(No Model.)

2 Sheets—Sheet 1.

P. B. MATHIASON.

PULVERIZER.

No. 370,880. Patented Oct. 4, 1887.

Fig. 1.

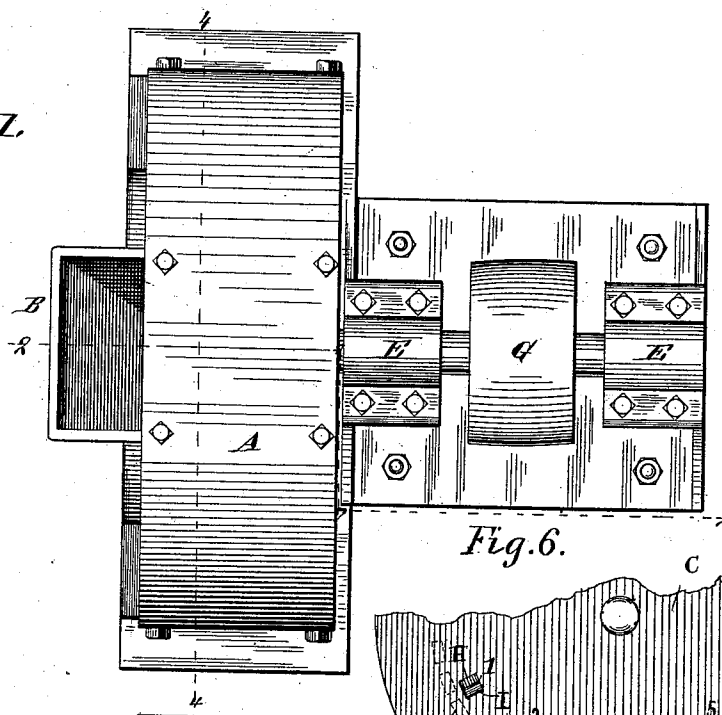


Fig. 6.

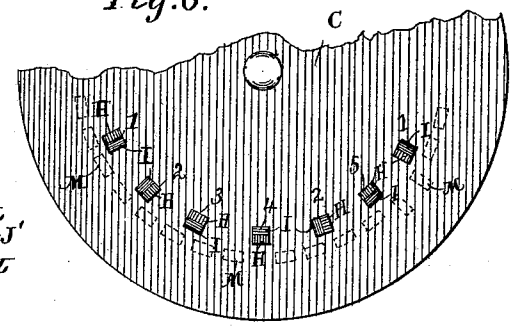
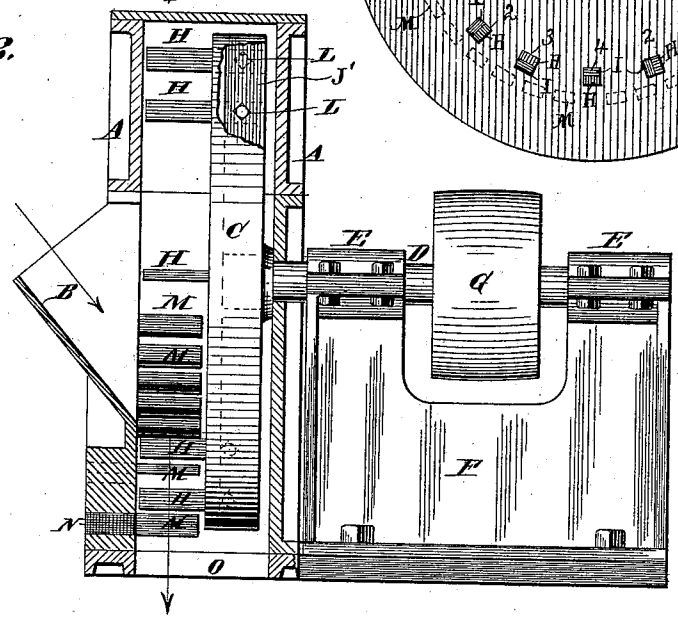


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

P. B. MATHIASON.

PULVERIZER.

No. 370,880. Patented Oct. 4, 1887.

Fig. 3.

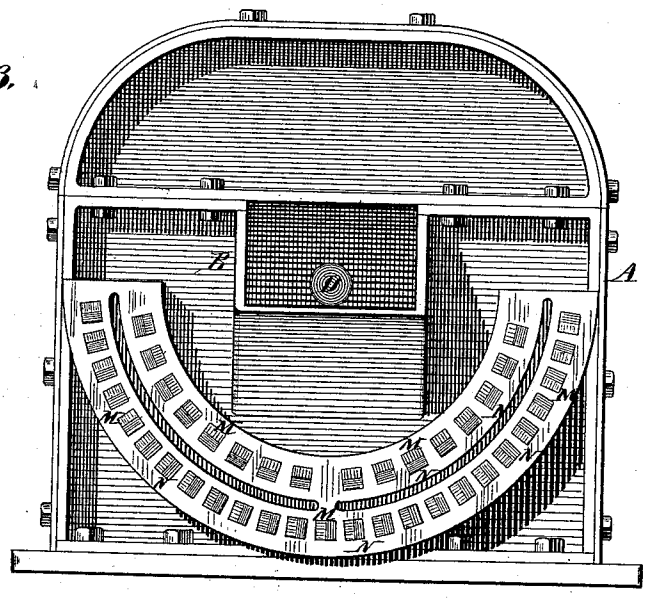


Fig. 4.

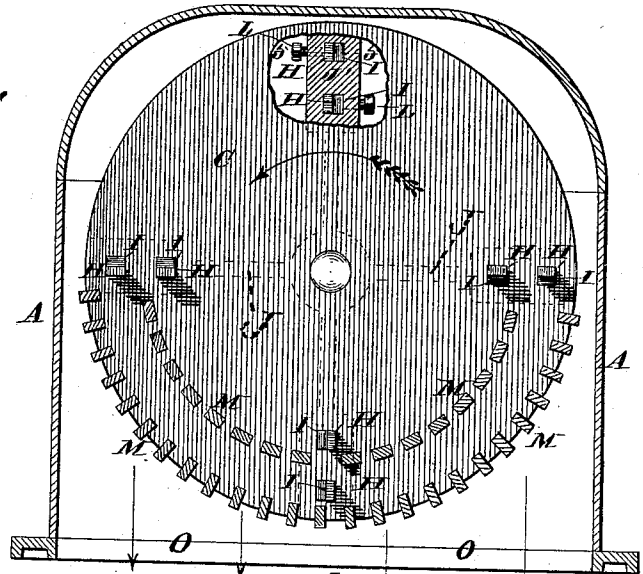
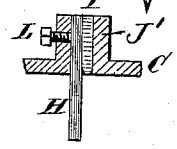


Fig. 5.



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UNITED STATES PATENT OFFICE.

PETER B. MATHIASON, OF ST. LOUIS, MISSOURI.

PULVERIZER.

SPECIFICATION forming part of Letters Patent No. 370,880, dated October 4, 1887.

Application filed June 28, 1886. Serial No. 206,477. (No model.)

To all whom it may concern:

Be it known that I, PETER B. MATHIASON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Pulverizers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a top or plan view of my improved machine. Fig. 2 is a vertical part section taken on line 2 2, Fig. 1. Fig. 3 is a front end view. Fig. 4 is a vertical section taken on line 4 4, Fig. 1, the disk being partly broken away. Fig. 5 is a detail view showing the means for holding the pulverizing blades or fingers in place. Fig. 6 is a detail view showing some of the possible adjustments of the moving fingers, as hereinafter fully described.

My invention relates to an improved machine intended more particularly for pulverizing clay in the manufacture of bricks, but which may be used for other purposes; and my invention consists in features of novelty, hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents a case or housing, provided with a feed-hopper, B, and within which is located a wheel or disk, C, secured to a shaft, D, located without the housing and supported in journal-boxes E, secured to a suitable stand, F, and the shaft is provided with a driving-pulley, G. When the power is applied to the shaft, the wheel or disk is turned in the direction indicated by the arrow, Fig. 4.

Secured to the disk or wheel are a number of straight fingers or blades, H, of oblong shape in cross-section, whose ends are fitted invertibly in openings or sockets in the wheel by keys I, as shown in Figs. 4 and 5. There may be any number of these fingers or blades, and I have shown eight.

The openings or perforations in the disk or wheel for the reception of these fingers or blades are preferably made opposite heads J′ of ribs J, formed upon the disk or wheel, (see dotted lines in Fig. 4,) said heads being also provided with perforations coinciding with those of the disk, the blades and keys being held in place by set-screws L, tapped into the said heads and bearing against them.

The keys and fingers (when placed together) form a rectangular cube, as shown, so that they may be inverted so as to present different working edges of the fingers toward the working edges of the stationary fingers, hereinafter mentioned. For example, referring to Fig. 6, it will be seen that the fingers H may be turned with their greater width in a direction radial to the disk C and upon either side of the key I, as shown at 1 and 2, or they may be turned in a position at right angles to that shown at 1 and 2 and placed above or below the key, as shown at 3 and 4, the fixed fingers M (shown in dotted lines) being capable of similar adjustment, thus successively presenting all of the four edges of the rotary fingers toward the working-edges of the stationary fingers, so that when one edge becomes dull another may be put in use. These fingers H work in conjunction with and pass between straight stationary fingers M, secured to the front wall of the casing or housing A, as shown in Figs. 2, 4, and 6. They are secured in holes or mortises in the housing by keys N, and are made reversible or invertible in the same manner as the fingers H of the disk, and for the same purpose. There are a number of these fingers M, arranged in an upper and a lower series, as shown in Fig. 4, and they preferably surround about half of the circumference of the disk. As the clay is discharged into the hopper B (as shown by featherless arrow in Fig. 2) it falls upon these fingers, and the revolving fingers H act to cut and break it up, so as to pulverize it, and it then falls from the fingers through an opening, O, in the bottom of the housing, as shown in Figs. 2 and 4. One series of fingers H are arranged to pass over the upper series of fingers M, so as to grind and pulverize the dirt as it falls upon the upper series of fingers M from the hopper, and the other series of fingers H pass over the lower series of fingers M to grind and pulverize the dirt as it falls from the upper series of fingers M onto the lower series.

It will be seen that as the fixed fingers M project to within a short distance of the face of the disk C the dirt or clay cannot escape from the machine until it has been dis-

integrated to a sufficient degree of fineness to enable it to pass between said fingers. Upon the distance apart of the fingers, therefore, depends the coarseness of the material which has passed through the machine, and to provide simple and efficient means whereby the operator may change this at will is one of the objects of my invention. In order to accomplish this I make the fingers of oblong shape in cross-section and secure them in rectangular or other non-circular perforations or sockets in the machine in the manner already described.

The operator may secure a maximum distance between the fingers by placing them with their greatest width in a direction radial to the disk, (the bottom row being shown in this position in Figs. 3 and 4,) or he may secure a minimum distance between them by placing them in the position in which the upper row is shown in the same figures.

A pulverizer thus constructed is cheap and durable and is capable of pulverizing a large amount of clay in a short time.

I claim as my invention—

1. In a clay-pulverizer, a disk having strengthening-ribs J, perforations through said disk and ribs, fingers having their ends inserted in said perforations, keys also fitting in said perforations, and set-screws for holding said keys and fingers in place, substantially as set forth.

2. In a clay-pulverizer, a casing having rectangular perforations, straight fingers of oblong shape in cross-section fitted invertibly at their ends in said perforations, the rectangular keys, also fitted in said perforations for filling the spaces not occupied by the fingers, and set-screws for holding said fingers and keys in place, substantially as set forth.

PETER B. MATHIASON.

In presence of—
GEO. H. KNIGHT,
EDW. S. KNIGHT.