

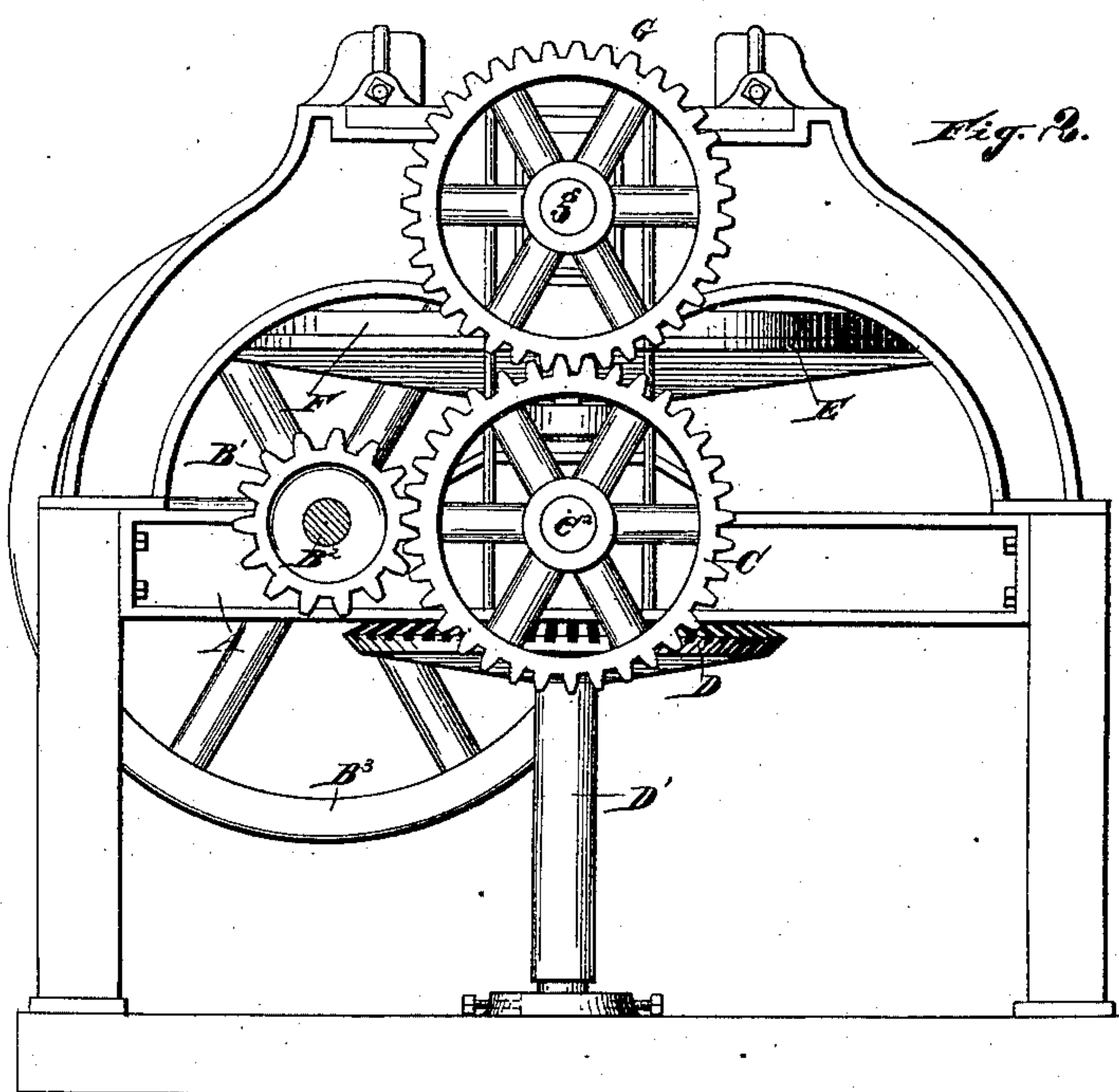
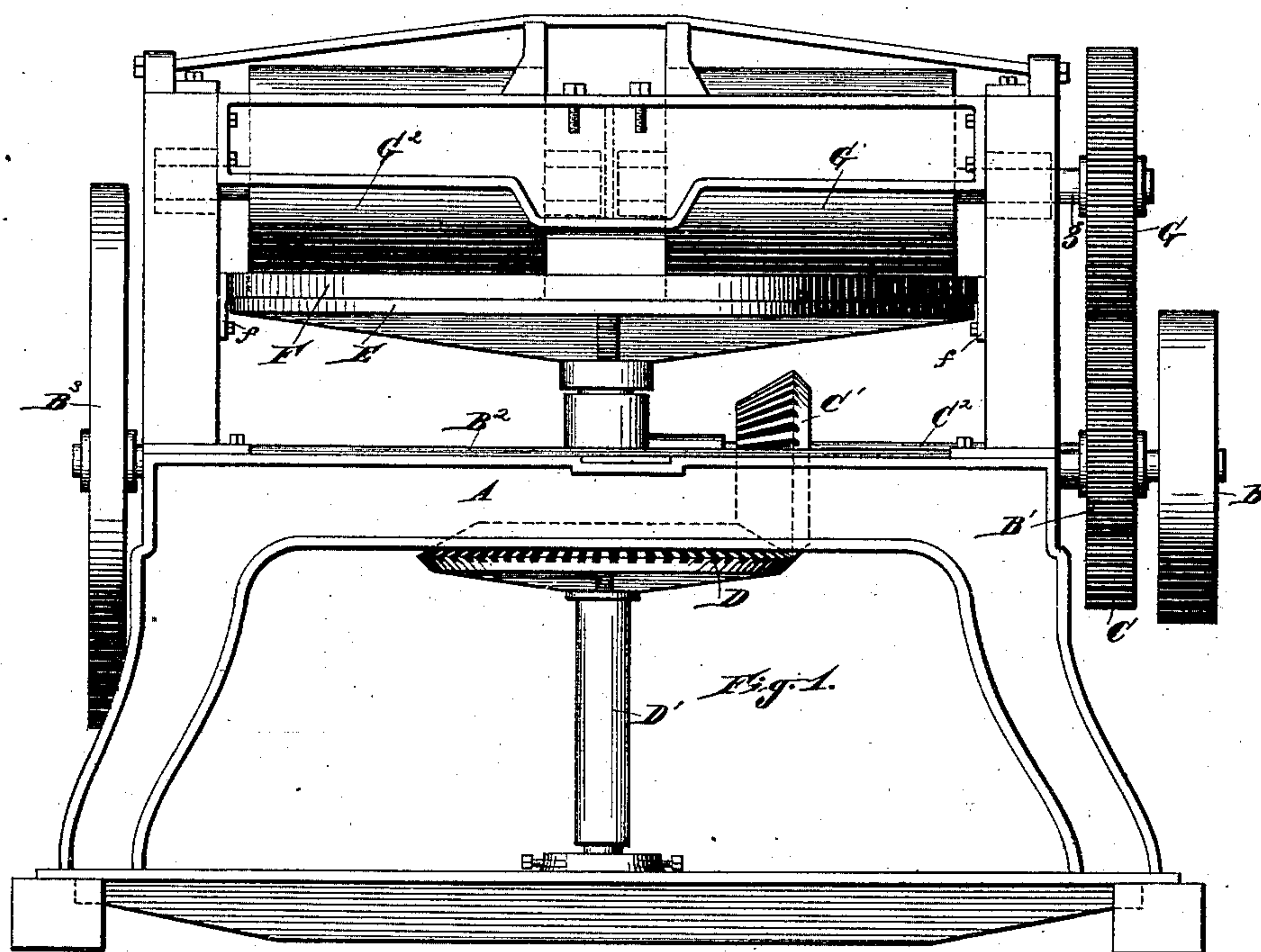
(No Model.)

2 Sheets—Sheet 1.

J. S. SMITH.  
MACHINE FOR PREPARING CLAY.

No. 312,667.

Patented Feb. 24, 1885.



WITNESSES

Jno. E. Miles.  
Jesse M. Smith.

INVENTOR

J. S. Smith  
by  
R. Mason  
Attorney

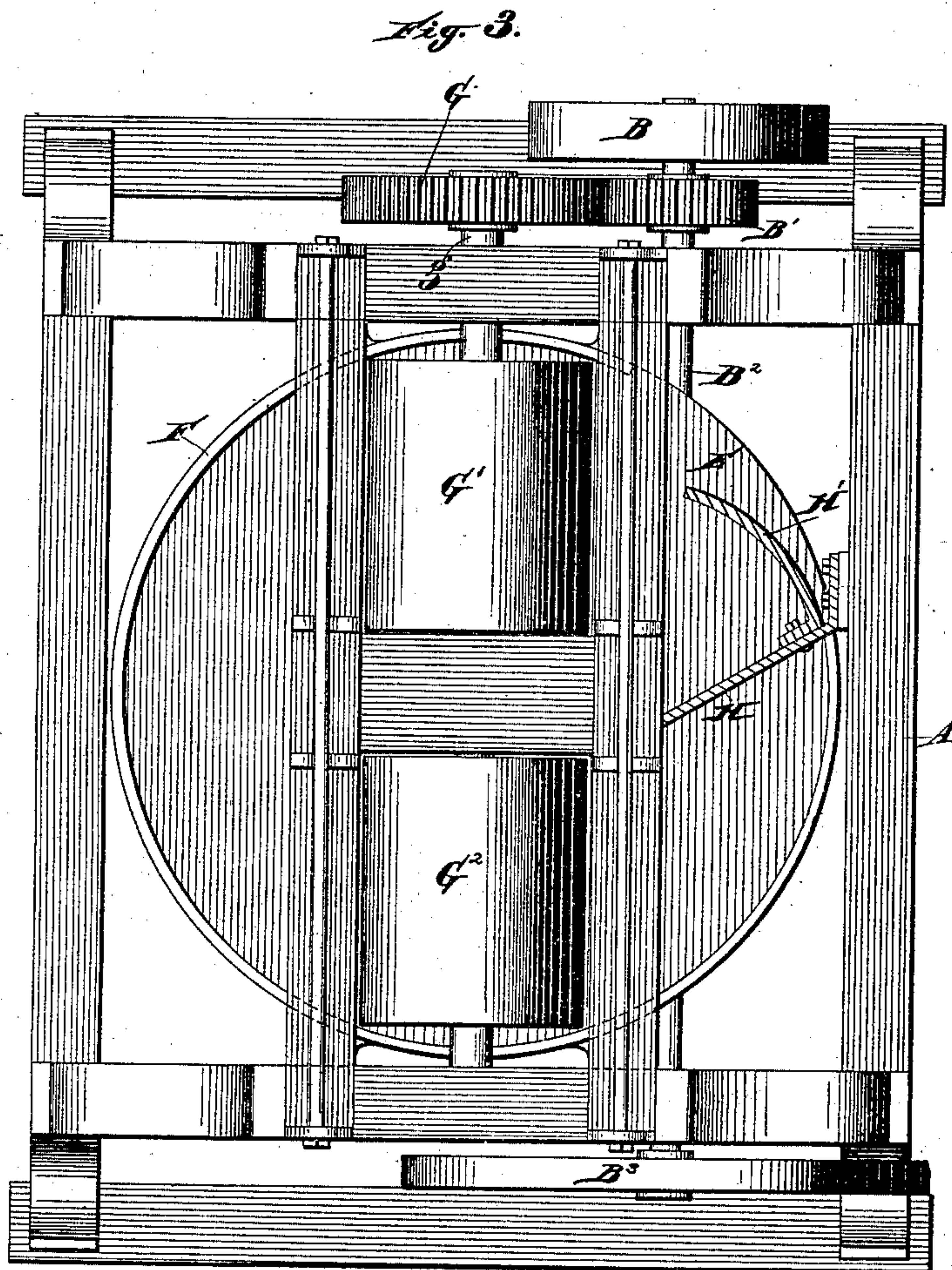
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Jno. E. Wiles.  
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Attorney



# UNITED STATES PATENT OFFICE.

JOHN S. SMITH, OF JACKSON, MICHIGAN, ASSIGNOR OF ONE-HALF TO  
THEODORE G. BENNETT, OF SAME PLACE.

## MACHINE FOR PREPARING CLAY.

SPECIFICATION forming part of Letters Patent No. 312,667, dated February 24, 1885.

Application filed December 6, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. SMITH, of the city and county of Jackson, in the State of Michigan, have invented a new and useful  
5 Improvement in Machines for Preparing Clay, of which the following is a specification.

My invention relates to that class of machines which are used in the preparation of clay for subsequent treatment in tile-machines; and it consists in the use of a flat rotating plate in combination with a roller or rollers confined in a frame so as to rotate in  
10 near proximity to the face of the plate for grinding and breaking up the structure of the clay, tearing its particles asunder, and rearranging them, thus producing that condition of plasticity which is essential to the best working of the clay in molding it into the desired form by hand, or in other machines.

20 In the annexed drawings, making part of this specification, Figure 1 is a side elevation of the machine. Fig. 2 is an end elevation of the same, and Fig. 3 is a top or plan view of the same.

25 The same letters are employed in all the figures in the indication of identical parts.

A is the frame of the machine.

Power from any suitable prime mover may be applied to the driving-pulley B, which is  
30 hung on one end of a shaft, B<sup>2</sup>, carrying a fly-wheel, B<sup>3</sup>, at the other, and also a spur-pinion, B', the latter engaging a spur-wheel, C, on a counter-shaft, which carries the beveled wheel C', which drives its matched wheel  
35 D on the vertical shaft D'.

On the upper end of the shaft D' is supported the flat plate E, rotating with the shaft, and carrying on its upper face the clay to be treated. Over this plate E, I arrange one or  
40 more rotating rollers. In this case, as illustrated, I show two, one of which, G', is revolved positively by the wheel G, which meshes into the pinion C, and the other, G<sup>2</sup>, runs free, being revolved on its axis by the  
45 rotation of the plate.

The rollers may both be driven positively by gearing, or they may both be free running. Whether one or the other plan be adopted will be determined by the character of clay to be  
50 treated. These rollers are shown as hung on shafts or trunnions, having their outer bear-

ings in the sides of the frame and their inner bearings in a bridge.

On the outside of the revolving plate E is a fixed curb, F, to confine the clay. A scraper, 55 H, is placed above the plate to clear the plate and discharge the clay over the periphery. Another scraper, H', is placed as shown, to throw the clay toward the center, and an opening is left in the curb beyond this scraper for  
60 the escape of stones which may be too large to be crushed and pulverized between the roller and the plate.

The hopper to supply the clay is placed so as to feed it to the wheel between these 65 scrapers.

The action of the machine is to grind the clay between the plate and rollers, breaking up the lumps and disintegrating the particles, which are torn asunder and kneaded into a  
70 plastic mass in excellent condition for molding in the tile-machine or other machinery for working it into form.

What I claim as my invention, and desire to secure by Letters Patent is—

1. In a machine for treating clay, the combination of a revolving plate, E, and a roller or rollers rotating in proximity thereto, for tempering the clay and bringing it to a plastic condition as it is ground between their  
80 surfaces, substantially as set forth.

2. In combination with the revolving plate E and roller or rollers rotating in proximity thereto, the scraper H, for clearing the clay from the plate and delivering it over the edge, 85 substantially as set forth.

3. In combination with the revolving plate and the roller G', the scraper or guide H', for directing the clay toward the center of the plate, substantially as set forth. 90

4. In combination with the revolving plate and roller or rollers, the scrapers H and H' and opening in the curb F, for reducing, detaching, and delivering the clay and stones, substantially as set forth. 95

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN S. SMITH.

In presence of—

JULIAN J. BENNETT,  
J. B. VIETS.