aforesaid machine is composed of a grinding apparatus and curb for mixing and grinding the clay; stationary formers or molds for directing and controlling the clay after it is ground (see Figs. 4 and 5); molds in which to form and press the bricks and pass them out of the machine (Fig. 8); valves and weights to press the bricks (Figs. 4, 5 and 6) a pinion and racks with weights and head blocks to carry forward the molds (Figs. 1, 2, 3 and 7); hollow rails with ways for carrying the molds racks and head blocks (Figs. 1 and 3) and chains pulleys and rollers for effecting these purposes. But as the parts referred to above are already known in brick machines with the exception of the construction of the curb and grinding apparatus we confine ourselves to a particular description of these parts. They consist of a shaft with knives set therein which is surrounded with a curb. The shaft is made of wood about eight feet long and ten inches in diameter and set vertically in the curb (*a* Figs. 1 and 2). Close to the bottom of the curb are inserted the first set of knives at right angles with the side of the shaft and directly opposite to each other (*e e* Fig. 2). About eight inches above the aforesaid knives are inserted the second set of knives which consists of three. These are inserted in the shaft equidistant from each other and also at right angles with the sides of the shaft (*b*, *b*, *b* Fig. 2). The third, fourth, fifth and sixth set above are put in like the second set. But the corresponding knives of the several sets are not placed vertically one above another but the line of their junction with the shaft describes a spiral which runs about one third around the shaft. The curb is composed of suitable planks and timbers put together with bolts so as to make either one octagonal or circular box large enough to inclose the shaft and its knives (Figs. 1 and 2 *c*, *c*). This curb may be three feet square on top and four feet deep. On the inside of the curb are placed five sets of knives with four in each set. These are placed vertically one above the other about eight inches apart and equidistant from each other on the inner circumference of the curb (*d*, *d*, *d*, Fig. 2). The knives in the curb and those on the shaft are about of equal length and similarly shaped except the first pair *e*, *e*, Fig. 2. These are flat on the under side and oval on the upper side, in order to press the clay down. The under side is inclined to the bed of the curb about thirty degrees. The knives are severally about fifteen inches long thick on the back and thin on the edges and ends. Those on the shaft cut from left to right and those in the curb the reverse way.

The above described arrangement of the knives spirally on the shaft and vertically in the curb is made so that there can be no two knives on the shaft passing between any two pairs in the curb at the same instant and under the same circumstances. This gives a continued and equal resistance to the motive power; and also tends to force the clay downward through the bottom of the curb.

What we claim as our invention, and wish to secure by Letters Patent, is—

The method of constructing the grinding apparatus or mill; in such a way, that the knives on the shaft shall be set so as to describe a spiral line at their junction with the shaft; in order that no two of them shall be able to pass between any two pairs in the curb, at the same instant, and under the same circumstances, it being understood, that we do not claim in general this mode of setting the knives on the shaft, but only the use of the same, in connection with the fixed knives in the curb, for the purpose specified.

CHARLES M. FERRISS.
NATHAN SWAN.

Signed in presence of—
C. S. GAYLORD,
WILLIAM ROBERTS.