

J. C. ANDERSON.
CLAY REDUCER AND PULVERIZER.

No. 351,613.

Patented Oct. 26, 1886.

Fig. 1.

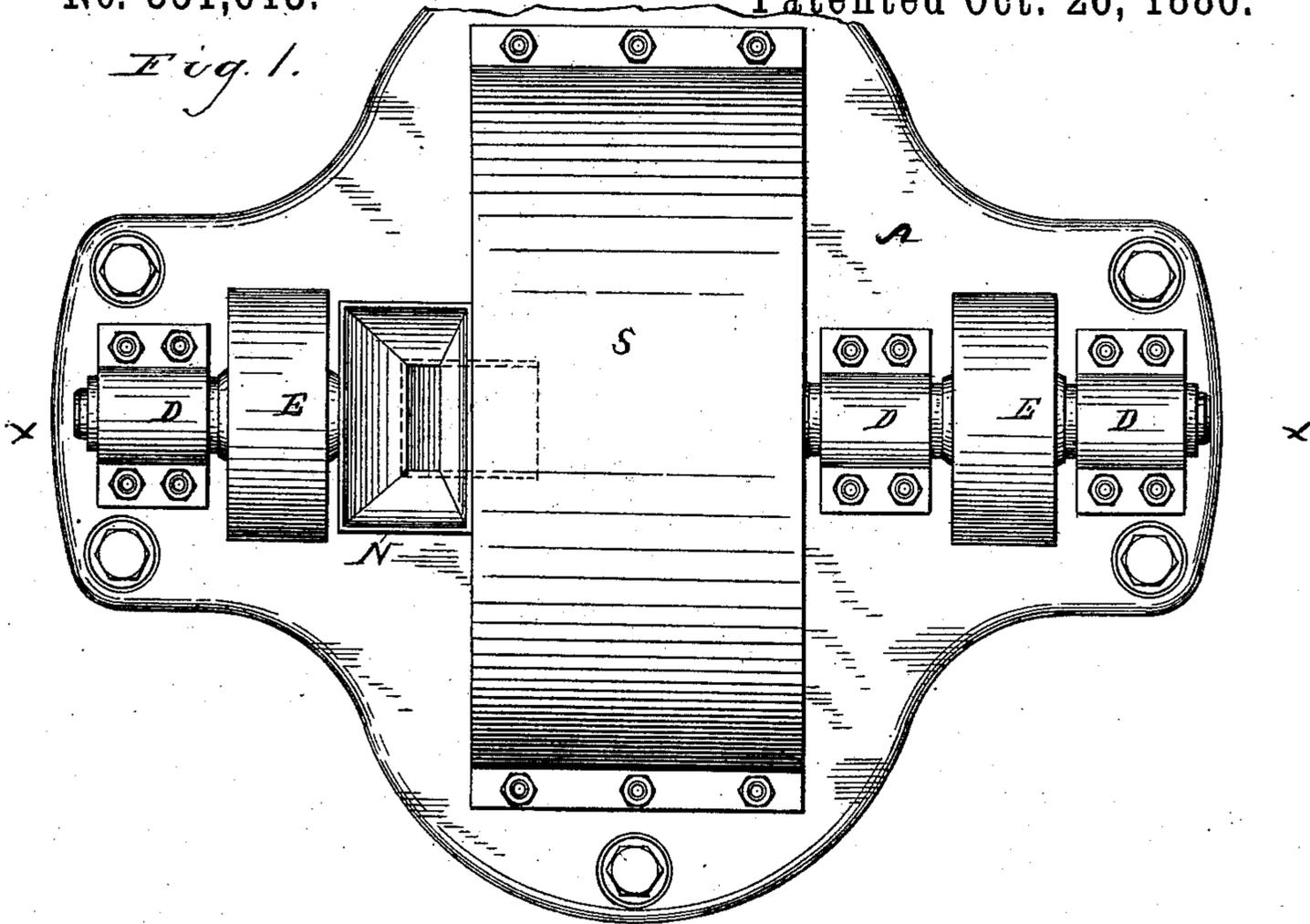
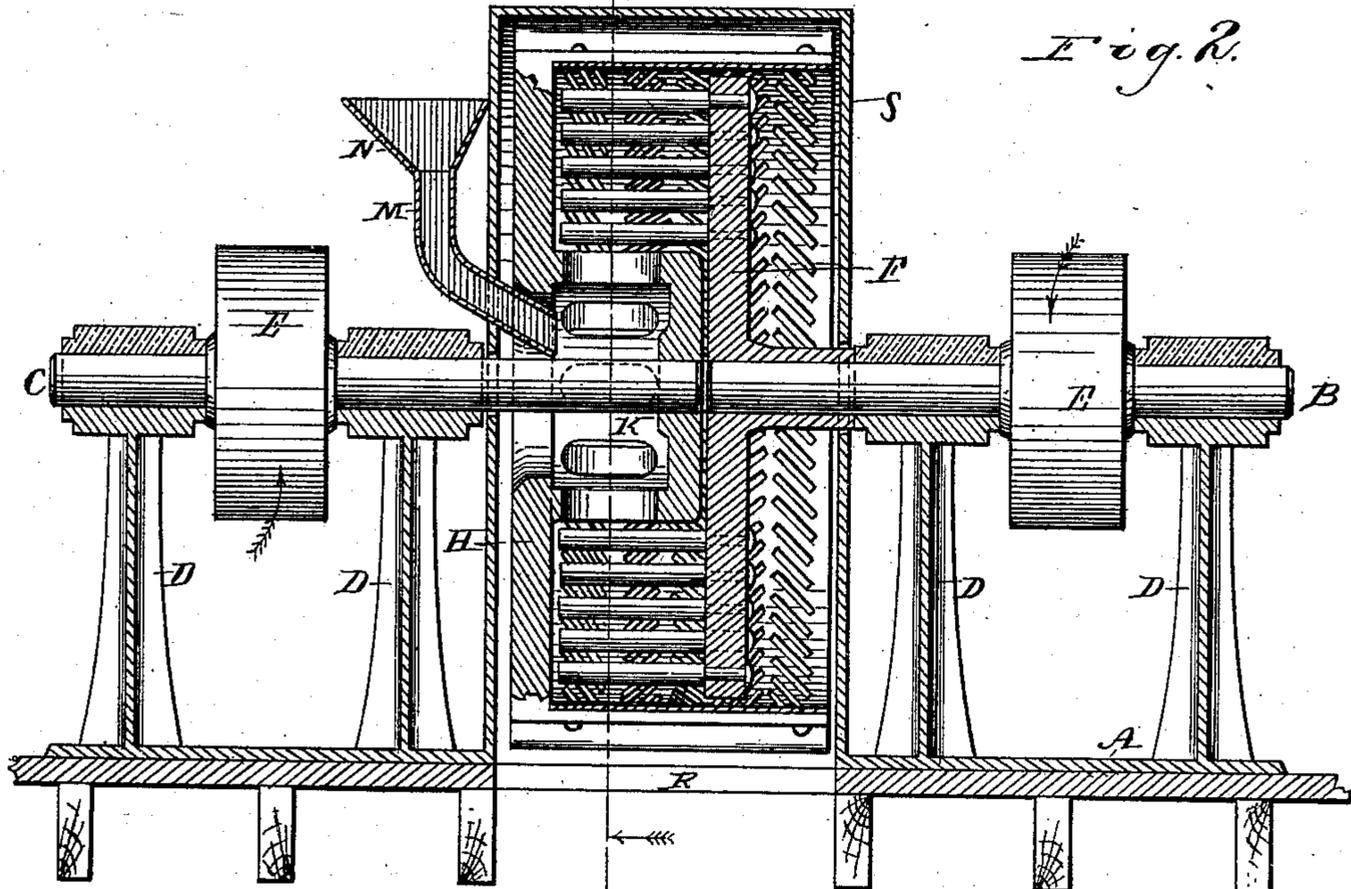


Fig. 2.



Witnesses.
Henry Frankfurt.
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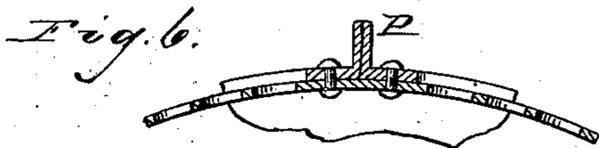
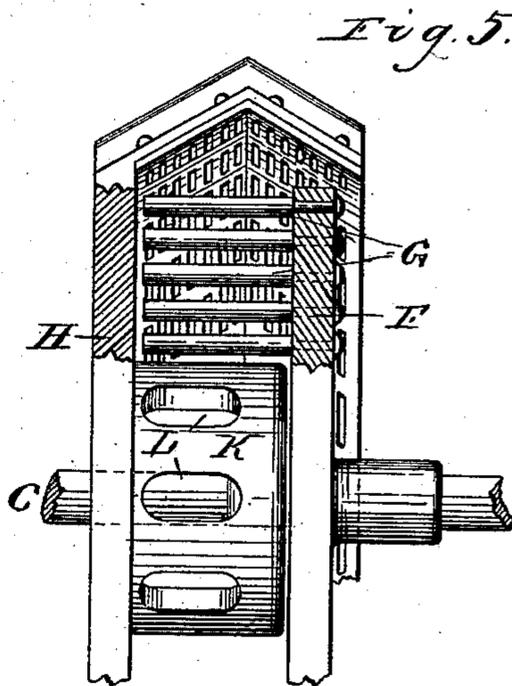
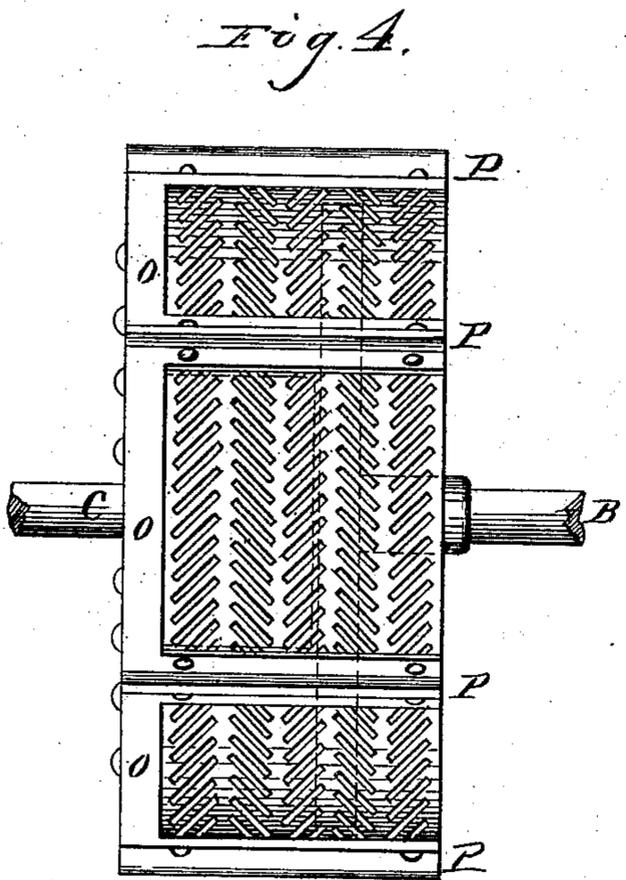
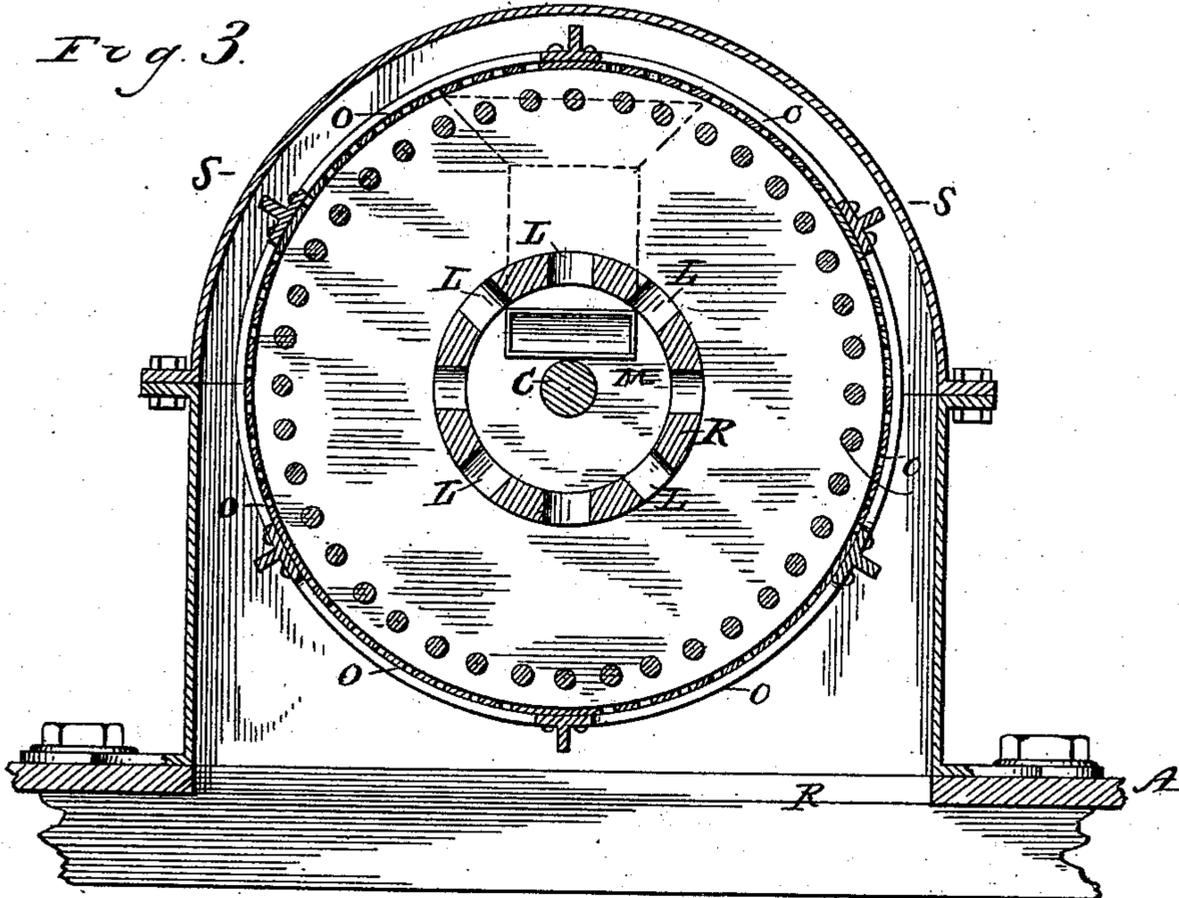
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JAMES C. ANDERSON, OF HIGHLAND PARK, ILLINOIS.

CLAY REDUCER AND PULVERIZER.

SPECIFICATION forming part of Letters Patent No. 351,613, dated October 26, 1886.

Application filed May 25, 1886. Serial No. 203,212. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. ANDERSON, a citizen of the United States, residing at Highland Park, in the county of Lake, State of Illinois, have invented certain new and useful Improvements in Clay Reducers or Pulverizers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in clay reducers or pulverizers.

The object of my invention is to reduce clay or clay-shale to a finely divided or powdered condition for the manufacture of bricks, tiles, &c., under the dry-clay processes as patented and practiced by me.

Referring to the drawings, Figure 1 is a top or plan view of my improved disintegrator or reducer. Fig. 2 is a vertical longitudinal sectional view on the line $x x$ of Fig. 1. Fig. 3 is a sectional view on the line $x' x'$ of Fig. 2. Fig. 4 is a side view of the screen-shell with the casing removed. Fig. 5 is a sectional view of a portion of a V-shaped screen shell. Fig. 6 is a sectional edge view of the screen with the supporting-ribs.

A indicates the base of the machine, on which the two shafts B and C are mounted in suitable supports, D, said shafts being provided with pulley-wheels E, adapted to be driven at a high rate of speed in opposite directions, as indicated by the arrows in Fig. 2, for a purpose which will more fully appear hereinafter. The inner end of the shaft B is provided with a disk, F, rigidly secured thereto and adapted to rotate therewith, the outer edge of said disk being provided with a row of arms or beaters, G, placed close together, which project toward the face of the disk H. The central portion of the disk H is provided with a hub or chamber, K, which projects over to the disk F, the walls of the hub or chamber K being provided with any desired number of perforations L, through which the clay is fed in between the disks at or near the center through the spout M, said spout being provided with a suitable feed-hopper, N.

O are a series of perforated steel screen-plates secured to the periphery of the disk H, said plates being provided with flanges P, by means of which they can be readily secured

together. These screen-plates are made wide, so as to project over the disk F, as shown in Figs. 2 and 5, so as to provide a greater screen surface, and the screen-plates may present plain flat surfaces, as shown in Figs. 2, 3, 4, and 6; or they may be made concave or V-shaped, as shown in Fig. 5, in order that a greater screening-surface may be presented to the clay, and the clay will be prevented from being forced out the side by centrifugal force, as would be the case if the screen were only as wide as the two disks.

The bed-plate A is provided with a central opening, R, underneath the disks, through which the pulverized or reduced clay falls into a suitable receptacle, and from which it is taken by elevator-buckets to the pressing-machines, or disposed of in any other suitable manner.

Instead of providing the disk F with the peripheral arms or beaters G, I may use a screen surface similar to but of a larger mesh than the screen surface of the disk H, and such I consider as within the spirit of my invention.

It will be noticed that the clay is projected through the openings L in the chamber K by centrifugal force, and the weight of the clay in the hopper N into the space between the disks F H, and that the volume of clay is caused to rotate with the disk H and be forced by centrifugal action toward the periphery of the disk, where it is met by the beaters in the periphery of the disk F, revolving in the opposite direction, which changes the motion of the body of clay and causes the outer edge of the same to travel in a direction contrary to that of the inner body of the clay, so that a continual collision will take place of one body of the clay upon the other until it is reduced to the finest possible condition, the cohesion of the particles being completely destroyed. In this finely divided and powdered condition the clay is driven by centrifugal force through the screen-plates and is directed downward by the outer case or shell, S, through the opening R.

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

1. A clay reducing and disintegrating machine of the character described, consisting of

the rotating disk H, having a perforated central feed chamber and peripheral screen, and the disk F, adapted to travel in a reverse direction to that of the disk H, as described, 5 whereby the outer portion of the clay is caused to travel in a reverse direction to the inner body of the clay, and the clay reduced to a finely-divided condition by attrition or collision of the particles, as set forth.

10 2. In a clay-reducer, the disk H, provided with the perforated central hub, K, and the peripheral screen O, adapted to travel in one direction, in combination with the disk F, adapted to travel in a direction the reverse of 15 the disk H, the disk F being provided with a series of arms, G, arranged close together in the outer edge of said disk, as set forth.

3. In a clay-reducer, the disk H, provided with the central perforated chamber, K, and the feed-spout adapted to project into said cham- 20 ber, whereby the clay is fed into the central portion of the disks and projected toward the periphery of the disk by centrifugal force, as set forth.

4. In a clay reducer or pulverizer, the disk 25 H, provided with the perforated chamber K and a screen surface secured to its periphery, which projects over the disk F, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

J. C. ANDERSON.

Witnesses:

HIRAM SINSABAUGH,
MILTON LINDLEY.