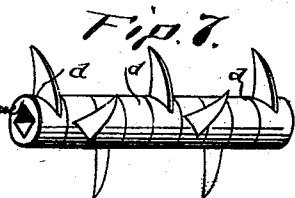
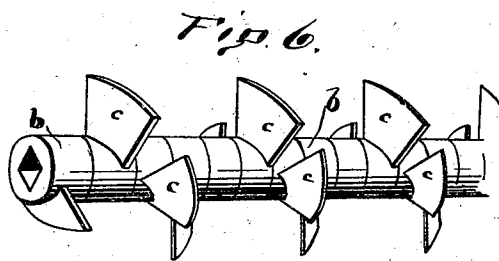
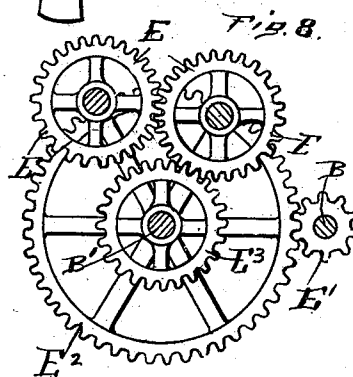
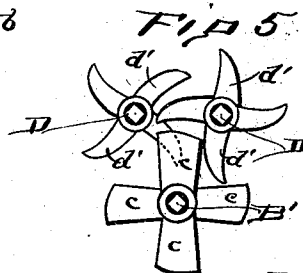
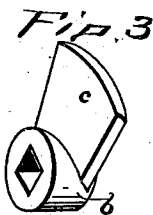
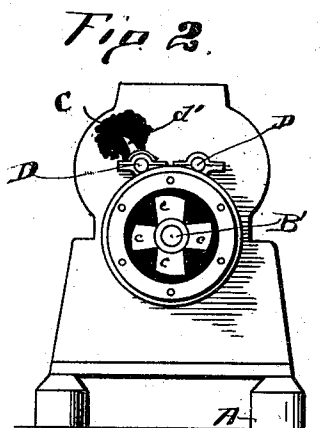
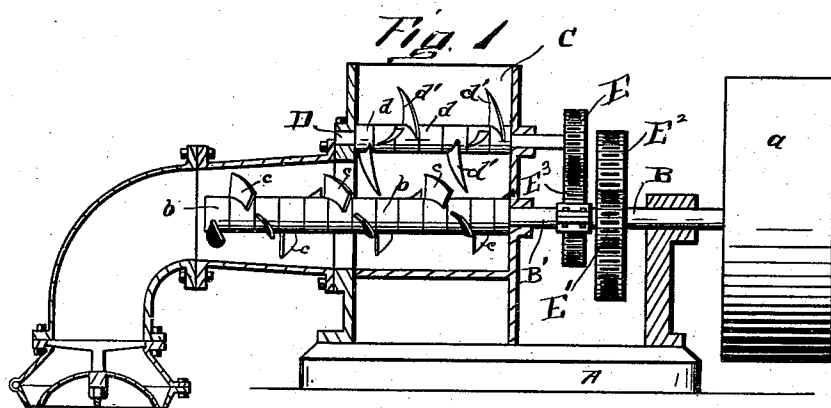


(No Model.)

J. D. FATE.  
BRICK OR TILE MACHINE.

No. 505,975.

Patented Oct. 3, 1893.



WITNESSES:  
J. D. Fate  
C. W. Bond

INVENTOR:  
John D. Fate  
By C. W. Bond  
attorney.

# UNITED STATES PATENT OFFICE.

JOHN D. FATE, OF PLYMOUTH, OHIO.

## BRICK OR TILE MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,975, dated October 3, 1893.

Application filed May 12, 1893. Serial No. 473,903. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. FATE, a citizen of the United States, residing at Plymouth, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Brick or Tile Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1, is a longitudinal section, showing the location and arrangement of the different parts. Fig. 2, is an end view showing parts broken away for the purpose of illustrating the internal arrangement of the machine. Fig. 3, is a detached view of one of the auger blades. Fig. 4, is a detached view of one of the pugging blades. Fig. 5, is a view showing the arrangement of the pugging shafts and their blades, together with the auger shaft and its blades. Fig. 6, is a detached view of the collars and blades to be located upon the auger shaft, and showing their arrangement when properly located. Fig. 7, is a similar view showing a number of collars and blades, to be located upon one of the pugging shafts. Fig. 8, is a view showing the gearing designed for communicating rotary motion to the pugging shafts, and the auger shaft.

The present invention has relation to brick and tile machines and it consists in the different parts and combination of parts hereinafter described and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings A represents a frame of a brick and tile machine, which is constructed and arranged in the ordinary manner, reference being had to the location and arrangement of the different parts pertaining to my invention. The powershaft B, is properly journaled to the frame A, and is provided with an ordinary power wheel such as a.

Upon the auger shaft B', is located or strung a series of collars such as b, which collars are provided with the blades c, said

blades being so located and arranged upon the collars, that when said collars are properly located upon the shaft B', they will form substantially a continuous spiral or auger like arrangement. The auger shaft B', together with its collars and blades, are located within the frame or casing A, substantially as illustrated in the drawings, said parts being properly inclosed to retain the clay, while in a plastic state, and to feed the same through the dies. Above the auger proper is located the hopper or mouth C, within which hopper or mouth are located two pugging shafts D, upon which shafts is located a series of collars such as d, which collars are provided with the pugging blades d'. The auger shaft B' and the pugging shafts D, together with their collars and blades are so located and arranged, that the blades will to a certain extent inter-lace, and are so arranged for the purpose of more effectually feeding the clay upon the auger proper, and at the same time cause the pugging blades to assist the auger blades in forcing the clay through the die or dies. It will be understood that the pugging shafts D, should be so geared with reference to the machine proper that each will turn inward or toward each other above their centers or journals, thereby carrying the clay to the longitudinal center of the machine, proper, and depositing the same directly above, and on top of the auger. The pugging blades d', are so adjusted that as they rotate, they will force the clay toward the delivery end of the machine, thereby assisting the auger proper in forcing the clay toward the front or die end of the machine. It is well understood that in brick and tile machines of this class, there is a tendency of the clay to press toward the rear end of the machine, said tendency being the result of the force required to mold the brick or tile into proper shape, as the plastic clay is forced through the dies. By providing the pugging shafts D, together with their pugging blades, and locating said parts as described, said pugging shafts and pugging blades will to a certain extent prevent the tendency of the clay to move backward.

Upon each of the pugging shafts D, are located the gear wheels E, which gear wheels are adjusted so as to mesh with each other.

Upon the powershaft B, is located the wheel E', which wheel communicates rotary motion to the wheel E<sup>2</sup>, said wheel being located upon the same shaft with the wheel E<sup>3</sup>, which wheel E<sup>3</sup>, communicates rotary motion to the wheels E, by means of the said wheel E<sup>3</sup> meshing with one of the wheels E. It will be understood that the wheels E and E<sup>3</sup>, should all be of the same diameter, thereby causing the auger shaft B', and the pugging shafts D, to rotate in unison which in turn causes the auger blades and pugging blades to rotate in unison, and to properly interlace; or in other words, the auger blades, and the pugging blades are so geared, by means of their shafts and wheels, that they will all have the same time. The portions of the pugging shafts D, and the auger shaft B', upon which the collars and blades are placed, should be formed angular and corresponding angular apertures formed through the collars, thereby providing a means for causing the collars, together with their blades to rotate with the different shafts.

It will be understood that many other ways may be provided for causing the collars and their blades to revolve in unison with the shafts, and hence, I do not desire to be limited to any particular manner of fastening the collars and blades to the shafts.

In Fig. 1, there is shown at the delivery end of the machine, an elbow extension, which is calculated and designed to deliver the tile vertically, but the elbow shown in this application forms no part of the present invention,

as it will be understood that my present invention can be applied to machines having a horizontal delivery.

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

1. The combination, in a brick and tile machine of a frame, an auger shaft having located thereon blades, two pugging shafts located above the auger and provided with blades, arranged to interlace with each other and with the auger blades, and means for communicating rotary motion to the pugging shafts and auger shaft, substantially as and for the purpose specified.

2. The combination in a brick and tile machine, of a frame such as A, the auger shaft B', having located thereon a series of collars such as *b*, and provided with the blades *c*, said blades set at an angle and arranged spirally upon the shaft, the pugging shafts D, provided with the collars *d*, the blades *d'*, fixed to the collars *d*, all of said blades arranged to interlace with each other, and means for communicating rotary motion to the auger shaft and pugging shafts, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN D. FATE.

Witnesses:

A. T. SHAFER,  
EMMA E. BOWMAN.