

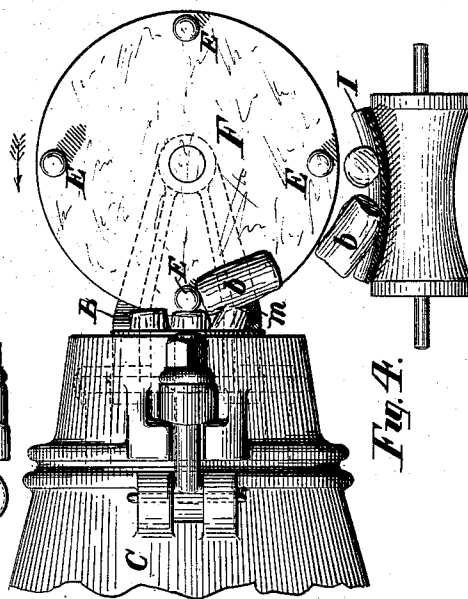
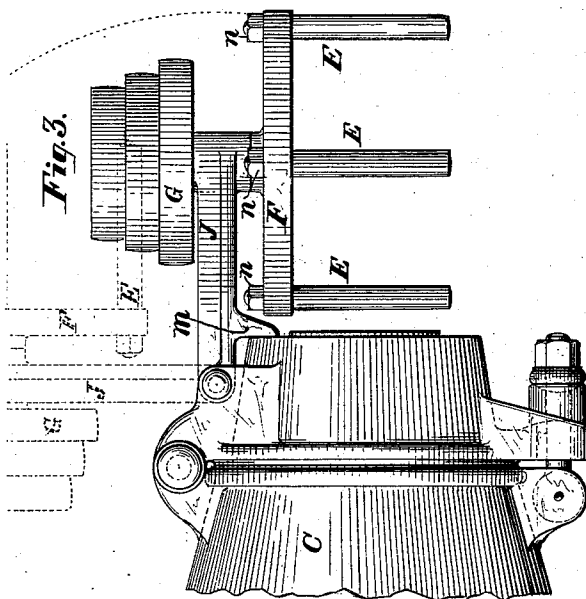
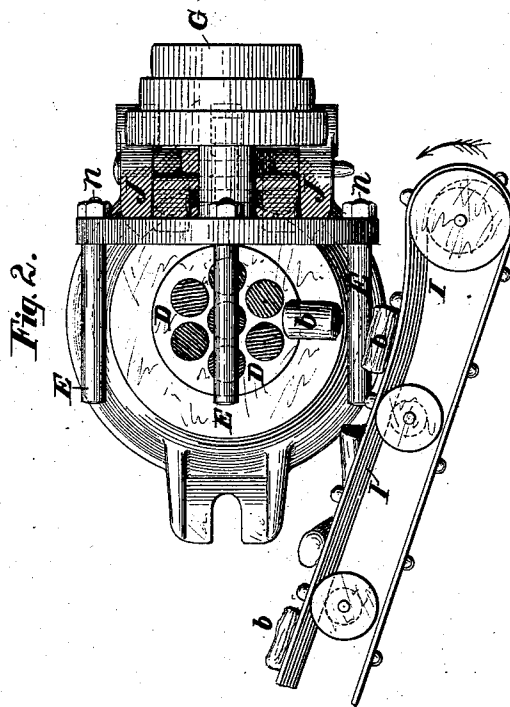
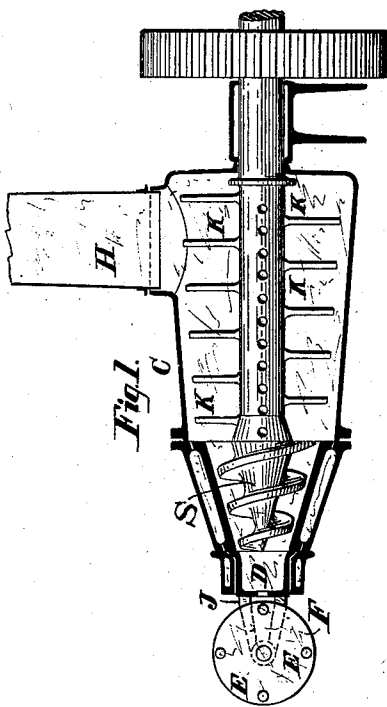
(No Model.)

C. CHAMBERS, Jr.

APPARATUS FOR MAKING CLAY RAILROAD BALLAST.

No. 297,672.

Patented Apr. 29, 1884.



Witnesses:

John Burkhardt.
A. E. Paige

Inventor:

Cyrus Chambers, Jr.
per Joshua Posey, Atty

UNITED STATES PATENT OFFICE.

CYRUS CHAMBERS, JR., OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR MAKING CLAY RAILROAD-BALLAST.

SPECIFICATION forming part of Letters Patent No. 297,672, dated April 29, 1884.

Application filed March 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, CYRUS CHAMBERS, Jr., a citizen of the United States, residing at the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Making Clay Railroad-Ballast, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Figure 1 is a longitudinal section of my invention, as used in connection with the clay tempering and expressing devices of a Chambers brick-machine. Figs. 2, 3, and 4 are respectively front, plan, and side views enlarged.

The special purpose of this apparatus is to produce short bars or columns of clay of practically uniform size, adapted (after having been sufficiently burned in a kiln) to be used as ballast for railroads. The device is, however, useful for converting bodies of any plastic material analogous to clay into short homogeneous lengths of any desired dimensions.

Referring to the accompanying figures, the clay is fed in the usual manner into the tempering-case C of the machine by way of hopper H, and is forced through the nest of dies (or a single die) D at the end of the case by means of the spirally-set knives K and screw S, Fig. 1. These dies may be circular in cross-section, as shown, or hexagonal, square, or of any other form desired.

The parts shown in Fig. 1 for tempering the clay and forcing it out through the dies are identical with those used in the brick-making machines invented and patented by me in various Letters Patent of the United States, and well known as the "Chambers Brick-Machines."

Other means for forcing the clay through the dies may be employed, but the foregoing are preferred. As the bars or columns of clay B issue from the dies, they are broken off into short uniform lengths *b* by means of a series—four, in this instance—of equidistant rotating breaker-bars, E, which are secured by nuts *n* to a disk, F, that is driven from a cone-pulley G. As the disk revolves, bars E,

rotating across the path of the issuing columns of clay, break the latter off into the short lengths *b*, as stated, which, falling upon a moving endless belt, I, are conveyed to a desired location.

The shaft of disk E, that carries the breaker-bars, is journaled at the end of a swinging bracket, J, which is hinged to the front part of the die-case, as seen most clearly in Fig. 4. A lug, *m*, upon the bracket, bearing against the front end of the die-case, stops the bracket from swinging too far around to the front, thus keeping it in proper position against the stress of the driving-belt upon the cone-pulley.

The lengths into which the columns or bars of clay may be broken off will of course depend upon the number of the breaker-bars fixed to the rotating disk and the speed of rotation with relation to the speed of the clay bars issuing from the dies.

Having thus described my invention, I claim—

1. In combination with devices for expressing a column of clay from a die, a breaker-bar or series of such bars projecting across the path of the column of clay issuing from said die, and arranged with relation to said column as shown—that is to say, so that the latter is free to advance until broken off by the breaker-bar—together with means for moving said breaker-bar across the path of the column of clay, substantially as and for the purpose set forth.

2. In combination with one or more dies and mechanism for forcing clay in plastic condition through the same, the rotatable disk bearing a series of breaker-bars projecting therefrom laterally across the path of the bodies of clay expressed from said dies, said bars being arranged on said disk, as shown, whereby the advance of the bodies of columns of clay is unobstructed until broken off by the said breaker-bars coming into contact therewith when the disk is rotated, substantially as and for the purpose described.

3. In combination with the die or dies and devices for forcing clay out of the same, the breaker-bars secured to a disk which is pivoted to a swinging bracket, whereby the said

bars may be brought in the path of or out of the path of the body of clay issuing from the die or dies, substantially as and for the purpose recited.

- 5 4. The combination, with the die or dies D, breakers E, disk F, and bracket J, hinged as shown and described, of the lug *m*, substantially as and for the purpose specified.

In testimony whereof I have hereunto affixed my signature this 14th day of February, A. D. 1883.

CYRUS CHAMBERS, JR.

Witnesses:

CURTIS PAXSON,
NATHL. E. JANNEY.