

(No Model.)

S. K. FLETCHER & R. THOMAS.

PUG MILL.

No. 299,370.

Patented May 27, 1884.

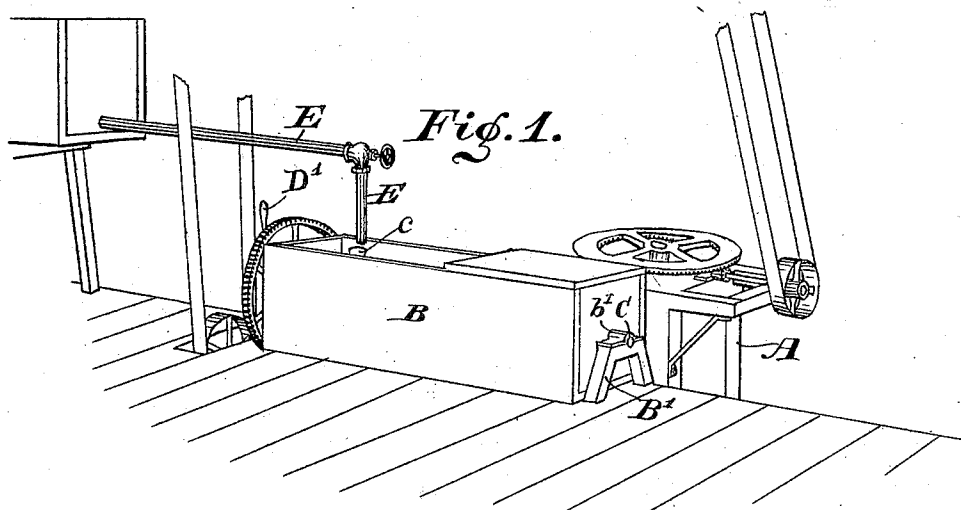


Fig. 2.

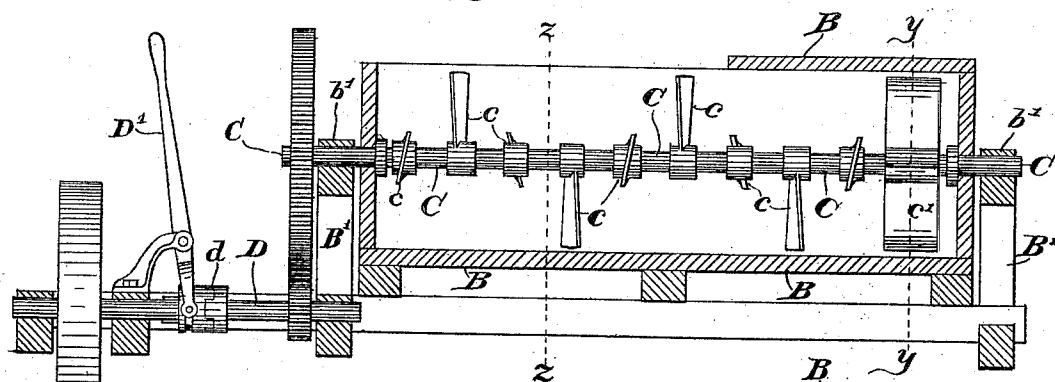


Fig. 3.

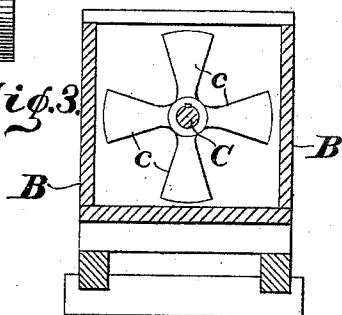
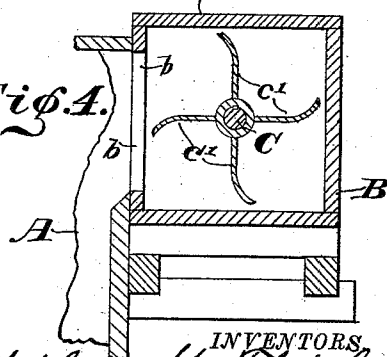


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

STEPHEN K. FLETCHER AND ROBERT THOMAS, OF INDIANAPOLIS, INDIANA,
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PUG-MILL.

SPECIFICATION forming part of Letters Patent No. 299,370, dated May 27, 1884.

Application filed February 26, 1884. (No model.)

To all whom it may concern:

Be it known that we, STEPHEN K. FLETCHER and ROBERT THOMAS, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Pug-Mills, of which the following is a specification.

Our said invention consists in combining with a machine for producing clay manufactures—such as a brick or tile machine—a pug-mill adapted to thoroughly mix the clay and convey it to and discharge it into said machine.

Said invention will be first fully described, and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of machinery embodying our invention arranged in position for use; Fig. 2, a longitudinal vertical section of the pug-mill on an enlarged scale; Fig. 3, a transverse vertical section of the same on the dotted line *z z*, and Fig. 4 a similar view on the dotted line *y y*.

In said drawings, the portions marked A represent the brick or other machine in connection with which our invention is used; B, the casing of the pug-mill; C, the pug-mill shaft; D, a driving-shaft, and E a water-pipe leading from a tank or some other suitable supply. The brick or other similar machine, A, is any suitable machine for the purpose, and needs no special description. It is provided with a suitable opening at or near the top to receive the mixed clay from the pug-mill, as indicated. The casing or box B is of the proper size and strength for the purpose, (we have found that thirty inches square and seven feet long is a suitable size to be used with mills of ordinary capacity,) and is secured on a frame-work, B', which extends up at the ends, and is provided with bearings *b'* for the shaft C. It is left open at the top for a portion of its length, for the introduction of the clay, and has an orifice, *b*, at or near one end, through which the clay is discharged into the machine after being operated upon by this mill. The shaft C extends longitudinally through the casing B, and rests in the bearings *b'* in the frame-work B'. It bears the

wings *c*, which serve both to mix the clay and carry it toward the discharging end, being screw-shaped for that purpose, and the wings *c'*, which are adapted to force the mixed clay through the orifice *b* into the machine. These wings *c'* are straight in relation to the shaft C, but are curved in the direction of their length, to facilitate the operation of discharging the clay, as shown. The shaft D is simply a speed or power shaft, and has a clutch, *d*, operated by a handle, D', by which it may be stopped or started, as will be readily understood. The pipe E discharges directly into the box or casing B, and thus saves the trouble of wetting the clay separately from the operation of mixing and pulverizing.

The operation of our invention is as follows: The rough clay, as it comes from the field or clay bank, is thrown into the pug-mill through the opening in the top. The shaft C drives the wings *c* through the clay, pulverizing it thoroughly, and at the same time, by reason of their screw formation, conveying it toward the discharge end of the mill. When it reaches this end, it is forced out through the orifice *b* by the wings *c'* into the machine A, as will be readily understood.

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

1. The combination, with a machine for producing clay manufactures, of a pug-mill for mixing and pulverizing the clay and delivering it to said machine, said pug-mill consisting, essentially, of a casing, a shaft extending horizontally through said casing, and wings mounted on said shaft, said casing having an orifice at or near one end, through which the clay can be discharged into the machine, and said wings being partly screw-shaped and partly straight in relation to the shaft, and thus adapted to pulverize said clay and force it through said orifice.

2. The combination, with a brick-machine, A, of a horizontal pug-mill, B, arranged to discharge into said brick-machine near the top, being provided with an orifice, *b*, for that purpose, said pug-mill having a horizontal shaft, C, provided with screw-shaped pulverizing and conveying-wings *c* and discharging-

wings *c'*, straight in relation to the shaft, but curved in the direction of their own length, all substantially as shown and specified.

3. The combination of the brick-machine A,
5 the pug-mill B, its shaft C, said shaft being provided with wings *c* and *c'*, the counter-shaft D, and water-supply pipe E, said several parts being constructed, arranged, and operating substantially as shown and described,
10 and for the purposes specified.

In witness whereof we have hereunto set our hands and seals, at Indianapolis, Indiana, this 14th day of February, A. D. 1884.

STEPHEN K. FLETCHER. [L. S.]
ROBERT THOMAS. [L. S.]

In presence of—

E. W. BRADFORD,
CHAS. L. THURBER.